\\\\\ WORLDWIDE UTE NEWS Club ////
\\\ An Electronic Club Dealing Exclusively in Utility Stations ///
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If you are reading this newsletter from another source, such as a BBS, please let us know!

Check out the WUN web site at: http://www.gem.net/~berri/wun

From your Electronic Editor:
* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.

From your List Administrator:
* As you know by now the WUN list has moved off the grove.net listserver. Our new listserver is:

wun@listserv.ameritel.net

Please make a note of this new address and let me know if you have any problems. The list should be setup and function in the same fashion as the grove machine.

WHAT'S INSIDE:
o Digital Review by Ary Boender
o Military Lists Area -includes:
Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o Utility Round-up by Ary Boender
o Military Newsreel by Ary Boender
o Editors Choice by Stan Scalsky (NEW!)
Guest column: Dave Gentile on Wavecom W41PC
o The WUN Logs Column by TEAM LOGS

DIGITAL REVIEW

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
-
-
- Nickname on IRC channels #wun & #monitor Ary-B -

Hello, welcome to yet another edition of the Digital Review. This month we start with a new item, 'Amateur Radio Intruder Watch', provided by Costas Krallis. ARIW is a network of HAM monitors. They are monitoring

the HAM radio bands for stations that are illegally transmitting in these bands. Most of these stations do not appear in the Ute Freq Guides.

ODDS AND ENDS
o Andreas Heymann comments to an item in newsletter 97-06:

3828.4 - RXFKE: this freq seems to be a back-up line for a NATO-alert net or an exercise-link between NATO-commands. I don't think that this is operated by German navy. All German military comms are normally in RTTY/RATT 75 Baud with online encryption or 3 channel FEC (see DHJ59!). A former ARQ-system, used by German airforce, has gone down the drain. Maybe it will be used as a back-up system.

o Bert van Rij copied two unid stations. Who knows who or what he heard?

6221.7 kHz 100bd 170 hz synchronous datablocks
ACF at 125 a major spike down, first major spike up at 250.
Sounds like pactor.

6897.2 kHz 100bd 170hz data blocks acf 240. Some kind of propagation station? 10 burst in 23 seconds, then a 167 seconds' pause always the same pattern.

AMATEUR RADIO INTRUDER WATCH <digital stations>

Costas sends us the monitoring results of the Amateur Radio Intruder Watch. Good stuff Costas; keep it coming!

sources: DL5NEQ, NZ4NU, DK2OM, G4JUW

o Eritrean banks
BABK, BABT, BAGB, BATH, BSER, DKQA, DQBO, DTGB, LAGB, LGGB, MKAN, NYGB, ONER, QIGB, RAER, RDGB, RNGB, RORA, SGMB, SKBT, SKEB, SKFA, SKGI, SKLK, SKLO, SKQA, SKZB, SSER, SSSS, TAGB, THYH, TOGB, WELO.

These PACTOR intruders are certainly the Commercial Bank of Eritrea in Massawa ans Asmara. So far 33 different four letter callsigns were logged. The frequencies may vary a bit. Logged so far:

7011.31 7012.37 7015.19 7017.93 7022.31
7024.72 7027.33 - 7027.82 7031.20 7033.60
7039.59 7047.32 - 7047.94 7062.32 kHz

The most used frequency is 7027.33 kHz

Transmission times: 05.00-15.00 UTC, sometimes later. Sometimes also on Saturdays and Sundays.

The callsigns are good readable, followed by the logos of the PK232MBX mailbox, with "Com. Bank of Eritrea Asmara", or Massawa, "Head Office Maildrop" or similar. One clear message requested the November returns and daily balance reports. Sometimes there is "ok" and a name.

o UNID
Freq : 10114 kHz, daily between 14.00-20.00 UTC
Mode : sounds like a motor-noise
Width: 1 kHz - no information channel detectable. A new sort of multi-frequency-shift-keying???

o UNID
Freq: 3590 kHz
Mode: MFSK - 8 or 10 channels; each channel 120 Bd/40 Hz; idling signal
Date: 15-01-1998 Time: 1930 utc

o UNID
Freq: 10105, 10109, 10112 kHz, daily between 08.00-21.00 UTC

Mode: 3 channels, 2 channels for synchronize purposes, 1 data channel,
baudrate very high, could be close to 1000 Bd

DIPLO CORNER
o This month's profile: Germany, Malaysia and Morocco
The sked for the coming months is as follows:
- February: Indonesia, Ghana, Israel, Peru and Sudan
- March: Turkey and Portugal
- April: Sweden and Italy
- May: Switzerland and North Korea
As usual, I ask all of you to contribute your logs, freqs and sample messages of the above stations and ofcourse everything else that you have is also most welcome.

Acknowledgements:
CIA World Fact Book (country profile).
The WUN-community (logs).
Special thanks to Dave Wright, Murray Lehmann, Mike Chace, Day Watson, and Peter Conway

Malaysia update
Murray and Dave supplied me with new info. The rebound.....

o Country profile
The Federation of Malaysia with capital Kuala Lumpur, is a monarchy and counts 13 states (negeri); Johor, Kedah, Kelantan, Melaka, Negeri Sembilan, Pahang, Perak, Perlis, Pulau Pinang, Sabah, Sarawak, Selangor, and Terengganu, and 2 federal territories (wilayah persekutuan); Labuan, and Wilayah Persekutuan. The Malaysian Defense Forces has the following branches: Royal Malaysian Army, Royal Malaysian Navy, Royal Malaysian Air Force, Royal Malaysian Police Force, Marine Police, and Sarawak Border Scouts.

o Notes on operation:
One characteristic of Malaysian Diplo is the use of "I" separators, such as follows: IIDJIIAYMTII / IISMCFMFMIIBXII. Notice how it all runs together, but each group is separated by "II".

o Transmission mode: SITOR-A

o Frequencies: 14707.0 14875.0 16281.5 16286.0 17425.0
18261.5 18423.5 19500.0 20670.0

o Dictionary:
WPKL or WISMA or WISMAPUTRA - MFA
MALAWAKIL - Embassy
MALA = Malaysia
WAKIL = representative

o Sample message formats: (may vary slightly)

Example #1

WISMA CLG NEW DELHI
TEL(ex) #
time/day/date stamp
5 letter groups
WISMA
NNNN

Example #2

MALAWAKIL JAKARTA CLG WISMAPUTRA
TEL(ex) #
time/day/date stamp
clear message Malay or English

MALAWAKIL JKT
NNNN

Morocco
o Notes on Operation:
  Language: French

o Transmission Modes:
  ITA-2   50bd
  CW

o Logged Frequencies: 14403, 18897, 20378 kHz

o Reported Frequencies: 11433, 18896, 20379.5 kHz

o Frequencies referred to as F1, F2, F4, F5, F6

o Reported Callsigns for MFA and embassies:

Tactical	Location
F9O	MFA Rabat?
H5P	MFA Rabat?
L6E	Cairo?
E7U	UNID
H9N	UNID
O4T	UNID
S4K	UNID
3CK	UNID
3MTR	UNID
S1C1	UNID

Germany
o Country profile
  Germany comprises the formerly Federal Republic of Germany, the German Democratic Republic, and Berlin following the formal unification on 3 Oct. 1990.
  The capital of the current Federal Republic of Germany is Berlin. The federation consists of 16 states; Baden-Wurttemberg, Bayern, Berlin, Brandenburg, Bremen, Hamburg, Hessen, Mecklenburg-Vorpommern, Niedersachsen, Nordrhein-Westfalen, Rheinland-Pfalz, Saarland, Sachsen, Sachsen-Anhalt, Schleswig-Holstein, and Thuringen.
  The German Defense Forces include the following branches: Army, Navy, Air Force, Federal Border Police.

o PIAB: Presse- und InformationsAmt der Bundesregierung
  PIAB, the German government press and info service, acted 46 years as MF/HF voice of the German government. The following is the text of the final transmission on 30-12-1997.

3001D/0-3012:
ACHTUNG: DIES IST DIE LETZTE SENDUNG DES INFORMATIONSFUNKS

A C H T U N G BETRIEBSNOTIZ

LETZTE MELDUNG

MIT DER HEUTIGEN AUSGABE DER 'AKTUELLEN UNTERRICHTUNG FUER DIE DEUTSCHEN AUSLANDSVERTRETUNGEN' BEENDEN REDAKTION UND SENDESTELLE DES INFORMATIONSFUNKS DER BUNDESREGIERUNG IHRE TAETIGKEIT.

46 JAHRE LANG HAT DAS PRESSE- UND INFORMATIONSAMT DER BUNDESREGIERUNG DURCH DIE ZENTRALE REDAKTION 'INFORMATIONSFUNK' DIE DEUTSCHEN AUSLANDSVERTRETUNGEN UEBER DAS GESCHEHEN IN DEUTSCHLAND UND WICHTIGE EREIGNISSE IN ALLER WELT UNTERRICHTET.

JAHRZEHNTELANG BOT DER INFOFUNK - SOLANGE DER KURZWELLENFUNK
DAS UEBERTRAGUNGSMEDIUM FUER DIE NACHRICHTENSENDUNGEN WAR - EINE
VERTRAUTE ERSCHEINUNGSFORM UND WAR IN UMFANG, AKTUALITAET UND
UEBERMITTLUNGS-GENAUIGKEIT KAUM ZU OPTIMIEREN.

ERST DER UEBERGANG ZUR ELEKTRONISCHEN DATENUEBERMITTLUNG MACHTE
ES MOEGLICH, ZUGRIFFSGESCHWINDIGKEIT UND UMFANG DES UEBERMITTELTEN
MATERIALS ZU STEIGERN.

DEN NEUEN TECHNISCHEN MOEGLICHKEITEN HAT DAS BPA MIT DER SCHAFFUNG
DES 'INFOKANALS' RECHNUNG GETRAGEN, DER - SEIT JULI 1997 IM AUFBAU
- AB JANUAR 1998 MIT EINEM UMFANGREICHEN INFORMATIONSANGEBOT DIE
UNTERRICHTUNG DER DEUTSCHEN AUSLANDSVERTRETUNGEN UEBERNEHMEN WIRD.
UEBER INHALTE UND ZUGANGSMODALITAETEN WURDEN DIE AUSLANDSVERTRETUNGEN
VOM AUSWAERTIGEN AMT BEREITS IN KENNTNIS GESETZT.

REDAKTION UND SENDESTELLE DES INFORMATIONSFUNKS VERABSCHIEDEN SICH VON
IHREN EMPFAENGERN UND WUENSCHEN ALLEN EIN GLUECKLICHES UND ERFOLGREICHES
JAHR 1998.

CHRISTINE NOSKE UND KLAUS BRAMBACH (REDAKTION), PETER BAIM, GUENTER
GRAICHEN UND KARIN MISKA (SENDESTELLE)

+++

E N D E DER LETZTEN SENDUNG

AKTUELLE UNTERRICHTUNG FUER AUSLANDSVERTRETUNGEN
PRESSE- UND INFORMATIONSAMT DER BUNDESREGIERUNG, BONN
30. DEZEMBER 1997

Domestic stations (MOI)

o Innenministerium / Landeskriminalamt / Grenzschutzpolizei
  The German MOI had a large network until August 1997 but it slimmed down considerably. They are most probably using secured landlines now. A number of stations however, are still active. We don't know whether this is a backup network or that it is actually used for real messages. Although not as active as before, this network is still an interesting one to monitor.

  The German Innenministerium (MOI) is responsible for the German Federal Police, the Landeskriminalamt (LKA), and the Grenzschutzpolizei (GSP), the Federal Border Police. The main control station is located in Bonn and uses callsign DER. The other stations are either MOI stations in the capitals of the federal states or stations of the GSP or LKA.

  The channel identification is formed by a 5-letter code 'TTCFF' where 'TT' represents the code for the addressee, 'FF' is the sender and 'C' is the channel that is used; normally channel 'V'.
  There is one exception: Stuttgart uses channel 'F' for the link with Bonn. The MOI and LKA stations are using the same type of id, which is a abbreviation of the name of the state or the name of the capital, i.e. Niedersachsen is 'NI'. The 2-letter id's of the GSP are 'G'+ the first letter of the allocated area, i.e. 'GW' is GSP Western Germany. The id for MOI/LKA Bonn is always 'HF' and GSP Bonn 'GW'. A typical channel id for a message on channel 'V' will therefore be 'NIVHF', which is a message from Bonn to Hannover, the capital of Niedersachsen.

  All transmissions are in ARQ-E. Most MOI/LKA stations use 96bd/85Hz shift and GSP stations 72bd / 170Hz shift. The central station is Bonn and almost all other stations communicate with each other via Bonn. This reduces the amount of equipment since there is only one circuit involved for each outstation. In order to keep the number of transmitters in Bonn to a minimum, the stations are grouped and operate in 8-channel VFT and use the USB of the transmitters. Bonn uses channels 1, 3, 6 and 8, the outstations 2, 4, 5 and 7. The channel centers are offset from the suppressed carrier by 820, 1160, 1500, 1840, 2180, 2520, 2860 and 3200Hz, spaced by 340Hz. Each group of frequencies consists of

8 channels but there are also a few isolated channels. The Dusseldorf-Bonn link for instance, uses 2671.5 kHz and operates outside a group.

Traffic: most traffic is encrypted. There are however sometimes messages in plain German. Bonn sends a 'QVL' message every 4 hours on 03.00, 07.00, 11.00, 15.00, 19.00 and 23.00 UTC. Most outstations will confirm within 30 minutes after the QVL is sent.

STATE / AREA	CODE	CITY	CODE	CALLSIGN
Baden-Wurtemberg	BW	Stuttgart		DHA..
Bayern	BY	Munchen		DHR..
Berlin	GO	Berlin	GO	DHL35
Brandenburg	BR	Berlin		
Bremen	HB	Bremen	HB	DHB..
Hamburg	HH	Hamburg	HH	DHH..
Hessen	HE	Wiesbaden	BK	DHE / DEB55
Mecklenburg-Vorpommern		Schwerin		
Niedersachsen	NI	Hannover		DHL32
Nordrhein-Westfalen	NW	Dusseldorf		DHF..
Rheinland-Pfalz	RP	Mainz		DHG..
Saarland	SL	Saarbrucken		DHK..
Sachsen		Dresden		
Sachsen-Anhalt		Magdeburg	MA	
Schleswig-Holstein	SH	Kiel		DHQ..
Thuringen	TH	Erfurt		
Police Acadamy Hamburg	PH			
BGS Training Bad Bramstedt	AG			
Dortmund	DO			
GSP Nord Deutschland	GN	Hannover		DEC
GSP Sud Deutschland	GS	Munchen		DEL
GSP Ost Deutschland	GO	Berlin		DEK23
GSP West Deutschland	GW	Bonn		DEA
GSP Zentral Deutschland	GM	Kassel		DEF
GSP Deustche Kueste	GK	Bad Bramstedt		DEH

o Frequencies

GERMAN MOI CHANNELS - AS MONITORED
ALL ARQE MODE last update: 27/12/97

FREQ	BD	SHFT	CID	FROM	RID	TO
2294.60	96	85	BYVHF	Bonn	HFVBY	Munich (night)
2295.60	96	85	THVHF	Bonn	HFVTH	Erfurt (night)
2386.40	96	85	HFVBY	Munich	BYVHF	Bonn (night)
2386.80	96	85	HFVTH	Erfurt	THVHF	Bonn (night)
3200.00	96	85	? (this freq is on idle -evenings/nights)			
3815.40	96	85	HFVBG	Luebeck	BGVHF	Bonn (tests)
4972.40	96	85	? (this freq is on idle -evenings/nights)			
4978.10	96	85	BYVHF	Bonn	HFVBY	Munich (day)
4979.10	96	85	THVHF	Bonn	HFVTH	Erfurt (day)
5023.80	96	85	? (this freq is on idle at times/days)			
5263.60	96	85	BYVHF	Bonn	HFVBY	Munich (day)
5264.60	96	85	THVHF	Bonn	HFVTH	Erfurt (day)

In addition to the above, the following German MOI stations have been noted. These are all FEC-A/96/85 and simplex - no continuous carriers!

4018.00 DEL55 ?? other DEL-- C/S also on

4035.00	DEB55	Wiesbaden	other DEB-- C/S also on
5020.40	DEBW 2011 DEBE 3511 DEBC 2022 DEBS 9000 all heard		
5198.80	DEB30	??	other DEB C/S also on
5262.80	DEB--		various C/S on

Activity on these freqs is variable. Some days nothing. No pattern
Coded traffic is similar to above Bonn stations, but simplex. C/S
and German plain language messages.

International stations (MFA)

o Notes on Operation
  # Language: German, English
  # Tune up? with "alalalalalalalala" as for PIAB stations.
  # Tfc online encrypted but header in plain language. Leads in with
    "eeeeevvvvvv" or "vvvvvvv" and ends with "kkkkkkkkk".
  # May finish with (+/endemessage/+) three times
  # RS-ARQ transmissions complete with the following sequence:
    zczc

    (+/endemessage/+) (+/endemessage/+) (+/endemessage/+)
    ----
    version 2
)
    nnnn
  # RS-ARQ, in 228.7bd ITA-2 mode and ALIS for ALE, is now in extensive
    use between MFA and embassies, often replacing the older 96bd ARQ-E
    equipment previously used on a known frequency. So far, no use noted
    of 241bd 8 tone RS-ARQ mode but an unidentified 225bd Packet Radio-
    like system has also been noted on many known frequencies.

o Transmission Modes:

ITA-2	75bd			
ARQ-E	96Bd	Erect	170Hz, 400Hz	
ARQ-E	192Bd	Erect	160Hz	8CRC
FEC-100	96bd	Erect	400Hz	
RS-ARQ	228.5bd		170Hz	ITA2
RS-ARQ	225bd		170Hz	Packet Radio

o Logged Frequencies:

7981.5	9062.0	9277.9	10288.6	11459.0	11536.0	11539.2
12130.0	13374.4	13375.6	13436.0	13508.5	13510.6	13892.0
13893.5	13894.4	13895.6	13896.5	13903.0	13924.7	13927.7
13928.6	14357.6	14410.0	14663.5	14664.4	14619.0	15855.5
15855.8	15857.6	15858.5	16017.4	16020.4	17411.0	17439.0
18287.6	18291.5	18396.5	18702.4	19226.4	19226.5	19443.0
20020.0	20022.4	20140.0	20421.5	20422.4	20500.6	23691.0
25419.5						

o Reported Frequencies:

4441.0	4754.0	5220.0	5299.0	5448.0	6952.0	7546.0
7807.0	7918.1	7983.0	8071.5	8196.0	9088.0	9288.0
9336.5	9362.0	10217.5	10219.2	10262.0	10554.0	10844.9
11112.0	11123.5	11133.0	11163.0	11388.0	11448.0	11452.0
11533.6	11537.3	11538.4	11540.0	13438.6	13507.5	13511.5
13897.0	13945.6	14361.0	14569.0	14617.0	14633.5	14662.6
14665.6	14666.6	14818.0	14881.0	14949.0	14955.0	15856.6
15922.4	16015.7	16016.0	16017.5	16020.4	16022.2	16199.0
16248.5	16268.0	16284.5	16333.1	16335.3	16350.0	17280.0
17502.5	17518.6	18050.0	18286.0	18288.3	18289.5	18292.4
18294.0	18345.0	18394.5	18586.5	18704.2	18763.0	18771.0
19225.0	19226.0	19236.0	19390.0	19438.5	19535.0	19872.0
19885.0	20023.0	20060.6	20062.5	20066.5	20140.6	20417.5
20420.6	20422.0	20424.7	20573.0	20840.0	20773.0	21867.0
22904.4	22905.5	22906.6	22950.0	22955.0	23366.0	23395.0
23545.0	23545.0	23697.6	23866.0	25266.0	25320.6	25417.6
25418.5	25419.5	25420.5	25422.5	25541.5	25547.0	26441.5

Some of the above freq have been used for PIAB FEC-100 press broadcasts.If they are MFA transmitters is not known.

o Reported callsignss for MFA and embassies:

Call	Location	Call	Location
DMK366	Aden	DCF42	MFA Bonn
DFL26	MFA Bonn	DFN92	MFA Bonn
DFP	MFA Bonn	DFS70	MFA Bonn
DFU20	MFA Bonn	DMK	MFA Bonn
5TP293	Nouakchott	DFY	Tel Aviv
DMK260	Warsaw		

o Make-up of Callsigns in the range DE/DF.
- These also act as channel indicators.
- The first two letters (DE and DF) denote German ITU series callsigns.
- The third letter denotes the Mhz band as follows:

A	1 MHz	N	13 MHz
B	2	O	14
C	3	P	15
D	4	Q	16
E	5	R	17
F	6	S	18
G	7	T	19
H	8	U	20
J	9	V	21
K	10	W	22
L	11	X	23
M	12	Y	24
		Z	25 + 26

- The 4th number represents the 100 kHz element as a simple multiplier.
- The 5th number represents the 10 kHz element as a simple multiplier.

Examples
The frequency 791x.xx is likely to have the callsign

```
                  DF G 9 1
                     | | |
        7 Mhz--------+ | |
      900 Khz----------+ |
       10 khz------------+
        x.xx
```

The frequency 1592x.xx is likely to have the callsign

```
                  DE P 9 2
                     | | |
      15 Mhz-----------+ | |
     900 Khz-------------+ |
      10 Khz---------------+
       x.xx
```

Given the above base structure two addition digits are sometimes used. These represent the offset in respect of the above base and may be either LSB or USB as indicated by the first letter (L or H respectively) of the pair.

L1	-0.6 Khz	H1	+0.6 Khz
L2	-1.5	H2	+1.5
L3	-2.4	H3	+2.4
L4	-3.3	H4	+3.3
L5	-4.2	H5	+4.2

Examples: DFS70H3 (18Mhz +700Khz +0Khz +2.4Khz) = 18702.4
DFS26L1 (18Mhz +200Khz +60Khz -0.6Khz) = 18259.4

o Dictionary:

aa	Aussenamt (Foreign Ministry)
an	to
auch	also
auch fuer	copy/info (also for)
aus	from
betr.	subject (betreff)
bezug	reference
cti	consulate? (citissime)
fm cti	foreign mission
diplo cti	diplomatic mission
euro cti	european commission delegation
danke	thankyou
edv	
eingegangen	beginning
fernschreiben	telegram/message ?
fernschreiber	teleprinter
folgt teil	continuation part (page _?)
fuer	for
hier	here
ihnen	to you/them
lage	situation
nachrichtlich	news/information
offen	open (in plain language / in the clear?)
omnez	all?
oz	East European zone time (Osteuropaische Zeit)
plurez	
vom	of (von)
wtlg	weiterleitung (forwarding)
wz	West European zone time (UTC) (Westeuropaische Zeit)

o Sample Message Formats:

==========

Example 1: Header for (PIAB?) bulletin to Consulates

==========

```
 edv:6006,24.05.92, bern                              [this circuit to Bern]
 aus: bonn aa                                                [from MFA Bonn]
 nr 0017 vom 24.05.1992,0718 oz, omnez cti
 an: zuerich cti, innsbruck cti, graz cti                     [addressed to]
    aleksandria cti, tripolis cti, salzburg cti
    kairo cti, valletta cti, tunis cti, tel aviv cti
    nouakchott cti, bern cti
 c i t i s s i m e                                             [Consulates?]
 ------------------------------
 fernschreiben (offen)
 eingegangen:
 ----------------------~--------
 wien diplo auch fuer vkse und vvsbm
 rom diplo auch fuer fao
 nachrichtlich: bpa redaktion infofunk und bpa roem4 a 1
 az.: 012-9-312.75
 betr.: poea-plurez
        hier: rede des bm a. d. hans-dietrich genscher
              anlaesslich der amtsuebergabe im aa von bm a. d.
              hans-dietrich genscher an bm dr. klaus kinkel
              am 21.05.1992
      als anlage wird zur unterrichtung und ggf. poea-
 verwendung tekst der rede des bm a. d. hans-dietrich
 genscher uebermittelt.
 tiedt
 --folgt teil 2--
 ich danke dieter kastrup, mit dem ich in seinen
 verschiedenen funktionen, vor allem aber waehrend der
```

==========

Example 2: P/l header to otherwise online encrypted message

```
 edv:6044,23.11.92, tel aviv                              [to - this circuit]
 aus: bonn aa                                                 [from MFA Bonn]
 nr 0221 vom 23.11.1992,0956 oz                          [message nr and DTG]
 an: tel aviv                                           [to Tel Aviv Embassy]
 ------------------------------
 21911-23                                                    [encryption key?]

 vvvvvvvvmbrixxakhphtevzirijcdunk~~~~dunkeflh     [characteristic lead-in]
 svhptdyysxfutk
 naekjsqyvyqgz~qgzxfbycosvrs
 psnbvfhbyttfgna
 adboogantopadwwsosyugghegznw fpzl ppwcuaptwzmoiliogaheenwhvetzhmxpwexw
 zzbwwiqbmyawmsiay

 ummwax qaiealihlypbpptnnhozn  rtkkkkkkkkkkkkkkk      [characteristic end]

 nnnkbsaqydzy

================================================================================
Example 3: Header for p/l message originated Tashkent multiple address
================================================================================
 wtlg, edv: 302,23.11.92, tel aviv                [to Tel Aviv this circuit]
 aus: bonn aa                                         [from Bonn (relaying)]
 an: tel aviv                                                 [to Tel Aviv]
 ------------------------------
 aus: taschkent                                   [From originator Tashkent]
 nr 349 vom 23.11.1992, 1635 oz
 an: bonn aa                                                [addressed Bonn]
 ------------------------------------------------
 fernschreiben (offen) an 213
 eingegangen: 23.11.92, 1145 oz
 auch fuer new york uno, genf, moskau,          [to be copied to ----]
 bischkek, alma ata, ankara, teheran, peking, tel aviv,
 islamabad, bmi, bmv, bmvg
 ------------------------------------------------
 bmi vti 6, bmv see 14, bmvg ruez roem2 4
 auch fuer 231, 513, 514,
 az.: pol 321.39
 betr.: lage in tadschikistan
        hier: humanitaere un-mission
 bezug: db nr. 338 vom 19.11.1992, ziffer 1, zeile 2
 --zur unterrichtung--

      aus tadschikistan zurueckgekehrte humanitaere un-mission
 hat taschkent bereits verlassen. kontaktaufnahme war leider
 nicht moeglich. erfahre aus sicherer quelle, dass mission sich
 sehr problematisch gestaltete. da ergebnisse der un-fact-

================================================================================
Example 4: Operator comments
================================================================================
 tlv de be/bra:                          [Tel Aviv de operator initials?]
 gehe jetzt vom kanal
 bin in ca. 30 mins zurueck
 de bra 08.50 utc +

 tlv de be/bra:
 bin wieder zurueck
 de bra 08.55 utc +

 danke ihnen auch                        [thanks to you also byebye]
 bibi
 de bra +
 bsayzy

================================================================================
Example 5: Online encrypted traffic to Brasilia
```

```
 %%%
 104
 %
 brasilia              ssnr: 1497
 wtlg, edv: 514,15.08.96, brasilia
 aus: bonn aa
 an: brasilia
 ------------------------------
 8~476-2~
 vvvvvvmeomh~
 ~rdf
 vhywumyjnznsz~i btkvlesy
 pxes
 mmhbyfqd gkysyxnnc uhmbpiyiikto ysdmjrmykzqizpryh
 kpbhogei~~~ ~q~uizphw tjbkgsxk~~q
 hhdpwksqhlwge
 psgamhkcetvhggpwfmg~~~~c~~~cc~kz~~~~~~~~~
 nnnn

 %%%
 104
 %

 quitungsfernschreiben aus: bnn aa
 -------------------------
 519,ok, brasilia, edv  516, 15.08.96, 1436
 -------------------------
 nnnn
```

==========

Military Channel Designators List
Editor: Graham Tanner (graham.tanner1@virgin.net)
(London, UK)

==========

Welcome to another column. Last month, I said that I would be re-designing the layout of this part of the WUN Newsletter. If you look through the lists below, you will see that I have made several changes, including the 'last noted' information for the 'Mystic Star' list, re-doing the RAF UKADGE list, and changing the order that the Lists appear.

This month, another 'Mystic Star' frequency has been confirmed (see F136), and another 'new' one has been used (F107, in use 8th Dec) but no frequency is known. In the USAF/STRATCOM 'Zulu' list, Z255 has been positively identified, and Z280 (freq unknown) has been mentioned by various callsigns. In the USCG list, two new channels have been mentioned.

As it is now 1998, I will be searching through all your posting to the WUN list, looking to update the 'last heard/confirmed' data. It is quite likely that I shall miss a few, so if you notice any instances where you have posted a confirmation, and I don't pick it up, please send me an e-mail to remind me. Thanks.

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 01/01/98)

USAF MYSTIC STAR:

F003	8036 (6)	F365	11059 (7)	F664	15 MHz?
F005	9120 (6)	F369	20397 (5)	F667	6817 (7)
F007	4850	F370	17177	F673	3064

F009 17972
F020 16117
F033 15962
F039 10881
F046 13823
F054 8058 (7)
F058 4742 (6)
F061 23265
F063 14870
F064 11214 (7)
F066 15036
F077 ?
F078 18532
F080 15677
F084 13205.5
F085 MF 6,8,11 MHz
F086 9461
F089 13204 (6)
F090 6716
F094 9017 (6)
F098 14585
F099 13247 (7)
F101 12106 (6)
F102 11118 (6)
F103 11488 (6)
F108 7316
F114 6986 (6)
F117 6993 (7)
F124 11217 (6)
F128 23242
F134 4942.5
F136 5429.5 (7)
F146 9027 (7)
F153 8063 (6)
F173 14420.5
F182 3078 (6)
F184 10648
F186 3046
F194 13825 (5)
F195 20631
F197 4982 (6)
F202 16014 (5)
F204 12057
F211 11056 (7)
F213 ?
F226 5435.5 (6)
F228 7735 (5)
F236 15041 (7)
F243 18590
F248 5398 (5)
F249 4731
F250 15091
F251 13217 (6)
F262 10717
F264 7693 (6)
F265 15733 (6)
F266 7997 (6)
F267 6730 (7)
F268 7325 (7)
F271 18320
F277 11153
F287 11226 (7)
F290 8026 (7)
F291 13960 (7)
F292 9414.5
F295 11460 (7)
F300 15707 (6)
F301 7500.5

F372 16123
F380 3144 (5)
F382 15094 (6)
F395 9057 (6)
F400 6728 (5)
F404 7690
F405 6972
F406 18393 (6)
F417 4992
F419 11407 (5)
F420 7933 (7)
F432 6731 (6)
F433 20972
F435 3821
F437 5684 (6)
F441 17440
F444 19267
F448 16-18 MHz
F451 13248 (7)
F452 5026
F453 19063
F461 13211 (7)
F463 4610 (7)
F464 16157
F465 8040 (6)
F466 14864.5 (7)
F467 9023 (7)
F476 4-6 MHz?
F481 7605
F483 18626
F486 5152 (7)
F487 24483
F489 5437 (7)
F496 11059.5 (6)
F497 5411 (7)
F498 8032 (7)
F499 4442 (7)
F500 8989 (6)
F505 9006 (6)
F516 4645 (6)
F517 9270 (6)
F521 11484 (5)
F522 11232
F523 9215
F529 8077 (7)
F530 23325
F533 18675 (6)
F538 ?
F540 5404.5
F542 5431 (6)
F545 10580
F551 18331 (6)
F555 4894 (6)
F561 11052 (6)
F567 13565 (6)
F569 18387
F574 11413 (6)
F575 10427
F576 11153.5 (7)
F577 10544 (7)
F579 MF 11 MHz
F595 10877
F600 13878 (6)
F611 14863
F614 8026 (7)
F616 9320 (7)
F622 5817
F623 18317

F677 MF 6 MHz
F690 3032
F700 4490
F701 11058 (7)
F702 9323 (6)
F703 9991.5 (6)
F706 8057 (5)
F707 10589
F708 23377
F709 9317 (7)
F713 16246 (5)
F717 10883
F722 12270
F723 18323 (6)
F728 11236 (5)
F731 6683 (7)
F732 15011 (7)
F734 4757 (7)
F736 11494
F741 7873
F748 6756(5)
F749 15-16 MHz?
F752 8047 (7)
F754 11627
F777 3113 (6)
F778 18023 (7)
F784 9043 (6)
F785 15687 (6)
F790 16323
F803 5078?
F807 12103?
F809 5700 (5)
F814 6989 (7)
F821 ?
F823 11229 (7)
F825 19047?
F832 18267
F843 MF 6 MHz
F845 6-7 MHz?
F846 13822 (5)
F853 12 MHz?
F864 16008
F867 6830 (7)
F868 9218 (6)
F869 16090
F873 13248 (7)
F874 13246?
F875 6717 (7)
F877 4721 (7)
F885 13207 (5)
F895 5710 (7)
F904 10202 (7)
F906 4524
F909 7687 (7)
F910 19671
F912 7330
F917 10205 (6)
F918 13482
F919 11159 (6)
F920 7927 (7)
F924 16317
F933 ?
F935 9 MHz?
F937 ?
F940 11445
F943 19002 (6)
F948 15038 (6)
F952 Night

F302	?	F624	13241 (6)	F957	6761 (7)
F310	?	F626	19343	F965	11466 (6)
F311	11220 (7)	F627	7910 (5)	F974	10586 (6)
F322	?	F631	18755 (5)	F975	MF 11 MHz night
F326	14864	F633	18290 (7)	F980	15724
F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (7)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (7)	F997	15667
F360	7919.5 (6)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

*USN SCW-1
CA 6691 (7)
CB 11187 (7)
CC ?
CD ?
also check 11267 & 13240

*USAF STRATCOM 'Zulu':
Z100 3068 (7)
Z105 3116 (7)
Z110 3134
Z115 3143 (7)
Z120 3295 (7)
Z124 ?
Z125 4495 (7)
Z130 4472 (7)
Z135 4745 (7)
Z140 5026 (7)
Z145 5705 (7)
Z150 5800 (7)
Z155 5875 (7)
Z160 6715 (7)
Z165 6757 (7)
Z170 7831 (7)
Z174 ?
Z175 9016 (7)
Z180 9057 (7)
Z185 9809 (6)
Z190 10204 (7)
Z195 11104.0 (possibly?)
Z200 11181 (7)
Z205 11494 (7)
Z210 11229 (7)
Z211 12070 (7)
Z215 13242 (7)
Z220 13245 (7)
Z225 13907 (7)
Z230 15046 (7)
Z235 ?
Z240 15097 (7)
Z250 15962 (7)
Z255 17973 (7)
Z270 18027
Z275 ?
Z280 ?
Z285 ?
Z295 ?
Z315 23872
Z330 ?

*USAF AFSOC
==========
FOX 1 13207
FOX 2 5732
FOX 4 9017
FOX 8 23271

FOX 9 18027
? 9018

*US Customs/DEA/JTF
==========
 3428 Yankee Alpha
 5571 Yankee Bravo
 8912 Yankee Charlie
11288 Yankee Delta
13312 Yankee Echo
17972 Yankee Foxtrot

27870 Victor Alpha
20631 Victor Bravo
18594 Victor Charlie
15964 Victor Delta
11494 Victor Foxtrot
 3369 Victor Kilo

 4500 Zulu Alpha
 7527 Zulu Bravo
 9802 Zulu Charlie
12222 Zulu Delta
15867 Zulu Echo

10242 Tango Alpha (also VE)
13907 Tango Bravo (also VG)
20890 Tango Charlie (also YG)
23214 Tango Delta (also YH)
25350 Tango Echo (also YI)

 2808.5 Xray Alpha
 4991 Xray Bravo
 5058.5 Xray Charlie
 7778.5 Xray Delta
 9238.5 Xray Echo
11073.5 Xray Foxtrot
15953.5 Xray Golf
17601 Xray Hotel
19131 Xray India

 5912 Whiskey Charlie
12138.5 Whiskey Delta
13658.5 Whiskey Echo
15964 Whiskey Foxtrot

*USCG "SECURE"
==========
3A3 5422.5
3A4 4448
3A5 ?
3A8 7773.5
3A9 7421
3A30 ?
3E4 6234.5
3E5 10608.1?
3E6 5272
3E7 ?
3E9 ?
3E10 7626
3E11 7783
3E12 7845
3E13 7884
3E14 7909
3E19 10675
3E20 10759
3E21 10788
3E24 11157.5

 5277 Alpha (Night DEA Pri)
 5841 Bravo
 7300 Charlie
 9497 Delta
11076 Echo (Day DEA ops)
 7657 Foxtrot
14690 Golf
18666 Hotel (DEA Active)
23675 India
14350 Lima
14686 Papa (DEA day pri)
23402.5 Romeo

17171 Sierra Hotel
18171 Sierra India
19131 Sierra Hotel

 7527 COTHEN Scan 1
 8912 COTHEN Scan 2
10242 COTHEN Scan 3
11494 COTHEN Scan 4
13907 COTHEN Scan 5
15867 COTHEN Scan 6
18594 COTHEN Scan 7
20890 COTHEN Scan 8
23214 COTHEN Scan 9
25350 COTHEN Scan 10

3E25 13413
For a full listing of USCG aircraft and helicopters, please 'surf' to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers
==========
CH-1   3345
CH-2   5015
CH-3   5327.5
CH-4   5400
CH-5   5437.5
CH-6   6020
CH-7   6785
CH-8   9122.5 Pri
CH-9 11693.5
CH-10 12070   Sec
CH-11 12122
CH-12 16077
CH-13 16326   Ter
CH-14 16358
CH-15 20659

*U.S. ARMY TRANS CORPS
==========
CH.1   4146
CH 2   6224
CH 3   6227
CH 4   8294
CH 5   8297
CH 6 12353
CH 7 12359
CH 8 12365

*SFOR BOSNIA
==========
I2   6723
I8   6721.5 (5)
I9   2839.5 (5)
 ?   2841.5 (5)
PUSH 81 5788
PUSH 81A 6865
PUSH 82 4450
PUSH 85 3178
PUSH 89 6932.5
PUSH 103 5110
PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312

The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.

*'Habitat' net
==========
Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:
4704.4   (replaced 4721.0)
5700.4   WY02B
6719.4   WY02A   (replaced 6736.0)
8978.4
9005.4
9011.4
11212.4   (replaced 11214.0)
15095.4
(the two designators listed above, WY02A and WY02B, are not yet confirmed.)

*Canadian Forces
==========
A6A   4560.0

A6G   6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

*Belgian Air Force Designators
==============================
from Danny Peters via Gerard Bos and Gerbrand Diebels/SC-MAC.
4745.0   YD
8989.0   YG (used to be Y8)
11268.0   YJ (used to be Y11)
15010.0   ?? (new freq)
15015.0   YM (new freq. + desig.)
18006.0   YO (new desig.)
20050.0   YQ (new freq. + desig.)
20620.0   YP
23332.0   YS (used to be Y23)

*French Air Force 'Circus' Net
==============================
Marjolaine 2   6712
Racontar 1   8972
Vinaigrette 3 8992
Raphael   13236
Citadelle 1   18010
Citadelle 3   ?
Verite 3   23254
Reconfort 3   15 MHZ?
Capitole   6688
143.8 AM Canasta in VHF, relayed all over France (thanks to Jacques Pagnoux)

*German Navy
============
The following list comes from the WUN Newsletter, vol.4 of 1997. I have cut it down to just those frequencies listed as 'USB' (those deleted were all RTTY).

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB

16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
==========

From Ary Boender comes the following list of frequencies. It was 'current' during 1995, so there may have been some changes since then. I have removed all the non-USB frequencies.

Freq	Mode	Callsign		Location
3144.0 kHz	USB	DHM 91	German Air Force	Munster
5591.0 kHz	USB	DHM 91	German Air Force	Munster
5687.0 kHz	USB	DHM 91	German Air Force	Munster
5693.0 kHz	USB	DHM 91	German Air Force	Munster
6692.0 kHz	USB	DHM 91	German Air Force	Munster
6718.0 kHz	USB	DHM 91	German Air Force	Munster
6747.0 kHz	USB	DHJ 78	German Air Force	Munster
6762.0 kHz	USB	DHM 91	German Air Force	Munster
6762.5 kHz	USB	DHN 66	German Air Force	Geilenkirchen
8967.0 kHz	USB	DHM 91	German Air Force	Munster
8986.5 kHz	USB	DHN 66	German Air Force	Geilenkirchen
8991.0 kHz	USB	DHJ 78	German Air Force	Munster
9000.0 kHz	USB	DHM 91	German Air Force	Munster
9019.0 kHz	USB	DHM 91	German Air Force	Munster
11187.0 kHz	USB	DHM 91	German Air Force	Munster
11217.0 kHz	USB	DHM 91	German Air Force	Munster
11217.0 kHz 'M'	USB	DHO 23	German Air Force	Munster
11226.0 kHz	USB	DHM 91	German Air Force	Munster
11270.5 kHz	USB	DHN 66	German Air Force	Geilenkirchen
11272.0 kHz	USB	DHM 91	German Air Force	Munster
13203.0 kHz	USB	DHM 91	German Air Force	Munster
13245.0 kHz	USB	DHM 91	German Air Force	Munster
13248.0 kHz 'O'	USB	DHM 91	German Air Force	Munster
13342.0 kHz	USB	DHM 91	German Air Force	Munster
15015.0 kHz	USB	DHN 66	German Air Force	Geilenkirchen
17992.0 kHz 'W'	USB	DHM 91	German Air Force	Munster
17996.5 kHz	USB	DHN 66	German Air Force	Geilenkirchen
18006.0 kHz	USB	DHM 91	German Air Force	Munster

*NATO E-3 AWACS
==========

Ch.AA	6700.0
Ch.??	5691.0
Ch.AB	11228.0
Ch.AC	8971.0
Ch.KD	6760.0
Ch.KF	6695.0
Ch.NB	3081.0
Ch.NC	3225.0
Ch.ND	?
Ch.NE	4542.0
Ch.NF	4720.0
Ch.NG	?
Ch.NH	4758.0
Ch.NI	6762.5
Ch.NJ	8986.5
Ch.NK	11270.5
Ch.NL	15050.0
Ch.NM	17996.5
Ch.XC	6754.0
Ch.XD	8980.0
Ch.XE	10315.0
Ch.??	12165.0

X-net is replacing N-net altough the N-freqs are still sometimes used.
(Thanks to Gerbrand Diebels/SC-MAC)

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's (actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above).
If the UKADGE circuits are active, there will be an announcement after the weather broadcast with the code-letters for the active frequencies.
For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

  The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.
  The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5
  The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A   11205.0   EP   15040.0   ME   14460.0

AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 08	4020.00 Khz#
Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#
Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 26	(uhf)

Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#

= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========

(also known as 'Coastal Control')

Controlled from Whitehall ('GYA') with standby location at Forest Moor ('GXQ').
Transmitters:- Milltown and St. Eval
Receivers:- Kinloss and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly
use their ships name.

UKMACCS info Compliments of Graham Tanner

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========

Utility Monitoring in the Maritime Bands
Editor: Day Watson (jdwatson@cableinet.co.uk)
14, Gardens Road
CLEVEDON, North Somerset
BS21 7QG United Kingdom

Hi MariWUNners

A sad beginning to the year. The cessation of the 500 khz Distress Watch and of the MF WT service by British Coast stations as 1997 ended. And on the 16th of January France's well known HF maritime radio station St Lys closed its final services on HF telex and RT.

QTC list:

UK 500 kHz closedown
St Lys Radio closedown
UK CG weather bulletins
GMDSS - Overview
2/3 Mhz maritime information broadcasts Pt.4
Station overviews
Habana/CLA
Ankara/TAH
Shipping snippets

++++++ UK 500 kHz closedown

31/Dec/97 saw the "end of an era" as GCC noted to GLD.

During the period 2348z to 01/Jan/0040z the four UK MF WT stations each sent a small service message. After each there was an emotional exchange of signals (not quoted) between themselves and the remaining European coaststations (Irish, Italian, Belgian, Spanish, Swedish, and some dx from VCM) still operating on 500 kHz.

From Portpatrick Radio - 2355z
cq de GPK = At 312359 utc Portpatrickradio/GPK will end the H24 500 khz distress watch after 76 years -
In 1844 qtc nr1 fm Samuel Morse was "what hath God wrought" =
All r/os now ken the answer to this =
nw 73 73/slainte to all r/os , past and present farewell ar de GPK GPK va.

From Wick Radio/GKR - tor 0004z
CQ de GKR = After almost 90 years service to seafarers this is the final w/t broadcast from Wick Radio. For the few of us who are left it is with feelings of pride and nostalgia we remember friends and colleagues at sea and ashore and the service which was rendered particularly to the then mighty distant water fishing fleet. Technology however marches on and as we find ourselves and our service consigned to memory (?) if not the museum then certainly to the pages of history.
All that remains is to wish good luck happy memories best wishes for 1998 and 73s to any who are left out there with the ability to read this.
= GKR signing off for ever = ar va.

From Cullercoats Radio/GCC - tor 0010z
cq de GLD = Herewith the last w/t transmission from GCC
A fond fairwell from Geordyland
sent with a sad and shaking hand.
For many years with signs we spoke
and now it all goes up in smoke.
So thanks and all the very best
as GCC is laid to rest
= de GCC/GND 010010z

From Landsend Radio/GLD - tor 0023z
cq de GLD = This is the final w/t transmission from Landsend Radio.
Since 1901 GLD has listened continuously on 500 khz and is proud to
have assisted many ships in distress both in peacetime and in war stop
but now the time has come,
ours is not to reason why,
the satellites are calling,
our morse transmitters die.
Marconi if you can hear us we salute you
= de GLD 31/12/97 2359z ar de GLD

+++++ St Lys Radio closedown

At 1700z on 16/Jan St Lys sent out some gale warnings and a traffic list
followed by the following message in French and English on its HF telex
frequencies.

zczc

cq cq cq de fft a toutes les stations ....

apres 50 ans de service la station de st-lys va stopper
definitivement ses emissions avec les navires du monde entier.
la technologie a evolue amenant confort, confidentialite et securite
dans le monde des telecommunications. st-lys a servi les marins de
tous les pays et le monde de la mer. les operateurs tiennent a
exprimer a tous leur emotion a l'occasion de ce dernier message.
cependant, le service continue aupres des autres stations, et
notamment aupres de la station belge d'oostende-radio, et la
station suisse de bern-radio et la station monegasque, monaco-radio
les avis urgents aux navigateurs continueront d'etre diffuses
sur les memes frequences.
les operarteurs de saint-lys radio vous donnent rendez-vous sur
les reseaux de l'avenir.

following 50 years of service the saint-lys radio coast station
will be permanentely terminating it's worlwide shipping broadcasts.
the evolution of technology has brought with it comfort,
confidentiality and security within the world of telecommunications.
st-lys has been of service to sailors of every nationality and
seafaring community in general.
the operators and technicians of st-lys/le vernet station would
like to express their sadness on the occasion of transmitting
this last message.
the service will continue, however, with other stations, and in
particular with the belgian oostende-radio coast station, the
swiss bern-radio station and the station of principaly of monaco
monaco-radio.
urgent warnings to will continue to be broadcasted on the same
frequencies.
st-lys personnel look forward to providing services for you
on other networks.

nnnn

16.1.98 17:10

Ralf Radermacher in Cologne, Germany had also been watching FFL on RT and posted

" short account of last night's [16/Jan] events:

During the last day, traffic was shared evenly between the normal routine phone call business and ships calling in just to say good-bye.

All phone calls, no matter how long, were charged as 1 minute. A clever French skipper delivered a really great example of human character. Once he had found out about the special offer, he phoned half a dozen friends or relatives in French Polynesia and kept FFL busy for over an hour. Some people will really walk over the dead....

Here's the rest:

1850 last phone call (apparently to Greece)
1855 'Sandettie' saying good-bye
1900 interval signal
1903 last ship contact with 'Seafrance Césanne'
1904 last message (live, French)
1906 last message (taped, English, French, Spanish)
      repeated until...
1919 end of phone transmissions

1940 interval sig on 4366, until..
1945 phone definitely QRT

2000 traffic list, wx and repeat of last msg in TLX
2055 TLX QRT "

Thanks for that log, Ralf, and for the work in producing the

" .WAV files of:

- the last ship/shore traffic (FFL/FNBK) and the farewell msg in French
- the last message in English

each of the two preceded by the famous little music and the charmingly old-fashioned announcement.

The URL is: http://www.neuemedien.de/koelntram/stlys.htm"

++++++ UK CG weather bulletins

We were taken to task by Bert van Rij in omitting these from a recent 2/3 MHz MIB article. True but these broadcasts are not transmitted throughout the year.

They are 3-day forecasts for the fishing fleets and broadcast (on 2226 kHz) during the winter between October and March.

For Northern N Sea (for Viking, Forties, Fisher, Fair Isle) by Aberdeen CG 2020 UTC and repeated the following morning at 0820 UTC.

For Southern N Sea (for Tyne, Dogger German Bight, Humber, Thames) by Humber CG 0910 UTC and repeated 2110 UTC.

For SW approaches (Plymouth, Fastnet, Shannon, Sole, Finisterre) by Falmouth CG 0950 UTC and repeated 2150 UTC.

++++++ GMDSS - Overview

In previous columns there have been a number of articles on DSC alerting and the abuse of the GMDSS system. In the next few columns we'll look at Global Maritime Distress and Safety System, the need for improvement

compared to the previous system, areas involved and what equipment ships will be required to carry.

The old system (Int. Convention for Safety of Life at Sea (SOLAS) 1974) required certain classes of ships whilst at sea to keep continuous radio watch (usually split between a single Radio Officer and an AutoAlarm receiver - See WUN Newsletter Mar/97) on the international distress frequencies, and carry radio equipment capable of transmitting over a minimum specified range.

This old system had two basic manually operated subsystems :-

WT on 500 kHz for all cargo ships greater than 1600 tons, and all passenger ships. Since morse competance is required for operation a morse-qualified Radio Officer is required on all ships with WT equipment.

RT on 2182 kHz and VHF Chan 16 (156.8MHz) for all cargo ships greater than 300 tons, and all passenger ships.

One will note that HF and satellite don't get a look in. They are optional extras. The minimum range specified for the mandatory equipment is 100-150 nautical miles.

The Master of a ship receiving a Distress or Urgency signal should proceed with maximum speed to the assistance of the casualty. This assistance, one can see, comes primarily from other shipping in the vicinity. It is in fact a ship-ship operation.

Coast stations, on the other hand, open to public correspondence (the handling of commercial telegrams/telephone calls) are required to maintain watch on the distress frequencies during their hours of service but with ship equipment only capable of achieving the 100-150nm minimum little assistance can be obtained via the shore when a ship is on a transoceanic passage. In such cases the shore authorities are reliant on the distress details being relayed to shore via HF by one of the participating vessels.

Introduction of modern technology such as satellite and digital selective calling (DSC) enables a distress alert to be transmitted/received automatically over a very long range without hindrance from meteorological or interference conditions.

So where does the GMDSS take us when fully implementation comes into effect on 1 Feb 99?

GMDSS's basic concept is that Search and Rescue (SAR) authorities ashore as well as ships in the vicinity of the casualty be rapidly alerted to the incident. This ensures a coordinated SAR plan can be put into operation with minimum delay.

The system also provides for urgency/safety comms and for the broadcast of maritime safety related information. This consists of navigational warnings, storm/gale warnings and routine forecasts, and other relevant safety info.

Signatory Governments to the GMDSS convention have undertaken to provide the appropriate shore based facilities for space (satellite) and terrestial radio communications. Ships under their flag will be capable of transmitting to shore distress alerts by at least two separate and independant means each using a different service. They will also be capable of receiving shore to ship distress alerts. In addition they will have facilities for transmitting/receiving
a) ship-to-ship distress alerts,
b) SAR coordinating comms,
c) on-scene comms,
d) maritime safety information,
e) general radio comms from shore-based radio systems/networks, and
f) bridge-to-bridge comms.

The convention recognises that the different radio sub-systems employed in GMDSS have individual limitations in respect of geographical coverage and service. Because of this the equipment carried by an individual ship is determined principally by that ship's area of operation.

There are four designated sea areas:-

A1 An area within the RT coverage of at least one VHF coaststation in which continuous DSC alerting (on Chan.70) is available.

A2 An area, excluding A1, within the RT coverage of at least one MF (1605-2850 kHz) coaststation in which continuous DSC alerting (on 2187.5 kHz) is available.

A3 An area, excluding A1 and A2, within the coverage of an INMARSAT geostationary satellite in which continuous alerting is available.

A4 An area outside areas A1, A2 and A3.

So to summarise in very simple terms A1 is coastal passages, A2 is very short sea passages, A3/A4 oceanic passages.

Next month we'll look at the basic equipment requirements to enable our ship to operate in some or all of these areas.

++++++ 2/3 Mhz maritime information broadcasts Pt.4

In Part four of his series Keith Haywood takes us round and across the Pacific.

Malaysia.				
Kuching	9WW20	2130	NAV	0300,0700,1100,1500,1900,2300
Indonesia				
Amboina	PKE	2690	NAV	0100
Australia.				
Darwin	VID	2201	both	0233,0833,1233,2233
Perth	VIP	2201	WX	0118,1118,1518
Perth	VIP	2201	NAV	0118,1118,1518,2318
Melbourne	VIM	2201	Both	0148,0348,0948,1348,2148
Sydney	VIS	2201	WX	0703,2103
Gosford	VZX	2524	WX	0125,0625,0935,2125
Gosford	VZX	2524	NAV	0003,0603,1203,2003
Townsville	VIT	2201	both	0033,0633,1233,2033
New Zealand.				
Taupo	ZLM	2207	WX	0003,0803,2003
Taupo	ZLM	2207	both	0103,0603,1403,1803
Wellington	ZMH28	2045	WX	0515,0745,1845 (Local)
Nelson Marine	ZMH57	2045	WX	0910 (Local)
Far North		2480	WX	0800,0930,1300,1730 (Local)
Tahiti.				
	FJA	2620	WX	0700,2200 (French)
		2620	NAV	0403,1803,1833

Cook Is.

Rarotonga	ZKR	2207	WX	0015,0615,1815	

Tonga.

Nukualofa	A3A	2080	WX	0120,0820,2020	

New Caledonia.

Noumea	FJP	2197	Wx	1005	(French)
		2197	NAV	0705,1005,1905	(French)

Mariana Is.

Guam	NRV	2670	both	0705,2205	

Hawaii.

Honolulu	KBP	2530	WX	0400,1000,1600,2200	
Honolulu	NMO	2670	WX	0545,1145,1745,2345	
Honolulu	NMO	2670	NAV	0903,2103	

USA-Alaska.

Cold Bay	KCI95	2512	WX	0530,1930	
Kodiak	NOJ	2670	NAV	0203,1645	

Canada-Pacific.

Prince Rupert	VAJ	2054	both	0105,0405,0705,1005,1305, 1605,1905,2205	
Tofino	VAE	2054	both	0050,0350,0650,0950,1250,1550 1850,2150	

USA-Pacific.

Port Angeles	NOW	2670	both	0615,1815	
Astoria	NMW	2670	both	0533,1733	
North Bend	NOE	2670	both	0603,1803	
Humbolt Bay	NMC11	2670	both	0303,1503	
Monterey	NMC6	2670	both	0333,1533	
Channel Is.	NMQ8	2670	both	0503,1303,2103	
Long Beach	NMQ9	2670	both	0503,1303,2103	

Mexico-Pacific.

La Paz	XFK	2665	WX	1740	

Chile.

Arica	CBA2	2738	WX	0205,1405	(Spanish)
Iquique	CBA3	2738	WX	0215,1415	(Spanish)
Antofagasta	CBA	2738	WX	0205,1405	(Spanish)
Chanaral	CBA23	2738	WX	0215,1415	(Spanish)
Caldera	CBA5	2738	WX	0205,1405	(Spanish)
Easter Island	CBY	2738	WX	0225,1425	
Huasco	CBA24	2738	WX	0215,1415	(Spanish)
Coquimbo	CBA4	2738	WX	0205,1405	(Spanish)

Valparaiso	CBV	2738	WX	0135,1435	(Spanish)
San Antonio	CBV22	2738	WX	0205,1405	(Spanish)
Juan Fernandez	CBF	2738	WX	0225,1425	
Talcahuano	CBT	2738	WX	0210,1410	(Spanish)
Puerto Montt	CBP	2738	both	0045,1425	
Constitucion	CBT21	2738	WX	0250,1450	(Spanish)
Cabo Carranza	CBT2	2738	WX	0145,1345	(Spanish)
Isla Mocha	CBT3	2738	WX	0205,1405	(Spanish)
Punta Corona	CBP70	2738	WX	0045,0645,1245,1845	
Castro	CBP2	2738	WX	0240,1440	(Spanish)
Isla Huafo	CBP4	2738	WX	0340,0940,1540,2140	(Spanish)
Puerto Asyen	CBP3	2738	WX	0150,1350	(Spanish)
Cabo Raper	CBM2	2738	WX	0040,0640,1240,1840	(Spanish)
Punta Dungeness	CBM71	2738	WX	0205,1405	(Spanish)
Evangelistas	CBM3	2738	WX	0205,1405	(Spanish)
Punta Delgada	CBM5	2738	WX	0150,1350	
Faro Fairway	CBM4	2738	WX	0150,1350	(Spanish)
San Pedro	CBS	2738	WX	0205,1405	(Spanish)
Bahia Felix	CBX	2738	WX	0210,1410	
Magellanes	CBM	2738	WX	0235,1435	
Wollaston	CBN	2738	WX	0205,1405	(Spanish)
Diego Ramirez	CBM30	2738	WX	0205,1405	(Spanish)

Many thanks Keith.

++++++ Station overviews

++++++ Habana/CLA

Location: Cuba at 23.10N 82.19W

WT Service

Marker: "CQ de CLA CLA qsx c/3 8368/12552/16736 tx 8573/12673.5/16961
qsw CLA20/32/41/50 qrj c/1217 k"
QTC lists: 1425 1825 2225 on all HF working freq open at time.
Watchkeeping: As indicated on call channels 3 and 5

CLA	6482	
CLS	8489	
CLA20	8496	
CLA21	8573	H24
CLJ	8609	
CLA22	8690	
CLA33	12673.5	H24
CLA30	12748.1	
CLA	12792	
CLA32	13062	
CLS	16921	
CLA40	16961	1230-2300
CLA41	17165.6	
CLA50	22610.5	
CLA51	22649	
CLS	22661	

Telex service

Station number (unknown) 251? ---> selcal QPX?
Marker:

CLA	Ship	ITU Chan
8429	8389	[826]
12592	12489.5	[1226]
12597	12494.5	[1236]
16819	16696	[1626]

16824	16701	[1636]
22389	22297	[2226]
22394	22302	[2236]

HF RT service

		Ship	ITU Chan
CLA62	4357	4065	[401]
CLA60	4408	4116	[418]
CLA63	8737	8213	[807]
CLA64	8743	8219	[809]
CLA67	8758	8234	[814]
CLT	8779	8255	[821]
CLA69	13116	12269	[1214]
CLA68	13125	12278	[1217]
CLT	13137	12290	[1221]
CLA71	13158	12311	[1228]
CLA73	17275	16393	[1612]
CLT	17302	16420	[1621]
CLA72	17317	16435	[1626]
CLA75	17323	16441	[1628]
CLA77	22750	22054	[2219]
CLA76	22789	22093	[2232]

Address:

(Per Brannolte/Siebel SEEFUNK)
Habana Radio
Estacion Costera,
Naroca Ciudad Residencial
Santa Cruz Norte
CUBA

(Per Klingenfuss Utility Guide 1998)
Havana Radio
Centro Receptor Internacional
Traffic Manager
Alamar
Apartado 21056
HABANA 12500

Acknowledgements:
ALRS Vol.1 97/98
Brannolte/Siebel SEEFUNK
Klingenfuss Utility Guide 98

++++++ Istanbul/TAH

Location: Turkey at 41.04N 28.57E

HF WT service
Marker: "cq de TAH qsx 8 mhz ch 3 4 8 ar"
Qtc lists: Every OH+00 on frequencies in use.
Watchkeeping: On call channels 3 4 8

4253
6491.5
8611.5
8662
12736.6
12801
17008.5
17021.6
22548

Telex service
Station number 4360 ---> selcall MKCV
Marker: "TAH"

TAH	Ship	ITU Chan
4216	4178.5	[413]
4219	4181.5	[419]
8431	8391	[830]
8434	8394	[836]
12634.5	12532.5	[12112]
12654	12557	[12151]
16881	16763	[16150]
19689	18878.5	[1817]
22411	22319	[2270]

HF RT Service
QTC lists: On 8749 every H+05 and H+35
Watchkeeping: As indicated below.

TAH	Ship	ITU Chan	
4387	4095	[411]	
4405	4133	[417]	
4414	4122	[420]	
6510	6209	[604]	HN
8746	8222	[810]	
8749	8225	[811]	H24
8809	8285	[831]	
8812	8288	[832]	
13128	12281	[1218]	
13140	12293	[1222]	H24
13173	12326	[1233]	
13191	12344	[1239]	
17257	16375	[1606]	
17272	16390	[1611]	
17293	16411	[1618]	HJ
22735	22039	[2214]	
22762	22026	[2223]	
22783	22087	[2230]	

Address:
Istanbul Radio
PTT Bolge Basmudurlugu,
Telegraf Telefon Isletme Mudur,
TR-34320 Istanbul
Turkey

Acknowledgements:
ALRS Vol 1 97/98
Brannolte/Siebel SEEFUNK
Klingenfuss Utility 98

++++++ Shipping snippets

Thanks to Steve Shultz and the SHIPs list for the following items.

Royal Australian Navy takes over Omega Navigation Station

The Royal Australian Navy has acquired the Omega Navigation Station at Woodside, Victoria, Australia, for use as a Very Low Frequency communication station for its attack submarines. The navy is currently negotiating for the station to be operated by the Australian Maritime Safety Authority with three full-time and several part-time personnel. The

antenna at Woodside is said to be the fourth highest structure in the world at 427 meters/1,401 feet and access for public viewing will be maintained. The station was opened in 1982 as the last of the eight Omega stations.

Oak sends last official SOS message

The Oak (Bahamian-registry 13,000-gt, 21,951-dwt, 155.22-meter/509.25-foot motor bulk carrier built in 1981, operated by Diana Shipping Agencies S.A.) broadcast a Morse Code (CW) SOS message late 31 Dec., 1,260 kilometers/790 miles west of Ireland. Official use of Morse Code formally ended 1 Jan. The Oak was sailing from Canada to Liverpool, England, with a crew of 26 Greek and Philippine citizens when its cargo of wood shifted in a storm and the ship lost power. Winds of Beaufort Force 10, 48 to 55 knots, were reported. The crew jettisoned between 300 cubic meters/390 cubic yards and 400 cubic meters/520 cubic yards of its lumber cargo overboard after the ship developed a 40 degree list and the vessel lost power. The Oak's 500 Kilohertz message was heard by Bob Baker at Stonehaven Radio/GND in the United Kingdom and relayed to the British Coast Guard at Falmouth, England. The signal was received from at Landsend Radio/GLD. "We haven't had a Morse distress message for years," said Gerry Wood, a Coast Guard spokesman. "It was almost too perfect." Oak's message stated "SOS. SOS. This is Oak. Position 53 16 N, 24 59 W. Stop engine. We need assistance." The broadcast of an Emergency Position Indicating Radio Beacon (E.P.I.R.B.) was also picked up. The Anglian Prince (St. Vincent and the Grenadines-registry 1,455-dwt tug built in 1980, operated by Klyne Tugs (Lowestoft) Ltd.) brought the ship to the Gladstone Dock in Liverpool on 4 Jan.

++++++ Signoff

That's all for this month, folks. Happy listening, regards   Day.

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
-
- Nickname on IRC channels #wun & #monitor Ary-B -

Pffffew!!!!!!!!!! It took a while, but it's finally here; the ANTARCTIC SPECIAL. I tried to get as much info about the subject as I could get. Some freqs may be obsolete, but I mentioned them anyway as they may be activated again.

o Acknowledgements
  My sincere _THANKS!_ to the following people who have supplied info, logs and articles, directly or thru WUN: Andrew Brill, Murray Lehman, Bob Hall, Ian Julian, John Charlton, Michiel Schaay, Noel Jones, Richard T. Mills, Glenn Dunstan, RD Baker, Marius Rensen, Keith Stein, John Stephens, Fabrizio Magrone, Carl Hender, Ian Baxter, Robert Williams, Roberto Robba, Charles Chenery, Markus Buttinger, Ssgt Gary R. Tester, 1st Lt Peter A.Kerr (62nd Airlift Wing Public Affairs), Gary Seven, Reinhard Klein-Arendt, Bob Colyard.
  Last but not least, many thanks to those of you who wish to remain anonymous.

o Research
  Worldwide Ute News, Popular Communications, CIA World Factbook, Confidential Frequency List, Spezial-Frequenzliste, Frequency Manager.

  Home pages of: ANI Adventure Network Intl, Antarctic Development Squadron, Antarctica New Zealand, Antarctic Support Associates, Australian Antarctica, Australian Antarctic Division, BPRC Ice Core Group, British Antarctic Survey, Gateway to Antarctica, Greenpeace, Antarctic Page, Ice Core Paleoclimatology Group Projects, LTER Palmer Station, Marek Kaminski, McMurdo LTER-Related Links, National Science Foundation, Scott Polar Research Institute, South Sandwich Island DX Group. The URLs are included at the end of this article.

ANTARCTICA
o Profile
- Location: continent mostly south of the Antarctic Circle
- Geographic coordinates: 90.00 South, 0.00 East
- Total area: 14 million sq km (est.)
- Land area: 14 million sq km (est.)
- Coastline: 17,968 km
- Climate: severe low temperatures vary with latitude, elevation, and distance from the ocean; East Antarctica is colder than West Antarctica because of its higher elevation; Antarctic Peninsula has the most moderate climate; higher temperatures occur in January along the coast and average slightly below freezing.
- Terrain: about 98% thick continental ice sheet and 2% barren rock, with average elevations between 2,000 and 4,000 meters; mountain ranges up to about 5,000 meters; ice-free coastal areas include parts of southern Victoria Land, Wilkes Land, the Antarctic Peninsula area, and parts of Ross Island on McMurdo Sound; glaciers form ice shelves along about half of the coastline, and floating ice shelves constitute 11% of the area of the continent.
- Type of government:
  The Antarctic Treaty, signed on 1 December 1959 and entered into force on 23 June 1961, establishes the legal framework for the management of Antarctica. Administration is carried out through consultative member meetings. Currently, there are 42 treaty member nations: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Cuba, Czech Republic, Denmark, Ecuador, Finland, France, Germany, Greece, Guatemala, Hungary, India, Italy, Japan, Netherlands, New Zealand, North Korea, Norway, Papua New Guinea, Peru, Poland, Romania, Russia, Slovakia, South Africa, South Korea, Spain, Sweden, Switzerland, UK, Ukraine, Uruguay, and USA.
- Year-round stations: 42. Argentina 6, Australia 3, Brazil 1, Chile 3, China 2, Finland 1, France 1, Germany 1, India 1, Japan 2, S.Korea 1, New Zealand 1, Poland 1, S.Africa 3, UK 5, Uruguay 1, US 3, former USSR 6 (1990-91).
  Summer-only stations: 38. Argentina 7, Australia 3, Chile 5, Germany 3, India 1, Italy 1, Japan 4, New Zealand 2, Norway 1, Peru 1, S.Africa 1, Spain 1, Sweden 2, UK 1, US numerous, former USSR 5 (1989-90); note - the disintegration of the former USSR has placed the status and future of its Antarctic facilities in doubt; stations may be subject to closings at any time because of ongoing economic difficulties.
- Ports: none; offshore anchorage.
- Airports: 50 landing facilities at different locations operated by 16 national governments party to the Treaty; one additional air facility operated by commercial (nongovernmental) tourist organization; heli pads at 25 of these locations; runways at 13 locations are gravel, sea ice, glacier ice, or compacted snow surface suitable for wheeled fixed-wing aircraft; no paved runways; 12 locations have snow-surface skiways limited to use by ski-equipped planes - 8 runways/skiways greater than 3,000 m,10 runways/skiways 1,000 to 3,000 m, 3 runways/skiways less than 1,000 m, and 4 of unspecified or variable length.

UNITED STATES OF AMERICA, pt.1

OPERATION 'DEEP FREEZE'
[derived from an article written in October 1997, by 1st Lt. Peter A. Kerr of the 62nd Airlift Wing Public Affairs.]

CHRISTCHURCH, New Zealand (AFNS) -Operation Deep Freeze- McChord Air Force Base's new mission to re-supply the National Science Foundation's efforts on Antarctica, is well under way, having accomplished 17 of 27 missions. The seven-week effort is scheduled to be completed by Nov. 14.

This is the first year McChord has controlled Deep Freeze. The mission, which previously belonged to Travis Air Force Base, California, was transferred when Travis began losing its C-141 fleet. McChord airmen typically arrive at Christchurch, the gateway to Antarctica, after an

overnight stay at Hickam AFB, Hawaii, and a refueling stop at Pago Pago on the Samoan Islands. Having traveled through 21 hours of time zones, the crews go through customs and then get some crew rest before getting in-briefed and making final preparations for the mission.

Foresight and planning are essential, said Master Sgt. Rick "Rock" Binkley, 97th Airlift Reserve Sq, who has made five trips to the ice. Deep Freeze involves calculating a point of safe return and preparing for quickly changing turbulent weather, frigid sub-zero temperatures and landing on an ice-shelf runway on the coldest, driest, windiest continent in the world.

McChord is responsible for flying to Antarctica at three different periods, with Winfly in late August to bring in preliminary scientists and equipment; Deep Freeze from late September to mid-November flying in more people, mail, fresh fruit and other essential items, and reverse Winfly in April bringing out the last loads of scientists and equipment.

The bulk of equipment the NSF takes to Antarctica is hauled in by cargo ships behind ice-breakers in mid-summer (December to February in the southern hemisphere).

The mission is also unique because it involves so many agencies. From McChord, aircrews are built from members of all six flying squadrons, supported by the 62nd Aerial Port Squadron and the 615th Air Mobility Operations Group at Travis.

Other large agencies involved include the Tactical Airlift Control Center, 15th Air Force, the NSF, Antarctic Support Associates and the Naval Support Force Antarctica.

-o-o-o-o-o-o-o-o-o-o-o-o-o-

Richard "RD" Baker writes in his 'Communications Confidential' column for Popular Communications the following about 'Operation Deep Freeze':

Operation Deep Freeze is the annual re-supply of the U.S. stations in Antarctica. Starting in October and running to February during the summer months there, Operation Deep Freeze is a massive effort. Many summer stations spring to life as do field operations.

The U.S. Antarctic Program is run by the NSF, or National Science Foundation. There are three year around stations where support people "winter over"; NGD, McMurdo (aka Mac Center or Mac Op's); NHG, Palmer (home of the NSF research vessel R/V Polar Duke); and NPX, Amundsen-Scott South Pole (aka "Pole" or "Ice Op's"). Palmer, unlike the two, has no period of winter isolation and is accessible year around. A second NSF research vessel, the R/V Nathaniel B. Palmer, is based out of Punta Arenas, Chile. During summer in Antarctica (winter in the northern hemisphere) these isolated stations can be re-supplied. This mission is performed presently by the Naval Support Force, Antarctica (NSFA). NSFA is made up of military personnel from the U.S. Navy, U.S. Army and U.S. Coast Guard. Military units come under the operational control of the Commander, Naval Support Force, Antarctica and are collectively called "Operation Deep Freeze."

In addition to providing direct support for stations and facilities in Antarctica, Operation Deep Freeze personnel provide communication facilities, medical and dental care, vital weather information, air traffic control, chapel airport, radio, television, welfare and morale recreation services. Antarctic Development Squadron Six (VXE-6) operates seven ski-equipped LC-130 Hercules aircraft on the continent. The squadron's mission is to provide airlift, aerial photo-mapping services, search and rescue operations, reconnaissance support for the scientists and a wide-range of related transportation services throughout Antarctica. These aircraft use the callsigns "Navy X-ray Delta" and two numbers.

The U.S. Navy will formally turn-over the responsibility for logistical

support of the U.S. Antarctic Program to the U.S. Air Force in a ceremony to be held on Feb 21, 1998 in Christchurch, New Zealand. A second ceremony will be held on March 12, 1998 at the Naval Construction Battalion Center in Port Hueneme, Calif. This ceremony will formally disestablish the historic U.S. Naval Support Force, Antarctica after 42 years of providing expeditionary and logistical support on the world's most southern continent. The New York Air National Guard also fly the LC-130 using callsign "SKIER" from the 109th Mobility Air Wing at Niagara Falls, NY. The ANG has been assuming some of the air transport mission from the NSFA. Units of the U.S. Air Force also provide C-141 Starlifter and C-5 Galaxy aircraft for additional transportation to Antarctica during the main-body deployment. These aircraft use the callsign "ICE" usually flying the Christchurch, New Zealand/McMurdo/Christchurch route.

U.S. Coast Guard icebreakers accommodate scientists who conduct experiments in the Ross Sea. The icebreakers also cut a channel through the frozen Ross Sea into McMurdo Sound. This channel, which is sometimes cut through ice eight to 10 feet thick, is 10 to 20 miles long. This allows the Military Sealift Command (MSC) ships access to McMurdo Station. The icebreaking duty is rotated yearly between the U.S. Coast Guards two polar-icebreakers; NRUO, USCGC Polar Sea (WAGB-11) and NBTM, USCGC Polar Star (WAGB-10). These are the worlds largest non-nuclear icebreakers.

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ODF RELATED FREQS. (contributed by John Charlton)
John sez ''I have been monitoring ODF for several seasons and all freqs and stations mentioned, have actually been heard by me. I might have missed out one or two in the rush. The following selection is from last season and this one.''

8998 kHz is THE frequency for aircraft and from there, QSY's can give the others such as Mac Weather etc.

ODF flights Christchurch/McMurdo Auckland guard to 60 South 5643, 8867, 13261 and at times 8998 kHz

Traffic 60 South and on the Ice. McMurdo and South Pole guard 5726, 7995, 8998, 10639, 10641 11255, 11256, 11553 kHz, used by aircraft and stations below.

Owner / type	Callsign
USAF C-5, C-141	Ice-++
US Navy Hercules VXE-6	XD-++
NYANG Hercules	SKIER-+++
RNZAF No. 40 Sq. Hercules	KIWI-+++
Italian AIr Force Hercules	I(ndia) 2000
Twin Otters working on the Ice have 3-letter callsigns	eg.KBG, KBC
QANTAS Antarctic flights	

Stations heard on Ice frequencies:
Mac Centre, Mac Ops, Mac Weather, Ice ops, Herc Ops, Herc Radio, Skier Ops, Ice Ops, Ship Ops, Ice Berg Maintenance, South Pole, Siple Dome, Terra Nova Bay, Patriot Hills, Rothera, Palmer Station, Vostok Station, "Nathaniel B. Palmer" (NSF vessel), "Green Wave" (supply ship) the "Polar" ice breakers.

Every season follows more or less the same pattern. Let's have a look to 1997:

- o WINFLY (Winter fly-in) to McMurdo. First of four flights 21 August call sign ICE 01 used for all four flights.
- o The regular season opened in 1997 on 30 September, c/s ICE 01/27.
- o First of 9 RNZAF flights, NMH337, 17/18 November (down on day, back the next). Note that the mission numbers are not consecutive. They include, in mission order, NMH341, 377, 378, 388, 396, 411, 413, 414

but the working callsign is KIWI plus the number.
o VEX-6 LC130s were monitored while working San Francisco, Nadi, Pago Pago 12 and 15 October on their way out Point Mugu/Christchurch.
o NYANG were scheduled arrive CHC 1 November.
o South Pole should open 2 November but bad weather stuffed that up.
o PEGASUS Blue Ice Runway scheduled open 21 January 1998.
o South Pole Station closes 15 February 1998.
o McMurdo Station closes 21 February 1998.

UNITED STATES OF AMERICA, pt.2

Palmer station	NHG and KWB268
Byrd Surface Camp	NBY
McMurdo Sound	NGD and NNN0ICE
Siple Station	NQU
South Pole Station	NPX

Logged or known frequencies used by the U.S. stations in Antarctica. All frequencies in kHz and in USB mode.

3023.0	Operation Deep Freeze comms.
4131.0	McMurdo, R/V Polar Duke, R/V Nathaniel B. Palmer
4134.0	USCG polar icebreakers on CG SCN (CommSta on 4426)
4242.0	McMurdo
4553.0	Palmer, RTTY meteo reports
5643.0	Auckland (flights north of 60 degrees)
5726.0	McMurdo, Byrd Surface Camp.
6200.0	USCG polar icebreakers on CG SCN (CommSta on 6501)
7540.0	All US stations
7929.5	All US stations
7995.0	South Pole with field parties
8240.0	USCG polar icebreakers on CG SCN (CommSta on 8764)
8294.0	McMurdo, R/V Polar Duke, R/V Nathaniel B. Palmer
8867.0	Auckland (flights north of 60 degrees)
8977.0	All US stations
8998.0	McMurdo, South Pole (flights south of 60 degrees)
10235.0	Palmer, RTTY meteo reports
10639.0	South Pole (scheduled meteo reports)
11055.0	All US stations
11190.0	All US stations
11153.0	All US stations
11255.0	McMurdo, South Pole (flights south of 60 degrees) secondary
11553.0	McMurdo, South Pole, Palmer, field parties, summer camps and research vessels.
12242.0	USCG polar icebreakers on CG SCN (CommSta on 13089)
13251.0	All US stations
13261.0	Auckland (flights north of 60 degrees)
13553.0	Palmer, RTTY meteo reports
13828.0	NNN0ICE, Navy MARS, McMurdo in Sitor-B.
13976.0	NNN0ICE, Navy MARS, McMurdo in Sitor-B.

- McMurdo Station (Williams Field) ICAO identifier is NZCM.
- South Pole Station (Jack F. Paulus Skiway) guards 8998 & 11255 with alternates of 4718.0, 5726.0, and 13251.0 kHz in USB and 6835.0 reportedly in AM. CW may be found on 4223, 6708 and 8975.5.

UNITED KINGDOM / UKRAINE
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o Adventure Network International (ANI)
  Patriot Hills Camp

  Mode: USB
  Freqs: 8992, 11128, 13026, 15026 kHz

o British Antarctic Survey (BAS)
  Bird Island station ZBH22

Signy Island station ZHF33
Rothera station ZHF55
Fossil Bluff FOSSIL BLUFF
Port Lockroy, Goudier Island (64,49 S / 63,30 W)
Halley Research station
Base Faraday station (now Vernadsky Research Station)

Mode: USB
Freq: 4067, 5080, 7450, 7775, 9106, 11055, 11453.1 kHz

BAS stations also operate a Sitor-A system on freqs:

RX	TX
3186	3800
4553	4030
7623	7450
9106	8198
11565	11255
14915	14475
16315	16040

The British Antarctic Survey (BAS) is responsible for all of the British Government's scientific research in the Antarctic, South Georgia, and the South Sandwich Islands. The Survey began in 1943 as a wartime naval operation. It was transferred to the Colonial Office in 1945 and call the Falklands Islands Dependencies Survey until 1962. In 1967, BAS became one of the research institutes of the Natural Environment Research Council (NERC). Financial support comes through NERC from the Office of Science and Technology. All aspects of the research programme are organised from the BAS headquarters in Cambridge.

Research stations are manned throughout the year in the Antarctic. Halley and Faraday are lower and upper atmospheric physics observatories, Signy and Bird Island the biological stations, and Rothera the centre for studies in earth sciences. The stations are supplied annually from the United Kingdom by the two Royal Research Ships Bransfield and James Clark Ross. The Air Unit operates four de Haviland wheel-ski Twin Otter aircraft, and one de Haviland Dash-7 from Rothera.

o Bird Island Field Station, South Georgia (54.00' S, 30.03' W)

Bird Island lies 0.4 km off the western end of South Georgia and is the main centre for BAS bird and seal studies.
The island is 5 km long, up to 0.8 km wide, and is extensively covered with tussock up to 150m above sea level. There is no permanent ice or snow cover. The island is especially noted for its large populations of fur seals, penguins, and albatrosses. It is a designated Site of Special Scientific Interest (SSSI).

The first permanent hut at Bird Island was installed in 1958 by the Falkland Islands Government. A living hut and two further small huts were added in 1963 by the United States Antarctic research Programme (USARP). BAS has supported summer work on the bird and seal populations since 1971 and a new hut of prefabricated insulated timber sections on concrete piers was built in 1981/82. This provides living accommodation, laboratory and office space for up to 8 people. The station has been occupied year round by BAS since 1983. The normal wintering complement is 3 persons.

Bird Island is the reverse of Halley in that it is the warmest and least isolated of all the BAS stations. Since the 1982 conflict when British troops were garrisoned at King Edward Point, South Georgia (a former BAS station), Bird Island has been very much on the route for military ships travelling to and from the Falkland Islands and South Georgia and frequent visits and mail drops are made.

o Signy Research Station, Signy Island, South Orkneys (60.43' S, 45.36' W)

Signy Island is one of the South Orkney Islands. It is small, being only

about 6.5km long and less than 5km wide. There is permanent ice cover over a large part of the island, which has a maximum height of 288m. In the summer, extensive areas of moss and some tufty grass are exposed, and there are numerous freshwater pools and lakes.

The station at Signy was established in 1947 primarily as a meteorological station. It has since been developed into a major biological station, and is equipped with laboratories, diving facilities, a 7-m launch and a number of inflatable craft for work at sea.

A 2-storey building with living accomodation was built in 1964 of panels of pre-fabricated glass-fibre laminate, supported by a steel frame on concrete piers. The old living hut now houses the wet laboratory/aquarium, radio office, surgery and workshop. A further 2-storey building, erected during 1980/81, provides storage space and houses the diving facility and two constant temperature laboratories. The base was designed for up to 24 persons, with a winter complement of 12-16.

Signy is a centre for terrestrial and freshwater biological research. From 1996, Signy has now a summer-only occupation.

o Rothera Research Station, Adelaide Island (67.34' S, 68.08' W)

The present station at Rothera opened in 1978/79 to replace an earlier base on the southern tip of Adelaide Island is currently undergoing expansion.

Most field work is conducted from Rothera Research Station. Its 900 metre-long gravel runway, hangar and fuel farm, provides a base for the Survey's fleet of aircraft. Cargo for the station is easily discharged from a wharf. The station includes a sledging store, with equipment for travelling and working in the field, a garage, laboratories and diving facilities. From Rothera, aircraft provide the taxi service taking the field parties to remote field sites. Tents, skidoos, fuel, food and scientific equipment fill the plane. Once in the field, the parties travel using skidoos and sledges for up to four months, and, in daily radio communication with Rothera, they can be resupplied when necessary.

o Ships and Aircraft

BAS relies heavily on its two research ships to support all aspects of work in the Antarctic. The RRS Bransfield is predominantly used for logistics, transporting personnel and supplies to Antarctic research stations. The RRS James Clark Ross is used mainly for scientific research but also provides some logistics support early in the season during Antarctic spring.

The Air Unit based at Rothera operates four wheel-ski de Havilland Twin Otter aircraft and one de Havilland Dash-7. The aircraft are flown down to Rothera each season from the UK where they have undergone their annual refit. From Rothera they fly parties of scientists studying the geology of Antarctica and the dynamics and chemistry of the Antarctic ice sheet to remote areas within the British Antarctic Territory. In addition to deploying and supplying these field parties the aircraft are used for airborne remote sensing and arial photography. They also provide the capacity for search and rescue should this become necessary.

o Fossil Bluff, Alexander Island.
Summer-only station. (71.20'S, 68.17'W)
Opened 20/2/61.
Skiway on George VI Ice Shelf.

Science disciplines: Meteorology.

o Halley Research Station, Coats Land (75.35' S, 26.19' W)

Halley is the most southerly of the BAS stations and the only station to be on the mainland of the continent rather than on an island. Halley is, in fact, not on firm ground, but is built on a floating ice shelf - the Brunt Ice Shelf on the south-eastern coast of the Weddell Sea. The station is sufficiently far south that in summer it bathes in the midnight sun whereas in winter it is in total darkness for some 105 days. At times the auroral zone crosses over Halley giving mignificent auroral displays in winter.

The relief operation at Halley is a major task with supplies being landed by ship onto the ice shelf and then having to be towed on sledges by SnoCat to the base, some 12km distant from the ice edge. Because of the location of Halley somewhat apart from the other UK stations and on the coast of the normally ice-bound Weddell Sea, it is only visited twice each year by a BAS ship; everything that is needed for a whole year has be put in on these visits. Halley can therefore justifiably claim to be the most isolated of the UK stations.

The present base is designated Halley V. It is constructed as three platforms on steel legs, which are jacked up each season to keep the platforms clear of the drifting snow and ice build-up. Previous bases were built directly on the surface, and were allowed to sink into the ice. Eventually, these would be crushed under the pressure of ice, resulting in a usable life of 10 years.

Halley is a centre for atmospheric science research. Because of its position, it is the centre for research into the upper atmosphere and near-space. Meteorological and climatological research is also carried out and results from the continuous measurements, showing depletion of ozone above Halley, have recently assumed great international importance.

Field recreation trips provide a time for relaxation and change in environment away from normal duties and obligations. The Emperor penguin colony near Halley is a special attraction for base members to visit during this time off. The colony is present from May through to February and is the only Emperor penguin colony near a BAS station. Other recreational trips from Halley take members further inland towards the "hinge zone" where the floating ice shelf is joined to the continent. Such trips are a particularly important feature in a base where most work is carried out in the station itself.

o Vernadsky Research Station, Galindez Island, Argentine Islands (65.15' S, 64.16' W)

The British Antarctic Survey occupied a research station in the Argentine Islands from 1947 to 1996. The original hut was replaced in 1954 by a purpose-built geophysical observatory, and extended in 1980.

The station was named Faraday in 1977 after Michael Faraday (1791-1867), the English discoverer of electromagnetism. Faraday Station was transferred to Ukraine on 6 February 1996 on condition that the long term monitoring of near-Earth space and weather would continue. The station was renamed Vernadsky after Vladimir Vernadsky (1863-1945), the first President of the Ukrainian Academy of Sciences.

- Science at Vernadsky/Faraday

* Near-Earth Space

The ionosphere is controlled by radiation from the Sun and the Earth's Magnetic field. Because of the large separation of the southern geographic and magnetic poles, Vernadsky is at a high geographic latitude but a low magnetic latitude. This fact has contributed to major scientific advances based on Faraday data. These include new knowledge about the effects of storms in space, plasma irregularities, modelling of the ionosphere, and the dynamics of the overlying plasmasphere.

* Ozone
The Antarctic ozone hole is one of the most important environmental discoveries ever made. It prompted widespread concern over the state of the Earth's atmosphere and fostered intensive research. The long-term set of ozone observations from Faraday was instrumental in this discovery and continued to be vital in monitoring its development.

* Ice and Climate
Faraday's long weather record reveals that the west coast of the Antarctic Peninsula has a very variable climate and annual mean temperatures have risen by about 2.5 C since 1947. Locally the ice cover has declined.

* Botany
Plants are good indicators of climate change. Glacier recession and warming temperatures have led to an increase at Vernadsky in the numbers of the two Antarctic flowering plants; Antarctic hairgrass (Deschampsia antarctica) and Antarctic pearlwort (Colobanthus quitensis). More successful seed production, increased germination and greater survival of seedlings have been linked to greater snow melt and warmer summers.

SOUTH SANDWICH ISLAND DX GROUP (SSIDXG)

The SSIDXG announced an expedition to Bouvetíya for early 1998, but for various reasons this has been re-scheduled for the December, 1998 - January 1999 Antarctic summer-weather window.

Bouvet Island (Bouvetíya) is a Norwegian territory located in the sub-Antarctic area at 54.24 degrees South, and 3.25 degrees East.

A major problem with the planning has been in getting official authorization from the Norwegian government for the landing. The Nordsk Polarinstitute is conducting a major scientific investigation of the breeding of the seal and animal colonies on the island.

The SSIDXG operation is planned as a two week stay on the island. They planned a very comprehensive dxpedition with operation on all bands and all modes including satellite, with four stations operational around the clock during time on the island.

The team will consist of at least 10 operators made up of both seasoned dxpeditioners from the previous operations, plus other skilled operators new to SSIDXG expeditions.

QSL manager: as with all South Sandwich Island DX Group DXpeditions, QSL manager will be Ron Lago, AC7DX. The address for Ron Lago is:
Ron Lago, AC7DX, P.O.Box 25426, Eugene, OR.97402, USA

AUSTRALIA

The Australian Antarctic Division has four stations operating all year round.

o Casey Station - VNJ
Old Casey Station built in 1969, demolished 1992/93
New Casey Station, (66ø 17'S, 110ø 31'E)
Located 1km west of old station on a rock outcrop on the northern coast of Bailey Peninsula; construction of the station on this site February 1979 - December 1988; continuous operation.

o Davis Station - VLZ
Davis is the most southern Australian Antarctic station situated 2,550 nautical miles SSW of Perth at 68ø 35'S, 77ø 58'E. Davis is a key location in the network of Australian Antarctic research stations. The value of the station to science stems from many

factors including the role of Davis as staging base for scientific activity elsewhere in the region (including the Vestfold Hills, the polar ice cap, islands, the Larsemann Hills, and farther south) and the conduct of science within station limits.

During summer Davis is also the base for two long-range helicopters, which deploy personnel and equipment to remote areas, undertake aerial surveys and sensing programs and transfer personnel between Davis, Mawson and Casey.

Amongst ANARE expeditioners Davis is known as the Riviera of the South due to it's expansive black sandy beach and relatively mild weather (compared to other ANARE Antarctic stations. Mawson experiences fierce katabatic winds each day and Casey is prone to sudden extreme blizzards.) For those fortunate enough to live here for a length of time Davis is notable for it's beach, the elephant seals moulting on the beach in late summer, and lakes and fjords in the nearby Vestfold hills.

o Macquarie Island ANARE Station - VJM
Macquarie Island is a sub-antarctic island located in the Southern Ocean at a latitude of 54 degr. 30 minutes south, 158 degr. 57 minutes east. Part of the state of Tasmania, it is 1500 km south east of the island of Tasmania and 1300 kilometres north of the Antarctic continent.

Macquarie Island, or "Macca" as it is generally referred to, is 34 kilometres long and 5 kilometres wide at its widest point. It has a total surface area of 128 square kilometres. It is a Tasmanian State Reserve managed by the Tasmanian Parks and Wildlife Service.

Macca is home to a large variety of wildlife. Elephant and Fur seals breed on the island as do Royal, King, Gentoo and Rockhopper penguins. The Royal Penguin is endemic to Macquarie Island. A penguin rookery at Hurd Point at the southern end of the island is home to over a million birds during the breeding season. Other fauna of the island includes Skuas, Petrels and a number of different types of Albatross. There are no trees on the island although the island is covered by tussock grass and other plants.

ANARE operates a research station at the northern end of the island. The station was constructed in 1948 and is home to up to 44 people over the summer and 19 over the winter. A wide variety of research is carried out on the island including biology, botany, auroral physics, meteorology and medical research.

o Mawson Station - VLV
Mawson Station (67ø 36'S, 62ø 53'E)
Located on the eastern side of Holme Bay on a horseshoe-shaped outcrop of rock; station established on February 1954; continuous operation.

o Summer operations only at the following sites:

- o Heard Island (53ø 06'S, 73ø 43'E) Spit Bay
- o Commonwealth Bay (66ø 59'S, 142ø 39'E)
  Cape Denison, George V Land
- o Edgeworth David (66ø 15'S, 100ø 36'E) Bunger Hills
- o Law (69ø 23'S, 76ø 22'E) Larsemann Hills
- o Dovers (70ø 13'S, 65ø 52'E) Prince Charles Mountains

o Other stations:

- o Hobart, Tasmania - VNM
- o ANARE HQ, Highway Kingston
- o Bandits Hut Vestfold Hills

o Browning Peninsula Wilkes Land
o Platcha Vestfold Hills
o Watts Hut Vestfold Hills

o Modes & frequencies:

Modes: USB, CW, Sitor-A, Fax
Freqs: 2720 3023 3175 4040 4125 4540
4678 5400 6550 6610 6850 6905
7468 7890 7922.5 8110 8938 9106
9940 12255 11490 11455 12148 14415
15845 17480 19255

Bandits Hut Vestfold Hills 3023 kHz USB
Browning Peninsula Wilkes Land 3023 kHz USB
Platcha Vestfold Hills 3023 kHz USB
Watts Hut Vestfold Hills 3023 kHz USB
Adelaide Island VP8ADE beacon 28285 kHz CW

Aero freqs: 3023, 5643, 6610, 8938, 8998, 13251

o Qantas flights to Antarctica for February 1998.

Sunday 1/2/98: Depart Sydney 0800 - Return Sydney 2030
Sunday 8/2/98: Depart Sydney 0800 - Return Sydney 2030
Sunday 15/2/98: Depart Melbourne 0830 - Return Melbourne 2000

o Australian Antarctic Division Air Schedules for February-April 1998

Flight date	Flight	Aircraft	Departure / destination
01-FEB-1998	16	S76A/S76A+	Sansom Island to Beaver Lake
	17	S76A/S76A+	Sansom Island to Beaver Lake
	102	S76A/S76A+	Mawson Escarpment to Beaver Lake
	103	S76A/S76A+	Mawson Escarpment to Beaver Lake
	115	S76A/S76A+	Mt Menzies to Mawson Escarpment
	116	S76A/S76A+	Mt Menzies to Mawson Escarpment
	122	S76A/S76A+	Mawson Escarpment to Mt Stinear
	123	S76A/S76A+	Mawson Escarpment to Mt Stinear
	126	S76A/S76A+	Mt Stinear to Mawson Escarpment
	127	S76A/S76A+	Mt Stinear to Mawson Escarpment
	160	S76A/S76A+	Mt Stinear to Beaver Lake
	161	S76A/S76A+	Mt Stinear to Beaver Lake
	166	S76A/S76A+	Beaver Lake to Mt Stinear
	167	S76A/S76A+	Beaver Lake to Mt Stinear
	321	S76A/S76A+	Davis to Sansom Island
	322	S76A/S76A+	Davis to Sansom Island
02-FEB-1998	104	S76A/S76A+	Mawson Escarpment to Beaver Lake
	105	S76A/S76A+	Mawson Escarpment to Beaver Lake
	106	S76A/S76A+	Mawson Escarpment to Beaver Lake
	107	S76A/S76A+	Mawson Escarpment to Beaver Lake
	117	S76A/S76A+	Mt Menzies to Mawson Escarpment
	118	S76A/S76A+	Mt Menzies to Mawson Escarpment
	124	S76A/S76A+	Mawson Escarpment to Mt Stinear
	125	S76A/S76A+	Mawson Escarpment to Mt Stinear
	128	S76A/S76A+	Mt Stinear to Mawson Escarpment
	129	S76A/S76A+	Mt Stinear to Mawson Escarpment
	130	S76A/S76A+	Mt Stinear to Mawson Escarpment
	131	S76A/S76A+	Mt Stinear to Mawson Escarpment
	162	S76A/S76A+	Mt Stinear to Beaver Lake
	163	S76A/S76A+	Mt Stinear to Beaver Lake
	168	S76A/S76A+	Beaver Lake to Mt Stinear
	169	S76A/S76A+	Beaver Lake to Mt Stinear
	170	S76A/S76A+	Beaver Lake to Mt Stinear
	171	S76A/S76A+	Beaver Lake to Mt Stinear
03-FEB-1998	46	S76A/S76A+	Beaver Lake to Mt Menzies
	47	S76A/S76A+	Beaver Lake to Mt Menzies
	48	S76A/S76A+	Beaver Lake to Mt Menzies

	49	S76A/S76A+	Beaver Lake to Mt Menzies
	63	S76A/S76A+	Mt Menzies to Beaver Lake
	64	S76A/S76A+	Mt Menzies to Beaver Lake
	65	S76A/S76A+	Mt Menzies to Beaver Lake
	66	S76A/S76A+	Mt Menzies to Beaver Lake
	264	S76A/S76A+	Davis to Law Base
	265	S76A/S76A+	Davis to Law Base
	290	S76A/S76A+	Law Base to Davis
	291	S76A/S76A+	Law Base to Davis
04-FEB-1998	38	S76A/S76A+	Beaver Lake to Sansom Island
	39	S76A/S76A+	Beaver Lake to Sansom Island
	54	S76A/S76A+	Beaver Lake to Mt Menzies
	55	S76A/S76A+	Beaver Lake to Mt Menzies
	312	S76A/S76A+	Sansom Island to Davis
	313	S76A/S76A+	Sansom Island to Davis
05-FEB-1998	28	S76A/S76A+	Davis to Zong Shan
	29	S76A/S76A+	Davis to Zong Shan
	40	S76A/S76A+	Beaver Lake to Sansom Island
	41	S76A/S76A+	Beaver Lake to Sansom Island
	78	S76A/S76A+	Zong Shan to Davis
	79	S76A/S76A+	Zong Shan to Davis
	314	S76A/S76A+	Sansom Island to Davis
	315	S76A/S76A+	Sansom Island to Davis
17-FEB-1998	183	S76A/S76A+	Davis to RES GPS
19-MAR-1998	2	S76A/S76A+	Davis to Mawson
	3	S76A/S76A+	Davis to Mawson
20-MAR-1998	232	S76A/S76A+	Mawson to Davis
	233	S76A/S76A+	Mawson to Davis
01-APR-1998	242	S76A/S76A+	Davis to Mount Brown
	243	S76A/S76A+	Davis to Mount Brown
	250	S76A/S76A+	Mount Brown to Mirny
	251	S76A/S76A+	Mount Brown to Mirny
	254	S76A/S76A+	Mirny to Casey
	255	S76A/S76A+	Mirny to Casey
10-APR-1998	94	S76A/S76A+	Casey to Ardery Island
	95	S76A/S76A+	Casey to Ardery Island
	98	S76A/S76A+	Ardery Island to Casey
	99	S76A/S76A+	Ardery Island to Casey

ARGENTINA

Base Belgrano 2	LTS 4
Base Esperanza	LTS
Base Jubany	J 25
Base Maramnio	LUU
Base Matienzo	LUM
Base Orcadas	LOK
Base Petrel	LOD 3
Base Primavera	LTS 5
Base San Martin	LTS 2

Mode: USB, RTTY

Freqs:	2422	2455	3053	3420	4468.5	4490
4492	5365	6512.5	6770	7394	7530	7535
7634.5	7910	8980	9333	9985	10586	10870
10890	11438.5	13051	13087	13215	13255	13270
13280	13820	14300	14386.5	14402.5	14449	14452
14625	14667.5	15016	15046	15096	15770	15619
15720	16020	17223	18003	18113.5	18524	19395
20273.5	22318	22818				

Broadcasting stations:
8100, 9115, 11055, 15780 kHz LSB, feed to the Antarctic.
The freqs are being used by various stations, amongst
them Radio Rivadavia, Radio Mitre Radio, Provincia de
Buenos Aires La Plata (weekends only).

Radio Nacional Arcangel San Gabriel, LRA36, transmitting

from Esperanza Base, can be heard from February to November between 19.00 and 21.00 UTC.

BRAZIL

Base Commandante Ferraz

Freqs: 500, 2182, 4143.6, 6218.6, 6997, 8291.1, 9265, 12200, 14365, 15930

CHILE

Presidente Montalva Base - CAN6D
Arturo Prat Base - CAD7PCCZ
Bernard o'Higgins Base - CEF203
Teniente Rodolfo Marsh Martin, King George Island
Centro Meteorologico Presidente Frei
Carvajal Base
Fildes Base
Yelcho Base

Punta Arenas aero, Chile, has often contact with the above stations

Teniente Rodolfo Marsh Martin:
Mode: USB
Freqs: 8864, 10024, 17907 kHz. Operates Mon-Fri, 1230-2130 UTC.

All stations:
Modes: USB, RTTY, CW
Freqs: 2636 2639 3100 3103 5302.5 5583 6439
8558 8992 10024 11228 11660 11662.5 13026
14362 14473 15026 15470

CHINA

Great Wall station
Zhongshan station

Mode: USB Freq: 13158

FINLAND

Aboa station

Mode: USB Freqs: 4119, 6264

GERMANY

Georg von Newmayer station: DLA 21 (Landmobile)
DB 9020 (Maritime)
Filchner station
Forster station

Modes: USB, RTTY
Freqs: 6264, 9106, 12333.1, 16559.2, 22089.9, 22212

INDIA

Maitri station

Mode: USB Freq: 4460

JAPAN

Syowa Camp JGX
Asuka Camp JGY
Mizuhu station JGX6

Modes: USB, CW
Freqs: 3204 4540 5947 7770 8181 8186
11532.5 14570 14895 18505 20265

NEW ZEALAND
----

o Scott Base (Latitude 77ø51'03"S, Longitude 166ø45'45"E)
Established 1956/57. Year round operations.

Scott Base was constructed for New Zealand's participation in the International Geophysical Year and Commonwealth Transantarctic Expedition and was officially opened on January 20 1957. This season activities to commemorate its 40th anniversary are planned. Although designed for a life of only a few years, the value of Antarctic research was soon recognised and a base rebuilding programme began in 1976. Today only one building of the original Scott Base remains, the TAE hut, and it is being developed as a museum.

Scott Base accommodates up to 70 people over summer, dropping to a skeleton staff of 10 over the winter. Most of its buildings are linked by all weather corridors. Antarctica New Zealand also manages several other research facilities in the McMurdo Sound region. These include the Arrival Heights laboratory, where atmospheric research is carried out, and scientific huts on Ross Island, Bratina Island, Cape Roberts and in the Dry Valleys.

Through a Memorandum of Understanding between governments, Antarctica New Zealand works closely with the United States, sharing air transportation between Christchurch and McMurdo Sound and helicopter resources on the ice.

o Stations
Scott Base - ZLQ, ZLQ8, ZLQ24, ZLQ27
Campbell Island Base

Mode: USB
Freqs: 2300 2773 5400 5785 7490 7538 7890 8010
8998 9435 10550 10608 10760 11570 13251 13390
14580 14655 16065

Christchurch, New Zealand - ZLK34, ZLK35, ZLK47
Mode: RTTY, USB
Freqs: 9213, 10639, 11195.5, 11460

- Has been used in the past for RTTY traffic from ZLK34/35/47 Christchurch to McMurdo - mainly aero met messages is standard AFTN format.

- 11195.5 - SSB traffic between Christchurch and "Mac weather" McMurdo. Not a regular freq and probably a backup to satellite.

(McMurdo, Christchurch and aircraft en-route between use West Pacific Fltsatcom UHF freq 261.6 MHz - callsigns MacWeather, Iceberg Ops (McMurdo), Penguin Ops (Christchurch))

RUSSIA

Molodezhnava station RUZU

Mode: RTTY 50bd
Freqs: 10830 kHz and 18490 kHz (Moscow to RUZU)

Vostok station
Mode: USB
Freqs: see Operation Deep Freeze freqs (USA) and below

Vostok comes up on ODF frequencies usually when asking about flights from McMurdo to Vostok.
Sometimes when there are Russian personel at McMurdo or South Pole Station, they talk to Vostok in RR on the Deep Freeze frequencies.

Bellinghausen station
Mirny station
Molodezhnava station
Novolazervskaya station
Vosktok station

Mode: USB
Freqs: 7665, 13385

SOUTH AFRICA

Sanae station - ZRP
Gough Island Base - ZOE33
Marion Island Base - ZRS

Modes: USB, RTTY, Autospec 68bd

Freqs: 4070	4959	5401	6264	6270	6850	8265
8365	9106	9255	11115	11140	11145	11155
12392	12442	14366	14371	14402	16265	16425
17200	18335	18975	19865			

SWEDEN

Wasa station

Mode: USB Freqs: 4119, 6264

VARIOUS STATIONS
----

o Dutch or Belgian traffic was copied on 7750 kHz
o Unid Basecamp 1 and Basecamp 6 on 7530 kHz

Polish explorer Marek Kaminksi and his team started on 25-12-97 their Antarctic expedition. The Adventure Network Intl office in Punta Arenas, Chile, is their contact to the rest of the world. You can follow them via the Internet on Marek's home page at
http://www.kaminski.onet.pl/a_index.html
You may catch them on one of the freqs listed in this article.

FRANCE

Looking at the map of the South Indian Ocean one can see three small islands; Kerguelen, Crozet and Amsterdam & St Paul. And on the other side of the Antarctic icecap is Adelie Land, discovered in 1840 by the French explorer Dumont D'Urville. Each of the four locations have small French communities who keep in touch with one another and with the outside world by short wave radio, often using a link to Paris via Reunion island. Overall control is by the "Direction des Telecommunications des Reseaux Exterieurs" (DTRE), and the mode most frequently used is ARQ-E3 at 96bd/370Hz shift.

One of the messages copied on this circuit was a technical report on the base communications facilities and included references to "repairs to the 5450 Dipole" and comments on the propgation between Dumont D'Urville and Kerguelen Island, Casey (Australian) base, and Mc Murdo.

Stations: FJY2 - Kerguelen Island, also uses "DISKER"
FJY3 - Dumont D'Urville, also uses "DISTA"
(Adelie Land)
FJY4 - Amsterdam Island, also uses "DISAMS"
(Martins de Vivies Meteo)
FJY5 - Crozet Island, also uses "DISCRO"

The Paris callsigns are RFGW and TAAF, and the Reunion relay is RFVI. Traffic consists of personal family messages and weather reports and is mostly in French.

Mode: ARQ-E3 at 96bd/370Hz
Freqs: 7420.2 8792.7 9250.7 10111.7 11421.7 11551.7
11576.7 13192.2 14438.2 14438.2 14942.2 14971.7
19350.4 19530.2 20113.2 24458.7

Stations: Alfred Faure Island
Dumont d'Urville
Martin de Vivies
Port-aux-France

Mode: USB
Freqs: 5450 7420 8690 9240 9268 10113
11575 11420 11550 14435 14440 14940

Station: Martin de Vivies Radio - FJY4

Modes: USB, CW
Freqs: 2506 4287 4387 8690 8791 12722

Example message #1: personal message

---

nr 5166/ker nr 1640./tad

rr rfgw
de fjy2 #0011 3260800
znr uuuuu
r 220800z nov 94
fm dista
to ifrtp brest 941002
bt
non protege

m e s s a g e s p e r s o n n e l s
p1521 (22/11/94) <name of recepient>

whaou 1 fax de toi,15 jrs pr venir sa fait plaisir qdm etde+c'estfree oui ma cherie je vais rentrer sns halte,oui je connais ts dates ms attention la baquise n'est ps encore cassee.yo et toi c'est chouette,ya 3 jrs ds 1 de ss fax il me disait que t'etais 1 supernana.oui j'ai ls timbres de f et je m'occupe du pat.as tu assez d'argent pr vivre? now tu prends tte la place ds ma tete c'est fou,si tu savais ls reves que je fait ac toi,tu en serais tt humide.amnretour tu vas en avoir pr tn argent. love. <name> 22/11 :-)

Example message #2: meteo / atmospheric bulletins

---

teneur en co2 atmospherique pour oct94, volet nr 2

```
 13oct94
 tous secteurs : 024 valeurs, de moyenne : 357.06 ppm +/- 00.37
 secteurs mer  : 013 valeurs, de moyenne : 356.88 ppm +/- 00.33
 01 m 357.03 +- 00.11   09 m 356.48 +- 00.05   17   357.06 +- 00.06
 02 m 357.21 +- 00.07   10 m 356.47 +- 00.05   18   357.13 +- 00.21
 03 m 357.31 +- 00.03   11 m 356.56 +- 00.03   19   357.45 +- 00.20
 04 m 357.06 +- 00.03   12 m 356.44 +- 00.17   20   357.52 +- 00.15
 05   356.85 +- 00.20   13 m 356.93 +- 00.11   21   357.68 +- 00.27
 06   357.13 +- 00.13   14 m 357.18 +- 00.07   22   357.53 +- 00.17
 07   356.75 +- 00.39   15 m 357.21 +- 00.09   23   357.40 +- 00.13
 08 m 356.53 +- 00.10   16 m 357.04 +- 00.08   24   357.43 +- 00.05

 fiche de calcul

 .       la concentration appartient a ( 350.000 , 365.000 )
 .       l'ecart type tous secteur est inferieur a 02.000
 .       l'ecart type secteur mercycle         : 00:10:00
 .       nombre de valeurs minimum pour une moyenne      : 5
 .       mode de calcul : regression lineaire
 .       secteur mer: 02 criteres vent, verifies 4 h consecutives
                 05 inf= vitesse inf= 60
                 30 inf=   cap   inf= 05
                 08 inf= vitesse inf= 60
                 26 inf=   cap   inf= 30
 .       heure tu =  heure loc -5

 feuille de remarques transmise ult%rieurement.

 amicalement,
 <name sender>
 22/11/94/disams
 bt
 #0014
 nnnn
```

Example message #3: seismo messages

```
 seismo ams
 nov 13    r    09 34
 nov 14    r    12 12          (( trace ))
           idp  19 26 28       (( d=7100 ))
           is      34 59       (( msz=6.4 ))
           iss     39 12       (( azimut=48))
           r       46 55       (( philippines ))
           r    21 37          (( r1 ))
 nov 15    r    06 56
           ep   20 26 18       (( d=3900 ))
           ipp     27 22       (( profond ))
           is      31 36
           isss    34 17
           r    21 32          (( replique ))
 nov 16    r    00 34
           ip   07 17 36       (( d=5600 ))
           es      24 35
           r       33 04
           r    14 36          (( trace ))
           r    14 41          (( trace ))
           r    22 14

 amicalement
 pouvez vous m'envoyer le nom de mon successeur, on vient de recevoir
 les malles

 <name sender> / sismo.
 22/11/94/disams
 bt
 #0015
```

nnnn

Example message #4: test results (??? not sure what they are)

---

resultats du programme 'chaine 1' du 14/11/94 au 20/11/94:

14/11/94
00065 00014 00035 00016 chang 00022 00006 00039 00008 00031 00005
00024 00007 00078 00017 00115 00036 00116 00023 00110 00020 00121
00026 00129 00034 00885 00212 00003

decroissances irregulieres:

14-11-1994
00065 00042 00028 00019 00027 00014 : 00195
00022 00019 00015 00008 00010 00006 : 00080
00039 00018 00024 00005 00013 00008 : 00107
00031 00017 00014 00014 00009 00005 : 00090
00024 00020 00015 00011 00006 00007 : 00083
00078 00065 00037 00043 00019 00017 : 00259
00115 00094 00074 00042 00032 00036 : 00393
00129 00103 00053 00044 00023 00034 : 00386

resultats du programme 'chaine 2' du 14/11/94 au 20/11/94:

14/11/94
00074 00020 00022 00002 00019 00013 chang 00018 00002 00018 00005
00021 00006 00024 00006 00078 00022 00105 00026 00078 00018 00081
00018 00105 00026 00643 00164 00002

URLs
http://ocean.st.usm.edu/~gejones/ssidxghp.html
South Sandwich Island DX Group

http://www.adventure-network.com/
ANI Adventure Network Intl

http://www.navy.mil/homepages/vxe6/vxe6.html
Antarctic Development Squadron (VXE-6)

http://www.antarcticanz.govt.nz/
Antarctica New Zealand Home Page

http://www.asa.org/
Antarctic Support Associates

http://www.phys.unsw.edu.au/~mgb/jacara.html
Australian Antarctica

http://www.antdiv.gov.au/
Australian Antarctic Division

http://polarmet.mps.ohio-state.edu/Icecore/Welcome.html
BPRC Ice Core Group

http://www.nerc-bas.ac.uk/
British Antarctic Survey

http://www.cybercomm.net/~slapshot/antartic.html
From the WUN E-Mail List!

http://www.icair.iac.org.nz/
Gateway to Antarctica

http://www.greenpeace.org/~comms/98/antarctic/index.html
Greenpeace Antarctic Page

http://polarmet.mps.ohio-state.edu/Icecore/
Ice Core Paleoclimatology Group Projects

http://www.icess.ucsb.edu/lter/lter.html
LTER Palmer Station

http://www.kaminski.onet.pl/a_index.html
Marek Kaminski

http://mcm.maxey.dri.edu/lter/links.html
McMurdo LTER-Related Links

http://www.nsf.gov/
The National Science Foundation

http://www.spri.cam.ac.uk/
Scott Polar Research Institute

-o-o-o-o-o-o-o- END END END -o-o-o-o-o-o-o-

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MILITARY NEWSREEL

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
- -
- Nickname on IRC channels #wun & #monitor Ary-B -

The articles for this column were provided by Robert Williams and Bob Margolis. Thanks gentlemen!

o NEW HF SYSTEM FOR AUSTRALIAN FORCES

The following article is a summary of a short article which appeared in the Sydney Morning Herald on the 6th January last.

- Signal boost for Defence worth AUD 380 million

The Australian Defence Force has signed a contract worth more than AUD 380 million to develop a new HF System for the Australian Defence forces. The contract is with Boeing Australia.

About 75% of the contract to develop and construct and more than 90% of the operation and support will be sourced locally.

The Minister for Defence, Mr Mclachlan said that the system will provide a long range comms system for use within Australia and with ships and aircraft operating in the region. There will be four ground stations, located in the NSW Riverina, Townsville, Darwin and the North-West Cape in WA. Each station will provide tx and rx facilities and will be remotely controlled from a network facility in Canberra. The network is due to start initial operations in 2002 and will be fully operational by late 2004.

(Robert Williams has written an article on this network together with two other radio comms projects that are under way with the Dept. of Defence in an up and coming edition of Radio and Communications, Australia's answer to POPcom/Monitoring Times. -Ary-)

o THE ROYAL AIR FORCE IN SCOTLAND

Bob Margolis found this article at the web site for the Royal Auxiliary Air Force:

Most RAF personnel are employed on the 3 large flying bases of RAF Stations Leuchars, Kinloss and Lossiemouth. Throughout the RAF, women do the same jobs as men without discrimination -including flying operational aircraft..

RAF Leuchars is a fighter base with two Tornado F3 Fighter Squadrons. It is the only base in the United Kingdom which maintains an air defence Quick Reaction Alert capability on a regular basis. Two fully armed aircraft are always on stand-by, with crews ready to scramble to intercept any suspicious aircraft entering the United Kingdom Air Defence Region. They are the United Kingdom's flying "panada cars" - (Police Cars) responsible for a "patch" which extends for more that 300 miles north of the Shetland Islands down to the south western approaches south of Ireland. In addition to this the Base also has a Mountain Rescue Team which was covered in a previous article.

RAF Kinloss is the home of the RAF's Nimrod fleet. These are maritime reconnaissance aircraft responsible for patroling the seas around Britain. The Nimrod is reguarly used in Search and Rescue Operations, either for long range search or to provide high level communications cover and control.

The RAF Rescue Co-Ordination Centre is located at Kinloss and controls the allocation of miliary rescue assets. In addition, Kinloss has a Mountain Rescue Team.

RAF Lossiemouth is the home of two Tornado GR1B squadrons. These squadrons have a dual capacity, either to attack ground targets or shipping. It is also the home of the Jaguar Operation Conversion Unit, which trains the RAF's Jaguar crews, and a Tactical Weapons conversion Unit.

Two Sea King Search and Rescue helicopters are also kept busy, most commonly assisting climbers in difficulties in the mountains.

RAF Buchan is a radar station near Peterhead , which keeps radar watch on our airspace.

RAF Saxa Vord in the far north of the Shetland Islands operate air defence equipment.

Service personnel are also stationed at the Military Air Traffic Control Centre, Prestwick. A number of small units, mainly weapon ranges, also represent the RAF in Scotland.

The Air Training Corps has a squadron established in most towns in Scotland. In addition the Royal Auxiliary Air Force has a range of talents from gunner to surgeon. The most recent unit, which was formed at RAF] Leuchars is an Air Transportable Surgical Squadron.

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Editors Choice
Editor: Stan Scalsky
E-mail: sscalsk@mail.ameritel.net

This month it is my pleasure to add a little something extra to our usual fine columns. I had an offer from WUN member Dave Gentile to relate his impressions about his latest acquision, a Wavecom W41pc. Dave's article is a solid look at this very capable decoder. I for one am quite envious and I know more then a few monitors that would love to have one of these units. Read on digital fans:

WAVECOM W41PC Review

Hello all! I have been a W41PC owner for the past three months, and I would like to share my thoughts on this product with everyone.

WHAT IS IT?

The W41PC is an Analog-to-Digital (A/D) converter that will allow users to decode a majority of the signals currently found in the HF/VHF/UHF spectrum (mostly HF, and all non-encrypted).

HOW DOES IT WORK?

The W41PC has three inputs: AF, HF, and IF (all BNC).

The AF (Audio Frequency) input takes the 4kHz output from a receiver's phono or DB-9 "mini" jack.

The HF (High Frequency) input takes the 455 kHz output from a receiver. This output is only available on certain receiver models.

The IF (Intermediate Frequency) input takes the 10.7 MHz output from a receiver. This output is only available on certain receiver models (normally VHF/UHF receivers and scanners).

Whatever the input, the incoming signal is "sampled" at 48 kHz which allows for a maximum Fast Fourier Transformation (FFT) bandwidth of 24 kHz without signal degradation1 This sampling process takes the analog signal and turns it into a digital (1 or 0) signal. Wavecom engineers state that the decoder can sample at a rate of 96 kHz, but that rate has not yet been implemented in the software.

The now digital signal (constantly being sampled from the analog input) is scanned for purposes of analysis and decoding.

FIRST IMPRESSIONS.

When I first looked at the decoder board, I was quite impressed with it. A very professional looking product indeed. I was equally impressed with the user manual. It was very well organized and packed with tons of useful information (each signal had at least a page dedicated to it). I quickly installed the board and powered up my 200 MHz Pentium Pro4. I inserted BNC to RCA type plugs onto the three W41PC inputs and hooked the appropriate cables to my HF (Kenwood R- 5000) and VHF/UHF (Icom IC-R7000) receivers. I then started installing the software (from two 3.5" 1.44 MB disks). The software is Win-95 Graphical User Interface (GUI) based and installed using the standard installation "wizard"5. The installation instructions in the user manual were spot-on and I had absolutely no problems with setting up the W41PC card. After you have successfully installed the software, the interface is "downloaded" (this takes about 15 seconds). I was now looking at the main operation screen of the W41PC software. The interface is uncluttered and very easy to understand if you are already used to using Win-95. I first had to select a valid W41PC card before I could actually begin doing anything. This was easily done and I was now ready to go.

The first thing I did was check each of the three inputs (AF/HF/IF) to ensure that they were working properly. I powered up my R-5000 And tuned up a signal. I then started the "FFT mode" (this was done by simply clicking the FFT button). I clicked the demodulator button (a sub-function of the FFT Mode) and chose "AF". I was greeted by a 4 kHz wide screen that displayed the incoming signal. I was able to quickly get the idea of what functions were available to me, and I chose an average of "20" to slow down the FFT display. This allowed me to clearly see the frequency components of the signal. I will go into further detail of the FFT screen later.

I next went to the "Signal Analysis mode". This mode actually does three things:

1. It shows the detected baudrate of the signal (NOTE: when using this function on asynchronous teleprinter systems with 7.5 bits, the actual baudrate will be one-half of the indicated baudrate). This function is similar to the Code-3/30's shift-speed measurement module. You can select an "average" or "peak" display and you can zoom 1000 or 500 baud (for precision measure-ments).

2. It displays a 4 kHz spectrum (basically the FFT mode again, but now the signal is sampled for several seconds providing for a "snapshot" of the signal's frequency components). You can select an "average" or "peak" display and you can also zoom in 1000 Hz and 500 Hz (for precision measure-

ments).

3. Alongside the baudrate and spectrum displays, are "waterfall" displays. These are zoomed when you zoom the adjacent baudrate/spectral display. You can also select several colour schemes (like "HOT", "COLD", "COPPER" and "RGB").

I was initially impressed with these two analysis modes.

Lastly, I went to the "Code analysis" screen. This mode takes the parameters that were determined in previous modes and performs a correlation bit analysis against it (basically it checks the cycle length of the signal against a table set into the software - it then selects the most likely candidates). Again, asynchronous systems threw this mode off; you must know to choose the correct baudspeed. It is with this mode that I have a few complaints:

1. If you find a new signal, you CANNOT find out what the cycle length is because no such analysis function is built into the software (at least not yet).

2. The code analysis function only works with about 90% of the HF modes that the W41PC can decode and none of the VHF/UHF systems.

Because the signal I was monitoring was asynchronous, I had to manually select the "baudot" module (if you change the baudspeed to its asynchronous rate, then the W41PC will "figure out" that the signal is indeed RTTY). This brought up the actual decoding screen (if the W41PC determines the mode, then It will automatically jump to the proper decode module). Assuming you follow the steps I outlined above, (FFT mode, Signal Analysis mode, Code Analysis mode) you should not have any problems with decoding the monitored signal (all the optimum decoding parameters are auto-selected by the W41PC). If you jump directly to the decode screen, by-passing the FFT and signal/code analysis modules, then you must manually set all of the various demodulator options (shift/center/demod etc.). I would like to point out ONE VERY BIG ADVANTAGE to the W41PC's decode modules -a TIMESTAMP feature! This is very well implemented, and really gives the user unprecedented traffic analysis opportunities. Just make sure your system time is correct. Otherwise that guy who you thought went into traffic at 12:00:00pm might be stamped 06:15:17!

I now began testing the HF and IF inputs. Although I do not have a 455 kHz output on any of my receivers, I was able to take my R-5000's AF output into the W41PC's HF input. I saw a display similar to the AF display, but it was weaker and did not properly drive the board. I would recommend that you do not use the HF input unless your receiver specifically outputs at 455 kHz. On testing the IF input, I had quite a bit of a problem! Although my Icom IC-R7000 had a 10.7 MHz output, it hardly drove the card at all! Luckily I was able to find another user who gave me some instructions that allowed me to cut the 12V wire that was being fed to the 10.7 MHz output (Thanks Fabrizio!). This modification allowed me to use my R7000 with the W41PC card well enough to get the modes associated with the IF input to work.

Simply put, my first impression was a good one.

1. Nyquist rule - sampling must be at 2x the highest modulated frequency.
2. A higher sampling rate will allow for a larger FFT bandwidth.
3. The board fits into a free 16 bit ISA slot. Depending on your computer's casing, you may have to make some adjustment to get the BNC outputs to fit comfortably against the frame. I actually had to "cut" the back of my casing so I had a snug fit. Others filled down their casing.
4. Note: A 100MHZ (or higher) Pentium processor is the suggested minimum processor for for using a W41PC card.
5. The software is capable of controlling up to 8 W41PC cards (it is strongly suggested that if you actually have more than four cards installed, that you use Windows NT 4.0 as your operating system).
6. Only works on HF/FSK based systems. On VHF/UHF systems you have to guess what system is being used.
7. The 12V voltage on the IF output is used to supply power to the external TV adapter. If you don't own it, then you can safely cut this wire without

degrading the receiver's performance.
8. Owners of the Icom IC-R7000 will need to build a small general purpose amplifier and connect it to the 10.7 MHz output to properly drive the W41PC card.

DETAILS, DETAILS.

After several weeks of "testing" the W41PC I had a pretty good feel for the software Interface. Here are some of my observations.

On the FFT Mode:

I was originally pretty dismayed with this mode - it appeared that it was simply a 4 kHz spectrum without a whole heck of a lot of uses outside of tuning. I was wrong! One of the first things that you need to do, before you begin logging anything, is to discover your receiver's center freq. The reason for this is one-fold: you simply will not know if your signal is properly tuned to it's true frequency without doing this! You do not actually have to have your signal tuned at all, because the W41PC AUTOMATICALLY senses where the signal is, and properly adjusts all of the main parameters for optimum decoding. BUT your signal will be off-tuned. So what you do is tune up to a known frequency and then move the "tuning cursors" until they give you the measured center frequency. This center frequency is the center frequency of your receiver's filter. For example; I tuned up to 252 kHz, which is an AM station here in the UK, and selected the "FSK" filter on my receiver. This gave me a nice steady tone (the AM carrier) with which I could use to find my FSK filter's center frequency (each of your receiver's filters must be separately tested to find their center frequencies). I adjusted my tuning cursors until they were centered over this tone. When I read the center frequency it stated 2290 Hz. Now when I tune up a signal to 2290 Hz in the FFT mode, I know that it is properly tuned to it's true frequency.

So what else does the FFT mode do? For VFT's it is a dream come true! You can easily center the entire signal into the FFT's window - Select the bandwidth you want: 500 Hz, 1000Hz, 4000Hz, or 24000Hz and tune from there. I selected the 4 kHz bandwidth and centered the VFT in the middle of the window. I set my averaging factor to 60. You can set it anywhere from 1 (the screen is constantly refreshed) to 64 (the screen is refreshed as an average factor of 64). I now selected the type of "window" I wanted. You can choose "rectangle", "hamming", "hanning", and "blackman". For simplicities sake, I will not go into what each window type actually does (the real tech heads reading this will probably be salivating over this info). I choose the "rectangle" option. I could now very clearly see the seven active channels and the pilot tone. Using the tuning cursors, I could easily measure the entire bandwidth of the signal (2.4 kHz - accurate to +/- 8 Hz in a 4 kHz spectrum), the location of the pilot tone (3310 Hz), and the number of channels present (7). I now tuned in the first channel; I moved the cursors (using the mouse) so that they were spaced evenly on either side of the channel and then I zoomed to a 500 Hz spectrum (you must input the center frequency of the channel you are interested in before you zoom, otherwise the W41PC zooms to the last input center frequency). I could take a very accurate measurement of the channel's shift (200 Hz) and if I wanted to, I could proceed to analyze this channel further with the signals analysis tool. This mode also works well on HF modems. I tuned up a suspected Russian DF modem, hit "AM" on my receiver, and I saw a nice strong spike at 1280 Hz (the keying rate). Lastly, I took a look at a Link-11. What a nice spectrum! The W41PC really showed off this tone-modem well.

On the Signal Analysis mode:

This mode has SOME fine measurement tools on it, but they are all geared towards the external parameters of a signal. Unfortunately, the software implementation of the W4100 analysis tools is not yet ready. But I have been told by the Wavecom engineers that having improved analysis tools is very much on their mind, it is just a matter of when. You should keep this in mind if you are planning to purchase a W41PC.

On the Code Analysis Mode:

As I have mentioned previously, this mode has (in my opinion) some problems with it. With a good clean signal, you will be waiting AT LEAST 30 seconds before a "signal determination" is made. This tool scans the incoming signal and produces a list of those modes it believes the signal to be. Sometimes (like when the signal is in an idle condition) the W41PC will list several possible modes - you must choose the correct one. The main problem with this method of "auto-analysis" is that 30 seconds is 20 seconds too long! I must admit that I am prejudiced against the method that the W41PC employs in the first place. My Code-30 can "record" up to 30 minutes of baseband (in memory) that you can "replay" years later. There is No need to do anything but let the signal "roll" into memory. This would be a GREAT thing to implement in a future W41PC software build! My Code-30 also completes the auto-id process in under 10 seconds. Since 70% of all signals only stay up a short time, it would be good if the W41PC could either record them to memory or speed up the ID process.

NOTE: the amount of time it takes this tool to determine a signal type is directly based on your processor's speed and on-board memory. Other users have told me that it took up to 5 minutes for this process to be completed because of the slower speed of their computer's processor and/or lack of RAM.

On Decoding:

So far, I have attempted not to compare the W41PC to any other decoders. But when it comes to the decoding of signals, I need to have some benchmark with which to tell you, the readers of this review, how good the W41PC is (or bad depending on your point of view). In the this case, the benchmark I used was the Hoka Code-3/30. Let me start with the VHF modes. Due to where I reside, I could only receive the following signals:

ACARS
MPT-1327
POCSAG
Packet 1200

The W41PC decoded each of these quite well. I was especially impressed with the POCSAG and MPT-1327 modules. The W41PC out-performed the Code3/30 on both of these. I found the Code-30 to be better at decoding the ACARS and 1200 bd Packet but only by a few garbled characters here and there. I have also been told that the W41PC decodes the GOLAY mode nicely (by another W41PC user).

On the HF side, I am going to make a generalization about the capabilities of the W41PC (mainly because I do not want to go through every mode and how well/poor it decoded them). The generalization is this: the W41PC was every bit as capable as the Code-3, but not as capable as the Code-30. As I said this is a GENERALIZATION! I have not actually had the time (or signals) to test each and every mode available to the W41PC. Instead I found that the DSP/MS demodulators on the W41PC's board were more susceptible to noise and distortion than the Code-30's matched (FEK) filters. This was especially true with RTTY, Sitor-a, and Fec-a. A "hit" of a few dB's (10+) would cause the W41PC to lose those characters that were transmitted during it. The Code-30 would occasionally lose a few characters, but for the most part outperformed the W41PC in a noisy and distorted environment. I would say that the W41PC, IN GENERAL, did not handle noise and distortion as well as the Code-30 (no matter what system was being decoded). When the incoming signal was 5 by 5 the W41PC did very well - I had no complaints. Now I should point out that the W41PC did OUTPERFORM the Code-30 in two areas: FAX and CW. Hands down, if you are a lover of HF Faxes, you will enjoy the W41PC. Once all of the parameters are set, the fax module will continue decoding until you stop the program. You could easily decode dozens of high-quality faxes due to the flexibility of the software. It was also very easy to save these faxes for later viewing. On CW, the W41PC copied the code only as good as the Code-30 - but it does have one very useful feature: it has an auto-speed setting that follows changes in speed. For anyone who likes to listen to the various Russian users of CW this is a boon! You do not need to continuously monitor the speed of the CW transmission - the W41PC does it for you.

Wrap-up:

All in all the W41PC is a very able decoder. It can decode almost every non-encrypted signal found in the HF! And the developers are working hard to make sure that they keep on the cutting edge of decoding technology. There several HF/VHF/UHF modes that can only be decoded using the W41PC (albeit they are quite rare). The W41PC also incorporates some very good analysis features. I am however forced to point out that the main failing of the W41PC is it's lack of "bit-level" analysis features. For any "die-hard" analysts out there, I would say look seriously at the Hoka Code-3/30 before you decide to purchase a W41PC. They are both SUPERIOR products in the analysis department. And the Code-30 outperforms the W41PC in most decode modes. For those "die-hard" decode types, I would say take a good look at the W41PC before you decide to buy another product. With it's vast range of decode modules for HF/VHF/UHF systems it may be worth your hard saved money. In the end, the W41PC is a double edged sword: it is expensive but it has potential. At $4000 USD it is $1500 more than a Hoka Code-30 and much much more expensive than anything less. On the other hand, it is relatively inexpensive compared to "professional grade" products such as the "ELVIRA" system from Applied Signal Technology ($10000+ USD). So what makes a very happy Code-30 user buy a WAVECOM W41PC (besides the fact that I did not need another Code-30)? Potential! The W41PC board is cutting edge technology. It certainly has the potential to become the successor to the Code-30 within the next two years. That coupled with the capability to control up to 8 W41PC cards in one Win-NT Pentium computer gives users an unprecedented flexibility. The designers at WAVECOM have some really BIG ideas for this, their mainstream flagship product:

The following modes will be added as soon as possible:
- FELDHELL
- SSTV
- BULG-ASCII (this would be COOL!!!)

Modes that are being discussed:
- PACTOR-II
- HF-ACARS
- ALIS-II
- CIS-36
- FLEX
- FAX G2/G3 (HRPT signal, 2048 pixels/line)
- CALSEL
- CODAN
- TETRA

It is planned to add following analysis tools for the HF-Modes.
- 3D-Waterfall
- Oscilloscope
- Autocorrelation
- FSK Signal Analysis
- MFSK Signal Analysis
- Bit Analysis
- Bit Analysis F7B
- Bit Length
- Raw FSK Data

.and following tools for the VHF/UHF-Modes:
- 3D-Waterfall
- Oscilloscope
- Autocorrelation
- FSK Signal Analysis direct
- FSK Signal Analysis indirect
- Code Analysis direct
- Code Analysis indirect
- Bit Analysis
- SELCAL Analysis

Another analysis tool we plan to add:
- Eye diagram (vector-scope)

Planned Miscellaneous features:
- Remote control for shoc's RadioManager
- Alphabets such as Cyrillic (TASS, ITA-2 3rd Shift), Greek, Arabic, (ATU-80), and Hebrew.
- The online help is nearly ready
- Export option to give customers the ability to edit stored data.

As you can see by this list, WAVECOM has a lot planned for this decoder. Readers of this article should understand that the above bulleted items ARE NOT AVAILIBLE at this time! Some of these are going to be released in a new software build this spring, others may never see the light of day.

I hope this article has been informative, and I would like to hear from readers out there on it's contents.

You can visit the Wavecom site at:

http://www.wavecom.ch/

You will find tech specs and other W41PC info at their site.

Or, try the Klingenfuss Publications site:

http://ourworld.compuserve.com/homepages/klingenfuss/wavecom.htm

They have "action" screen shots showing what I have attempted to describe in ASCII.

Lastly let me say that these observations are strictly MINE! All of them or none of them may be accurate. The above article is for informational purposes only and if you are seriously considering purchasing the W41PC, you should chat with other WUN members and the folks at WAVECOM for more information. Have a spin and remember to keep your grin!

Cheers,
Dave Gentile.
February 28, 1998.
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==========[The WUN Logs Column]==========
|||||||||||||||||||||||| Stan Scalsky, Editor ||||||||||||||||||||||||
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Welcome to another big logs column. This time the logs are presented in one continuous column, sorted by frequency, rather then split into categories. This was done in an attempt to save time but on top of everything going on from losing various editors to having to change our listserver, it is safe to say that things have been a bit overwhelming. But good news is ahead - a few people have risen to the challenge and have offered their assistance. So we will see what happens in the coming months as things get sorted out.

Please note that ARQ is used for Sitor-A, FEC is used for Sitor-B, and both of these modes are 100/170 unless noted otherwise. RTTY is used for Baudot. This is not as a statement of correctness, but rather a space saving measure. For other abbreviations used, please see the Digital Abbreviations Listing on the WUN web site as well as the list at the bottom of this column.

18.2 VTX3: Uchupilli SI India 2242 CW submarine broadcast, VVV DE VTX3 followed by a 4 cipher code msg. (JP)
285 NO Cabo de la Nao Light, S.Spain. (RC)
286 TR Tuskar Rock, SE Ireland (RC)
288.5 FI Cabo Finisterre Light, NW Spain. (RC)
289 BY Bailey Light E Ireland (RC)

290.5 SB South Bishop Light, S. Wales (RC)
291.5 SU South Rock, N Ireland (RC)
292 SJ Souther Light, N.Scotland (RC)
292.5 SM Pt.St.Mathieu Light, France (RC)
297 FG Pt de Barfluer, France (RC)
297.5 PS Cabo Penas Light, N.Spain (RC)
298.5 RR Round Island, SW England (RC)
299.5 NP Nash Point, S.Wales (RC)
301.5 CA Pt de Creach, France (RC)
301.5 L Torre de Hercules, N.Spain (RC)
303 YE Ile d'Yeu Main Light, France (RC)
303.5 BJ Bjornsund Light, Norway (RC)
304 PS Point Lynas, N Wales (RC)
305.5 AL Pt. d'Ailly Light, France (RC)
306 FN Walney Is., E.England (RC)
306.5 RS: NDB Ristna Lt. (EST) 0011 CW id+long tone (DM3)
307 GL Eagle Is, W.Ireland (RC)
309.5 BA Punta Estaca Bares, N.Spain (RC)
311.5 LP Loop Head, W.Ireland (RC)
316 OE Marker, Dublin Airport (RC)
326 RSH Rush, E.Ireland (RC)
331 HR: NDB Union Oil Heather (IWA) 2315 CW id (DM3)
331 KAN: NDB Kangas (FIN) 0018 CW id (DM3)
334 GMN Gormanstown E.Ireland (RC)
340 KAI: NDB Utti/Kaipainen (FIN) 2318 CW id (DM3)
344 HEK: NDB Hekka (FIN) 2321 CW id (DM3)
350 LAA: NDB Oulu/Laanila (FIN) 2351 CW id (DM3)
351 SAV: NDB Savonlinna (FNL) 0045 CW id (DM3)
352 OV ? hardly Nafoora in Lybia? (RC)
355 ARB: NDB Ardabil (IRN) 2249 CW id (DM3)
359 RWY Ronaldsway , Isle of Man (RC)
366.5 CAR Carnane, Isle of Man (RC)
371 AP Aberport, W Wales (RC)
378 KLY Killiney, E. Ireland (RC)
387 CML Clonmel, S.Ireland (RC)
397 OP Marker, Dublin Airport (RC)
400 XW 0019 AM Beacon XW-400 is located in Flemingsburg, KY. It was formerly FGX (LP)
402 FNR Finner Army Camp, NW Ireland (RC) NL Nolso, Faroe Is. (RC)
407 GAR Garristown, E.Ireland (RC)
422 Unid: pulse every 10 seconds (RC)
426.4 PW Prestwick, Scotland (RC)
518 EAL: Las Palmas Radio 0520 FEC nav wrng's. (BvR). G Tarifa, Spain 2100 FEC MIB (KH). N Portsmouth USA 0133 FEC MIB (KH). Niton, UK 1240 FEC SAR info re FV Toul an Tres (KH). Q Sydney CG 0243 FEC MIB (KH). R Reykjavik 0317 FEC MIB (KH). St.Johns CG 0224 FEC MIB (KH). St. Johns, NF Canada 0223 FEC (KH). St.Johns, NF Canada 0620 FEC (KH). Sydney, NS Canada 0240 FEC (KH). Sydney, NS Canada 0658 FEC (KH). TM: NDB Tomakovka (UKR) 2338 CW id (DM3). X La Nao, Spain 0349 FEC distress tfc (KH)
521.5 IAR: Roma Radio 2149 CW sending wx for Tirren Sea in II (DM3)
617 SV: NDB Steblev (UKR) 2331 CW id (DM3)
940 UD: NDB Chudovo (RUS) 2031 CW id (DM3)
1290 TU: NDB Belyi (RUS) 2242 CW id (DM3)
1619.5 PCH85: SCHEVENINGEN RADIO 0831 CW. Chan free marker "PCH" (DW) At 1900 ARQ Working ship KLOOGA-ESAB (DW)
1644 Arrecife Radio 1804 USB SS "metreologico". (BvR)
1650 CROSS Gris-nez 1916 USB FF wx. (BvR)
1752 EJK Valentia Radio, Ireland 1834 Navigation Warning for Irish Coastal waters. (RC)
1888 IPZ:Civitavecchia R Italy 2032 USB with Gale warning in English and Italian. (RP3)
1930 LFI: ROGALAND RADIO 1124 CW. Chan free marker (Globe) "LFI" only just discernable in noise. At 1845 CW. Chan free marker (Globe) "LFI". At 2003 CW. Chan free marker (Globe) "LFI" (DW)
1975.1 unid 2051 unid/300bd packet-like but not decodable (WP3)
2003.2 unid 1651 unid/68bd not autospec (WP3)
2018.2 unid 2055 unid/300bd packet-like (WP3)

2021.1 unid 2058 unid/300bd packet-like (WP3)
2154.5 ESAB: SHIP KLOOGA 1859 ARQ Traffic via Scheveningen/PCH on 1619.5 (DW)
2182 Algiers Radio 1706 ann tfc list & nav warning. (JS3) Apuli Radio 0634 USB ann wx. (JS3) C6PY: 2240 USB Mayday to Wick Radio. Position 5708n 00500e 11 souls on board. Cargo hold No.1 flooding. (RC) CNP: Casa-blanca Radio 1706 USB wkg CNBW. (BvR) CROSS Gris-nez 1915 USB FF ann wx on 1650. (BvR) FFB: Boulogne Radio 1703 USB no tfc for foreign ships. (BvR) Halifax CG 0010 USB ann wx. (JS3) IDC: Cagliary Radio 1605 USB ann nav wrng (BvR) IQP: San Benedetto Radio 0528 USB pan-pan msgs. (BvR) NMN: Camslant Chesapeake 0533 USB clg M/V Edna Marine. (BvR) OUXB6: 0009 USB wkg Farsund Radio. (JS3) Pentland GC 0155 USB w/PAN msg reg. M/V Neptune who suffered from engine loss (JS3) Ram-searcher 0019 USB clg VC Storm. (JS3) Reykjavik Radio 0227 USB ann stormwarning. (JS3) Riviere-au-Renard CG 0704 USB ann wx. (JS3) St. Johns CG 0153 USB clg CGCB. (JS3) Sydney CG, CAN 0034 USB ann wx. (JS3) TFT: Hornafjordur Radio, ISL 0808 USB ann stormwarning. (JS3) TFV: Vestmannaeyar Radio, ISL 1703 USB ann stormwarning. (JS3) UKCG Tyne Tees 0538 USB clg Portland UKCG for test. (BvR) V2AF4: Corona 0034 USB wkg Farsund Radio. (JS3) VCM St. Anthony Coast Guard, New-foundland 0004 USB also on 2598 calling VC8670, Sealand Canada and 3EPE6 Dean Swift (RC) VCO: CCG Sydney 0707 USB ann mib 2598. (BvR) VCS: CCG Halifax 0703 USB ann mib. (BvR) IPZ: Civitavecchia R Italy 2032 USB with annoncement gale warning QSY 1888.0 Khz. (RP3)
2500 WWV: Ft Collins TS 0215 AM time in EE. (CT)
2503 DLGU: BG15 1938 FEC-A/144 position report to kuewaz o (WP3)DLGV: BG16 Alsfeld 1000 FEC-A/144+cw tfc to dlgx german coastguard ostsee (WP3) DLGX BG18 Rosenheim 1004 FEC-A/144+cw tfc to dlgv german coastguard ostsee (WP3)
2598 Labrador CG Radio 1013 USB w/ Nav warnings. (MB5)
2625 DRDL: German Navy vessel USB wkg: DHJ 59. (AN)
2653 SHIP 1850 CW. Ship channel for LFI on 1930 khz. Idle no qrm (DW)
2670 Woods Hole 1020 USB Wx bcst from Woods Hole.Unsure of Stn ID. (MB5)
2687 1GM 0000 USB calling JWT Stavanger Naval, Norway gave out this NO698 (JM3)
2749 VCS: CCG Halifax 0708 USB wx. (BvR)
2754 GJ(Royal Navy vessel) USB clg COASTAL CONTROL, no yoy. (AN)
2806 IGJ41: IN Augusta 2238 RTTY 100/850 availability (WP3)
2840.7 DLVG mv Oldenburg 1944 ARQ customs Niedersachsen tfc to kuewaz n eta Emden (WP3)
2863 KVM: Honolulu VOLMET 1028 USB. (MB5)
2872 KVY301 wkg Shanwick 51N20W F410 (TO)
3039 LIMA: 0603 USB clg GW. (response) golf whiskey aircraft is currently in phase 1 of the event. (GB3) UNID: EE Military Net: 0603 USB "lima calling golf whiskey, (response) golf whiskey aircraft is currently in phase 1 of the event. (GB3)
3068 ACIDTEST: 0412 USB called and raised NIGHTWATCH 01. Z165 set as net primary and Z100 set as secondary. (JH)
3142.5 FDG: FAF Bordeaux 2307 CW vvv vvv vvv de fdg fdg fdg + (WP3)
3143 NEWSROOM: 0710 USB worked NIGHTWATCH 01. (JH)
3164.5 1ALO: unid 2311 CW Netcontrol qrt 2320 hg8k de 1alo qsa? k ..others called :h58f nkxk y1xz cna? 6por xcna (WP3)
3172.5 IMB1 Rome Meteo 2302 RTTY 50/850 wx (WP3)
3333 CHU: Ottawa TS 0200 USB time in EE/FF. (CT)
3344.5 7IIII Unid Numbers Stn 0707 CW after data send in unid mode, "BT AEEET DE 7IIII (fade) GR120 BT" & 5LG's to 0720. (RB)
3357 GYA: Northwood Naval, UK 0230 FAX 120/576 schedule (LC)
3468 Unid 1041 USB 2OM Japanese on unid net.Poss Fishermen.Can anyWUN ID this? (MB5)
3476 Shanwick, IRE (NAT-F MWARA) 0418 USB wkg Speedbird 2194 w/posn report. (RB)
3616 GKY1: Portishead Radio 2045 ARQ+CW id (DM3)
3699.5 P: RUS Navy Kaliningrad 2048 CW channelmarker (ANEE)
3737 UIW: Kaliningrad Radio 2052 CW weather bulletin (DM3)
3803 UNID 2054 CW sending moscow time marks (hhmm) in plain CW (appx. 8 times per min)(ANEE)
3924 N5P USB wkg: Plymouth Ops. (AN) V4X (Royal Navy Sea King) USB wkg: Plymouth Ops. (AN)
3936 1MX(RAF Nimrod) USB wkg: MKL. (AN)

3939 P4H: German Navy Atlantic USB clg DHJ59, no yoy qsy 6727 wkg: DHJ59, JWT and LBJ w/ coord, ratt-coord and ratt. (AN)
4033 OOR / OEI / 5GU and Y8S(all Royal Navy vessels) USB w/ tactical and coord net. (AN)
4043 P: RUS Navy Kaliningrad 2101 CW channelmarker. (ANEE)
4090 TCNC: M/V Ali Ekinci (Bulk carrier) 1921 USB calling to unid station. (RP3)
4154.5 DRAJ:GNS Unid 1635 USB radiocheck with DHJ59 + QRV (RP3) DRAX: FGS Gorch Fock (A-10) German Navy masted training barque used for training & sister ship of the USCGC Eagle 0559 USB clg/wkg DHJ59, Wilhelmshaven Naval for RTTY coordination, she's a beauty under sail & a great QSL! (RB)
4206.8 UEFE: BMRT Admiral Padorin 0416 RTTY 50/170 Russian-flagged trawler w/RYRY/DE to UDK2, Murmansk Radio after CW QSO on 4190 , confirms QTH as "Kanada...da", sends tfc from master KMD Erbatenko using hull #/ID MT-0065, was MA-0065 w/call UUZG. 1st 4 mHz log in quite awhile! (RB)
4210.5 ESA: Tallinn Radio 2120 ARQ+CW id, cycle length is 20 sec (DM3)
4215.5 HEC: Berne Radio 0418 ARQ + CW id, QRM OXZ at the same channel (DM3)
4217 PCH26: SCHEVENINGEN RADIO 0834 CW. Chan free marker "PCH" (DW)
4228.5 VIM/VIT 0852 CW. (BC3)
4235 IAR: Roma Radio 2128 CW vvv marker, lsn 4235/8670/13015 (DM3)
4243 UNID 1112 USB 2 ANDVT stations w/ short bursts. (MB5)
4250 PCH20: SCHEVENINGEN RADIO 0823 CW. Marker "de PCH20 4 k" (DW) WLO: MOBILE RADIO 2324 CW Marker "de WLO obs? amvers? qsx 4 6 8 12 16 22 mhz nw ans c3/4 k" (DW)
4270.5 FUJ: 0847 RTTY 75/170 DE FUJ Testing Ry's (BC3)
4283 XSV: Tianjin Radio China 1100 CW not very strong and heavy background interference. (EW)
4314 LZW26: Varna Radio 2134 CW de marker (DM3)
4317.9 NMG: USCG NEW ORLEANS 0810 FAX Chart showing Cuba and the south. (DW)
4325.8 R: RUS Navy Izhevsk (? - Izhevsk is former name of Ustinov) 2119 CW channelmarker (ANEE)
4343 SVA2: ATHENS RADIO 2052 CW. Greek press. (DW)
4346 9AR: Rijeka Radio 2033 CW vvv marker, qsx ch 3/4/7 (DM3) 9AR: Rijeka Radio 2114 CW vvv-marker, qsx ch 3/4/7 (DM3)
4350 TBB: Navy Ankara 2113 CW vvv-marker, clg TBDJ (DM3)
4369 PCH: Scheveningen Radio, HOL 0706 USB YL w/tfc list. (RB)
4372 X4H: 0719 USB wkg 3OV. At 0720, 3OV wkg Giant Killer. At 0743, D8 wkg 3OV and Z8. (GB3)
4469 FLORIDA CAP 1001: 0109 USB regional CAP net up...mostly SouthEast participants. (JC5)
4472 OVERDRAFT: 0657 USB worked NIGHTWATCH 01 and had Z130 set as net primary freq and Z150 as secondary. (JH)
4474 ICT: Taranto Italy 2116/2130 USB calling and working IGDG and IGDH. Also IGJ IN Augusta on net 3 USB. (RP3) IGDG: ITNS Pantelleria (A5350 Transportschip) 2116/2130 USB Calling for ICT. (RP3) IGDH: ITNS Lipari (A5351 Transportschip) 2130 USBWkg IGDG. (RP3)
4495 NEWSROOM: 0705 USB told NIGHTWATCH 01 to standby as NEWSROOM will attempt comms in 5 minutes. At 0709z NEWSROOM called NIGHTWATCH 01 and moved to Z115. At 0713z NEWSROOM worked NIGHTWATCH 01. (JH)
4507 Numbers Station 1126 USB Very strong YL/SS, 5FGs. (MB5)
4558 C: RUS Navy Moscow 0030 CW channelmarker(ANEE) P: RUS Navy Kaliningrad 2108 CW channelmarker (ANEE) S: RUS Navy Arkhangelsk 0031 CW channel marker (ANEE)
4558.5 FDG5 FAF Evreux 1622 CW vvv vvv vvv de fdg5 qrt:1627 (WP3)
4560 YHF: Mossad 0414 USB YL/EE w/5FG's, back up at 0500 w/same. (RB)
4562 unid 1702 fax 90/576 weak (WP3)
4575 V: RUS/UZB Navy Khiva 0028 CW channelmarker (ANEE)
4601 ZeroA: Irish Navy HQ 1305 ARQ "47 de 0a int qrv fish k+", to ship "47" (RC)
4604 BLUEMOUND 199 NCS, Wisc. CAP Net 0100 USB w/net check in's for Wisc. state CAP net. (RB) KENTUCKY CAP 4 NCS, Ky. CAP Net 0130 USB w/start of Ky. state HF SSB directed net, & into check in's. (RB)
4627 WILDWOOD 02: 0112 USB Casual CAP net between WILDWOOD units. (JC5)
4663 Tashkent Volmet (UZB) 2312 USB sending wx in EE for Almaty, Samarkand, Dushanbe etc. (DM3)
4675 AF Concorde 4515 0448 Shanwick/ARP SN30W F550+F600 (EJ-AD) (TO) AF029: 0318 Gander/selcal check (EJ-AL) maintaining F350 (TO) AIH062: 0218

Shanwick/ARP 51N30W F350 52N20W-52N15W (FP-ES) (TO) AIH070; 0145 Gander /ARP 48N50W F350 50N40W 0224 (AP-BE) (TO) AY004: 0258 Gander/ARP 58N40W F350 61N30W-63N20W @ 30W QSY 127.85 (DE-CH) (TO) BA216: 0227 Gander/ selcal check on (BD-AF) (TO) BA282: 0512 Montreal/ARP INDIA 90W F330 (BJ-GP) needs confirmation (TO) BA9611: 0243 Gander/selcal check on (BD-EH) (TO) CO56: 0343 Gander/selcal check (CG-HK) (TO) Gander, CAN (NAT-D MWARA) 0506 USB wkg Cargolux 607 w/posn, 52N/40W 0502, FL 310, est 53N/30W 0544, 53N/20W next. (RB) HB-IAW 0323 Shanwick/ARP 47N30W F410 selcal missed, any offers? (TO) Iceland 1759 USB weak. (JC4) JL6401: 0140 Iceland/ARP 7429N7142W 0136 F330 UP 0209 74N40W (TO) KE257 0238 Gander/pls relay to company JFK: SUPIR 0233 F330 ETA JFK 0410 (AS-BD) (TO) KL606 0446 Gander/selcal check on (AH-GP) (TO) KL662 0244 Gander/selcal check on (DM-BC) (TO) KL672 0242 Gander/selcal check on (AF-HR) (TO) LH431 0209 Gander/selcal check on (AL-EG) (TO) LH445 0252 Shanwick/ARP 49N30W F370 50N20W-50N15W (LM-CR) (TO) LH8188 0411 Gander/ARP 57N30W F280 .84 (HM-AJ) (TO) MP632 0522 Gander/ARP 47N40W F330 (CE-BS) (TO) MP64 0245 Gander/ARP 46N50W F290 (PR-EQ) (TO) RJ262 0451 Gander/selcal check (DG-AM) (TO) SK908 0250 Gander/selcal check on (EJ-DH) (TO) SN534 0231 Gander/selcal check on (DR-AS) (TO) SN540 0236 Gander/selcal check on (DR-BE) (TO) SR121 0216 Gander/ARP 45N50W F340 47N40W-49N30W (CM-DE) (TO) SV901 0516 Gander/ARP 57N30W F340 (DK-AB) rly to Evergreen Ops (TO) Shanwick, IRE (NAT-D MWARA) 0504 USB wkg Shamrock 112 w/selcal ck DP-CR (A-330, reg EI-CRK). (RB) UA954 0526 Montreal/selcal check on (AS-CL) (TO) VS006 0410 Gander/ selcal check (BK-FL) (TO) VS018 0153 Gander/selcal check on (BH-JM (TO)

4724 C7B(Royal Navy vessel) USB wkg: NEATISHEAD w/ trackreporting. (AN) 3NR (RAF Nimrod) USB wkg: ARCHITECT, on 6697 wkg: MKL later-on qsy ARCN 111 =3936. (AN) 7HS USB wkg: ARCHITECT. (AN) ARCHITECT: RAF Strike Command 0531 USB w/H+30 color coded airfield conditions. (RB) ASCOT 2724 USB wkg: ARCHITECT. (AN) Air Force 2: 0919 USB checking Andrews VIP here for new primary freq. (JJ) Ascot5932 1043 USB wkg Architect, sc:AHGJ, problems at first, 5392 left RAF Lynham at 1005 bound for Gander. (MT) BAYONET 11Alpha(One, One, Alpha) 1521 USB wkng ARCHITECT: BAYONET 11 Alpha requested a PP to 0171-930-4***. was asked by ARCHITECT for Location of number ? London District was the reply. Then ARCHITECT wanted an Ext: 2672.. There was No answer. BAYONET 11Alpha may try later. (SM) EXECUTIVE-1-FOXTROT: 0041 USB DV-2, inbound KLGA, New York, ETA 0255z, wkg Andrews VIP. (JJ) EXECUTIVE-1-FOXTROT: 0434 USB DV-2 + 10, inbound Andrews AFB wkg Andrews VIP for Andrews AFB wx. (JJ) RAFAIR 7C04(RAF Chinook helo) USB wkg: ARCHITECT. (AN) SAM 202: 0319 USB and SAM 682 wkg Andrews VIP with signal checks. (JJ) SAM 203: 2352 USB outbound from Howard AFB, wkg Andrews VIP for pp to Meteo re: 0045z arrival Andrews AFB. (JJ)

4745 UNID: 1644 USB Weak station bcst a now common X5 20-character EAM (X5TVLR..) trailing OFFUTT's 1641z GHFS bcst of same). (JH) WAR 46: 0049 USB called NIGHTWATCH 01 for a signal check. At 0209z NIGHTWATCH 01 called WAR 46. At 0329z NIGHTWATCH 01 called WAR 46. At 0640z NIGHTWATCH 01 called WAR 46. At 0706z NIGHTWATCH 01 called WAR 46. (JH) WAR 46: 2336 USB called NIGHTWATCH 01 and finally raised at 2338z. (JH)

4755 RosAeroNavigatsia Kiyev 1540 USB f op w/ID "... Yarok" clg Brashka (=Chelyabinsk). (MS) RosAeroNavigatsia Moscow 1524 USB f op w/call Agurchik clg Dunis (=Kustanay, KAZ), no reply. (MS) RosAeroNavigatsia St. Petersburg 1603 USB m op w/call Radan wkg Agurchik (= Moscow/ Sheremetyevo). (MS)

4785 8EI USB wkg: 3VL w/ Alligator coord. (AN)

4880 ULX2: (RUS/CIS?) 2203 AM constantly repeating the c/s, then into 5LG (ANEE)

4910 Kumir-08 (tent. RUS) 0511 USB chat in RR with Kumir-34, the latter heard more weak (ANEE)

5000 YVTO: Caracas TS 0729 AM beeps. (BvR)

5052.8 unid (Bucarest Met?) 0934 RTTY 50/800 wx from 15xxx (WP3)

5086 2VQ(Netherlands Royal Navy vessel) USB wkg: BANDBOX w/ trackreporting. (AN)

5097.3 CFH: CF, Halifax, NS, CAN 0215 RTTY 75/850 NAWS de CFH..., PCI/8 de CFH..., TRO.8/8 CI/8 de CFH..., TCI/8 CI/8 de CFH..., et al. (RM)

5121 Moscow Meteo 0119 FAX 120/576 Wx chart in progress, ending at 0125. Some detail visible, but not enought for ID. Other charts, w/no

discernible details, at 0128-0149 & 0150-0211. Sig. progressively worsened; quit monitoring. (RM)
5145 EAE220: MFA, Madrid, ESP 0108 TWINPLEX Msgs to unid. emb. (RM)
5152 SAM 202: 0320 USB and SAM 682 wkg Andrews VIP and each other on F-486. (JJ)
5154 Various USMC MARS stas., USA 0122 PACTOR 200/200 MARSgrams. (RM)
5160.5 Unid: 0229 PACTOR Sig. too weak to decode. (RM)
5195 UNID: Russian Station 1035 LSB OM in RR (IJ)
5206 CONTROL USB wkg: KA and KQ. (AN) CONTROL USB wkg: KN, KR and KN. (AN)
5206.5 U.S. Army MARS stas., rgn 3, USA 0210 PACKET AAT3TFC, AAA3PA, AAT3TMD, AAT3TDE et al. (RM)
5211 NIGHTWATCH 01 working WGY912 in USB and then to land line. 2346 (JM)
5215.5 Unid. 0100 RTTY 150.85/850 Encrypted (RM)
5221 Unid. 0215 RTTY 75/170 Encrypted (RM)
5221.5 TYE41, ASECNA, Cotonou, BEN 0008 ARQ-M2 96/400 A: zczc una001 110000 de tye; B: zczc 001 110022 av wx. (RM)
5230 CG Group New Orleans 0248 USB clg. CG Cutter Chincoteague, requested Chincoteague call them on Ch. 16 (VHF, I would assume) (RM2)
5236 NMG, USCG, New Orleans, LA calling WPEH728, AT&T,Conyers, GA, 1710 USB
5251.5 XB4,090: UNID Stations 0810 USB 2 OMs with US accents. 1st OM said "Lets get things going." The 2nd OM replied "we'll be ready on Monday." and the 1st OM came back with "It's been raining over here and if you have nothing further we will come up on the next regular sched." (IJ)
5252 ?? 2100 Strong AM Carrier until 2120. At this time slow electronic tones began & continued for 3 minutes. At 2123 the same tones were played much faster. Tones ended & Carrier off 2127. (RC)
5277 PANTHER: DEA Ops Bahamas 0200 USB wkg several a/c, 63 Charlie, 23 Alpha, etc. Tracking vessel North of Cuban Coast, dumping cargo, heading for sector 2. Panther notifying Constable of Georgetown for assistance... comms QSY to 5696. (JC5) PANTHER: DEA, Nassau, Bahamas 2350 USB wkg 20 CHARLIE (poss USCG HH60J 6020) requesting they refuel asap upon landing & get airborne again. Ltr hrd 20C up w/ATLAS on 7657 USB. (RB)
5285 unid: 1405 arq-e/72 idle in 36 h not a single msg (WP3)
5320 9 CHARLIE: Unid, USCG asset 1857 USB wkg 1A (both shortened tri-graph callsigns); at 1944 passing names & posns of vsls (possible Fisheries patrol). (RB)
5397.7 RFFP: MOD, Paris, FRA 0234 ARQ-M2 200/400 RQ sig. on both ch's. (RM)
5400 YOG37: Bucharest Meteo, ROU 0608 RTTY 50/425 w/AAXX meteo code reports. (RB)
5410 BINARY 01 / 90 / 20 / 34 / 32 and 40(all US Army FAC units) USB w/ coord net on new? freq. (AN)
5420 K7K: Royal Navy vessel USB wkg: E3X(Royal Navy vessel). (AN)
5422 HAMMER USB wkg: GARFIELD (Geman Navy?) qsy F61, unknown/not found. (AN)
5429.5 EXECUTIVE-1-FOXTROT: 0416 USB DV-2 + 10, departed New York 0415z, ETA Andrews AFB 0510z, wkg Andrews VIP for pps on F-136. (JJ)
5430.1 Centrans Ajaccio 1011 arq-e/192bd idle 1300: pace e saluti a tutti bonjour: tfc to Centrans Bastia (WP3)
5450 MVU: RAF Volmet, West Drayton, G 0559 USB w/wx for various cities, ID "RAF Volmet". (RB) RAF VOLMET 0245 USB with various weather reports. (JM8)
5493 Kinsasha 0240 USB talking with aircraft. Is this Kinsasha Zaire? (JM8)
Speedbird 57 0221 Bangui/ARP BOSSA 20 F310 MPK 0237; 744 G-BNLZ (TO)
Springbok 249 0252 NDJ/ARP ONUDA 52 F370; 74L ZS-SPE NDJ=N'djamena Radio TCHAD (TO)
5505 Shannon Volmet 0237 USB with various European airport weather reports. S7+ here at my QTH in PA. (JM8)
5517 AFB-682. Belgian Airforce. 1858 USB Wkg Cairo. FL210.(IB) TNY-501 Air Tanganyika. 2158 USB Clg Khartoum.(IB)
5526.9 BAF6: BEIJING MET 0008 FAX Small half chart with adjoining Chinese text. (DW)
5535 Speedbird 6711 0010 BR-AP Speedbird R/actual wx for UGEE (TO)
5541 EVA 678 0603 Stockholm/enroute NTAA for selcal check (BC-MS) (TO)
5547 Asiana 203 0947 SFO/ARP KYLLE F310 KANUA at KANUA Vancouver Center 135.2 (CS-FQ) (TO)
5547 Cathay 881 0927 SFO/ARP F310 KYLLE 0929 (AF-BJ) (TO)
5547 Dynasty 003 0833 SFO/ARP est 45N130W (BC-RS) (TO)
5547 EVA 15 0942 SFO/ARP KLARK F310 BEGIN? next (DH-GR) (TO)

5547 EVA 17 0933 SFO/ARP KLARK est forwarded 0904 F310 .86 (TO)
5547 Korean 208 1033 SFO/ARP KYLLE 1029 F350 KANUA (HM-JL) (TO)
5547 Singapore 1 0934 SFO/ARP KENNT 0929 F280 KYLLE-KANUA (GS-JM) (TO)
5550 8Q-HIC Wkg NY next call 35N at F100. Any ideas? (TO) AIR FRANCE 6430 0025 USB (JM8) AMERICAN 217 0025 USB (JM8) AMERICAN 62 0025 USB (JM8) AMERICAN 935 0025 USB (JM8) ARGENTINA 1301 0025 USB (JM8) BRITANNIA 824B 0025 USB (JM8) CANADIAN 101 0025 USB Selcall DLFG (JM8) EUROPA 1166 0025 USB (JM8) EUROPA 765? 0025 USB Selcall CSHQ (JM8) Execjet 513 (N513QS) wkg NY DEENO F350 (ES-HJ) (TO) GHANA 444 0025 USB Selcall HJAF (JM8) IBERIA 6620 0025 USB Selcall HKBC (JM8) KLM 778 0025 USB (JM8) MARTIN AIR 6440 0025 USB (JM8) N511GA Wkg NY AKERS F430 (LR-PQ) (TO) SPEEDBIRD 292 0025 USB (JM8) SPEEDBIRD 4505 0025 USB (JM8) TRADE WINDS EXPRESS 416 0025 USB Selcall GHJL (JM8)
5574 Hawaiian 4 0929 SFO/selcal check (KM-CD) (TO) Indonesia 801 0703 SFO/ARP DOPPS F390 DEROK-DANKA (TO) Philippines 103 0723 SFO/ARP DOPPS F350 DEROK-DANKA .86 (TO) Philippines 105 0657 SFO/ARP BAKON F310 (TO) Qantas 12 0743 SFO/selcal check (QR-AD) at F280 still in QSY w/OAK (TO) United 187 0757 SFO/ARP BRADR F350 BITTA 22N15624W QSY HNL 127.6 (TO) United 38 0740 SFO/selcal check (BS-LP) (TO) United 56 0839 SFO/selcal check (BS-LM) (TO) United 841 0709 SFO/selcal check (AS-DM) (TO) United 863 0755 SFO/datalink w/ATC established, here on guard (FH-CP) (TO) World 274 0815 SFO/here for radio check only. N274WA? (TO)
5598 American 55 0227 USB wkg NY w/selcal check AP-KQ. (RB) MartinAir 0644 0230 USB wkg NY reporting 40N/60W 0228, FL 330, est 43N/50W 0324, 46N/40W next. (RB) NY selcal'ing Condor 115 0223 USB, Santa Maria adv 115 is up on another frequency. (RB) New York (NAT-A MWARA) 0220 USB selcal /wkg Air Mexico 37 re ATC req what time able FL 410 (able at 0420), also confirm 40W & 30 W estimates (40W at 0254, 30W 0346). (RB) REACH Gulf-5 0224 USB wkg NY, reporting 42N/60W 0220, FL 310, est. 43N/50W 0305, 44N/40W next, also req FL 300. (RB) Santa Maria (NAT-A MWARA) 0225 USB wkg Speedbird 2256 37N/40W at 0223, FL 360, est 45N/30W 0338, 48N/20W next, 215/80 temp -55, passes selcal & request FL 370 due to turbulence. (RB) Santa Maria 0229 USB selcal'ing Delta 155, no joy here. (RB) TWA 094 0226 USB wkg NY, reporting 43N/50W 0223, FL370, est 44N/40W 0317, 44N/30W next, fuel 52 . (RB)
5600.5 Unid: 1906 PICCOLO encrypted on both channels. (BvR)
5616 Fedex 3 2257 AB-ES Wkg Gander 54N30W F280 (TO) Gander (NAT-B MWARA) 0233 USB wkg American 44 for selcal ck HQ-RS (767 N378AN). (RB) Gander 0241 USB wkg American 38 for selcal ck BE-LM. (RB) N311AG 2232 FK-EM Wkg Gander 56N30W F310 (TO) N990WC 2345 CM-HS Wkg Gander for selcal (TO) Polar Tiger 603 2338 EM-CK Wkg Gander 55N30W F280 (TO) Reach ODX3 2339 BC-JK Wkg Gander LOACH F290 (TO) VP-BJD 2238 Wkg Gander 45N40W F430 (TO)
5628 Asiana 202 1155 SFO/selcal check (BH-FS) (TO) Asiana 202 1257 SFO/ARP 41N180 F350 (TO) Asiana 212 1242 SFO/ARP 43N180W F330 Canadian 2 0858 SFO/ARP PASRO F280 PLADO-PINSO (DM-EJ) (TO) Cathay 888 1252 SFO/ARP 45N180 F350 req F390 + .85 China Eastern 583 1143 SFO/ARP 39N170E 1141 F330 (TO) China Eastern 583 1259 SFO/ARP 42N170W F350 (TO) Dynasty 006 1245 SFO/selcal check (BC-FP) Japanair 66 1002 SFO/ARP F350 at 170E Korean 001 0900 SFO/ARP 39N170E F330 (TO) Korean 017 1008 SFO/ARP 39N170E F370 Korean 017 1025 SFO/ARP 39N170E F370 39N180 1115 (TO) Korean 025 1024 SFO/ARP 41N180 1021 F350 (MQ-FG) (TO) Korean 8281 1043 SFO/ARP PASRO F350 (FH-BL) (TO) Malaysia 98 1237 SFO/ARP 45N180 1237 F390 .86 Northwest 18 0958 SFO/ARP 44N170W F350 Northwest 2 0949 SFO/ARP 41N180 0937 F350 Northwest 2 1138 SFOARP 38N160W F370-F390 block (CF-AL) QSY 5667 (TO) Northwest 20 0821 SFO/ARP CUTEE 0819 QSY ANC CTR 119.1 100 nms West of CHIPT (CF-AJ) (TO) Northwest 26 0955 SFO/selcal check (CF-AG) Northwest 28 0950 SFO/ARP 43N180E F350 North west 28 1018 SFO/re-release msg for aircraft 6613 from 40N160W to SFO (AL-EK) (TO) Northwest 6 0849 SFO/ARP 44.49N16332E F330 (CE-BJ) (TO) Northwest 70 1020 SFO/ARP unreadable but selcal (EH-DP) (TO) Northwest 8 1045 SFO/ARP 48N160W F370 and re-release msg for aircraft #6612 from 49N150W to SEA; 747 N612US (TO) Northwest 96 1039 SFO/ARP 49N160E 1039 F370 (DK-BE) (TO) Polar Tiger 508 0910 SFO/ARP PASRO F310 (HK-LM) (TO) Singapore 12 1302 SFO/ARP 41N180E F370 (TO) United 2 1014 SFO/selcal check (AS-EK) any idea on registration here? (TO) United 844 1036 SFO /ARP FIR 165E 34 F330-SATCOM datalink did not take report :-))) (AS-EF) (TO) United 852 0952 SFO/ARP FIR F350 est 41N170E 1015 (FG-LP) (TO)

VARIG 837 1254 SFO/ARP 39N170E F350 (GM-EH) (TO) VARIG 839 1047 SFO/ ARP 39N160E 1045 F350 (AH-BJ) (TO)

5634 St. Denis 1814 USB ID heard thru the hash. (JC4)

5643 United 862 0943 SFO/selcal check (FG-LP) (TO)

5649 El Al 010 2318 GK-EM Wkg Shanwick 49N30W F330 (TO) New Zealand 1 2056 Wkg Gander looking for Montreal VHF freqs at K80W (TO)

5650 GANDER RADIO 0015 USB with call to: MDJ 100 (Missed the selcall. Anyone know who this is?) (JM8)

5658 TEP-2071. TransEuropean Airlines of Russia. 1613 USB Wkg Karachi. Destination: Karachi. (IB) Uzbek-3531. 1518 USB Wkg Karachi.(IB) VKO-2817. Vnukovo Airlines. 1902 USB Clg Karachi.(IB)

5667 All Nippon 006 1114 SFO/ARP 39N170E F330 (TO) American 128 1143 SFO/ ARP 42N180 F350 (AJ-HQ) (TO) American 26 1225 SFO/ARP at the FIR and selcal (AJ-KQ) (TO) Canadian 16 1142 SFO/ARP 47N160W F330 (TO) Canadian 4 1311 SFO/ARP 45N180E F370 (TO) Canadian 8 1222 SFO/ARP FIR 160E F350 (AB-CQ) (TO) Delta 78 1138 SFO/ARP 38N165E F390 (DH-CE) (TO) Delta 78 1231 SFO/ARP 39N170E 1229 F350 39N180 1318 (TO) Northwest 28 1135 SFO/re-release msg to SFO; N613US 747 (AL-EK) (TO) Northwest 6 1120 SFO/ARP 47N160W F330 (TO) Northwest 96 1105 SFO/ARP 4207N165E F350 (TO) Tokyo Radio 1225 Wkg SFO wo tells tem AA26's ARP is on the way (TO)

5680 Hfx Military 0220 USB terminal wx forecasts for Eastern Canadian aerodromes. (CM) KINLOSS Rescue 0730 USB calling for ALPINE 22 & ALPINE 24 to pass Wx information for their areas Wx information would be passed on the following 3 frequencies: 4718, 3915 & 2762. I tuned to all these & they are active. (SM) Plymouth Rescue (UK) 1200 USB Closed down its operation today (1st of December). It called all the aircraft it was keeping watch with and delivered the following message: "Sierra 125, Sierra 169, Sierra 193 and Alpine 95, this is Plymouth Rescue now ceasing operations. Contact your new controlling agency Kinloss Rescue, best wishes and safe flying. This is Plymouth Rescue out." Kinloss then welcomed all the above stations with the following message: "Sierra 125, Sierra 169, Sierra 193 and Alpine 95, this is Kinloss Rescue. ARCC Kinloss has assumed operational control from ARC Plymouth at time 1200. Welcome, we look forward to providing you with our best service in the future over." All four stations then called Kinloss and confirmed the message (AG) 5680.0 Rescue 128 A/B: Sea King Heli base Leconfield 1452 USB wkg Kinloss Rescue, wx EGNM Leeds and Bradford. (RP3) Rescue 169 A/B: Sea King Heli 22 Sqn A Flight Chivenor 1456 USB wkg Kinloss, Airborne 7POB Dept Oxford. (RP3)

5696 1711 2309 USB clg CAMSLANT Chesapeake, arrived at Provo to pick up patient but no doctor on scene, requesting CAMSLANT call District 7 for information. (RM2) 63ALPHA 2318 USB clg CAMSLANT Chesapeake, requesting radio guard, ID'd as a PANTHER Unit, 6 POB, included a position report, and reported destination as point ALPHA in ROMEO Sector (RM2) CAMSLANT 1430 USB wkg CG RES 1719, 6033, 6010, W9E and V9X w/ comms regarding the Vessel in destress. RES 6033 req Camslant arrange through Miami Ops for RES 6010 refueling at (March Harbor)? Bahamas. Camslant advises Air Force 833 C-130, Air Force 231 and 238, both H-60's, will assist. Also a carrier is assisting as a possible hoist platform. Camslant wkg W9E with a QSY to CG freq 3E12 (7845). Lots of tfc! A couple other CG Res a/c seem to be ferrying people from the vessel. //7845/8983// (JC5) CAMSLANT Chesapeake 2134 USB clg CG 6009 for last 5 minutes with no response. Calls have been simultaneous on 8megs for most of that time. 6009 has only been on guard with CAMSLANT since about 2115. CG 6009 was in the process of rescuing a 61 year old white male. 6009 had CAMSLANT call Public Information and find out if they wanted video of rescue. Info came back that 6009 should drop off film. (RM2) CAMSLANT Chesapeake 2311 USB clg 1711, D7 advised that the doctor has left for Provo. 1711 responded that doctor must be still enroute. (RM2) CAMSLANT Chesapeake 2315 USB clg 1711, D7 confirmed that Doctor is still enroute to Provo. (RM2) CAMSLANT: USCG Chesapeake 1430 USB wkg CG RES 1719, 6033, 6010, Whiskey 9 Echo and Victor 9 X-ray w/ comms regarding the Vessel in destress. RES 6033 req Camslant arrange through Miami Ops for RES 6010 refueling at (March Harbor)? Bahamas. CG 6009 0331 USB checking in with COMSTA Chesapeake on regular Radio Guard (RM2) CG D2C: 1846 USB requesting CAMSLANT secure their guard. At 1849 CG 6038 reporting

flight ops normal to CAMSLANT. (MF2) CG2124: 2103 USB calling in ops to COMSTA NEW ORLEANS (MF2) CG2129 0500 USB clg CAMSLANT CHESAPEAKE, Flight Ops normal and position report. (RM2) CG2129 0529 USB clg CAMSLANT CHESAPEAKE, Flight Ops normal and position report. (RM2) COASTGUARD 6007 USB wkg: CAMSLANT. (AN) Camslant advises Air 833 C-130, Air Force 231 and 238, both H-60's, will assist. Also a car carrier is assisting as a possible hoist platform. Camslant wkg W9E with a QSY to CG freq 3E12 (7845). DELTA 3 NOVEMBER 0503 USB approaching HOMEPLATE, securing radio guard with CAMSLANT CHESAPEAKE. (RM2) Farnsworth 801 1552 USB wkg Camspac Pt. Reyes. Camspac to contact "Western Sky" and notify them that Camspac has Farnsworth 801's guard. (DR) J8D: 1907 USB request CAMSLANT assume their guard. (MF2) REACH 232 0316 USB wkg KODIAK COMSTA for rdo check. (DW2) Related tfc on 7845kHz, and 8983kHz also. (JC5) SHARK 17: prob USCGC Vigilant WMEC-617 0105 USB wkg CAMSLANT. Then wkg F4W, "will establish comms with you in apx 10 minutes." CAMSLANT also referenced SHARK 17's playmate (helo-F4W?). At 0116, SHARK 17 secures guard with CAMSLANT. (DW2) SHARK 19: 0101 USB clg SHARK 17: WMEC 617 USCGC Vigilant (DW2)

5705 JGI(Netherlands Royal Navy P-3C) USB wkg: PBV. (AN) RN640: 0515 USB clg unid. (DW2) S3N(Netherlands Royal Navy P-3C) USB wkg: PBV. (AN)

5711 KING 04: 0333 USB C-130, wkg Moffett Rescue with ops report. (JJ)

5723 FDG: FAF Bordeaux France 2123 CW with VVV DE FDG AR. (RP3)

5798.5 USMC MARS stas., USA 2224 PACTOR 200/200 Unclassified msgs. NNN0MDP, MRE, MDA & MRB. (RM)

5800 INSIGHT: 1847 USB brdcst >100 character EAM. c/s sounds like INSIGHT. (JC5) Moved briefly to 13242.0. At 0507z NEWSROOM called and raised NIGHTWATCH 01. (JH) NIGHTWATCH 01: 1601 USB bcst a 20-character EAM (X5OMI7..), qrm'ed by SS lang comms (probably Mexico; Tampico mentioned). At 1603z POTLUCK requested that he move to Z255 (found to be 17973.0). At 2335z NIGHTWATCH 01 bcst at least one 26-char EAM (X5...) with NIGHTWATCH 01's sometimes common 400hz tone obliterating everything after the first two characters (with apparent harmonics at 1200hz, 2000hz and around 3000hz+ higher in freq). Following this xmsn, SHERIDAN bcst a 26-character EAM (X5BNEN..). (JH) WAR 46: 0002 USB called and eventually raised NIGHTWATCH 01 for a signal check. At 0003z and 0009z _____ (maybe or maybe not NEWSROOM) called NIGHTWATCH 01 and maybe entered the net at 0009z. Moved briefly to 13242.0. At 0507z NEWSROOM called and raised NIGHTWATCH 01. (JH) WAR 46: 1846 USB wkg NIGHTWATCH 01 for r.c. (JC5)

5841 20C 1829 USB discussing disposition of another helo. At 1831 PANTHER requesting 20CHARLIE to RTB for fuel, then respond to a low flyer. 20C asks if they should recover their DELTA team first. (MF2) 20C 1851 USB and PANTHER discussing "BAD GUYS" and whether fixed wing support will be available. (MF2) 20C 2121 USB switching to green with PANTHER (MF2) 20C 2131 USB reporting position & flight ops to PANTHER (MF2) 60A 1909 USB reporting flight ops normal to PANTHER. (MF2) 63A 2023 USB informs PANTHER they're 4nm out.(MF2) 63A: 1959 USB reporting position & flight ops to PANTHER. (MF2) PANTHER: DEA, Nassau, Bahamas 2317 USB wkg 63 ALPHA for flt op's normal report, followed by 04 CHARLIE. (RB) SHARK 27: 1859 USB & PANTHER discussing data-buoy and deconfliction with playmate. At 1902, PANTHER calling 20 CHARLIE. (MF2)

5907 RPFN: Lisbon Navrad, POR 0301 RTTY 75/850 fox, 1-0, ry; 0302: brief msg; 0304: encryption; 0309: QRT. (RM)

5914.5 Unid 0917 RTTY 75/170 KAWN 5LGs.(BC3)

6200 NKJU: USCGC Kukui (WLB-203) 2132 USB wkg NMN in port (NC) att to correct nagging HFDL problem, 3rd and newest of the Juniper-class buoy tenders. (RB)

6215 Tarawa Radio (Kiribati) 0825 USB with ID and frequencies 0833 Nuku'Alofa radio (Tonga) with ID and frequencies. (JC4)

6227 MV Seaboard Voyage 1154 USB giving ship's itinerary. Eta Kingston, Jamaica. (MB5)

6230 UNID: 2055 USB ANDVT comms mixed w/ maritime simplex, and GMDSS in EE. (JC5) UNID: 2055 USB ANDVT comms mixed w/ maritime simplex, and GMDSS in EE. (JC5)

6237.5 Unid: Dutch Warship 1200 RTTY 75/850 (ACF 64 headers) working PBB; this is "Channel 06A" (JD2)

6333.6 IGJ43: Ny Augusta 1610 RTTY 100/820 CARB bcst? (MS4)

6365.2 VTH: Ny Mumbai 2000 RTTY 50/850 test slip & 4FG's to ANDE? (MS4)

6371.5 RKLM: Archangelsk Radio 2114 CW "4LY de RKLM qsx 2540/4183.5/6278.5" (DM3)
6382.2 EAD: Madrid Radio, Spain 0357 CW w/traffic list marker, CQ x 3, & traffic list, "traffic on hand". (RB)
6382.6 CKN: CF Victoria, B.C. 0115 RTTY 75/803 wx. (CT)
6386.5 ZSJ: Navy Capetown 2146 CW cq-marker, qsx amver ch 3/4/9/10, ans 4/6/8 (DM3) ZSJ: South African Navy, CommCen Cape, Silvermine, RSA 0434 CW w/CQ marker. (RB)
6387.5 FUF: French Navy, Ft de France 0437 RTTY 75/850 w/RYRY, SGSG and ten count. (RB)
6397 KAWN: Unid location 0130 RTTY 75/850 aaxx/wx. (CT)
6408.2 ZSO: SAN Durban 1600 rtty 75/161 "ZSO 2/3/4 S42D RY's/SG's" rpt. (RH2)
6439.5 UDK2: Murmansk Radio 1215 RTTY 50/170 tfc. (CS2)
6467 LFI: ROGALAND RADIO 2008 CW. Chan free marker (Globe) "LFI" At 1116 CW Chan free marker (Globe) "LFI" (DW) LFI: Rogaland Radio 2129 ARQ + CW id (DM3)
6478.7 SVA3: ATHENS RADIO 2040 CW. Marker "de SVA3". No scheduled press. See 4343 khz. (DW)
6532 Air France 281 0828 SFO/ARP 25N170E F390 (CP-DQ) (TO) Air Mike 867 1050 SFO/ARP CHALLO? F310 ANDEX? (TO) Air Mike 954 1038 SFO/cleared from Koror to GUM via Koror-A450 (TO) Air Mike 955 1000 SFO/receiving clearance Johnston Is.-HNL for return flight number 956. Must depart by 1105 UTC. (TO) Air Mike 956 1010 SFO/ARP 19N170W F350 CHOKO 1116 HNL (TO) Air Mike 958 1045 SFO/ARP dep Truk 1025/35 est Pohnpei 1139 (BK-GJ) (TO) Reach 7020 1043 SFO/ARP 36N180E 1042 F350 QSY 4666 (TO) San Francisco 1217 USB wkg unheard a/c. Told a/c to try them on 11384. (MB5)
6535 Air Afrique 9921 wkg Dakar reg. 9G-ADS (DF-AM) (TO) LCO-1101 LADECO 2306 USB Wkg Dakar. (IB) Mauritanie-753 0750 USB Wkg Dakar route: Nouakchott to Dakar. Climbing FL190.(IB) VDA9651 2257 Canarias/now maintaining F270 QSY 133.0 (TO) Varig-726 0709 USB wkg Dakar. SELCAL-GSMR.(IB)
6550 COASTGUARD 03(Netherlands Royal Navy P-3C) USB wkg: Netherlands Coastguard centre IJmuiden, on 5705 wkg: PBV. (AN) COASTGUARD 03(Netherlands Royal Navy P-3C) USB wkg: Netherlands Coastguard centre IJmuiden. (AN)
6556 Japan Asia-222. 1535 USB Wkg Ujung Pandang.(IB) National Jet-5055. 1552 USB Wkg Jakarta. FL350.(IB) Uzbek-178. 1522 USB Wkg Calcutta. Selcal- ESGM. from Bangkok to Tashkent.(IB) Vietnam-535. 1522 USB Wkg Calcutta. Selcal- LSCH.(IB)
6577 CARNIVAL 123 HEAVY 2300 USB (JM8) CONDOR 131 2300 USB (German Accent, Cleared for Ecuador) (JM8) Lauda 3998 2255 CE-BR Wkg NY est GRANN 2308 (TO) New York (CAR-A MWARA) 0007 USB wkg PINION 94, probable U-2/TR-1 out of the 1st Recon Squadron (9th SRW, training), Beale AFB, passing weak posn report, missed original posn, estimates KRAFT 0059. (RB) New York Radio 2300 USB with various aircraft. Callsigns and selcalls heard. (JM8) SUN COUNTRY 358 2300 USB (Sounded like an Afrikaaner accent.) (JM8) TOWER AIR 502300 USB (JM8) United 914 2258 AQ-BJ Wkg NY for selcal check on the ramp at IAD (TO)
6586 AA1456 2154 NY/ARP JAINS F330 (GK-LR) (TO) AA698 2255 NY/ARP N on A554-A300 est LAMER 2253 F390 (KP-FQ) (TO) AC957 2216 NY/ARP LAMER F410 NOOGY-RIGNY (JM-CS) (TO) AIH068 2226 NY/ARP JAINS F290 (FP-ER) (TO) Abidjan R. 2319 Tfc rpt to this time to Accra w/revised est's. (TO) Accra R. 2318 Tfc rpt to Abidjan re: RK102 both blasting in! (TO) Air Afrique 102 0001 Accra/ARP AMSAT F290; TU-TAN A300 (TO) Air France 843 0003 Accra/ARP TENTU F310 to F350 (BM-GR) (TO) Avalon 6620 2159 NY/ARP abm TARGA F100 (TO) BA9684 2238 NY/ARP NUCAR F330 LOUIZ-SARJE (AG-FL) (TO) BY384B 2208 NY/ARP JAINS F330 FAIRR-KATHY (EG-KL) (TO) BY475B 2137 NY/ARP JAINS F330 (CJ-BF) (TO) CO700 2132 NY/ARP LAMER F310 FLORI-CHAMP (CF-AH) (TO) DE051 2158 NY/ARP LOUIZ est 2201 F290 SARJE (CM-QR) (TO) Delta 210 2134 EM-HJ NY/ARP est SLATN 2213 F390 (TO) El Al 002 2226 HM-CK Wkg NY LOUIZ F330 (TO) LEI210 2321 NY/ARP JAINS F390 DOWNT-SLATN (CR-EQ) (TO) LH463 2225 NY/ARP LOUIZ F330 (CG-AE) seems dedicated to this route now (TO) LTU 401 0011 HJ-GQ NY/est GRANN 0028 F330 (TO) N16NK: 2052 FH-LM Wkg NY for selcal (TO) NW1717 2213 NY/ARP BROOM F350 SARJE-JAINS (DM-KL) (TO) Ouagadougou R. 0004 Wkg Accra re: AF703 (TO) ROY561 2204 NY/ARP RIGNY F280 (RS-BK) (TO) Sun Country 588 2326 NY/selcal check on (FJ-

DK) (TO) TSC600 2235 NY/ARP JAINS F370 SARJE (DE-CQ) (TO) TSC685 2211 NY/ARP LETON F310 NANCE-BURRT (FK-BM) (TO) Tourjet 012 0012 AP-DS NY/Selcal check (TO) UPS 6108 2219 DL-JQ Wkg NY JAINS F410 (TO) USAir 1970 2136 PQ-FJ Wkg NY LETON F310 (TO) Windsor 975 2209 JR-AC NY/ARP WATRS 2210 F330 (TO) ZS-MTD UNID 1725 USB Wkg Dakar. FL450. enroute Accra.(IB)

6606 Gander Radio 0255 USB with various weather reports. (JM8)

6628 AIN712 wkg NY 26N45W F290 xmtr probs. (TO) NRN 323 wkg NY 2740N55W F210 (TO) TCT-1789 UNID 2319 USB Wkg New York.(IB)

6640 American 2115 0022 USB wkg New York ARINC. (DW2) New York ARinc (NA-CC-LDOC) 2210 USB wkg Continental 57 w/selcal ck AG-FJ; at 2211 wkg World flt also w/selcal ck CM-BD (DC-10 reg N117WA). (RB)

6655 Fedex 076 1116 SFO/ARP ARP at F310 (EK-JL) (TO) Japanair 018 1119 SFO/ARP FIR 160E F350 (FK-HJ) (TO) Japanair 060 1122 SFO/ARP 3830N160E F350 (DG-AE) (TO) Japanair 062 1123 SFO/ARP 3890N165E F370 (FQ-DK) (TO) San Francisco 1221 USB wkg Japan 866 & Selcal. (MB5) Tokyo Radio 1107 Wkg UNID flght 003 to QSY VHF at 38N155E on I think 133.6 (TO) United 802 1125 SFO/got pos on ACARS OK, QSY 119.1 at PINSO (FG-HP) (TO) United 806 1108 SFO/ARP 46N180W F350. Operator asks if UA806 received ack on ACARS. Is this the HF ACARS system now in use as reported by Larry Nebron in San Francisco recently? (FH-EP) (TO) United 838 1102 SFO/ARP 41N170E F350 (TO) United 844 1113 SFO/ACARS msg just about to be sent to you-unable higher level due traffic (TO)

6673 Air Canada 022 1227 SFO/ARP 35N150W F370 (TO) Air Canada 024 1220 SFO/ARP 35N150W F390 (TO) Air Canada 836 1204 SFO/selcal check (CR-HQ) (TO) American 14 1149 SFO/reroute FONZA-R478-FICKY-C1177-SXC-LAX (TO) Canadian 128 1203 SFO/ARP ZAALE F330 (DQ-CP) (TO) Canadian 134 1226 SFO/ARP APAAK? F290 (HJ-BD) (TO) Japanair 6081 1149 SFO/QSY at KANUA 135.2 YVR CTR (GM-BH) (TO) Northwest 12 1156 SFO/ARP 50N140W F350 (EG-JP) (TO) Northwest 2 1154 SFO/re-release msg to LAX; 747 N642NW (TO) Northwest 20 1223 SFO/ARP F370 .85- 47N140W at 1216 (TO) Northwest 932 1211 SFO/reporting re-entry phenomenon @ 25N137W (TO) Northwest 946 1313 SFO/ARP ZANNG F330 ZEFER 1333 @ 128W QSY SEA CTR 132.07 (TO) Reach 2564 1218 SFO/ARP KYLLE 1209 F350 .78 (TO) UPS 6995 1200 SFO/QSY YVR CTR 135.2 @ KANUA (CJ-EQ) (TO)

6679 KVM: Honolulu 1224 USB. Also, ZKAK,Auckland Volmet NZ simultaneously. (MB5)

6683 SAM 206 USB wkg: ANDREWS vip. (AN)

6683 ANDREWS VIP 2149 USB wkg SAM 206 (MF2)

6683 SAM 27000: 0319 USB DV-2 + 40, wkg Andrews VIP, msg re: contacting Air Force 2 on GEP channel RF-4. (JJ)

6691 OVERFLOW: USN TACAMO A/C 0254 USB clg BOOMTOWN. At 0255, BOOMTOWN clg BINOCULAR. No joy. At 0258, OVERFLOW clg BOOMTOWN on "CA". At 0301, BOOMTOWN told OVERFLOW (using callsign BINOCULAR) to switch to "CD". (DW2)

6693 SMI: 0602 USB SIERRA MIKE INDIA wkg S4JG w/rdo ck. (RB)

6696.2 AAA3USA: US Army MARS, Ft Meade 0055 PACKET 300/200 wkg AAA0USA: US Army Mars, Ft Lewis. (DW2)

6697 G9Z(RAF Nimrod) USB wkg: MKL. (AN) NEWSROOM: 0644 USB bcst a 20-character EAM (X5UX43..) and simulcast on 11267.0. (JH) U4S (US Navy P-3C) USB wkg: MKL. (AN)

6712 ANDREWS: 0630 USB bcst a 20-character EAM (X5HFEM..) at ANDREWS' post 0600z h+30 repeat EAM xmsn time, simulcast on 8968.0 and 11244.0. (JH) U40 back up after EAM, and clg for any Global station. (JC5) Uniform 4 Oscar: 1930 USB clg Incirlik? Global, no joy. Clg Ascencion Global, no joy. Clg "Any Global Station", no joy. Then came up clg Bayonne Global several times w/ no joy. YL w/ EAM at weak levels, possibly Incirlik. U40 back up after EAM, and clg for any Global station. (JC5)

6715 HALIFAX MILITARY: 1957 USB clg Sierra Zulu 9 Lima repeatedly w/ no response. (JC5) HALIFAX MILITARY: 2001 USB wkg X-Ray Alpha 4 Uniform. Followed by ALE Bursts, RTTY at 2008z, and NIGHTWATCH up briefly at 2020z. (JC5) NIGHTWATCH 01: 0449 USB called WAR 46 for a signal check, with WAR 46 calling and raising NIGHTWATCH 01 at 0451z. NIGHTWATCH 01 requested a pp to a DSN 271 number; first number was busy so NIGHTWATCH 01 requested a second extension which was successful at 0454z after common telco-type feedback. (JH) NIGHTWATCH 01: 1738 USB called WAR 46. At 1744z WAR 46 called NIGHTWATCH 01. At 1747z

NIGHTWATCH 01 worked WAR 46 and moved him to Z175. (JH) OVERDRAFT: 0652 USB worked NIGHTWATCH 01 and moved to Z150. At 1541z BIG BURLY bcst a 26-character EAM (X5VHE2.). (JH) TAMPA TIM: 1606 USB worked NIGHTWATCH 01 and entered the net. At 1615z NIGHTWATCH 01 worked TAMPA TIM for a secure voice check (ANDVT). (JH)

6727 MAGIC 67(NATO E-3 AWACS) USB wkg: JWT. (AN)

6730 ANDREWS: 0430 USB worked SAM 206 (maybe). (JH) Air Force 2: 0526 USB enroute Kyoto Japan, ETA Elmendorf 1000z for refuel, wkg Andrews VIP. At 0812z made pp to Elmendorf billeting via INMARSAT. (JJ) Air Force 2: Vice Presidential a/c 1820 USB wkg Andrews w/incoming pp's from CROWN. (RB) SAM 29000: 0200 active as Air Force 1 backup, inbound Andrews AFB, wkg Andrews VIP for signal checks. (JJ)

6736 1OO(Royal Navy vessel) USB wkg: NEATISHEAD w/ trackreporting. (AN) 8EI: Royal Navy vessel USB wkg: BUCHAN w/ trackreporting. (AN) N5P: Royal Navy vessel USB wkg: NEATISHEAD and BUCHAN w/trackreporting.(AN)

6739 ANDREWS: 1344 USB as lead GHFS station with a 31-character EAM (DUD5RQ..). (JH) BROWN RAT: 0402 USB called NIGHTWATCH 01 "on Zulu 160" and "on ZULU 175". (JH) LOOK 76: EC-135 LOOKing Glass a/c, 55th Wing, Offutt AFB, Ne 1710 USB clg 'mainsail' no joy here. (RB) NECKTIE: 0303 USB called MAINSAIL and riased OFFUTT for NIGHTWATCH 01 working freqs: Z175/Z170 but said to be monitor only for next 30 minutes. (JH) OFFUTT: 0253 USB with an "all freq request" for LOOK 88. At 0310z OFFUTT was back up with an all freq request for LOOK 88. Around the same time BOLT 23 was working _____ (weak GHFS station; maybe THULE) with an "ops normal: negative relay" message. At 1615z S4JG called MAINSAIL with no heard response. (JH) OFFUTT: 0619 USB bcst a 6(Y65UUF)/20(Y6)/26(X5) character EAM set over a 10 minute period. (JH) OFFUTT: 0632 USB as lead GHFS station with a 6 (DUXV2N)/20(DU)/26(X5) character EAM set bcst over a 9 minute period. (JH) OFFUTT: 1154 USB as lead GHFS station with a 6-character EAM (5WW4KD) "FOR OLD CROW". (JH) OFFUTT: 1528 USB bcst a 155-character EAM (DL55CJ..). (JH) PUP 34: 0018 USB called MAINSAIL and raised OFFUTT for a phonepatch to a 1-800 number id'd as WALDORF (confirmed same to OFFUTT opr). At 0020z the pp was successful and PUP 34 and WALDORF operator discussed working each other on "RF channel 29". As soon as they saw each other on RF29 (and something about the "I have seven charlie") PUP 34 said that he would work WALDORF on the order-wire and terminated the patch. (JH) RAFAIR 6F01 USB wkg: ARCHITECT rqst wx EGXW. (AN) TOPKICK: 0254 USB bcst a 26-character EAM (X5TPO3..). At 0333z SAM 971 worked THULE. At 0335z SMOKE 75 (or sounds like) called NIGHTWATCH 01 and eventually raised THULE who offered to place a pp to NIGHTWATCH 01 after he finished with SAM 971. At 0338z THULE passed freq designator "267" to SAM 971 as his ANDREWS VIP working freq. At 0340z SMOKE 75 told THULE that he no longer needed the patch to NIGHTWATCH 01. (JH)

6745 CHR: Trenton Military, Ont, CAN 0140 USB wkg SHOCKR 97 w/pp unid (missed) DSN. (RB)

6757 ACID RAIN: 1423 USB worked NIGHTWATCH 01. ACID TEST: 0411 USB worked NIGHTWATCH 01 and moved to Z100. At 0522z ACIDTEST worked NIGHTWATCH 01 and moved to Z175. (JH) NEWSCAST: 0801 USB called and raised NIGHTWATCH 01 and requested to enter the net. NIGHTWATCH 01 advised him to stand by for 5 minutes. At 0806z NEWSCAST worked NIGHTWATCH 01 and entered the net with Z165 set as primary and Z145 set as secondary. At 0808z NIGHTWATCH 01 called WAR 46. At 1405z NEWSCAST worked NIGHTWATCH 01 and had Z165 set as net primary and Z125 as net secondary. At 1406z NIGHTWATCH 01 called WAR 46. (JH) NIGHTWATCH 01: 0004 USB worked WAR 46 for a signal check. At 0012z _____ called NIGHTWATCH 01 with no response. At 0154z NIGHTWATCH 01 called WAR 46. (JH)

6761 ALTUS COMMAND POST: 2046 USB (female opr) called GASER 19. This comm was preceeded by ANDREWS working unid station (maybe E1F or somesuch). (JH) BRICKYARD CONTROL: 1700 USB wkg UNID a/c. Brickyard advises no pp capability, as they are alternate station. (JC5) BRICKYARD CONTROL: 1700 USB wkg ____64. Brickyard Control explaining to the a/c that they do not have (pp)? capability, as they are an alternate station. (JC5) BRICKYARD CONTROL: 1700 USB wkg ____64. Brickyard Control explaining to the a/c that they do not have (pp)? capability, as they are an alternate station. (JC5) CHILL 12: B-52 a/c 1800 USB clg

CHILL 13, w/ no joy. (JC5) CHILL 12: B-52 a/c 1800 USB clg CHILL 13, w/ no joy. (JC5)
6779 DRAN: FGS Augsburg (F-213), "The Wild 13" 0459 USB German Navy frigate, wkg DHJ59, Wilhelmshaven Naval, for QSL of tfc sent. (RB)
6802.1 AAR7PF, US Army MARS, on the SHARES BBS, 1643 PACTOR
6815.5 UNID: 0707 USB Strong station, maybe CAMSPAC (but sounding sort of like CAMSAC) calling two trigraphs. (JH)
6815.6 10C 2159 USB passing position & flight ops to SHARK 07. At 22:08, SHARK 07 discussing flight plan with 10 CHARLIE. (MF2) H3J 1837 USB calling FOXTROT 6 GULF (MF2)
6816.2 5SM: Unid, MDG 0430 RTTY 100/400 test slip. (MS4)
6871 HEP7: Interpol Zürich? 1443 CW vvv vvv vvv de hep7 hep7 hep7 + (WP3)
6908.3 Unid: French Forces? 0359 ARQ-E3 200/342 Idling, no ID. (RB)
6933 the Cuban "atencion station" 0210 USB 5-digit Female numbers station, Spanish? Uno, Sinco, Quatro, etc. (GO)
6940.6 UNID: 0648 ARQ-M2 128.5/100 UNID (ED)
6963.7 RFLIGA: French Forces, Kourou, GUF 0547 ARQ-E 192/158 (assumed) idling, C.I. GAG logged here prior. (RB)
6976 RFFHCA: FF Ajaccio 1556 arq-e/192 (WP3)
6993 Air Force 2: 0218 USB inbound Andrews AFB, returning from Kyoto Japan, wkg Andrews VIP for pp into Waldorf, re: coming up on RF-4 out of Wright Patterson GEP. (JJ) SAM 206: C-20B tail 86-0206 1945 USB Special Air Mission VIP flt, wkg Andy VIP w/pp SAM COMMAND. (RB) SAM 230: 0017 USB checking Andrews radio here for new primary. (JJ) SAM 28000: 2030 USB on the ground at Andrews AFB, wkg Andrews VIP for signal checks in the clear, and ANDVT, prior to departure for Bosnia-Herzegovina. (JJ) SPAR 06: 0546 LSB wkg Andrews VIP re: LSB vs. USB signal quality. (JJ)
7364 Unid 1440 ARQ op chat in Spanish. (MS4)
7433.8 UNID 0553 ARQ-M2 128.5/100 In FDM w/ARQ-E 72/100 sig., idle. (ED)
7501.5 BLACKLIST: 2110 USB wkg unid. (JJ)
7535 AXI: Darwin Met 1520 FAX 120/576 part of chart showing NZ and cyclone symbol. (LC)
7552.1 WNFT417C, NTA (National Telecommunications Alliance), 1751 USB unknown location calling WNFT417, NTA, Washington, D.C., (JM)
7593 UNID 0955 RTTY 75/869 Unid Encrypted Tfc...(BC3)
7605 BRASSRAIL: 0016 USB clg SNAREDRUM. No joy. (Some kind of battle over this freq with a Spanish speaking station that keyed up with long test counts every time BRASS-RAIL transmitted.) (JJ)
7625 HZN24: Jeddah Radio Saudi Arabia 1945 RTTY 100/425 good strong signal with weather information. (EW) UNID: 1050 USB OM with " If we are still here in the morning mobilize the camera then go accross the line Horizon clear." (IJ)
7646 UNID: Possible Australian 4x4 Wheel Drive Club Station 0845 USB 2 OMs talking about 4x4 vehicles, GPS, Radios, Satellite phones & having a general chat. (IJ)
7690 37-AIR: 0530 USB wkg BLACKLIST with a status report. (JJ)
7710 MKK: RAF LONDON 1654 VFT// DCN isb 16 chan (8 per s/b) vft. (DW)
7711.2 MKK: RAF LONDON 1654 RTTY 50/340 Chan3 in vft. "ryi's figs qbf and test de MKK". (DW)
7784 KAWN: USAF AWS ? LOC 2119 RTTY 75/850 Met traffic. (DW)
7810 SOUD station 1300 RTTY 75/500 "LKF 4646 .. 11100 00031 ... " (note, 11100 not 11177) (JD2)
7816.2 BABJ: Beijing Meteo 1007 RTTY 75/850 ZCZC HWVI Sig IWERNOABJ 230900 AAXM 291 56671.. 5LGs. (BC3)
7831 NECKTIE: 0346 USB called NIGHTWATCH 01 with no response and moved back to Z175. (JH) OPAL RING: 1545 USB called NIGHTWATCH 01 and returned to Z175. (JH)
7831.6 UNID: 2146 ARQ-E3 48/400 Betas. No apparent tfc. (DW)
7841.7 RFFXI: FF, Bangui, CAF 2145 ARQ-E 96/425 cdv on XZI ct. (RM)
7860 MKD: RAF Akrotiri CYP 2220 PICCOLO-6 DE MKD LOLOLO INT ZBZ K (ML2)
7863.5 SPW: Warsaw R., POL 0100 ARQ & CW "de spw qsz 8406,0khz azim01" marker rptd. With each rpt, the nmbr after azim is increased by one, until azim12 is reached, then starts over again from azim01. Speed: 111 bpm. (RM)
7870 NAR: Saddlebunch Key, FL 1255 FAX 120/576 with NOAA aviation product - 1255 CONUS of USA "A" "B" "C" etc with tables. (LC) 7870 NAR: USN Saddlebunch Key, FL 0050 FAX 120/576 w/relayed NOAA aviation product.

(LC) RosAeroNavigatsia Rostov-na-Donu 1352 USB f op w/call Shpora wkg Torba (= Saratov). (MS) RosAeroNavigatsia Voronezh 1408 USB f op w/ call "Zadorny" wkg Shpora (= Rostov-na-Donu). (MS)

7880 DDK: Hamburg Met 1600 FAX 120/576 sfc anal with plotted data 1600z "BODENDRUCK". (LC)

7895.7 Unid: 0115 ARQ-E3 100/400 RQ sig. Logs in Vol. 3, Nr. 4 says "assumed" RFVI, Le Port, REU (96 baud) on 7895.3, while Vol. 3, Nr. 2 shows RFLI, Fort de France, MRT (96baud) on 7896.7. Must be one of these. (RM)

7964.2 Portugese Police 0323 ARQ telex in the clear. (ED)

7995 Vostok Station 0901 USB wkg Mac Weather Siple Dome wkg Mac Ops and Mac Weather. (JC4)

8013 MFA ROME 0832 RS-ARQ 228/170 Tfc in Italian (diplopress bulletin?). Tfc to/from AMBSARA (?) in Bosnia/Mostar ?. Single freq ops. 5bit. (DW)

8026 Air Force 2: 0740 USB checking Andrews here on secondary. (JJ) NAVY 476: 2345 USB wkg NAVY 496 for msg relay to Andrews VIP. Msg re: on the deck at 2345z. (JJ) NAVY 496: 2155 USB inbound Norfolk NAS, wkg Andrews VIP. (JJ) NAVY 515: 2200 USB inbound North Is. NAS, IDed as a "UP3A" aircraft, wkg Andrews VIP. (JJ) NAVY 676: 2300 USB wkg Andrews VIP for Andrews AFB wx. (JJ)

8034 UNID: Russian Telecom 0605 USB YL in RR (IJ)

8040 GFA23: Bracknell Met 1405 FAX 120/288 SST anal north atlantic. (LC) GFH23: Bracknell Meteo UK 1947 FAX 120/576 good signal with weather map (EW)

8047.3 Unid. 2227 PACTOR 200/200 Heard on sev. days. Sig. always weak and badly grbld each time monitored. Can't determine lang. due to grblng. Some wds in EE are those of a computer software menu. (RM)

8071.7 UNID 2310 PACTOR 200/170 GG msg, email sent to Berne from Trinidad and other locations. Unid station sending to Berne. (ED)

8074.5 Unid 0320 PICCOLO-6 2 ch idle. (MS4)

8075.5 Unid 0320 RTTY 144/200 2 ch VFT known as RUS-144. (MS4)

8080 NAVY 496: 0030 USB wkg NAVY 515 with informal air-to-air comms. (JJ)

8094.7 RFFVA: FAF, Paris, FRA 2211 ARQ-E3 200/400 RQ sig. (RM)

8122 BAF36: Beijing Meteo 1147 FAX 120/576 w/chart. Weak w/fading. (DW2) Canberra Control 1142 USB wkg WARRNAMBOOL: HMAS Warrnambool Fremantle-class Patrol Boat 204. (DW2) IPSWICH: HMAS Ipswich Fremantle-Class Patrol Boat 209 1148 USB wkg DARWIN Control. (DW2) RNP: 1135 USB wkg Canberra Control with tuning count. (DW2) TOBRUK: HMAS Tobruk L-50 1154 USB wkg Canberra Control. (DW2)

8137.7 BAE5 Beijing 1923 RTTY 50/400 Weak and garbled. (ED)

8151.2 HMF86: KCNA Pyongyang Korea 1020 RTTY 50/499 w/EE NX. (BC3)

8227 Unid: 2317 RTTY 75/170 Encrypted (RM)

8240 NRLT: USCGC Resolute (WMEC-620) 2036 USB wkg NMG, CommSta New Orleans, simplex here w/pp to District-8 (D-8 Op's). (RB)

8294 SEASHELL: 1200 USB clg SCOUNDREL. (DW2) WHU959: MARICOM, Foley, Al 2310 USB wkg unid mv. (DW2)

8297 AAEA: Unid vsl 2347 USB wkg ADNG for USAF GHFS freqs so she could perform pp's. (MS7) ADC2: Unid vsl 0226 USB clg ADMN. (MS7) WTX5709: Unid MV 1203 USB wkg unid coast station passing position report and status. (DW2)

8302.2 BAF: Beijing Meteo 1910 FAX 120/576 isobars chart. (MS4)

8302.5 Unid. 2325 Possibly CLOVER Not decodeable on W-4100. (RM)

8303.7 CONTROL USB wkg: KM / KA / KJ / KO and KL(all Navy vessels) w/ coord net. (AN)

8321 Unid: Dutch Warship 1700 RTTY 75/850 (ACF 64 headers) working PBC; this is "Channel 08A" (JD2)

8326.5 SHIP UNID 1102 ARQ Selcals XVSM. Two lots. No channel qrm. Ship channel for LFI on 8683.5 (DW)

8331.5 GYA: UK Naval, Northwood 1350 FAX 120/576 special data chart 4-panel "LAYER DEPTH" "CONVERGENCE ZONE" "MINIMUM... [AWFUL handwriting!]" and blank quadrant. (LC)

8337.5 R4R 2342 USB wkg D2C. Request that you remain in the area for apx 45 minutes. Small craft also in the area 1727N 7614W, spd 12.1kts, course 025. USN (?) SAR observed here in the past. (DW2)

8379.5 UULY: TKH Suren Spandaryan 0350 ARQ 6,551 DWT gen cargo vsl (Azov Shpg) w/AMVER like report tlx. (RB)

8381 P3FN7: M/V Super Aria 0354 ARQ 5,259 DWT dry cargo vsl w/tlx reporting bunkers status & arrivial Guayaquil, Guatemala. (RB)

8392 C6LC7: M/V Battersea Bridge 2208 ARQ w/AMVER/SP, vsl bound Houston to

Halifax, no info on her, login 61308 KRIV so app recent name chg. (RB)
8392.5 UBLY: TKH Kapitan E. Egorov 0239 ARQ 54,500 DWT Russian- flagged combination tanker, w/TG arrival at Port Boumont from master KM Fedor. (RB)UDGF: TKH N. Kontener 0103 ARQ (no prior info/ID on this vsl) w/DISP-1 report showing vsl in port at Dakar from master, KM Matvienko. (RB)
8393.5 URVV: BATM Meridian-1 0448 RTTY 50/170 w/RYRY/DE (no stn indicated) & into crew TG's home. (RB)
8394 P3JR4: M/V Agios Andreas 0144 USB 14,854 DWT dry cargo vsl, tlx to Piraeus reporting "full away" & ETA Curacao. (RB)
8394.5 URIF: BATM Aleksey Slobodchikov 0450 RTTY 50/170 Ukrainian large autonomous long range/endurance trawler, w/RYRY/DE to URL, Sevastopol Radio, & w/admin tfc to Sevastopol SGP Atlantik from master KM Inozemtsev. (RB)
8399.5 ESMD: RTMS Kormoran 2136 RTTY 50/170 Estonian-flagged Rybolovnyj Trauler Morilzhny Atlantik (RTMA), Fishing Trawler/ Freezer, Atlantic-class, w/TG's using combination of hull #/ name (RTMS 7535 Kormoran). (RB) UAZX: TR Izumrudnyj Bereg 2145 RTTY 50/170 Russian- flagged fish carrier w/RYRY/DE to UIW, & w/tfc to Murmansk, is ex-EKNB. (RB) UBCI: RTMKS Kurshkaya Kosa 0516 RTTY 50/170 Russian- flagged 3,977 DWT stern-ramped super trawler/freezer w/RYRY/DE to UIW, Kaliningrad Radio, & w/into crew TG's home. (RB) UHDX: TR Skalistyi Bereg 2110 RTTY 50/170 9,288 DWT reefer/fish carrier (REFTRANSFLOT) w/crew TG's. (RB)
8400 URMA: TKH Skvortsov-Stepanov 2039 RTTY 50/170 Ukrainian-flagged 7,428 DWT dry cargo vsl (Azov) w/RYRY/DE to USU, Mariupol Radio, then sending crew TG's, first part of name often abbreviated as "Skv-Stepanov". (RB) UWLY: TKH Avdeevka 2202 RTTY 50/170 Ukrainian-flagged 26,398 DWT bulk carrier (Azov) w/RYRY to USU, & into crew TG's. (RB)
8401.5 UBDC: TR Vil'hel'm Pik 2120 RTTY 50/170 Russian-flagged 8,351 DWT reefer (Sevrybkholodflot), w/RYRY/DE to UIW, K-grad, & into crew tfc to Murmansk. (RB)
8402.5 PWKA: Unid Brazilian warship 2247 RTTY 75/850 w/RY/SG's to PWR44, unid Brazilian naval stn, no joy after several mins. (RB)UWBS: RKTS Nikolay Fil'chenkov 0521 RTTY 50/170 Ukrainian-flagged 3,977 DWT Fishing trawler/freezer w/1 admin TG from master, KM Krech, & 1 crew TG home. (RB)
8404.5 ELUN5: M/V Powstaniec Listopadowy 0050 ARQ Liberian-flagged, Polish-crewed bulker w/tlx in Polish, login 43171 ELUN5. (RB)SQCY: M/S General Bem 2236 ARQ w/sc: QSKX (SPB: Szczecin Radio) and TGs. Login: 43230 SQCY. (DW2)
8407 UPAA: SS Umka 2119 RTTY 50/170 Samokhodnoe Sudno -SS, or "self-propelled" rather than "Steam Ship", offshore tug/supply ship, w/crew TG's home. (RB)
8412 N/A: Slandarsya? 2115 ARQ at least that was part of vsls name, fleet code was "UMF", no ID. (RB)
8425.5 WNU: Slidell rdo USA 2255 FEC tfc lst (MF3)
8427 9VG: Singapore Radio 1933 ARQ. (AB5)
8428 A9M: Bahrain Radio 1935 CW "DE A9M TLX". (AB5)
8428.5 PCH46: SCHEVENINGEN RADIO 0835 CW. Chan free marker "PCH" (DW)
8429 EAD: Madrid rdo E 2300 FEC tfc lst (MF3)
8430 9VG: Singapore Radio 1934 ARQ. (AB5)
8433 8PO: Barbados R. 0329 ARQ w/CW id and free idle. (DW2)
8435.5 OST: Oostende R. 0328 ARQ w/CW id and free idle. (DW2)
8448 A9M: Bahrain Radio 1937 CW "CQ DE A9M QSX" (AB5)
8452.5 HWN: French Navy Paris 1432 RTTY 75/850 faaa de hwn testing ryr sgs nnnn (WP3)
8453 HWN: French Navy, Paris Houilles 1140 RTTY 75/ Test Message (NN)
8457 OFJ: Helsinki Radio Finland 1147 CW good strong signal with cw marker. (EW)
8467.5 JJC: TOKYO RADIO 0909 FAX 60/576 Japanese News print. (DW)
8469.3 ZRH4: SAN SILVERMINE 2151 CW. Marker "de ZRH 4 6 8 12" (DW)
8470.9 ZRQ4: SAN SILVERMINE 2104 CW. Marker "vvv ZRQ2/3/4/5" (DW)
8473.5 A7D: DOHA RADIO 2107 CW. Marker "de A7D" (DW)
8474 A7D: Doha Radio 2009 CW "De A7D" (AB5)
8478.5 FUF: FN FORT DE FRANCE 2111 RTTY 75/850 Wkg French w/ship random csign "FL de FUF qrv kilo". Holds mark till 2124z "zui ton to est pas en

procedure otan"(NATO) and further op chat indicating ship op not complying with comm rules (DW)
8478.8 FUF: FF Ft de France 0439 rtty 75/834 Test slip (RH2)
8495 C: CISN BEACON 2314 CW. Marker "C" (DW)
8500 VTH4: IN MUMBAI 2318 RTTY 50/850 Tfc in offline encrypt then marker "VTH1/4/5/7 rbsl bnr ry's VTH1/4/5/7 rbsl bnr sg's" (bnr=Bombay Naval Radio) (DW)
8505 UFZ: Vladivostok Radio Russia 1158 CW good signal with station marker. (EW)
8510.7 RFFX: FF PARIS ? 2354 ARQ-E 96/400 8rc. Betas. No tfc. (DW)
8522 CBV: Playa Ancha Radio Chile 1003 CW fair signal not real clear. background interference. (EW)
8523.4 JOR: Nagasaki Radio Japan 0855 CW w/ CQ CQ JOR (IJ)
8538.3 6WW: FN Dakar 0444 rtty 75/850 Test Slip (RH2)
8568.5 XFM: Manzanillo Radio Mexico 1027 CW fair signal de xfm first mexican for a long time. overmodulated but definite id. (EW)
8571 JNA: JN Tokyo Japan 0900 CW with CQ CQ JNA (IJ)
8573 CLA: Havana Radio 2017 CW "CQ DE QSX". (AB5)
8577 HLO: Seoul Radio 2018 CW "CQ DE QSX" (AB5) HLO: Seoul Radio 2128 CW cq marker (vy QSB) (DM3)
8582.2 KLB: Seattle Radio 0040 CW "de KLB qsx 4 6 8 12 16 22 mhz". (CT)
8584 VRX: Hong Kong Radio China 0905 CW with VVV marker (IJ)
8598 OXZ: Lyngby Radio, Denmark 1150 CW (NN)
8600 Unid 1400 RTTY 75/815 lots of clear text EE, 1500 into FAX (probably station CKN: Comox Lazo B.C. They tend to switch on the hour to FAX, then back to RTTY around H+20. -DW2). (CT) XSV: Tianjin Radio 2020 CW "CQ DE QRU". (AB5)
8604 ZRH4: Ny Capetown 0400 RTTY 75/170 ry, naws. (CS2)
8605.1 ZRH: SAN Navcomcen Silvermine 0927 rtty 75/170 5LG's. First ever seen from ZRH ! Could be practice ! (RH2)
8622 PCH41: SCHEVENINGEN RADIO 0825 CW. Marker "de PCH41 8 k" (DW) PCH41: Scheveningen Radio, Netherlands 1155 CW (NN)
8623 5BA: Cyprus Radio 0540 CW cq-marker, qsw 8623/17013, qtc for UVKO/UYNW (DM3)
8624 XSW3: Guangzhou Radio China 0853 CW fair to weak signal. (EW)
8626 PKX2: Jakarta Radio Indonesia 1043 CW poor noisy signal with message to ship in unidentified language. (EW)
8632 XSW: Kaohsiung Radio 2128 CW cq marker (DM3)
8665 XSG: Shanghai Radio 2023 CW "CQ de QRU". (AB5) XSG: Shanghai Radio 2126 CW cq marker (DM3)
8677 VALPARAISO PLAYA ANCHA 2333 FAX Weak signal. Running 2325z scheduled 24 hr sfc prog but pix u/s (DW)
8682 EAD3: Madrid Radio Spain 1044 CW fair to weak signal but quite audible not as good as 12 mhz. (EW)
8683 UFJ: Rostov Radio 0530 CW cq-marker, qsw 3625/8683/13060, tfc list (new QRG, not listed in Spezial-Frequenzliste 96/97) (DM3)
8683.5 LFI: ROGALAND RADIO 1103 ARQ In sitor mode without text or betas appearing in apparent response to ship on 8326.5. Eventually changed to chan free marker (Globe) "LFI" with qso to ship. At 1651 CW. Chan free marker (Globe) "LFI" At 2010 CW. Chan free marker (Globe) "LFI" (DW)
8687 SVA4: ATHENS RADIO 2107 CW. Greek press. (DW)
8692.5 SVD4: ATHENS RADIO 2304 CW. Marker "SVD4" (DW)
8704 SVB4: ATHENS RADIO 2015 CW. Marker "de SVB3/4/5/6 qsx 12 ch4" Periodically increments band or channel (qsx ch4/5) (DW)
8706 JOS: Nagasaki Radio 2124 CW cq marker (DM3)
8737 Cyprus Radio: 1420 USB ID: This is Cyprus Radio, Radio Maritime Service, Ezo Kipros Radio.. (TK)
8822 Jeddah LDOC 1840 USB. (JC4)
8846 AA545 1958 NY/ARP LETON F350 NANCE 2020 (MP-JQ) (TO) AA70 2107 NY/ selcal check (JK-QS) (TO) AC968 2018 NY/ARP PISAX 17 F330 QSY SJU CTR 125.0 (TO) C-GNAZ 2125 NY/ARP DANER 20 F330 (TO) CO292 2028 NY/ARP est KRAFT 2040 F350 (ER-KL) (TO) CO702 2012 NY/ARP LAMER 2011 F310 (CF-AK) (TO) Coast Guard 1504 2056 NY/active SAR F260 est BACUS 2103 ODEAL 2125 (TO) Cubana 443 1945 AC-FL Wkg NY DEENO F370 (TO) DL210 2100 DL210 NY/off BDA in ten minutes selcal (HQ-CP) (TO) Delta 162 1841 HQ-CM Wkg NY for selcal (TO) EGY 1127 1942 Wkg NY QSY to 132.15 (TO) Fua'Amotu (Tonga) 1911 USB radio check with Nadi. (JC4) HLA 546 2007 Wkg NY LACKI F250 (TO) Hapag-Lloyd 602 2229 HL-AQ Wkg NY w/

oceanic clearance to EDDV (TO) Iberia 6171 1918 HL-BD NY/ARP PRISS F290 (TO) N16NK 1944 NY/selcal check on (FH-LM) (TO) N235HR 1932 CG-DK NY/ARP CRIBL 27 F370 (TO) N263S Wkg NY F430 est BERGH 2130 (JS-CK) (TO) N269DE 1832 Wkg NY at RIGNY F170 dest. was BDA (TO) N305CC 2016 NY/ARP SARJE F390 .74 (BQ-AP) (TO) N600LS 2035 LQ-AE Wkg NY BURRT F330 (TO) N656HC 1839 JS-AK Wkg NY 120 nms S of KRAFT on A300 F390 (TO) N900Q 1852 Wkg NY JAINS F430 (TO) Navy UE328 2004 NY/ARP est KATHY 2029 F240 3345N71W next (TO) RHET 23 1837 Wkg NY at MINOW F310 QSY w/Merit 128.2 (TO) SLR1888 2025 NY/ARP GRANN F310 27N60W-31N55W (CF-LS) (TO) Sun Country 875 1931 NY/ARP KRAFT F330. QSY SJU CTR 134.3 (TO) TSC567 1933 NY/ARP KRAFT F350 HOLMA-DOWNT (EG-KM) (TO) TW35 1929 NY/ARP est GRANN F310 (AF-GJ) (TO) TWA 149 2014 DJ-AL NY/ ARP RIGNY F390 (TO) US1892 2110 NY/ARP BROOM F350 (BR-GP) (TO)US2134 2031 NY/on A554 to CHAMP selcal check (PQ-FG) (TO) USAir 1844 1931 PQ-FJ NY/on A544 B737-400 N448US (TO) USAir 1844 2030 HR-GS Wkg NY KRAFT F310 (TO) Vava'u, Tonga 1943 USB wkg Nadi for traffic info Nauru 141 wkg Nadi cleared to descend Tarawa (Kiribati) (JC4) Windsor 973 2212 JR-AC Wkg NY at GRADY F330 new carrier Britannia GmbH 767-300 G-AGYA (TO)

8855 Frenchline 502C wkg Piarco at 10N48W F330 (BL-EG) (TO)

8861 Aeroflot 352 2114 Dakar/ARP RAKUD F370 .79 ETA Sal 2255 Il-96 EZE-Sal (TO) BLV-218 BellView 1917 USB Wkg Recife, FL350. (IB) Bamako Aero (MLI). 0752: USB: Wkg Dakar.(IB) Casablanca Aero (MRC). 0831 USB Wkg Canarias w/ r-chk.(IB) GTS-9002 GATS Air 2150 USB wkg Johannesburg. Requesting WX for Rabat, and Casablanca.Posn: on ground at Salvadore. (IB) GTS-9081 GATS Air 1654 USB Clg Dakar.(IB) Khabarovsk METEO 0716 USB yl with Wx info + full ID.(IB) Khabarovsk Volmet (RUS) 2317 USB sending wx in RR (DM3) Lae: PNG 0630 USB active but hard to ID flights Moresby Radio working Aussie 315 and 314. (JC4) SDM9908 2228 Sal/Sal actual wx and QSY 128.3 @ GADUN (TO)TZ-NLM. Unid. 0755 USB Wkg Dakar. (IB) United Nations-962 1604 USB Wkg Canarias. FL110. from Asmara to Tindouf (ALG).(IB) VASP 792 2138 Recife/ARP POLDA F330 .83 (DL-EH) (TO)

8864 Delta 19 1653 USB posn 59N40W wkg Gander. (JS3) Northwest 39 1652 USB wkg Gander. (JS3) Reach CI24 2059 Wkg Gander for KBGR and KDOV wx (TO) US Air 15 1652 USB wkg Gander. (JS3)

8867 GEMINI 7580 1833 USB working Brisbane. (JC4) Hawaiian 465 0650 SFO/ARP BEATS 48 F350 BANDY 0741 (TO) New Zealand 56 0626 SFO/ARP DUNEY F370 (DJ-GS) (TO) New Zealand 87 0933 Auckland/descending from F245 into Norfolk Is. (TO) New Zealand 87 0944 Auckland/rpting on the ground at Norfolk Island (TO) Qantas 44 0607 Auckland/ARP F350 (DK-EJ) (TO) United 842 0632 Auckland/freqs and selcal check (FG-EP) (TO) VH-BJD 0936 Auckland/at position GORDI? (TO)

8879 Bombay Control India 1148 USB Bombay control to qantas 201 position report. fair signal. (EW) Condor 196 1211 USB sc:LMBR wkg Gander. (JS3) F-WWFW Wkg Gander reporting maintaining F430 (TO) Monarc 059 1458 USB sc:CEBP wkg Seychelles. (JS3) Olympic 417 1648 USB sc:DLBE posn 58N30W wkg Gander. (JS3)

8888 Springbok 201 2042 Luanda/ARP ILGOL 41 F350 ETA Sal 0334 (TO)

8891 Baffin Radio, Iceland 0718 USB but plenty of crashing static. (JC4)

8894 5U-ABK UNID 0744 USB Wkg Niamey.(IB) 7T-VIA Air Algerie 0844 USB Wkg Algiers.(IB) 7T-VIL. UNID. 0749 USB Wkg Algiers & Bechar. (IB) 7T-VRS. Algerian VIP/ Gvmt. 1548 USB Wkg Algiers. (IB) 7T-VRV. Air Algerie. 0734 USB Wkg Algiers.(IB) 7T-WHE. Air Algerie. 0807 USB Wkg Algiers.(IB) 7T-WIA. UNID (poss AirAlgerie). 0803 USB Wkg Bechar.(IB) 7T-WIC UNID 0823 USB Wkg Algiers.(IB) Aeroflot-435 0722 USB Wkg Algiers. Regn: RA86523 IL76.(IB) Gao Aero. (MLI). 0719 USB Wkg Niamey. (good readable).(IB) HB-IAI 2302 Algiers/ARP BAY 56 F390 Paris-Libreville (AC-JK) (TO) KLM 590 2343 Niamey/ARP APERO F330 (ER-DL) (TO) MKA101 2300 Algiers/ARP GHA 57 F330 EGSS-Kano; 3D-ADV D8F (BL-FM) (TO) RCN-103 Race Cargo 0727 USB Wkg Niamey. FL330.(IB) RTP-303 UNID 0819 USB Wkg Niamey.(IB) Speedbird 57 2334 Niamey/ARP F330 est IKTAV 2352 (BP-AH) (TO) TF-JMC Zimex. 0745 USB Wkg Algiers. (IB) Tamanrasset 0638 USB in EE and FF. (JC4) Tindouf Aero. (ALG). 0743 USB Wkg Adrar Aero.(IB) United Nations-354. 0730 USB Wkg Niamey & Wkg Gao. from Bamako to Gao.(IB)

8903 3X-GCB. Air Guinee. 1706 USB Wkg Kano. route: Douala to Kano.(IB)

5N-FGO. VIP/Gvmt 1703 USB Wkg Kano.(IB) 5X-JET DasAir-410. 1940 USB Wkg Niamey.(IB) 7P-ANB UNID 1735 USB Wkg N`djamena. FL260. (IB) AAB-31T Abelag Aviation 2204 USB Wkg N`djamena. FL390.(IB) ADB3697 2154 Bangui/ARP dep Libreville 38 ETA Bangui 2310 AEL 570 2125 clg Niamey here no joy (TO) ALX 805 2159 Kinshasa/ARPJNB-Kinshasa F290 req F310 ETA 2335 (TO) ANI-606. Air Atlantic Cargo 2204 USB Wkg Kinshasa.(IB) ASG-832 Air Service, Ukraine 1743 USB Wkg Lreville.(IB) Aeroflot 412 2038 NDJ/ARP TENTU F330 very muddy mod on xmsn (TO) Air France 6591 2305 N'djamena/ARP enroute Libreville-Nairobi F330 DEREP (TO) Air France 843 2129 Kano/off Douala 2121 F130 climbing (BM-GR) (TO) Air France 993 2110 Kin/ARP/LUB F350; 744 F-GITE (TO) Air Gabon 139 2129 Kano/ARP AMKOR F410 VH-??? (TO) Air Gabon 606 2313 Kano/Libreville-Marseille F350; 747 F-ODJG Air Maroc 280 2240 Luanda/ARP ANVAG 40 JNB-Abidjan (AE-BP) Air Portugal 238 2116 Luanda/ARP VUE 2116 F350 KILBI 34 UVAGO (TO) Alitalia 837 2227 Kin/ARP LUB F310; MD11 I-DUPI Angola 511 2130 Luanda/Sao Tome-Luanda F310 (BF-HM) (TO) Angola 521B 2250 Luanda/ARP totally blocked by Kinshasa! :-(Angola 658 2316 Luanda/att. QSY w/Brazza, no joy; D2-TEA 743 Austrian 532 2115 Kinshasa/ARP o/h LUB F310 KIBRO next A340 OE-LAK (TO) Camair 076 2310 Kano/climb to F310 approved; 747 TJ-ACB Camair 28 0010 N'djamena/ARP enroute Douala-Garoua to F330 a/b Douala 2345 est KABRI 0015 AGROD 0030 ETA 0047. Nonsked flight perhaps gov't charter? (TO) Camair 5709 2134 Kano/F290 abm HK 2133 (TO) Cedar Jet 664 2034 NDJ/ARP BOSSA F350 enroute Beirut-Abidjan (TO) D2-FAV Air Nacoia 1733 USB Wkg Luanda. B707.(IB) Dar es Salaam Aero. 1903 USB Wkg Entebbe. (IB) EAN 024 2216 N'djamena/ARP F310 est GNA 2256. B707F ST-AMF (TO) EZR-722 Zaire Airlines 2032 USB Wkg N`djamena. Regn:9G-MKF FL390.(IB) Entebbe R. 2135 Tfc rpt to Kinshasa re: ET9951 (TO) Ethiopian 950 2314 Kano/ ARP F350 est AMKOR 2322 (CM-AK) Ethiopian 9951 2147 Kin/ARP F280-F350 GAMOR; 707F 5X-JEF FTC-102 UNID 1623 USB Wkg N`djamena.(IB) Ghana 671 2315 Luanda ARP VUE 2312 F350 (TO) HTT 4008 2336 N'djamena/ARP enroute Jeddah-Kano est GNA 2356 F310 (TO) KLM 588 2157 Kano/dep Lagos est BD 2211 F370 (GM-DS) (TO) KLM 594 2115 Kin/ARP KIN 14 F350 (KL-JP) (TO) KLM 594 2137 Luanda/clg Brazzaville but getting Luanda who stated that "Brazzaville is now unserviceable." ARP LIKAD 2136 F350 QSY 126.5 Libreville CTL (TO) KLM 598 2054 Luanda ARP/CV F310 KU 2118 (EH-BL) (TO) KOGAN 2346 2304 MPK 0006 then UA609 DC8F reg. LX-TLA (TO) LAZ 598 2319 NDJ/ARP KIRBO F370 ETSAM 2332 (TO) LRE-6144 Lasare Air 1606 USB Wkg Bangui. Regn: 4L-11304.(IB) Lufthansa 573 2153 Kin/ARP KIBRO F350; 744 D-ABVF (TO) Lufthansa 597 2111 Luanda/selcal check (CM-LS); A340 D-AIGH (TO) Mozambique 706 2318 Kin/ARP a/b Maputo 2116 F310 (CD-EG) Nacoia 197 2139 Luanda/ARP Kuito 39 F270 Cuito Canavale 2215 AGRAM (TO) Namibia 663 2132 NDJ/ARP o/h Kinshasa 32 F350 TIVAL 49; 74L V5-SPF (TO) RAN-556 Renan of Moldova. 1552 USB Wkg N`djamena/ Bangui. FL250. from Bangui to Khartoum. (IB) Reach 7P1 2157 Luanda/ARP est KU 2157 F330 ETA Harare 2245 (TO) SAO TOME AERO 2048 USB Wkg Kinshasa.(IB) SBZ 017 2230 Bangui/ARP MBA 2230 F290 MPK 2253 BOSSA 2307 RULDO 2319 enroute Kinshasa-Algiers-Ostende; reg. 9Q-CBW 707-320C (TO) SMB-746 Simba Air Cargo 1734 USB Wkg Kinshasa route- Kinshasa to Johannesburg.(IB) Sabena 516 2114 Kano/ARP SEPER F350 PT 25 (TO) Sabena 551 2323 N'djamena/ARP F330 est GARIN 2340 743 OO-SGD (TO) Sabena 552 2335 Luanda/ARP VUE 33 F310; 743 OO-SGC Sabena 554 2302 Luanda/ARP w/full routing on UB733; 743 OO-SGD (TO) Sabena 571 2334 NDJ/ARP F350 NBO-BRU; A330 OO-SFO (DR-A?) Speedbird 2066 2113 Kin/ARP BUN 2112 F310 climbing F350; DC10 G-MULL Kin=Kinshasa Radio DEM REP CONGO (TO) Speedbird 54 2254 Kin/ARP TENKA 52 F350; 744 G-BNLS (TO) Speedbird 56 2123 Kinshasa/ARP PISPA 2123 F310 TENKA 30 G-BNLZ 744 (TO) Speedbird 56 2217 Kin/ARP est UGDUS 2227 F310; 744 G-CIVC Springbok 201 2113 Luanda/ARP ETA Sal 0420 (CQ-AS) (TO) Springbok 212 2249 Luanda/ARP F310 est CV 2309; ZS-SAL 747 Springbok 222 2112 Luanda/ ARP est ANVAG F310; 743 ZS-SAC (TO) Springbok 222 2122 Luanda/ARP est AGRAM 2139 CV 2208 VNA 2310 747 ZS-SAC (TO) Springbok 232 2140 Luanda/ARP ANVAG 2141 (FH-GM) (TO) Springbok 234 2118 Luanda/ARP est AGRAM 2121 F310 (FH-GM) (TO) Springbok 238 2120 Luanda/ARP est AGRAM 2127 CV 2144 (AB-JL) (TO) Springbok 238 2146 Luanda/ARP CV 45 F310; 744 ZS-SAZ (TO) Springbok 242 2219 Kin/ARP F350 RUNGO 2218; 747 ZS-SAJ (TO) Springbok 248 2143 Kin/ARP LUB F310; 74L ZS-SPE (TO) Springbok 252 2151 Kinshasa/ARP LUB 2149 F310 RUNGO 2209 743 ZS-SAP

(TO) Springbok 256 2229 Kin/ARP F390 KIBRO 2227; 74L ZS-SPE (TO) Sudan 422 2119 NDJ/F310 req N'djamena wx; A310 F-OGYX (TO) Swissair 277 2128 NDJ/ARP TJR 2127 F350; MD11 HB-IWG (TO) Swissair 284 0006 N'djamena/ARP GARIN 05 F290 ILDOR 0019 (AF-JQ) (TO) Swissair 285 2111 Kin/est LUB 2119 F280; MD11 HB-IWK (TO) Swissair 285 2123 Lubumbashi/ ARP KIBRO 2123 F350 (AF-KQ) (TO) Swissair 286 2306 NDJ/ARP est GARIN 30 F330 ILDOR 2344 (MS-DE) (TO) Swissair 287 2118 Kinshasa/ARP LUB 2105 F350 MD11 HB-IWD (TO) Swissair 287 2126 Kin/ARP KIBRO F310 (AF-LQ); MD11 HB-IWD (TO) TJ-CBB Camair 3801 2049 USB Wkg Kano. Departed Cotonou & Climbing FL330. P.O.B- 3 crew. B737. (IB) TL-ABZ MINAIR 1646 USB Wkg Bangui.(IB) TT-AAK Air Chad 0727 USB Wkg N`djamena.(IB) ZS-MTD 2031 Luanda/ARP F430 est UVAMO 2047 QSY 118.5 now (TO) Zimbabwe 724 2202 Kin/ARP F350 HRE-LGW; 767 Z-WPE Zimbabwe 725 2359 Bangui/ARP est RULDO 0153 ETA Harare 0530 767 Z-WPE (TO)

8906 New York (NAT-A MWARA) 2218 USB wkg NAVY JS940, USN Navy C-9B Skytrain of Fleet Logistic Support Wing VR-46, "Peach Airlines", at NAS Atlanta, Ga (unk bureau number) for ATC clearance to LPLA. (RB) Speedbird Concorde 1 1213 USB sc:BDCM reporting FL510&climbing to Gander. (JS3)

8909 Bombay Control India 1132 USB Bombay control to unidentified aircraft. distorted signal. (EW)

8913 3B-GTI 2125 Lubumbashi/QSY from 8903 but very weak (TO)

8933 Cedar Rapids Radio: with Connie 818 0610 USB for PP to Operations (IJ) Springbok 056 2104 JNB LDOC/ops norm F410 MNV 2103 (TO) Springbok 232 2100 JNB LDOC/ops norm F290 UVAMO F290 (TO) UPS 1581 2130 CF-HQ NY ARINC/rerouted due to JAX CTR shutdown-to ATL via R763-TASTE-JAINS-dir METTA-CHS-SINCA SINCA3 arrival-F350 (TO)

8942 Boss 71 0407 USB SIN posrep @ADMOK formation flight in the block 330-350 TOMAN next (RO) Cathay 777 0520 USB FR?? SIN posrep @ESNAG F280 req higher (RO) Dynasti 665 0426 USB SIN posrep F310 (RO) Dynasti 679 0421 USB HLBE SIN posrep @KALDO (RO) Dynasty 661 0419 USB BDAN SIN posrep @MAARI (RO) Eva 285 0430 USB KMAQ SIN posrep maintain F350 due traffic (RO) Hong Kong Radio 1158-1218 wkg various flights such as SQ868, AN888, SQ2, and MH69, peaking around 1207 and beginning fade by 1218 (TO) Indonesia 874 0416 USB HKG posrep @SUKAR (RO) Malaysia 2643 0427 USB MQBK SIN posrep @DODRO F280 MEVAS next from Kinabalu to K.Lumpur (RO) Malaysia 87 0415 USB DMRS SIN F330 mach .74 selcal check (RO) Merpati 910 0454 USB SIN @GOBIK F240 squawk 5110 from Pontianak to Singapore ETA 0545. (RO) Philipine 502 0424 USB SIN posrep and guard change to Manila (RO) Singapore 981 0456 USB SIN @MAARI selcal check (RO) Thai 431 0459 USB ?JFK SIN posrep @MOSLA selcal check (RO) Vietnam 741 0437 USB SIN posrep @AGUPI FL350 endurance 2H45 req decend to F280 due to aircon failure. (RO)

8968 OVERFLOW: 0319 USB worked THULE and placed a pp to COMMAND CENTER. OVERFLOW passed an immediate precedence message of ten 3-element groups with a datetime group of 170050z Dec 97, received COMMAND CENTER's RL Base 2137 USB wkg Andrews re a problem on their end, will try experiment again tomorrow. (RB) SHUCK 93 USB wkg: Lajes w/ pp Lakenheath CP. (AN) STEAMBOAT: 1640 USB bcst a 26-character EAM (JVQOIV..). As with his earlier xmsn on 9016.0 he read the preamble three times but read the string only once and then signed off. Simulcast on 15016.0. (JH) TOR and opr "chop" (initials) and was gone. (JH)

8971 CARDFILE 0713 1918 USB calling QUEBEC 6 ROMEO and requesting they switch green. (MF2) RED LANCER 08: 1905 USB requests BLUESTAR relay their ETA to HOMEPLATE. (MF2)

8974 Air Force Syndey 1150 USB wkg unid a/c. (DW2)

8983 Air Force Rescue 33 1544 USB clg Coast Guard Rescue 1719... CG RES 1719 is busy in comms with Miami and Camslant...no connection made. CG RES 1719 clg AF RES 833 (The AF drops the "8") (JC5) Air Force Rescue 33: 1544 USB clg Coast Guard Rescue 1719, CG RES 1719 is busy in comms with Miami and Camslant...no connection made. CG RES 1719 clg AF RES 833 (The AF drops the "8") (JC5) CG RESCUE 1719 1538 USB wkg Camslant and Miami Ops w/ report that the hoist basket rescue operation is not succeeding due to excessive winds. They will request each crew member from the distressed vessel jump into the water one at a time to effect hoist from the water. (JC5) CG RESCUE 1719: 1538 USB wkg Camslant and Miami Ops w/ report that the hoist basket rescue operation is not succeeding due to excessive winds. They will request

each crew member from the distressed vessel jump into the water one at a time to effect hoist from the water. (JC5) CG1502 2124 USB securing guard w\CAMSLANT while on approach to Elizabeth City (MF2) Victor 9 Quebec 1548z USB wkg CG RES 1719 for position of SAR vessel to pass to Air Force RESCUE 231. Position is: 28.28N 075.46W w/ Seas at 20-30 feet`and wind at 30-50 knots. (JC5) Victor 9 Quebec: 1548 USB wkg CG RES 1719 for position of SAR vessel to pass to Air Force RESCUE 231. Position is: 28.28N 075.46W w/ Seas at 20-30 feet`and wind at 30-50 knotts. (JC5)

8992 UNID 1902 USB wkg PP for OTIS 05 to DSN#582-3800-OTIS OPS (MF2)

8998 INDIA 2000 0256 USSB gives 60° South position to MAC CENTRE. (JC4) INDIA 2000 from Terra Nova Bay dest Christchurch wkg McMurdo XD-03 advising Siple Dome they will be on deck in less than an hour XD-07 off deck report to McMurdo destination South Pole Skier 92 working Mac Centre postion Pole One est Kalva 0846, est Christchurch 1530, 9+48, cargo 2388lb, mail 0, pax 25,crew 10, est PSR 1225, est ETP 1148, est 60° South 1200. (JC4) KIWI 377 0151 USB with off deck to MAC CENTRE "Departed Christchurch 2317, f/l 250, est. DALOS 0251, McMURDO 0638, ETP 0311, PSR 0410, cargo 26900 lb, negative mail, endurance 7+20, 0 pax, 8 crew. (JC4) KIWI 411 0007 USB with off deck report to MAC CENTRE. Dpt NZCH 2114, f/l 280, NZCM 0415, ETP 0041, PSR 0122, DALOS 0122, cargo 25600 lb, endurance 9+57, 8 pax, 8 crew. (JC4) KIWI 411 2330 USB and KIWI 396 discussing PSR forecast. (JC4) Navy XD-03 0758 USB working Mac Centre and requesting wx for Mac Town around 0900. (JC4) Navy XD-07 0956 USB wkg Mac Centre--07 is off McMurdo 0950, climbing to the block 200/250, Pole One first point 1017, destination South Pole 1245, 11+30, 500 cargo, 0 mail, 1 pax, 8 crew. (JC4) SKIER 94 0214 USB gives DALOS position and Christchurch off-deck to McMURDO. (JC4) XD-02 0845 USB off deck McMURDO 0841 destination SOUTH POLE 1135, 8+30, 24393 lb cargo, 101 lb mail 0 pax. (JC4) XD-02 0906 USB off deck report to McMurdo "off deck McMurdo 0851 est Siple Dome 1042 " 2131 SKIER 94 wkg Auckland "Off deck Christchurch est 60° S 0132". (JC4) XD-02 0938 USB off deck SOUTH POLE destination MCMURDO 1234, 0 mail, 0 pax, 8 crew, endurance 4+30. (JC4)

9006.7 Egyptian Diplo unid embassy 2345 ARQ 100/425 w/ATU-80 tfc. (RB)

9014 DARKSTAR MIKE: 1942 USB called RAYMOND 07 with no response. (JH)

9016 01's response. At 1558z POTLUCK called NIGHTWATCH 01. (JH) At 0433z NIGHTWATCH 01 called LEGBRACE. (JH) At 1520z WAR 46 MOBILE worked NIGHTWATCH 01 for a signal check. At 1524z MCCLELLAN was active on freq using as a GHFS discrete. (JH) IMPURITY: 0250 USB worked NIGHTWATCH 01. At 0413z IMPURITY called NIGHTWATCH 01 for a radio check. At 0416z NIGHTWATCH 01 called IMPURITY in response to the 0413z call. At 0417z IMPURITY called and raised NIGHTWATCH 01 for a radio check. At 1533z SKIBOOT called MACDILL. At 1535z MACDILL called SKIBOOT. At 1536z MACDILL worked SKIBOOT and kept advising SKIBOOT that SKIBOOT was off frequency. (JH) JONATHAN: 1546 USB worked NIGHTWATCH 01 and passed a WR.. EAM to NW01. At 1558z WAR 46 worked NIGHTWATCH 01. At 1606z TAMPA TIM worked NIGHTWATCH 01 and moved to Z160. At 1701z JONATHAN called TAMPA TIM for a signal check. At 1716z TAMPA TIM worked JONATHAN in clear voice and ANDVT. At 1719z TAMPA TIM called NIGHTWATCH 01. At 1725z the freq lit up with data tones. At 1740z TAMPA TIM called and worked NIGHTWATCH 01 and moved to Z190; NIGHTWATCH01 used Z190 and Z175 as EAM simul-cast freqs. At 2030z WAR 46 called NIGHTWATCH 01. (JH) LASTSTAND: 2310 USB wkg NIGHTWATCH 01 for comms checks while NW 01 also in comms with Andrews VIP on 11053. (JJ) NIGHTWATCH 01: 0259 USB worked TOPKICK. At 0434z TOPKICK called SHERIDAN. At 0651z NIGHTWATCH bcst a 26-character EAM (X5ZK7J..). At 1526z TOPKICK called and raised NIGHTWATCH 01 but did not hear NIGHTWATCH 01's response. At 1558z POTLUCK called NIGHTWATCH 01. (JH) NIGHTWATCH 01: 0412 USB worked LEGBRACE and set Z150 as primary and Z175 as secondary net freqs. AT 0418z NIGHTWATCH 01 worked LEGBRACE and moved him to Z205. At 0422z NIGHTWATCH 01 called LEGBRACE. At 0433z NIGHTWATCH 01 called LEGBRACE. (JH) NIGHTWATCH 01: 1408 USB worked NEWSCAST and set Z175 as pri. and Z165 as sec. At 1457z WAR 46 MOBILE worked WAR 46. At 1501z WAR 46 MOBILE called NIGHTWATCH 01 for a signal check. At 1520z WAR 46 MOBILE worked NIGHTWATCH 01 for a signal check. At 1524z MCCLELLAN was active on freq using as a GHFS discrete. (JH)

NIGHTWATCH 01: 1606 USB called UMBRELLA. (JH) NIGHTWATCH 01: 1827 USB called OILCHANGE. At 1836z NIGHTWATCH 01 worked "52" (FIVE TWO; missed the prefix if any) and then worked WAR 46. At 1854z NIGHTWATCH 01 worked OIL TANK (not OILCHANGE) and into the challange process. (JH) NIGHTWATCH 01: 2335 USB called and raised WAR 46 for a signal check and then moved him to Z135. (JH) RHETORIC: 1645 USB called NIGHTWATCH 01. (JH) SALESMAN: 2301 USB called NIGHTWATCH 01. At 2302z NIGHTWATCH 01 worked SALESMAN. At 2316z NIGHTWATCH 01 worked WAR 46 for a radio check. (JH) Unid station: 0521 USB (good level; missed id) with "meet you on triple one eight one" (nothing heard here on 11181.0). (JH) WAR 46: 0159 USB called NIGHTWATCH 01. At 0407z WAR 46 called NIGHTWATCH 01 for a radio check. (JH) WAR 46: 1421 USB called NIGHTWATCH 01. At 2232z NIGHTWATCH 01 worked WAR 46. At 2357z WAR 46 called NIGHTWATCH 01 with no response (but came up at 0004z on 6757.0) (JH) WINTHRUP: 0904 USB called and raised NIGHTWATCH 01 and entered the net. At 0910z WINTHRUP worked NIGHTWATCH 01 in ANDVT, and at 0912z requested a data check with NIGHTWATCH 01. (JH)

9017 ANDREWS: 1858 USB with short test counts and calls to SAM 375. Same at 1903z. (JH)

9018 GASER 91: 0317 USB called GASER 92. (JH) GASER 95: 0314 USB worked GASER 94. (JH) SOTO 91: 1610 USB called SOTO 92 "on company hotel fox". At 1620z SOTO 91 worked SOTO 92. At 1629z info was passed re take-off at 1625z, and the use of 13206(.0) for PLANTATION OPS. At 1720z GASER 91 worked GASER 92, and a number of freqs were passed such as 138.45 (mhz). (JH)

9021 BLUE CRAB 0259 USB+encr calling/wkng HUNTRESS, OKIE SAM, and DEERHUNTER with clear and encrypted voice running repeated radio checks. Encryption was frequency hopping (short burst of data, then slow hops (6-8 hops/second), ending with another short burst of data. Very strong signals here. BLUE CRAB announced frequency as 9023 (DM4)

9023 Unid: 2110 USB clg MAINSAIL. Probably on wrong freq. (DW2) Unid: 2300 USB w/PARKHILL enciphered speech transmissions. (DW2)

9031 RAFAIR 1C07(RAF Canberra) USB wkg: ARCHITECT. (AN)

9041 5YE Nairobi Meteo KEN 2320 RTTY 100/850 test tape (MF3) 5YE: Nairobi Meteo Kenya 1948 RTTY 100/850 good strong signal with weather information. (EW)

9045 5YE: Nairobi Meteo Kenya 1948 FAX 120/576 good signal with weather map (EW)

9050.2 AOK: USN Rota, ESP 0015 FAX 120/576 FSME1 LERT "NAVMETEUROCEN ROTA, SPAIN FSME". (LC) AOK: USN Rota, ESP 0015 FAX 120/576 FSME LERT e. atlantic/med. (LC)

9065.5 SAAFTC: Unid 0604 ARQ-M2 96/85 test slip,foxes, ry de SAAFTC. (MS4)

9102.7 Egyptian Emb Khartoum SDN 2240 ARQ ATU msgs & 5LGs (ML2)

9113 GYU: Gibraltar 2309 PICCOLO-6 operator msg. with two other data channels (ED)

9113.7 MFA Cairo 1611 ARQ tfc a + selcall qqtq (WP3)

9120 SAM 971: 0726 USB DV-2 + 36, inbound Roosevelt Roads NS, wkg Andrews VIP for a signal check. (JJ)

9121.7 EGYPTIAN EMB WASHINGTON 2013 ARQ Tfc to MFA Cairo in 5 ltr offline encrypt. This freq refered by Cairo as 9120 (J2B) ie has 1700hz offset. Paired with 9220(J2b). jg lkzgcg (fm Washington). (DW)

9138.5 Unid: 0335 PICCOLO-6 3 ch, idle. (MS4)

9166.7 MFA Cairo 1540 ARQ tfc a + selcall qqtq (WP3)

9178 HBD20: MFA Berne Switzerland 0730 ARQ with 5Lgs (IJ)

9190 UNID: North Africa/Middle East Station 0615 USB OM in AA talking as if he were an auctioneer. The only word I could make out as every so often he would repeat the word 'ONE WUHAD' (IJ)

9202 UNID 1940 ROU-FEC 164.5/400 encrypted (ED)

9221.7 MFA CAIRO 2003 ARQ Selcals RCVB with mark between bursts. Changes to fec calls thenRCVB (Washington) in ARQ. Indication qsx 9120 khz (0219 repeated/reversed.) (DW)

9249.1 unid: 1122 arq-e/46(!) idle qrt: (WP3)

9265 ZRH: Capetown 1915 RTTY 75/170 ry's and foxes (ED)

9265.5 Unid 0410 PICCOLO-6 1 ch, idle. (MS4)

9809 OPAL RING: 1540 USB called NIGHTWATCH 01 with no response and returned to Z175. (JH)

9929 CIA number sta 1403 USB EE 748 1234567890 tones count 211 3/2FG's. //9958//12197. (CT)

9970 JMH: TOKYO MET 0738 FAX Chart with lettered table. Unable to determine underlying area. Possible Japan coastline. FWxx followed by typhoon forecast (heading for N Phillipines (DW)

10055.5 ETD3: Addis Ababa Air ETH 2250 RTTY 50/300 AFTN tfc & wx to 5YD Nairobi on cct VKA; as freq varied 1-2 khz and same tfc, on same cct, txed simultaneously on 9873.5, spurious emmission (ML2)

10072 Speedbird London 1006 USB giving Heathrow situation to unid flight. (JC4) UNID: Presumed Noumea New Caledonia. Dispatch with Air Caledonie 140 2200 w/ WX for Norfolk Island & Brisbane (IJ)

10100.8 DDK9: Hamburg Meteo 1715 RTTY 50/450 wx. (CS2)

10117 Beijing Meteo 0520 FAX 120/576 wx chart(poor) (TD2)

10192.5 DRAF:GNS Molders 1458 USB wkg DHJ59 +RATT150Bd (RP3) DRAR: FGS Niedersachsen (F-208) 1913 USB German Navy frigate wkg DHJ59 w/RTTY coordination. (RB)

10204 NIGHTWATCH 01 1554 USB w/JV-series EAM. (bc2) NIGHTWATCH 01: 1741 USB worked TAMPA TIM for two-tone data work. At 1949z NIGHTWATCH 01 bcst a 26-character EAM (WRSGFT..) and simulcast same on 9016.0. At 2021z NIGHTWATCH 01 called TAMPA TIM. At 2039z NIGHTWATCH 01 bcst a 26-char EAM (WRKRU4..) and simulcast same on 9016.0. (JH) PAN BREAD 2310 USB calling NIGHTWATCH for signal check, DOGPATCH comes up and informs him that NIGHTWATCH 01 is monitor-only for 30 minutes. DOGPATCH then requests to be checked in to the net, and PAN BREAD authenticates him. Freqs are given as Z190 primary, Z175 secondary, and only players active are PAN BREAD, DOGPATCH and NIGHTWATCH 01. (bc2) 10204 WAR 46: 0012 USB called NIGHTWATCH 01. (JH) WAR 46: 2259 USB called NIGHTWATCH 01 for a radio check. At 2310z PAN BREAD called NIGHTWATCH 01. At 2312z PAN BREAD worked DOG PATCH. At 2346z PANBREAD bcst a 26-character EAM (JVKDIO..). (JH)

10205 SAM 201: 0009 USB wkg Andrews VIP for pp to CSL Command Post. (JJ)

10213 CNM29: MAP News Agency Morocco 1047 RTTY 50/425 arabic news to east europe poor and noisy. (EW)

10233.5 MKK: RAF Bampton, G 1000 Piccolo-6 working MTS (Mt Pleasant) on 11514 kHz (JD2)

10253 NPN: USNy Agana, GUM 1230 FAX 120 pic at 1230 labeled "product not available", at 1245 "surface pressure". (CS2)

10284.6 Unid: 1330 RTTY 75/85 encrypted tfc. (MS4)

10285.9 Unid: 1335 RTTY 75/85 encrypted tfc. (MS4)

10286.3 Unid: 1340 RTTY 75/85 encrypted tfc. (MS4)

10393.7 RFFVAEA: FAF Alysse 1550 ARQ-E3 200/360 5LG's to RFFTC FAF Istres. (MS4)

10394.5 MKD: Akrotiri 2336 PICCOLO-6 operators coordinating comms. (ED)

10400.9 Unid: 1053 81-81 81/500 strong encrpted signal (EW)

10412 SA,7B: Tongan Defence Force 2030 2 OMs in Tongan (IJ)

10414 UNID: 1938 RTTY 75/400 Encrypted after "txtxtx" (ED)

10493 Coast Guard Cutter Vigilant at 1830 USB NECN check-ins with WGY912, FEMA, Berryville, VA as net control (JM) DLA309, Defense Logistics Agency, Battle Creek, MI at 1801 USB NECN check-ins with WGY912, FEMA, Berryville, VA as net control (JM) KCP413, Possible FEMA Urban Search and Rescue Team at Beverly, MA at 1751 USB NECN check-ins with WGY912, FEMA, Berryville, VA as net control (JM) KPC313, FEMA Maryland Task Force 1 (Urban Search & Rescue Team), Rockville, MD USB at 1927 for NECN check-in. (JM) STRAT ABBIN CAP (phonetically) 1737 USB checking into FEMA's NECN exercise WGY912, FEMA net control at Berryville, VA had no idea who this was, but requested agency and zip code. Station came back with "this is the Looking Glass" and passed a 68113 zip code. STRAT ABBIN CAP taken as a phonetic. WGY920 Unit 15, FEMA, unid location at 1741 USB NECN check-ins with WGY912, FEMA, Berry-ville, VA as net control (JM) WWJ85, FHWA, Ames, IA at 1731 USB NECN check-ins with WGY912, FEMA, Berryville, VA as net control (JM)

10522.7 Unid 2020 FAX 120/576 USCG style chart. (MS4)

10542 AOK: USNy Rota, E 1015 FAX 120/576 300 hPa forecast, //9050. (KB)

10586 SAM 971: 0126 USB DV-2 + 36, inbound Cape Verde, wkg Andrews VIP for pp to JetPlan re: possible alternate flight plans into Norfolk NAS, Langley AFB,Roosevelt Roads NS, and other locations, due to wx at Bermuda. (JJ)

10586.5 WWJ82, FHWA, Grand Island, 1720 USB NE trying to raise KGD34, NCC, Arlington, VA, (JM)

10626 unid: 0957 arq-e/184 8rpt idle (WP3)

10658 GYU: RN Gibraltar 2330 PICCOLO-6 svc msgs to unid (ML2)
10676.5 UNID: 0115 ANDVT comms. (JJ)
10720 Unid: 1027 UNID 75/850 strong encrypted system. sends yyyyyyyyyyyyyyy between messages. (EW)
10726.5 P6Z: MFA Paris 0759 fec-a/192 5l + f to w5e and others (WP3)
10765.3 BAF: Beijing Meteo 0230 FAX 120/576 AUAN80? isobars chart of Far East. (MS4)
10780 KING 1: USAF HC-130 aero-rescue a/c 1814 USB wkg Cape Radio for net primary (5180) for launch of STS-87. (RB)
10891 AAR2USV, US Army MARS, North Syracuse, NY 1837 USB with SHARES tfc for WWJ82, FHWA, Grand Island, NE, (JM)
11039 DDH9: Hamburg Meteo 1645 RTTY 50bd "cq de DDH47 DDH9 DDH8 frequencies 147.3khz 11039khz 14467.3khz" (RC)
11053 Air Force 1: 2236 USB and NIGHTWATCH 01 wkg Andrews VIP, in clear voice comms, for signal checks. (JJ) Andrews VIP: 2312 USB wkg NIGHTWATCH 01 re: bringing a level up out of the Incirlik remote site. (JJ) NIGHTWATCH 01: 2210 USB wkg Andrews for periodic signal checks on Mystic Star, "F-354." (JJ)
11080 Beirut, SYR 1735 RTTY 50/425 SANA press in Arabic (JD2)
11084 SHADO 75: 1815 USB wkg COYOTE. Msg. re: 34'06N, 108'07W MAVERICK and MOCASIN also on freq. (JJ)
11085 RFGW: MFA Paris France 1104 FEC-A 192/425 poor signal lots of noise. 5 letter groups. (EW)
11122 USAF Elk Horn Base USA 1108 FAX 120/576 fair signal with weather map. (EW)
11123 Unid: 1109 UNID 75/850 fair signal. noisy background sends yyyyyyyyyy between messages (EW)
11175 AMC412 0856 USB asking MacDill for a r\c. (MF2) Ascension 0824 USB wkg Jakal 91 w/pp to Yokota Base Ops. (JS3) DSN#884-7113-RAYMOND 24. At 2214 Ascension wkg PP for EMIL 13 to Westover Base Ops & meteo. (MF2) IF-006 1705 USB wkg Thule w/pp McGuire CP for revised ETA. (RB) IMPURITY: 0249 USB worked MACDILL for NIGHTWATCH 01 working freqs: Z175/Z135. (JH) Lima Delta 314 USB calling Mainsail w/rad chk. Thule replies they copy LD314 "3 by". LD314 acknowledges and drops off net. (MB5) MacDill 1902 USB wkg PP for SPAR 12 to DSN#493-9493. (MF2) Magic 67 1240 USB wkg Thule, pp to Magic Command in Germany. (MT) McDill 1328 USB wkg Rescue 5901 w/pp to Hilda West. (JS3) OFFUTT AFB 2339 USB w/20-character EAM "For Replica" 5YMB5A...(DW2) OTIS 01 (sounds like) USB wkg: Thule w/ pp OTIS base and pp Lajes metro wx Lajes 2000z and Rota 0030z. (AN) QUID 84 USB wkg: Thule w/ pp Mildenhall CP. (AN) REACH 1829 USB wkg: Thule qsy 11244 w/ pp Hilda East rqst wx EFHK 1515z. (AN) REACH 5261 USB wkg: Croughton. (AN) Reach 5409 USB wkg Thule AFB w/pp to Lajes Metro. Lajes advises R5409 that crosswinds there are exceeding 30Kts. R5409 states they will not be landing there and will divert to Mildenhall, Rota or Ramstein. (MB5) S4JG: 0006 USB calling MAINSAIL for r\c. At 2007 Andrews wkg PP for SHADOW 75 to DSN#68-2114 Warner-Robbins base ops. At 2021 Andrews wkg PP for REACH 6190. (MF2) SHADOW 27(USAF HC-130) USB wkg: Thule w/ mess for BLACKHAT. (AN) TN4K: 0656 USB called MAINSAIL and raised MACDILL for a pp to DSN 942 4065 (FIDDLE) re lack of loiter time due to fuel considerations. (JH) TS450 1215 USB wkg Thule, reporting that VT450 has a/c (RTB) pp to ops and maintenance. (MT)
11200 AirForce 2 1640 USB wkg Andrews. (JS3)
11202 CAMSPAC 2228 USB wkg 1704. (DW2) CG 1705 w/ CAMSPAC 0330 USB with PP to RCC regarding flying to Christmas Island to pickup a sick person. (IJ)
11217 KGD34A: 2040 USB wkg WGY906 re: comming up on ALE. Followed by NOJ (Kodiak AK.),calling KGD34A with no joy. (All SHARES players.) (JJ) SAM 201: 0002 USB wkg Elmendorf Global for pp. Msg re: McChord AFB arrival. (JJ) SAM 201: 0148 USB DV-2 + 7, outbound McChord, ETA Andrews 0520z, wkg Elmendorf Global. (JJ)
11220 Air Force 2: 2142 USB wkg Andrews VIP for signal check. (JJ) NAVY 515: 2359 USB inbound Hickam, wkg Andrews VIP. (JJ) SAM 202: 2350 USB DV-2 + 9, inbound El Salvador, wkg Andrews VIP. Msg. re: 0140z arrival MSLP. (JJ) SAM 203: 2340 USB inbound Andrews AFB, wkg Andrews VIP for pp re: write-ups. Andrews using remote site out of Ascension. (JJ) SAM 203: 2345 USB inbound Howard AFB, wkg Andrews VIP for pp into Howard re: a 0115z arrival, followed by a pp to Raymond 9. (JJ) SAM

27000: 2145 USB checking Andrews VIP radio on secondary. (JJ)

11226 KAZZ 32: 1700 USB out bound Ft. Worth, wkg KAZZ 57 in air-to-air comms re: 2030 ETA Nellis AFB (sounded like). (JJ) NIGTHWATCH 02: 1806 USB clg Andrews for signal check. No joy. (JJ)

11232 CHR: Trenton Military, Ont, CAN 2314 USB wkg CanForce 3916 w/wx actuals for Toronto. (RB) Trenton Military USB 1607 to unid aircraft QSY to 15031 & 17904 (RC)

11235 ZKX: RNZAF Auckland New Zealand w/ KIWI 992 0635 USB with WX for Auckland (IJ)

11244 AirEvac 10T3 1339 USB wkg Thule w/pp to Tracker. (JS3) MACDILL: 1939 USB with a 6-character EAM (5WJHQP) "FOR HANDRAIL". (JH) OFFUTT: 1353 USB bcst a 6-character EAM "FOR BOLT CHAIN" (or sounds like;Y6R3BK), with this xmsn prceeded by another 6-character EAM "FOR.." somthing (missed it). (JH) OFFUTT: 1439 USB as lead GHFS station with a 6(Y62EOB)/20(Y6)/26(VT) character EAM set 5 minute period. (JH) Offutt 1456 USB w/EAM //a lot of freqs. (JS3) SNOWBALL: 1542 USB bcst a 26-character EAM (JVSH7F..) and simulcast same on 6739.0. At 1716z SNOWBALL bcst a 20-character EAM (DUQK62..) and simulcast same on 6739.0. (JH) YZ2J: 0645 USB responding to a MCCLELLAN call, with MCCLELLAN not hearing the response (moved here at MCCLELLAN's instructions from 8968.0). (JH)

11247 Ascot 9977 1222 USB wkg Architect. (JS3)

11253 RAF Volmet 1330 USB wx. (CT)

11267 NEWSROOM: 0644 USB bcst a 20-character EAM (X5UX43..) and simulcast on 6697.0. (JH) RASPUTIN 1817 USB w/80 character EAM string. (RB)

11300 ACF-3604. Air Charter. 1446 USB Wkg Cairo.(IB)

11309 Emery 9963 1657 USB sc:EGGM posn 28N40W wkg New York. (JS3)

11330 KING 86 2102 NY/on nav flight cleared by SEALORD to this freq (TO)

11342 ORION 27 Wkg NY ARINC req dir VUE F240 (TO) WORLD 117 2231 USB wkg New York radio with selcal chk (CM-BD) and departure message. Destination is Frankfurt. (DW2)

11396 ??? 111 0946 USB CS-ER Jakarta F280 @ROTAN OMEGA 0954 (RO) AJM002 Wkg NY LOPPS F370 (KS-DP) (TO) Aeromexico 037 2051 BC-QR NY/ARP @ F330 (TO) Air Mike 900C 0919 USB CM-GH Ujung Pandang F370 Fuel 43.5 (RO) Britannia 366B 2108 CD-KM NY/ARP GRADY? F330 (TO) Brunai 795 0933 USB Ujung Pandang F290 MAMOX 0935 LOLOS 1025 req 20 miles right of track (RO) Condor 226 2029 CP-AS Wkg NY for selcal (TO) Connie 52U Wkg NY for radio check maintz (TO) Continental 198 1855 BG-FH Wkg NY off BDA 1845 (TO) D-ABUE 1853 CM-QR Wkg NY for selcal using reg instead of Condor flight number (TO) Indonesia 783 0951 USB Jakarta @OMEGA KIBON 1004 (RO) Indonesia 959 0937 USB DR-HL Jakarta Manila to Jakarta F310 @KAMRO OMEGA 0959 EBONY 1005 (RO) Perth Radio 1305 Very strong wkg UNID flight 924 over to Jakarta R. (TO) Perth Radio 1923 Wkg UNID a/c weakly (TO) Qantas 61 0917 USB LQ-BD Bali KIKEM 0928 KEONG next F350 (RO) Singapore 286 0916 USB Bali KEONG 1006 KEVOK 1045 Auckland to Singapore (RO) TWA 35 1922 GJ-EK NY/ARP est KRAFT 44 F350 (TO)

11421.7 FJY5: Crozet Island Radio Crozet Island 1213 ARQ-E3 96/425 strong signal idling only (EW)

11430 New Star Radio 1217 AM weak signal with numbers being read in unknown language. (EW)

11453 IMB3: Rome METEO Italy 0705 RTTY 50 Bd/425 with WX synopsis (IJ)

11476 HMF52: KCNA Pyongyang, KOR 0200 FAX 60/228 (R to L) photo of a crowd of warmly dressed people facing a statue. (WT)

11482.2 UNID 0008 FEC short time/data msg.s, like other freq. 7639.2 (ED)

11492.5 UNID 0051 PICCOLO-6 idle. (ED)

11494 JAILDOOR: 1938 USB worked NIGHTWATCH 01 and requested a move to Z175 but NIGHTWATCH 01 sent him to Z211 instead. (JH) NIGHTWATCH 01: 2117 USB wkg one or two unid players in the net. Polling signals periodically ...selscan sounding. (JC5) NIGHTWATCH 01: 2117 USB wkg one or two unid players in the net. Polling signalsp periodically ...selscan sounding. (JC5) NIGHTWATCH 1947 USB wkg BILLBOARD,NOONTIME & PUBLISHER. At 1949 WAR 46 signal check w\NIGHTWATCH. At 2000 WAR 46 wkg PP for NIGHTWATCH to RAYMOND 21. At 2001 Heavy CUSTOMS "Turkey Talk" with ALE tones, CHARLIE SIERRA relaying message to RAMROD. (MF2) UNID: 2126 Parkhill type voice encryption at good levels over top of a active Nightwatch Net in the clear. Polling signals continue. I assume this is US Customs tfc. (JC5) UNID: 2110 USB w/ long EAM

...sounded like COMMANDER..but was something else. (JC5) UNID: 2110 USB w/ long EAM...sounded like COMMANDER..but was something else. (JC5) UNID: 2126 Parkhill type voice encryption at good levels over top of a active Nightwatch Net in the clear. Polling signals continue. I assume this is US Customs tfc. (JC5)

11572 RFGW: MFA Paris France 1104 FEC-A 192/425 not strong signal. interference from broacast station on 11575. (EW)

12070 JAILDOOR: 1939 USB worked NIGHTWATCH 01. At 1956z JAILDOOR worked NIGHTWATCH 01 and exited the net. (JH) NIGHTWATCH 01: 1919 USB working POLOGAME. NIGHTWATCH 01 found POLOGAME to be weak and broken so he requested a move to ZULU 280. Frequency not found. (JH) OPAL RING: 1547 USB worked NIGHTWATCH 01. (JH)

12122 WUG3, US Army COE, Vicksburg, MS in USB here after moving from a freq (probably 12070.0) occupied by NIGHTWATCH. (JM)

12192 KVL: Russian Intel? 1407 RTTY 75/400 5LG's test. (MS4)

12206 LOR: Ny Puerto Belgrano, ARG 0200 RTTY 75/180 5LG's to LOV3. (MS4)

12220 Unid 0255 RTTY 50/450 ry only. (MS4)

12512.5 URMA: TKH Skvortsov-Stepanov 2330 ARQ Ukrainian- flagged 7,428 DWT dry cargo vsl (Azov) w/admin tfc from master, KM Artem'ev. (RB)

12521 VTP: Ny Vishakapatnam 1055 RTTY 46.6/1260 test slip. (MS4)

12562.5 UIIC: TR Bereg Mechty 1821 RTTY 50/170 9,507 DWT reefer (VOSTOKTRANSFLOT) w/crew TG's to Vladivostok Radio. (RB)

12565 9HIA5: TKH Inzhener Plavinskiy 1550 RTTY 50/170 Maltese-flagged/ Russian crewed 7,850 DWT dry cargo vsl w/admin TG from master KM Belyj, app ex-UBFX. (RB) UAZG: BMRT Ivan Bochkov 2357 RTTY 50/170 Russian- flagged 2,934 DWT Bol'shoj Morozil'nyj Rybolovnyj Trauler -BMRT, w/RYRY/DE to UDK2, Murmansk Radio, Russia, then w/admin TG from master KMD Lysyay using hull#/ID MB-0001, app ex-ULYT. (RB)

12571.5 UTYL: RTMS Shepetovka 1836 RTTY 50/170 Ukrainian- flagged Rybolovnyj Trauler Morilzhny Atlantik (RTMA), Fishing Trawler/Freezer, Atlantic-class,w/admin TG from master KMD Kama. (RB)

12574 UFKA: BATM Kapitan Makakov 2137 RTTY 50/170 Russian-flagged "Bol'shoj Avtonomnyi Trauler Morozil'nyj" -BATM, or Large autonomous trawler/ freezer,long range/endurnace, w/admin tfc using hull#/ID MA-0058. (RB)

12576.5 UHXE: TKH Tuapse 2203 RTTY 50/170 Russian-flagged vsl, w/RY's & admin tfc to Novorossiysk, vsl at Port "Pembruk" per KM Alferov, poss mix w/callUHXY? (RB)

12579 NMF: USCG Boston 1633 FEC high seas wx & forecast, HOSTILE SHIPPING ACTIVITY RPTS ,M/V Agiours Nektarios medevac for seaman with suspected acute appendicites, shipping in area please assist, psn rpt 05-24s 004-59w,send rptsto RCC Stavanger, Norway. (CT) NMO: Honolulu Radio USA 0633 FEC 100/170 good strong clear signal with test message cq de nmc/nmo qlh sitor 8414.8 (EW)

12585 PCH55: SCHEVENINGEN RADIO 0838 CW. Chan free marker "PCH" (DW)

12586.5 VWM: Madras rdo 0915 FEC DE VWM TLX QTC NIL (ML2)

12588 HEC: Berne Radio 1148 ARQ + CW id (DM3)

12596.5 PCH56: SCHEVENINGEN RADIO 0839 CW. Chan free marker "PCH" (DW)

12610.5 VCT: TORS COVE RADIO 1705 fec Tfc list and svc bulletin re (ship) frequency changes for A9M (DW)

12662 7TF: Boufarik Radio Algeirs 1015 CW very poor signal but eventually identified. (EW)

12662.9 CBV: Playa Ancha Radio Chile 1119 CW fair signal but a little off frequency. cq de cbv (EW)

12674 LOR: Ny Puerto Belgrano, ARG 0230 FAX 120/576 Wind direction chart S.A.// tx 5707. (MS4)

12678 LFI: ROGALAND RADIO 1108 CW. Chan free marker (Globe) "LFI" (DW)

12687 OFJ: Helsinki Radio Finland 1147 CW poor signal much better on 8 mhz with marker. (EW)

12691.2 FUX: French Navy Le Port Reunion 2215 RTTY 75/850 fading signal but strong enough for id. (EW)

12699 HPP: Panama Radio Panama 1138 CW noisy signal with cw marker. (EW)

12709 A9M: Bahrain Radio 0513 CW cq-marker, qsx ch 4/5/6 (DM3)

12712 HLW: Seoul Radio Korea 1020 CW fair signal some interference (EW)

12719.8 ZLO: Waiouru Radio New Zealand 1023 CW good clear signal (EW)

12733 LOR: AN Puerto Belgrano 0330 RTTY 100/170 5LG's to LOV3 AN Rio Grande. (MS4)

12745.5 JJC: TOKYO RADIO 0801 FAX 60/576 Japanese news print. (DW)

12761.7 ASP32: MFA Islamabad 0430 ARQ 5LG's to PAREP Brussels. (MS4)

12781.5 9MB: Navy Johar Baharu Malaysia 0918 CW good signal with station marker (EW)
12795 UCE: Arkangelsk Radio Russia 1022 CW poor noisy signal with de uce 5 k. (EW)
12795.2 VTH32: Ny Vishakapatnam 0950 RTTY 50/840 test slip clg VTN29. (MS4)
12799.5 PCH51: SCHEVENINGEN RADIO 0827 CW. Marker "de PCH51 12 k" (DW)
12804 VTN29: Ny Cochin 0940 RTTY 50/825 test slip clg VTH32. (MS4)
12806.7 NKW: USN Diego Garcia 1035 FAX 120/576 500 mb height/temp FHMOC 24h fcst chart; occasional transmitter failures and after one week of silence//20302.7. No tx on 7582. (MS4)
12824.4 Unid 1620 RTTY 75/85 encrypted tfc. (MS4)
12829.5 XFM: Manzanillo Radio Mexico 1027 CW fair signal de xfm first mexican for a long time. (EW)
12840.5 PBC: DN Goeree Isl 1530 RTTY 75/850 CARB bcst. (MS4)
12844.5 KFS: Palo Alto Radio USA 1041 CW good clear signal. (EW)
12885 UFL: Vladivostok Radio 0405 RTTY 50/140 msg wtsca. (MS4)
12886.5 WLO: Mobile Radio 1605 CW tfc. (CT)
12887.5 EAD44: Madrid Radio Spain 1044 CW fair to weak signal but quite audible (EW)
12902 PWZ: Ny Rio 0300 RTTY 75/500 met to unid, (MS4)
12906 DZJ: Bulacan Radio Philippines 1050 CW fair signal with id marker (EW)
12916.5 KLB: Seattle Radio 1620 CW amver qsx 4 6 8 12 16 22 mhz. (CT)
12935 HLG: Seoul Radio 0525 CW cq-marker (DM3)
12948.1 ZRH: SAN Navcomcen Silvermine 1615 rtty 75/170 Nx\EE & Nx\Afrikaans! First time heard either fm ZRH ! (RH2)
12969 XSV: Tianjin Radio China 1101 CW strong signal poor modulation. (EW)
12970.5 PKX: Jakarta Radio Indonesia 1007 CW good clear signal (EW)
12973 UIW: Kaliningrad Radio Russia 0925 CW fair signal with message to ship. in russian (EW)
12988.6 LPD: General Pacheco Radio Argentina 1032 CW good strong signal (EW)
13002 KPH: San Francisco Radio USA 1105 CW very strong signal (EW)
13044 VRX: Hong Kong Radio China 1112 CW good strong signal (EW)
13089 CAMSLANT 1927 USB wkg PP for CUTTER HARRIET LANE. At 1929, CAMSLANT calling CUTTER VIGOROUS. (MF2)
13197 UNID Russian Female 1050 USB Coastal Stn ? "?something? rrrrradeeeooo" Lovely rolling of the Rs there ! (SM)
13206 60: 1715 USB wkg Trenton Military for pp to RAYMOND 24. (JJ)
13242 MacDill: 1935 USB wkg McClellan for data traffic. (JJ) NIGHTWATCH 02: 1930 USB wkg NIGHTWATCH 01 re: going green at this time. (JJ)
13244.1 WWJ85 BBS, FHWA, Ames, IA, PACTOR at 1701. Previously thought to be operated by KGD34. BBS welcome msg was: WWJ85 Region 7 DOT BBS in Ames, IA. All federal agency stations are invited to use this BBS. (JM)
13245 POTLUCK: 1622 USB worked TOPKICK and entered the net through TOPKICK. TOPKICK advised that INDUCTOR, SHERIDAN and NIGHTWATCH 01 were in the net. At 1628z TOPKICK instructed POTLUCK to move back to Z255 at the direction of NIGHTWATCH 01. At 2253z NIGHTWATCH 01 worked INDUCTOR and moved to Z255. At 2255z INDUCTOR worked NIGHTWATCH 01. (JH)
13270 Gander Volmet Canada 1122 USB poor signal; with volmet bcst. much better 10051. (EW)
13282 Auckland Volmet New Zealand 1124 USB volmet broadcast. not very strong but quite audible. (EW)
13306 KING 78 (USAF Rescue HC-130 not on SAR mission) 1615 USB wkg NY (NAT-A MWARA) 44N/50W 1612, blocking 250-to-260, est 41N/60 1713, ? (waypoint) next. (RB) KLM 743 1616 USB wkg NY, 38N/55W 1616 FL340, est 31N/60W 1718, GRANN next, passes wx, requests 350. (RB) Santa Maria (NAT-A MWARA) 1613 USB wkg Iberria 6171, 41N/40W 1608, FL 330, estimate 43N/45W 1637, 43N/50W next, temp -49, winds, selcal AL-BD (RB)
13387.9 MFA Oslo Norway 1142 TWINPLEX 100/200/100 not very strong with five letter groups. (EW)
13438.6 DGN43: PIAB Bonn Germany 0900 FEC-A 96/400 with NX in GG (IJ)
13440 SAM 206: 1946 USB wkg Andrews VIP radio with periodic signal checks. (JJ) SAM 375: 0015 USB wkg Andrews VIP, 0 DV + 11, inbound MacDill, ETA 0220z. (JJ)
13448.6 Unid 1300 RTTY 75/85 encrypted tfc. (MS4)
13449.8 Unid 1300 RTTY 75/85 encrypted tfc. (MS4)
13450.3 Unid 1300 RTTY 75/85 encrypted tfc. (MS4)
13464 Unid: 1210 CROWD36 strong encrypted signal. (EW)

13494.8 UNID 1046 RTTY 75/300 meteo, frequency drifts, warbly tones. (ED)
13508.5 DMK: MFA Bonn Germany 1147 RS-ARQ 228.5/170 cannot decode this mode. signal strength poor (EW)
13510 CFH: CF Halifax 1700 FAX 120/576 24h isobaric prog chart. (MS4)
13512.4 MKD: RAF Akrotiri 1350 RTTY 75/340 5 chn VFT, foxes, ryi. (MS4)
13520 Slovakian Emb Jakarta 1320 RTTY 100/425 telexes re visas (ML2)
13570.9 PIAB: 0940 FEC-A 96 Bd the announcement of the final transmission (FM)
13597 JMH: TOKYO MET 0850 FAX Sfc analysis, NW Pacific. (DW)
13669.5 6VU73: Dakar Meteo 1840 FAX 120/576 wind direction chart W Africa. (MS4)
13857.8 "BARA" ? 2041 PACKET 300/200 Sp. msg. and 5FGs, tac calls... (ED)
13869.5 Unid 1420 RTTY 144/220 3 ch VFT assume RUS -144 re DigFaq 5.0. (MS4)
13873 unid Romanian Diplo 1400 ROU-FEC 164.5/400 online crypto @ part msg w/OTTAWA & $CAN mentioned (ML2)
13882.5 DDK6: hamburg meteo germany 0915 fax 120/576 weather map not very strong signal but decodeable (EW)
13922 GYU: Gibraltar, GIB 1700 Piccolo-6 "de GYU pse QSY to F 3297 K" (JD2)
13947 tashkent meteo russia 1204 rom5 fax 90/576 weather map. good clear signal (EW)
13948 Unid. 1640 RTTY 74.7/170 Encrypted (RM)
13951 HDB20: mfa berne switzerland 1202 ARQ fair signal with five letter groups. (EW)
13951 HBD46: SUI Emb., Havana, CUB 1642 ARQ Pentagrams (RM)
13989.7 RFFVAEA: FF Alysse ARS 0920 ARQ-E3 200/400 5LGs to Paris cct ESK (ML2)
13996.5 STK: Khartoum, SDN 1715 RTTY 50/400 "RYs QJH HSSSYFYX" (JD2)
14356 GFL24: Bracknell METEO England 0845 RTTY 75/425 with WX synopsis (IJ)
14373.3 Unid Aid Agency 1616 GTOR 200 bd, Lunsar (Sierra Leone) wkg Sant and Amado, ASCII tfc and some plain tactical ID's. (MS)
14396.5 KGD34A, NCC, Arlington, VA STAR (SHARES Transportable Auxiliary Radio), 1625 USB See: http://164.117.147.223/~shares/refstar.htm (JM) KLM497, VA, San Juan, PR, 1942 USB (JM) KUR20, FBI, Honolulu, HI, 1734 USB (very weak signal) (JM) WPEE982A, AT&T, giving location as FL, but listed as Denver, CO, 1625 USB (JM) WPEH727, AT&T, Bedminster, NJ, 1716 USB (JM) WWD59A, H&HS (Health & Human Services), Atlanta, GA, 1737 USB (JM) WWJ84, FHWA, Topeka, KS, 1738 USB (JM)
14402 GYU: Gibraltar, GIB 1200 Piccolo-6 "de GYU Hello Hello anyone there? K" (JD2)
14402.5 MKD: RAF, Akrotiri, CYP 1419 PICCOLO Encrypted ch (RM)
14402.9 MKD: RAF, Akrotiri, CYP 1419 PICCOLO Idling engnr's ch (RM)
14417 Unid: station not known 1206 UNID unksys 100/170 fair signal encrypted (EW)
14441.5 NNNONHO: Unid, prob deployed aviation unit 1735 USB as this was an a/c, clg ASSMS (any state side MARS station), no joy. (RB)
14451.7 Guessing MFA, Cairo, EGY 1439 ARQ & 1455 FEC Very weak sig. (RM)
14462.6 TNL: Brazzaville 0334 ARQ-M2 96/400. (ED)
14486 P6Z: MFA Paris France 0835 FEC-A 192/400 with 5Lgs (IJ)
14524.4 CLP67: Embacuba Iraq 1403 RTTY 50/490 Urgente Nara Decision msg to MINREX. (MS4)
14529 Unid. 1426 CW 5FG's, 0 cut as T. (RM)
14553 U3H: French Emb Moscow 1310 FEC-A 192/850 5LGs & QSL (ML2)
14558 U3H: French Emb Moscow 1340 FEC-A 192/850 QSL & op chat (ML2)
14563 TJN: French Emb Beijing 0800 FEC-A 192/850 clg P6Z Paris no tfc (ML2)
14583 UNID 1634 POL-ARQ 100/170 6CRC, 5FGs, possible weather. (ED)
14633.2 RFLI: FF, Fort de France, MRT 1624 ARQ-E3 192/400 wx synopsis on IRT ct. Also w/non protege tfc & pentagrams. Goes QRT at 1953. (RM)
14664 Unid. 2051 RTTY 50.4/200 Encrypted (RM)
14674 DFZG: MFA Belgrade Serbia 0655 RTTY 75/500 with RYRY (IJ)
14677.5 UNID 2157 PICCOLO-12 encrypted. (ED)
14681 V5G: MFA, Bucharest, ROU 1509 ROU-FEC 164.5/395 nx (RM)
14686 111: 1726 USB wkg 03. (DW2) ATLAS: Rockwell/Collins Comm Center 1636 USB wkg unid. (DW2)
14689 MKD: RAF Akrotiri CYP 1210 PICCOLO-6 testing w/foxes 1-0 RYI TEST DE MKD (ML2)
14692.5 JMJ: TOKYO MET 0900 FAX Sig wx forecast. (DW)
14708 MKK: RAF Bampton, G 1000 Piccolo-6 working MTS (Mt Pleasant) on 14593 kHz (JD2)
14778 LZU8: unid Bulgarian Emb (? New Delhi) 0740 RTTY 75/500 LZU8LZU8LZU8 tape then off air (ML2)

14790.8 Havana 1615 RTTY 50/400 SS NX from Cuba (ED)
14809 R-TLAC Slovak 1430 RTTY ?/100 SLOVAK news about tunnelling for a highway in Branisko/Slovakia Markus Buttinger assisted with translation (RP2)
14810 UNID: Presumed OMZ66 MFA Bratislava Slovak Republic 0710 IRA-ARQ 213/500 with TELAGRAMMA, TELAGRAMMA, TELAGRAMMA (IJ)
14826.5 MKK: RAF Bampton, G 1200 Piccolo-6 working MTS (Mt Pleasant) on 14593 kHz (JD2)
14843 SVR: mfa havana cuba 2240 RTTY 75/500 fair butweakening signal with five letter groups. (EW)
14912.5 SPW: Warsaw Radio, Poland 1747 FEC w/maritime nx summary in Polish. (RB)
14926.7 RFTJ: Dakar 0948 ARQ-E3 192bd Msg: "TJD096 control de voie" (RC)
RFTJ: french forces dakar senegal 1121 ARQ-E3 192/425 fair signal. idling (EW)
14926.8 RFFIC: Marine SIRPA YARIM Paris 0912 arq-e3 192/380 Sports Nx\FF circular (RH2)
14926.9 RFFKC: FN Marine Sirpa Brest 0830 arq-e3 192/380 Nx\FF to RFLIGM/ COMAR Guyane & others (RH2)
14951.7 Egyptian Emb Bonn (JG YPHKG Y-----LG) 1350 ARQ w/ATU msg (ML2)
15011 SAM 26000: 2203 USB wkg Andrews VIP for pps. (JJ)
15016 MACDILL 2155 USB wkg PP for SHADOW 1 to UNID (MF2) MacDill 1921 USB wkg PP for SHARK 23 to LOBO (MF2) STEAMBOAT: 1640 bcst a 26-character EAM (JVQOIV..). As with his earlier xmsn on 9016.0 he read the preamble three times but read the string only once and then signed off. Simulcast on 8968.0. (JH)
15038 Air Force 2: 0345 USB DV-2 + 33, wkg Andrews VIP for pps. (JJ) SAM 27000: 0317 USB clg Air Force 2 on AF2's primary freq. (JJ)
15048 SAM 27000: 2209 USB DV-2 + 40, wkg Andrews VIP. (JJ)
15448 At 1739z BANGER worked CHARCOAL and ABATEMENT. At 1744z BANGER was advised that multiple UH-60s destroyed (with one UH60 hovering over the area) with multiple KIA's/no survivors. At 1747z "two S60s in target area". At 1749z BUFFALO (or sounds like) worked BANGER and disapproaved targets because of "unworkable weather". At 1752z ACCUMEN (or sounds like) worked BANGER and advised that WEBFOOT 01 had been shot down; BANGER put ACCUMEN (or whatever) through the challange process. (JH) BANGER: 1927 USB worked various stations. (JH) BANGER: 1823 USB U.S. Military battle simulation (Army mentioned) with BANGER as control, wgk numerous other units with battle status updates. Callsigns included: BARKINGBEAR, WAYSIDE, BALLOON etc. (JJ)
15821.9 Swedish Diplo: 1000 SWED-ARQ 100bd Swedish plain text msgs heading: estonian - olyckan ingens fe~. Ends with "end of message" (RC)
15822 numbers not known 1211 USB good clear signal with numbers. 3/2 groups definite cia. (EW)
15857.6 Unid 1742 RS-ARQ? 228.5/170 Unid stn idling in 228.5/170, assume it's RS-ARQ mode (don't have that one). (RB)
15869.5 Polish Diplo 1017 POL-ARQ 50bd (just sync at end of TX!) (RC)
15906 ??: 1540 Packet 300/200. Digi tx ended followed by a few seconds of SSB voice. (RC)
15930 PWX?: UNID 1237 rtty 50/821 Normally Brazil Navrad @ 75/850. This Tx @ 50bd/gbge (RH2)
16013.7 MFA Cairo 1436 ARQ w/AA msg.(ED)
16014.2 RFQP: french forces djibouti djibouti 1017 ARQ-E3 100/425 good clear signal with strong idling. (EW)
16017.1 CLP-? Havana 1913 RTTY 50/400 SS NX (Minrex) (ED)
16028 NPN: USN Apra Harbour 1240 fax 120/576 Fair chart (RH2)
16056.7 Egyptian Emb Kuala Lumpur 1120 ARQ ATU tfc (ML2)
16084 MKK: RAF London VFT RTTY 50 bd w/foxes RYI TEST DE MKK (ML2)
16146.6 AMBALG Nouackchott 1400 COQ-8 tfc to MFA Algiers. (MS4)
16186.7 french embassy ? 1232 ARQ6-90 200/170 strong signal idled for a long time then off at 1246 (EW)
16203.7 Egyptian Emb San'a (JG XGOE) YEM 1040 ARQ 5LGs (ML2)
16242 P8C: French Emb Beirut 1219 FEC-A 192/850 5LGs & clear text msg (ML2)
16252 N2G: French Emb San'a YEM 1030 FEC-A 192/425 5LGs (ML2)
16260 P6Z: mfa paris france 1127 FEC-A 192/425 fair signal idling between messages of five letter groups. (EW)
16261.7 RFTJD: FF LIBREVILLE 1338 ARQ-E3 192/385 8rc Betas. 1405 cct [HAI] controle de voie svc "Paris de Paris". (DW) RFTJD: french forces

douala cameroon 1027 ARQ-E3 192/425 idling fair signal. (EW)
16282 Unid 1210 RTTY 75/85 3 ch VFT encrypted tfc. (MS4)
16298 MFA France 1142 ARQ-690 200/400 5lgs from "dipl" to Kinshasa. (ED)
16305.7 RFTPA: french forces n'djamena chad 1101 ARQ-E3 100/425 very weak signal. idling only. (EW)
16335 FZS63: St Denis Meteo 1256 rtty 75/378 SYNOP codes (RH2)
16340.1 ZLKF: auckland meteo new zealand 1104 fax 120/576 strong signal with weather map. (EW)
16345 V5G: MFA Bucharest 1340 ROU-FEC 164.5/400 circulars Romanian (ML2)
16616.7 UNID 2134 ARQ EE Msg., "Weekly Maintenance Report" . Apparently a Greek maritime net mentioned in WUN. (ED)
16671.7 UNID 2243 ARQ Maritime Net covered in Wun. Selcal tvxc, tvvm (ED)
16683.5 MMHE5:MV St Helena 0915 ARQ w/ETA Cape Town,logoff 48000 (TD2)
16684.5 P3JR6: M/V Rubin (Gen Cargo) 1333 USB tlx in Polish via Gdynia R. SITOR- A 100/70 (RP3)
16687.5 UCBO: TKH Kapitan Zamyatin 1608 ARQ Russian-flagged 10,177 DWT bulk carrier w/login for msg ck. (RB)
16688 ATPO:MV Harkishin 0830 ARQ w/AMVER for Bahrain (TD2)
16713.5 UETV:MV Socofi Trade 1430 ARQ w/request info min depths approaches to Everton, Guyana,logoff 55954 UETV (TD2)
16715 EQKM:MV Noor 1452 ARQ w/ETA Bahia Blanca,logoff 26034 EQKM (TD2)
16800.6 UEVB: BATM Zastrovya 0920 rtty 50/170 TG's to K'grad. Kmd Cherkasov (RH2)
16801.5 BATM-6123: Sergei Esenin 1253 rtty 50/170 TG's to K'grad (RH2)
16802 UHEU: RTMS Limb 1505 RTTY 50/170 wkg Kaliningrad, logon UIW de UHEU (TD2)
16802.1 UCTN: MA-0064 Marshal Eremenko 1158 rtty 50/170 Wx to Murmansk (UDK-2) (RH2)
16802.5 UALY: RTMS Zvesda 1250 rtty 50/170 TG's to K'grad (RH2) UEVB: BATM Zavstrovya 0910 rtty 50/170 TG's to K'grad (RH2)
16802.6 BMRT: Akvamarin 0913 rtty 50/170 TG's, Fish Catch & Wx to K'grad (RH2) BMRT: Volvanin 0917 rtty 50/170 TG's to K'grad (RH2) ELQZ8: TR Frost 1150 rtty 50/170 TG's to K'grad (RH2)FMSV5: BST Star Lion 1135 rtty 50/170 TG's to K'grad (RH2)
16802.7 3FHW5: MV Ocean Lion 1140 rtty 50/170 TG's to Novorossissk (RH2)
16803 NIS: Akademik Boris Tepetrov 1123 rtty 50/170 TG's to K'grad (RH2)
16807.5 GKE6: Portishead Radio 1447 CW. (RC)
16809.5 EAD: Madrid Radio 1445 CW. (RC)
16811.5 A9M: Hamala Radio 1444 CW "A9M TLX". (RC)
16813 UAT: moscow radio russia 1003 FEC good clear signal. traffic list etc. (EW)
16820 IAR: Rome Radio 1451 CW. (RC)
16826.5 PCH65: SCHEVENINGEN RADIO 0840 CW. Chan free marker "PCH" (DW)
16838.5 9AR: Rijeka R. 1440 CW "9AR 3/7/9". (RC)
16839 PCH66: SCHEVENINGEN RADIO 0842 CW. Chan free marker "PCH" (DW)
16851.5 SAB: Goeteborg Radio 1128 ARQ (8 dashes - without a decoder, I can't imagine what's inside) + CW id (DM3)
16863 ZSC: Cape Town rdo 0825 FEC (shift 400) tfc list, harmonic of 8431.5 (ML2)
16880.8 XSG: Shanghai R. 1240 cw/arq ID & Synch (RH2)
16883 OST: ostend radio belgium 0921 CW cw marker with strong signal cw/sitor (EW)
16903 UNID: 1140 rtty 50/170 Tfc\RR to N1439 ending "de UW" (RH2)
16905.3 FUV: FN Jibouti 1232 rtty 75/842 RY/ID Test tape (RH2)
16914.6 FUX: FN Le Port 1200 rtty 75/850 Test tape (RH2)
16915 VTP: Ny Vishakapatnam 0410 RTTY 50/850 test slip + 4FG's to unid. (MS4)
16922.6 RBSL: IN Bombay 1228 rtty 50/842 RY/ID test tape (RH2)
16935 A7D: doha radio qatar 1058 CW very weak signal. hard to id. (EW)
16951.5 6WW: Dakar 1300 RTTY 75bd "voyez le brick..." & ry's (RC)
16955.9 6WW: FN Dakar 1214 rtty 75/768 RY/ID test tape. \\ 16952.0 & 16948.0 khz !!!! (RH2)
16961.5 FUF: french forces fort de france martinique 1017 RTTY 75/850 fair signal clear. (EW)
16974 SPE82: szczecin radio poland 1024 CW poorly modulated signal fair strength decodeable. (EW)
16984 PPR: rio radio brazil 1052 CW weak and noisy but definite id. de ppr qsx (EW)
17015 UTQ: kiev radio ukraine 1133 CW very strong signal with marker (EW)

17021.5 TAH: istanbul radio turkey 1135 CW fair signal with some background noise. (EW)
17022.5 WLO: mobile radio usa 1042 FEC 100/170 traffiic list and weather information. good clear signal. (EW)
17024 SAB83: goteborg radio sweden 1122 ARQ sending message to ship qsx 16700.5 khz. (EW)
17041.7 Egyptian Emb Jakarta 0710 ARQ wkg Cairo (ML2)
17045.6 LPD: general pacheco radio argentina 1020 CW noisy signal but definite id. (EW)
17050 4XZ: haifa naval radio israel 0713 CW very weak and noisy signal. de 4xz (EW)
17066.4 A9M: hamala radio bahrain 0307 CW weak signal with cw/sitor marker. (EW)
17080 UAI3: nakhodka radio russia 0716 CW good strong signal de uai3 (EW)
17093.6 AQP4: karacki radio pakistan 1054 CW readable signal with channel marker. (EW)
17105 IRM: international medical radio italy 1057 CW good clear signal with channel marker. (EW)
17113 GKB: Portishead Radio 1122 CW de-marker (DM3)
17117.6 WNU: slidell radio usa 719 CW clear signal some background noise. (EW)
17117.7 UNID: 1203 Crowd 36 ? Unable decode (RH2)
17141 UFN: novorossiisk radio russia 1058 CW good clear signal with channel marker. (EW)
17145 LZW72: Varna Radio 1120 CW de-marker (DM3) LZW: varna radio bulgaria 1102 CW very good clear strong signal with channel marker (EW)
17147 URL: Sevastopol Radio 1118 CW cq-marker, ans 16669.5/12468.5 (DM3)
URL: sevastapol radio russia 1103 CW good clear signal with channel marker. (EW)
17166 CLA41: havana radio cuba 0723 CW fair signal a little off frequency at 17165.610khz (EW)
17181 YLQ: riga radio russia 1113 RTTY noisy but decodeable signal. message to shipping. (EW)
17188 SVD6: athens radio greece 1114 CW very good clear strong signal with channel marker (EW)
17189.6 PCH60: scheveningen radio neterlands 1115 CW good clear signal with channel marker. (EW)
17198.9 PCH60: SCHEVENINGEN RADIO 0829 CW. Marker "de PCH60 16 k" (DW)
17203.9 OXZ82: LYNGBY RADIO 1132 CW. Marker (very weak) "cq de OXZ2/OXZ4/OXZ82 ans 4 8 16 mhz ere tfc list = = pse ans 4185.4/8369.6/16737.1" (DW)
OXZ82: lyngby radio denmark 1119 CW fair signal with channel marker. (EW)
17206.1 IAR: rome radio italy 0957 CW weak signal but decodeable (EW)
17239.7 PKD: surabaya radio indonesia 1003 CW weak signal but decodeable (EW)
17245 VIP: perth radio australia 0935 USB private telephone call from ship. (EW)
17248 5BA: cyprus radio cyprus 1122 USB captain of ship speaking to shore station on 16366khz clear on both frequencies.. (EW)
17293 JFA: funabashi radio japan 1135 USB captain of ship speaking re pickup of load of steel in singapore. (EW)
17416.9 SAM: mfa stockholm sweden 1054 SWED-ARQ not very strong and not really decodable (EW)
17428.9 SAM: mfa stockholm sweden 1034 SWED-ARQ 100/400 poor signal. noisy background. re personal dossier information. (EW)
17451 ??: 1120 ARQ "neg neg interferencias en el antepenuletimo y penultimo destinatarios" (RC)
17499 numbers not known 2300 USB good clear signal with numbers. 3/2 groups definite cia. (EW)
17510 OXT: Copenhagen Meteo 1330 FAX 120/576 satellite based ice chart. (MS4)
17538 V5G: MFA Bucharest 1000 ROU-FEC 164.5/400 msg re Bosnia EE (ML2)
17542.2 V5G: MFA Bucharest ROU-FEC 164.5/415 Radiograma Circulara msg. (MS4)
17590 HZN48: Jeddah METEO Saudi Arabia 2000 RTTY 100/850 with WX synopsis (IJ)
17904 Air Mike 077 2131 USB wkg San Francisco "Dpt Guam 2100/16 dest Osaka 0045" Sumo 71 wkg San Francisco "Off Wake Island 2119 dest Futenama (?) Okinawa" Air Mike 863 wkg San Francisco "Off Yap, req thru clearance Yap to Karor then Karor to Manila" (JC4)
17904 Japanair 5945 0507 USB SFO posrep 10N 135E F390 (RO) Japanair 772 0509 USB SFO F350 squawk 2100 (RO) Qantas 113 0512 USB SFO posrep F390 (RO)

Qantas 69 0521 USB JM-EG SFO posrep F350 mach .85 (RO) Qantas 97 0522 USB SFO posrep F350 (RO) San Francisco 2348 USB clears Air Mike 957 depart Majuro (Marshall Islands) to Kwajalein. (JC4)

17937 Lima LDOC: Peru (SAM LDOC) 1556 USB (Flight Support) wkg American flt w/posrep, 1st time in a long time here. (RB)

17973 AFFLUENCE: 1704 USB called NIGHTWATCH 01. At 1708z ICEHOUSE called NIGHTWATCH 01 for a comm check. At 1709z NIGHTWATCH 01 called AFFLUENCE. (JH)

17973 POTLUCK: 1609 USB (very strong here) worked HIBERNATE and told HIBERNATE that NIGHTWATCH 01 requested that POTLUCK meet NIGHTWATCH 01 on this freq. At 1611z INDUCTOR bcst a 20 or 21-character EAM (DUD7LR..). (JH)

17976 OFFUTT: 1507 USB as lead GHFS station with a 20-character EAM "FOR STUB". At 1849z OFFUTT bcst a 45-character EAM (DUW3JQ..). (JH)

17976 OFFUTT: 2054 USB bcst a 20-character EAM (X5VIJV..) maybe preceeded by a 26-character X5.. EAM. (JH)

18003 UNID: 2130 ALE pulses. (JJ)

18005.7 MFA Cairo 1220 ARQ wkg Nairobi QSX was 16051.7 (ML2)

18021.8 MFA: Cairo 1546 arq Tfc\AA ending "HUXD HJKJ 51 YKS" (RH2)

18040.5 TCY4: 1140 RTTY 50bd FF NX from Turkey then EE NX. (RC)

18051.8 MFA: Cairo (tent) 1216 arq Nx\AA. Distinctive Cairo ring sound. New freq for me ! (RH2)

18057.5 MKK: RAF London 1335 PICCOLO-6 single ch, op chat w/MTS P/Stanley. (MS4)

18064 SNN299: Polish MFA POL-ARQ 100/255 Msgs in Polish plain text to Nairobi & Kinshasa. (RC)

18064.1 SNN299: MFA Warsaw 1105 pol-arq 100/254 Nx\POL (RH2) SNN299: MFA Warsaw 0844 pol-arq 100/246 Nx\Pol (RH2)

18072 G7M: French Emb Bangkok 1140 FEC-A 192/850 5LGs (ML2)

18181 Algerian Diplo 1340 COQ-8, FF msgs to AmbAlg, Dakar (RC)

18187.7 SAM: MFA Stockholm 1203 swed-arq 100/400 Tfc\Swed and Radio Tx Schedules to Dhaka Emb. (RH2) SAM: MFA Stockholm 1150 swed-arq 100/400 Nx\Swede. M7000 read clearly; C3g refused to synch ! (RH2)

18192 Unid: 1330 RTTY 75/85 3 ch VFT encrypted tfc. (MS4)

18198.4 Fina Congo: Lumumbashi 1235 arq Tfc\ff to Fina Congo Kinle. (RH2)

18212.3 9XK80: Deutsche Welle Cologne (tent) 0846 rtty 100/400 Technical Circular in FF. Could be Tx fm DW Kigali (RH2)

18220 JMH: TOKYO MET 0953 FAX End of FSAS chart. Start of 500 hpa chart. (DW)

18238 ZRO4: Pretoria Meteo 0820 FAX 120/576 nice charts, also on 18236.2 khz USB) (RH2)

18240 Numbers Station 1220 USB Female;English;Very Weak: 362,362 & count 1-0 (RC)

18247 UNID: 1050 piccollo Strong sigs. (RH2)

18247.2 UNID: 1053 rtty 100/261 Interesting sigs ! Sounded RTTY, no decode. (RH2)

18254.4 SUU: Cairo Meteo 1446 rtty 100/826 SYNOP (RH2)

18261 GFE24: bracknell meteo uk 1033 FAX 120/576 fair signal with weather map. (EW)

18270.6 HBD20: MFA Berne (tent) 0904 arq Billions of 5LG's to unk ! (RH2)

18276.6 HBD20: MFA Berne Switzerland 1019 ARQ 5LGs. (BC3)

18289.4 MFA Bonn 1445 RS-ARQ 228.5/100 Bonn to Kinshasa, encrypt. msg.(ED)

18290 Andrews 1409 USB pp with statistics for states, very weak. (RC)

18291.6 UNID: 0845 rs-arq 240/170? Presume GG Diplo. Unable decode (RH2)

18296.7 RFQP: FF Djibouti 1410 ARQ-E3 100/400 CdV. (MS4) RFQP: french forces djibouti djibouti 1017 ARQ-E3 100/425 noisy signal. heavy background interference. (EW)

18304.5 P6Z: mfa paris france 1133 FEC-A 192/425 strong idling signal then five letter groups. de p6z (EW)

18317 Egyptian Emb, Algiers 1220 ARQ Msgs in AA. (RC)

18320.7 TFTJ: Dakar Senegal, 1509 ARQE3 192.305 FF controle de voie (TJD) (RP3)

18321 Unid suspect French Mil 1712 ARQ-E3 192/378 many french military terms. (CT)

18404.5 RFGW: MFA Paris 1110 FEC-A 192/400 to O6P Riyadh. (MS4)

18418.5 MKK: RAF Bampton, G 1915 Piccolo-6 (one chan only) working MTS (18879) (JD2)

18420 CLP1: MFA Havana Cuba 1925 RTTY 50 Bd/500 with NX in SS (IJ)

18441.2 JMJ: TOKYO MET 0911 FAX Sig Wx forecast At 1005 FAX Sending unscheduled

(per current ALRS) charts. 1020z, 1040z upper air (DW)
18487.9 MFA Oslo 1200 TWINPLEX clg KFQU. (MS4)
18493.7 Unid: station not known 1138 UNID unksys 100/850 strong encrypted signal. (EW)
18496.3 CNM80: MAP Rabat 1525 rtty 50/425 Nx\FF (RH2)
18514 OZU25: mfa copenhagen denmark 1139 TWINPLEX 100/170/100 encrypted signal not very strong. (EW)
18520 US Tuna Fishing: 2015 LSB 2 OMs talking about where the tuna should show up (IJ)
18522.1 V5G: MFA Bucharest 1135 rou-fec 164.5/400 Circulara (RH2)
18553.7 RFTJ: FF Dakar Senegal 2215 ARQ-E3 192/400 with Controle de Voie (IJ)
18560 BMF: TAIPEI MET 0931 FAX End of forecast in Chinese text. Wave analysis. Weak/noisy. (DW)
18584.4 UNID: Guess MFA Cpenhagen 1004 Twinplex Signed off before I could tune in ! (RH2)
18597.5 Spanish Emb Kinsasha 1600 TWINPLEX encrypted tfc to MFA Madrid. (MS4)
18597.7 Spanish Embassy: Kinshasa (tent) 1130 arq Reported as Twinplex but both M7000/C3g confirm ARQ coded (RH2)
18598 Minerisun Exior 1117 TWINPLEX 100/400 sending lines of 17 letters / 4 letters (previously listed wunv3no2) followed by op chat in SS: como ues esto de pena entiendo que son qsl por mi parte hasta manana ok mismo para ti voy aver que pasa pero ya sera hasta manana corti corto. (RC)
18638.2 NDJA: Unid, Guess FF Emb, N'Djamena 0948 arq6-90 200/400 5LG's to unk (RH2)
18661.7 Egyptian Emb Kinshasa (JG WSGII) 1200 ARQ ATU msgs & 5LGs (ML2)
18667.1 CLP1: Havana, CUB (assumed) 1525 RTTY 50/500 - very anti-US propaganda "press" in Spanish (JD2)
18667.9 Unid Egypt Embassy 1156 ARQ to Cairo. (ED)
18704.4 DGN57LI: PIAB Bonn 0800 fec-a 96/400 RY/ID for East Africa (\\13570.9 khz for West Africa) (RH2)
18757.3 SAM: MFA Stocholm 1500 SWED-ARQ UDTEX msg to AMBASSADEN Vientiane. (MS4)
18757.7 SAM: mfa stockholm sweden 1054 SWED-ARQ not very strong and not really decodable (EW)
18758 SAM: MFA Stockholm 1445 SWED-ARQ UDTEX msg to AMBASSADEN Jakarta. (MS4)
18834.1 CUL: Lisbon R. 1434 fec Foxes & Tfc/List (RH2)
18873 CLP1: MFA Havana Cuba 1950 RTTY 50/500 with NX in SS (IJ)
18879 MTS: Mt Pleasant, FLK 1915 Piccolo-6 (one chan only) working MKK (18418.5) (JD2)
18879.5 Unid 0420 PICCOLO-6 single ch idle. (MS4)
18981 MKD: RAF Akrotiri 1220 PICCOLO-6 svc msgs to unid (ML2)
18981.5 MKD: RAF Akrotiri 1100 PICCOLO-6 2 ch, tfc to unid. (MS4)
18986.7 RFHJ: french forces papeete tahiti 0847 ARQ-E3 100/425 very good strong clear signal. idling only. (EW)
19004.1 Unid 1410 PICCOLO-6 single ch idle. (MS4)
19011.5 PCW1: MFA THE HAGUE 1413 CW. Chan free marker "PCW1". (DW)
19039 Unid 1400 RTTY 75/85 3 ch VFT encrypted tfc. (MS4)
19102 RFLI: 1445 ARQ-E3 192bd Msgs: BFL673 de provence: control de voie.. and BFL674 de RFLI: control de voie... at 1438Z (RC)
19109 OZU25: mfa copenhagen denmark 1050 TWINPLEX 200/400/200 fair signal with encrypted text (EW)
19145.8 UNID: 1616 arq-e3 200/377 Unlisted. Idle only. (RH2)
19212 Unid 1545 RTTY 75/400 encrypted tfc & op chat in unid language. (MS4)
19217.1 DFZG: mfa belgrade yugoslavia 0702 RTTY 75/425 poor signal not very clear ry then encrypted text. (EW)
19225.2 RFFA: MoD Paris 1140 ARQ-E3 200/400 5LGs to RFFVAE Dhahran cct FDX (ML2)
19498.7 RFHJ: french forces papeete tahiti 0843 ARQ-E3 100/425 very good strong clear signal. idling only. (EW)
19621.9 OZU25: Copenhagen 1127 TWINPLEX 100/400 encryp. msg., operator msg. (ED)
19685 WLO: Mobile Radio 1600 CW. (RC)
19690 TAH: Istanbul Radio 1601 CW. (RC)
19692 ZSC: Cape Town 1603 CW. (RC)
19696.6 8PO: Barbados R. 0903 arq CW/ID & arq synch pulses only (RH2)
19697.5 SPB: szczenin radio poland 0916 CW fair signal with cw marker (EW)
19698 OST: Ostende Radio 1604 CW. (RC)

19699 UFN: Novorossijsk Radio 1605 CW. (RC) UFN: novorossisyk radio russia 0952 ARQ msg in russian to unidentified ship. fair signal (EW)
19706 LSD836: Buenos Aires 1609 CW. (RC)
19718 UDK: murmansk radio russia 1000 RTTY 50/170 ry de udk with frequencies used. noisy signal with background interference. (EW)
19726 A9M: bahrain radio uae 0910 CW station marker. fair clear signal. (EW)
19751.5 6VU79: Dakar Meteo 1135 FAX 120/576 isobars-wind speed chart. (MS4)
19855 RFGW: MFA PARIS ? 1244 ARQ-690 200/400 Constant space between each burst. Tfc in 5ltr offline encrypt. Changes to irs. Brief "qru". (DW)
19860 MGJ: RN FASLANE 1334 RTTY 75/850 CARB. (DW)
19981.7 MFA Cairo 0700 FEC clg Jakarta rqst to QSX 04071 (17041.7); 0705 ARQ ATU tfc (ML2)
19989 Unid 1118 ROU-FEC 218.3/400 Clear message, diplo type traffic, some EE. (ED)
20018 CLP1: Cuban Ministerio de las Relaciones Exteriores (MINREX), Havana, Cuba 1618 RTTY 50/425 w/MINREX circulars to unid Embacuba, then into CW. At 1710 up in RTTY w/77 grp msg to CLP7, Embacuba Congo. (RB)
20043 CLP1: Cuban Ministerio de las Relaciones Exteriores (MINREX), Havana, Cuba 1655 RTTY 50/425 w/MINREX circulars to unid Embacuba, poss resend to CLP7. (RB)
20076.8 MFA Cairo: (tent) 1017 arq Tfc\AA to unk (RH2)
20088 ZAI4: Unid 0920 ARQ-690 5LG's to unid. (MS4)
20091.7 Egyptian Emb Kinshasa CGO 0930 ARQ 5LGs & ATU msg (ML2)
20316 Unid 1400 RTTY 75/85 3 ch VFT encrypted tfc. (MS4)
20420.6 DMK: mfa bonn germany 1147 RS-ARQ 228.5/170 cannot decode this mode. signal strength poor (EW)
20540 MIKE TANGO 4: 1931 USB (or something like that.) wkg Unid for signal check. (JJ)
20556.6 RFGW: MFA Paris 0919 FEC-A 192/425 DE RFGW 0444 3331423 P290601z Nov97 ZNR uuuu 5LGs.(BC3)
20754.5 UNID: 1330 pactor Guess ICRC. Tx ended before I could decode (RH2)
20780 Unid: 1655 ARQ-E3? 192/438 Idling Hoka showed 13.5 baud rate, but hrd tfc start & Hoka showed 192/438, but never synched/or ID'ed a mode. Kinda sounded like ARQ-E/E3 to the ear, but no good on either. (RB)
20838.4 CLP23: Embacuba Lagos 1420 RTTY 50/460 tfc to MINREX. (MS4)
20847.7 RFFA: MoD Paris 0920 ARQ-E3 200/400 5LGs for RFFVAE Dhahran & RFFVAEA Alysse cct FDX (ML2)
20847.7 RFFTC: FAF Istres 0920 ARQ-E3 5LG's to RFFVAY Sarajevo. (MS4)
20854.1 GVNN9: Groupement Salimar 1320 arq tfc\II w Salinia Chantier Garafiri, Guinea (RH2)
20856.7 RFQP: french forces djibouti djibouti 1032 ARQ-E3 192/425 fair signal idle the c de voie at 1034 utc. (EW)
22380 PCH75: SCHEVENINGEN RADIO 0843 CW. Chan free marker "PCH" (DW)
22530 Unid 0800 RTTY 50/595 Unid Encrypted Tfc. (BC3)
22531.3 UNID: 1258 ?? 50/800 Unable decode. (RH2)
22537.3 FUF: FN Ft de France 1304 rtty 75/820 Test Slip (RH2)
22571.5 UFL: vladivostok radio russia 0444 CW strong signal with cw marker (EW)
22587.5 LPD: general pacheco radio argentina 1030 CW better signal than 16 mhz but still noisy and poor modulation. (EW)
22737 RETJ: Ny Madrid 1540 RTTY 100/850 SINCLAS msg to unid. (MS4)
22864.1 UNID: 1309 Pol-arq 50/231 script looked Polish but not sure! (RH2)
23331.5 KVM70: honolulu meteo hawaii 0750 FAX 120/576 fair signal with clear weather map (EW)
23370.1 HZN50: Jeddah Meteo 1322 rtty 100/750 Aero tfc & Wx (RH2)

---------- THIS MONTH'S CONTRIBUTORS ----------

(AB5) Arno Bollen, Sittard, The Netherlands: JRC NRD-535, 100mtr longwire at 15mtr with MLB
(AG) Alan Gale, NW England
(AN) Ari Noort Rijnsburg, The Netherlands
(ANEE) Anonymous, Eastern Europe
(BC2) Brad Clark Lewiston ID
(BC3) Bryan Curtis, Mansfield Victoria Australia: Kenwood TS-680s,IC-71A, M8000v5
(BvR) Bert van Rij, Naaldwijk, The Netherlands: Icom R71e 140 meters longwire
(CM) Craig MacKinnon Halifax, NS Canada
(CS2) Chuck Swiger, Hampton, VA: Hammarlund HQ-120

(CT) Clarence Thompson, E. Texas: NRD535d, R390A/URR, wires/verticals/mini beverage
(DM3) Dmitri Mezine, Kazan, Russia: Grundig YB400, Indoor 6m longwire
(DM4) Dave Maples Louisiana about 75 km NW of New Orleans. DX-440, R-390A, ICOM 751A
(DR) David Rickmers, Rialto, CA: Lowe HF-150, 108' random wire
(DW) Day Watson, Clevedon, UK: NRD535, Racal RA1792, Code 30 v.2, JVFAX
(DW2) Dave Wright, San Angelo, Tx, USA: DX394, Code 3 Gold, 6m vertical
(ED) Ed Deasy, Charrlottville, Va, USA: NRD535, Hoka Code 30, M7000
(EW) Eddy Waters, Collinswood, Australia: NRD 525, R8, Hoka Code 3
(FM) Fabrizio Magrone, Forli, Italy: JRC NRD535, Code 3, W41PC
(GB3) Gordon Brooks Andersonville,TN Kenwood ts-140s/dx-390/ar1500/dx-394
(GO) Gary Otteson, Philadelphia, PA: Drake R8A, 200' interior random wire
(IB) Ian Baxter, Blackburn, England: NRD525
(IJ) Ian Julian, Hamilton New Zealand: Icom72A, Sony 6800W and Sangaen ATS803A.
(JC4) John Charlton, Greymouth, NZ
(JC5) Jeff Chambers, Long Island, NY, USA
(JD2) John Doe, London, England
(JH) Jeff Haverlah, Houston, TX, USA: R5000/R7/FROG7/RFB65
(JJ) Jeff Jones, Ca., USA
(JM) Jack L. Metcalfe, Central KY Receiver: Drake R8
(JM3) John Morrison, Glasgow, Scotland: HF-225
(JM8) John Mondary ("GottaBliev"), Anmoore, WV, USA: Kenwood R-600, DX-390 25' Wire running E-W, Slinky Random Long Wire
(JP3) Jay Prakash, India
(JS3) John Svendsen, Oslo, Norway: FRG8800/FRT7700
(KB) Klaus Betke, Northern Germany: Icom R72 & homemade RTTY/FAX decoder
(KH) Keith Haywood, Great Britain: Uniden CR2001, JVFAX/HAMCOMM/MSCAN
(LC) Les Crossan, Walls End, UK: Lowe HF150, WeFax for Windows 97
(LP) Lee Parshook, Summerville, South Carolina: DX-440 & PRO-51
(MB5) Michael Blackmore, Halifax, Nova Scotia, Canada: FRG-100. 70ft Horizontal loop,center terminated.
(MF2) Mike Fink, S. Florida, USA: Drake SW8
(MF3) Maurizio Ferrari TURIN, ITALY: IC-R71E, Decoder HOKA Code 3 Fc 2110 Hz.
(ML2) Murray Lehman, Perth AUS: Icom R-71E, R9000, M7000v7, M8000v5
(MS) Michiel Schaay, Doorn, The Netherlands: AR-7030, Hoka Code 30
(MS4) Mohammad Sultan, Portlouis, Mauritius: NRD535d
(MS7) Mike Smith, Houston, TX
(MT) Mike Trodd, Gloucester, England
(NN) Nick P. Norwood, Belfast N. Ireland: FRG 7700, ICF 7600G - Various Wires & "HF Stik" active.
(RB) Rick "RD" Baker, Austintown, Ohio, USA: Icom R71A, Icom R72, M-1000, Hoka Code 3
(RC) Roger Caird, Dublin, Ireland: AOR AR3030, AR3000, HOKA Code 3, PC-HF Fax
(RH2) Robert Hall, Cape Town, S. Africa: Icom-R-71E, M7000 V 6.03
(RM) Robert Margolis, Lake Forest, IL, USA
(RM2) Roland R. "Mac" McCormick III (KF4LMT), Savannah, Georgia
(RO) Richard H. Oemar, West Java, Indonesia, 6.55S, 107.39E RX: FRG7700, AR7030, MVT7100, AR8000 T2FD, 36' marconi, 72' random wire, Discone
(RP2) Roger Preston, NW of London, UK, Sony ICT2001 fed from a half size G5RV through an MFJ-965 "ATU"
(RP3) Ronny Peeters, Belgium
(SM) Stuart Mcmurtrie, Surrey, South Of London HF-150 + Wire Ant
(TD2) Tom Davies, Grahamstown, South Africa: R-70, ZSRX vert. ant.
(TK) Takashi Kuroda, Tokyo, Japan: WJ HF-1000/ICOM R9000/AOR7030/Hoka Code30/M7000/8000
(TO) Tony Orr, Reston Virginia USA HF150, DATONG FL-2 filter Ant: 75' random wires
(WP3) Woflgang Palmberger, Munich Germany
(WT) Wade Taylor, Glendora, CA, USA

---------- Common Abbreviations Used ----------

//	Parallel with Frequency	posn	Position
3SC	Third-shift Cyrillic	pp	Phone Patch
5FGs	5-Figure Groups	PP	Portuguese Language

5LGs	5-Letter Groups	R/T	Radiotelephone
AA	Arabic Language	rdo	Radio
a/c	Aircraft	re	Reference / Regarding
ARP	AIREP or Air Report	req	Request
CC	Chinese Language	RR	Russian Language
CdV	Controle de Voie	SAR	Search and Rescue
chk	Check	sc	SELCAL
c/s	Callsign	SS	Spanish
CZ	Czech Language	sx	Simplex
dep	Departed	tfc	Traffic
dx	Duplex	TGs	Telegrams
EE	English Language	tlx	Telex
enrt	En route	unid	Unidentified
FF	French Language / French Forces	unk	Unknown
GG	German Language	vsl	Vessel
hrd	Heard	w/	With
msg	Message	wkg	Working
MIB	Maritime Information Broadcast	wx	Weather
nx	News	YL	Female Operator
OM	Male Operator		

---------- Digital Abbreviations Used ----------

36-50	CLOVER	HFDL	PACTOR-II
81-81	CLOVER-II	HNG-FEC	PICCOLO-6
ARQ	CLOVER-2000	IRA-ARQ	PICCOLO-12
ARQ-690	COQ-8	LINK 4	POL-ARQ
ARQ-E	COQ-13	LINK 11	RAC-ARQ
ARQ-E3	CROWD36	MIL188	RS-ARQ
ARQ-M2	CW	MS5	ROU-FEC
ARQ-M4	DUP-ARQ	PACKET	RTTY
ARQ-N	DUP-ARQ2	PACTOR	SELCAL
ARQ-S	FAX	PACTOR-2	SPREAD
ARS-GUARD	FEC	PACTOR-3	SSTV
ASCII	FEC-A	PACTOR-4	SWED-ARQ
AUTOSPEC	FEC-S	PACTOR-5	TPLEX
CIS-11	GMDSS	PACTOR-6	TWINPLEX
CIS-14	GTOR	PACTOR-7	TWINPLEX-BAUDOT
CIS-27	HC-ARQ		

== END == FIN == ENDE == FINE == FIM == KONETS ==

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\\\\\ WORLDWIDE UTE NEWS Club /////

\\\ An Electronic Club Dealing Exclusively in Utility Stations ///

\\\\ WUNNEWS Vol. 4, No.2 Feb., 1998 ////

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Check out the WUN web site at: http://www.gem.net/berri/wun

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From your Electronic Editor:

Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.

As you may have noticed in the masthead there has been a change in Editorship for the Electronic Newsletter. My name is David C. Wright, and I am taking over for Stan as the Electronic Editor. Many of you will remember me from the WUN Logs column. I've been a member of WUN for almost three years and have been involved in UTE monitoring since the early 90's. I am looking forward to this new opportunity to serve the UTE community and to doing my part to help our hobby grow.

I would like to take this time to thank Stan Scalsky for his time spent as the editor of this newsletter. He stepped forward and helped keep the newsletter going when we weren't sure what was going to happen. Stan, you have done a good job and it will be tough to follow in your shoes. I will attempt to maintain the high standard you and your predecessors have set. Thanks for the opportunity to take up the helm.

Due to problems with editing this month's logs, there will be no WUN Logs column. This is due to a wide variety of problems which we are currently attempting to resolve. However, even without the logs, we still have over 4000 lines of outstanding, up-to-date, and useful information for the UTE monitor. Enjoy the newsletter, and I look forward to "seeing" all of you next month.

WHAT'S INSIDE:
o International Civil Aero by Tony Orr and Peter Ivakitsch
o Digital Review by Ary Boender
o Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o The QSL Report by J.D. Stephens
o Utility Round-up by Ary Boender
o The Military Newsreel by David C. Wright

==========

INTERNATIONAL CIVIL AERO

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Hello everyone and welcome to the first edition of International Civil Aero in a few months. Our sincere apologies for not having the column up and running on a monthly basis, but due to the recent change over on the WUN list, it's been a case of holding everything in the can until we can get everything back into the normal routine. We should be there beginning with the March issue. We have quite a few outstanding things to bring you in the coming months, so be sure to stay tuned to ICA for the best in HF aeronautical coverage!

GUATEMALAN AERO UPDATE - Don Moore

Don Moore, ace aero and Latin America broadcast DXer has filed this report from his recent forays into the Guatemalan domestic aero scene. Don, we cannot thank you enough for this excellent report!!!

I've been doing some aero DXing the past few weeks and have gotten some

great Guatemalan catches. The previous three years I would hear Flores (in the north), Aurora (Guatemala City airport) and Cancun, Mexico on 5530 USB in the mornings - around 1230 - 1400+ UTC (especially after 1300). Usually there would be one or two comms in a morning. Well, I began listening to the frequency this past week, and it has been hot! Lots more usage. I've logged airports in Coatepeque, Puerto Barrios, San Jose, Quetzaltenango, Coban, and Quiche (Santa Cruz del Quiche on the map). I've also heard Hueheutenango called a few times, but no response yet. Really interesting is that the central station is "Interoperaciones" and it is not the same as Aurora, as I have heard them in 2-way with Aurora. Also various Aviateca flights. Aviateca 951 and 960 are on about every morning. Seems like they have either expanded use of the frequency or else greatly expanded air traffic. A friend of mine tells me that translated what I am hearing is the operations of INTER, a regional airline based at La Aurora airport, Guatemala City. It belongs to the TACA group, as does Aviateca, Nica, Lacsa, and Taca. Their (Inter's) planes are Cessna Caravan 208B's and all flights are during the day.

==========
The North Atlantic RSVM Implementation Plan

No doubt by now many regular listeners to Civil HF Aero Communications on the North Atlantic tracks have heard controllers mention the term RVSM or Reduced Vertical Separation Minimums. The following article extracted from the ARINC web site briefly outlines what RVSM is and how it works. While it will not effect what we can or cannot hear, it will explain the even number flight levels many listeners have noted over the past few months.

****Article extracted from ARINC website.****

About the North Atlantic RVSM Implementation Program

INTRODUCTION

The process of safely changing separation standards in any airspace requires a dedicated effort to assess the actual performance of airspace users under the current separation standard and the potential performance of airspace users under the new standard.

During the 1980s, such an effort was conducted under the auspices of the International Civil Aviation Organization (ICAO) Review of the General Concept of Separation Panel (RGCSP). The intent was to assess the feasibility of reducing the vertical separation minimum (VSM) above flight level (FL) 290 from 2,000 to 1,000 ft. Member States of the Panel - Canada, a consortium of European States working together under Eurocontrol sponsorship, Japan, the former Soviet Union, and the United States - as well as the International Air Transport Association and the International Federation of Air Line Pilots Associations provided data and technical analyses. In 1988, the Panel concluded that safe implementation of the 1,000-ft separation standard was technically feasible.

Drawing on input from the same contributors, the Panel drafted ICAO guidance material for worldwide and regional application of reduced VSM (RVSM) in 1991. Following ICAO approval of the draft material, the North Atlantic (NAT) Region began coordination efforts to develop plans and programs for implementing RVSM in all of Minimum Navigation Performance Specification (MNPS) airspace.

BENEFITS

Under the NAT RVSM implementation program, both the costs and the benefits of implementing RVSM were assessed to provide a basis for evaluating the operational effectiveness of RVSM implementation.

The major benefits expected to be provided by RVSM implementation are:

* Greater availability of more fuel-efficient altitudes

* Greater availability of the most fuel-efficient tracks or routes
* Increased probability that an operator will be cleared onto the desired track or altitude
* Enhanced controller flexibility to manage traffic through an increased number of available altitudes

The major costs for the RVSM program are for aircraft and operator approval, system verification and monitoring, and air traffic control (ATC).

REQUIREMENTS FOR IMPLEMENTATION

Guidance for NAT RVSM implementation is provided in NAT Document 002, Guidance Material on the Implementation of a 300-m (1,000-ft) Vertical Separation Minimum in the Minimum Navigation Performance Specifications Airspace of the North Atlantic Region. Included in this document are guidelines on the following:

* Equipment requirements
* Airworthiness approval
* State approval of aircraft and operators and flight crew operating procedures
* ATC considerations
* System performance verification and monitoring

Equipment Requirements. Aircraft receiving airworthiness approval for RVSM operations must satisfy the following requirements:

* Two independent altitude measurement systems (meeting the RVSM requirements)
* One secondary surveillance radar (SSR) altitude reporting transponder
* One altitude alert system
* One automatic altitude control system

Airworthiness Approval. The following functional requirements apply to RVSM operations:

* Mean altimetry system error (ASE) < 80 ft (normal operation conditions) and < 120 ft (corner of operation envelope)
* Mean ASE plus 3 standard deviations < 200 ft (normal operation conditions) and < 245 ft. (corner of operating envelope)
* Automatic altitude control system capable of controlling altitude within a tolerance band of ±65 ft.

State Approval of Aircraft and Operators and Flight Crew Operating Procedures. A joint Federal Aviation Administration/Joint Airworthiness Authorities (FAA/JAA) effort was undertaken to develop international aircraft and operator approval guidelines. Each State will adapt the guidelines into its regulating material. The FAA has published Interim Guidance on Aircraft and Operator Approval for RVSM Operations Above FL 290/91-RVSM. Airworthiness approval and flight crew operating procedures are outlined in the NAT Guidance Material and the FAA Interim Guidance. Operators without the appropriate State approval will be excluded from RVSM airspace.

ATC Considerations. Several countries have performed ATC simulations, including Canada, the United Kingdom, and the United States. The purpose of the simulations was to assist in developing ATC procedures for the transition to and from a 1,000-ft environment. Results indicate that RVSM will provide additional flexibility in some portions of the NAT and will not adversely influence operations in any area.

System Performance Verification and Monitoring. System performance verification and monitoring consists of an overall assessment of the height-keeping performance of RVSM-approved operators. Compliance with airworthiness and operational approval requirements for altimetry and altitude-keeping systems will be checked using a combination of fixed-base Mode C multilateration height monitoring units (HMUs) and Global Positioning System- (GPS-) based height monitoring units (GMUs).

The overall monitoring system will consist of 2 HMUs and 40 GMUs. The HMUs will be located in Strumble, Wales, United Kingdom, and Gander, New foundland, Canada. Currently, the Strumble HMU is operational and the Gander HMU is planned for activation in late 1997. The GMUs are portable units that will be moved from aircraft to aircraft.

NAT RVSM IMPLEMENTATION PROCESS

Introduction of the 1,000-ft standard will follow a three-phase process. In the first phase, System Verification, the current 2,000-ft VSM will be maintained while the height-keeping performance of RVSM-approved operators is checked to ensure that NAT system safety goals are met. After demonstration of satisfactory performance, the second phase, Operational Trial, will begin. The RVSM will be introduced into a portion of MNPS airspace, and RVSM-specific ATC and operational procedures will be assessed. In the final phase, Full Operational Capability, changes to procedures identified during the Operational Trial will be implemented, and periodic height monitoring will be conducted as necessary.

RVSM IMPLEMENTATION IN OTHER AIRSPACE

Both Eurocontrol and Pacific planning groups are beginning the process of implementing RVSM with the intent of introducing the 1,000-ft standard around the year 2000.
These groups are expected to build on NAT accomplishments in expediting RVSM implementation activities in their respective regions.

NAT RVSM IMPLEMENTATION SCHEDULE

The NAT MNPS RVSM implementation schedule is as follows:

Begin Aircraft/Operator Approval Process	October 1995
Begin System Verification	April 1996
Begin Phased Implementation	March 27, 1997

In December 1996, the North Atlantic Systems Planning Group (NATSPG) will review the operator approval schedule and adjust the start date as necessary.

The date for full implementation of RVSM is under NATSPG review.

Expansion of RVSM Flight Levels in the North Atlantic!

March 27, 1997 marked the beginning of the operational trial for Reduced Vertical Separation Minima (RVSM) in the North Atlantic (NAT) for flight levels 330-390 inclusive. In December, 1997, the NAT Implementation Management Group (IMG) met in Brest, France and considered the expansion of RVSM airspace to other flight levels. The group, which consists of representatives from the U.S., Canada, England, Ireland, Iceland, and Portugal, agreed to expand NAT RVSM airspace to include flight levels 310-390 inclusive effective October 8, 1998. Further, the IMG will meet In Ottawa, Canada March 30-April 3, 1998, and will review the Target Levels of Safety and make a decision regarding the termination of the operational trial and the commencement of full implementation.

==========
Hot DX News

From Thomas M. Rösner comes the following report from a friend of his:

On 23. Jan 98 at 2305z on 5536 (5536) kHz
Flight (ET)573 calling HOLLOWAY, on route Rome-Fiumicino/Asmara
with '99/12'. No joy !

WUNner Alf Rosenstock reports the following on the CIS Domestic Aero Nets:

*** CIS/'etc.' Domestic Aero USB Nets ***

```
4755   29 2110z  K'ISAL/PIUSAL ??            clg KAYOMKA: Syktyvkar
                                  maybe OKISEL: Ulyanovsk
       29 2111z  RADAN: St Petersburg (Pulkovo)     clg A'DELLARA??
                                  maybe ADULIAR: Ukhta
       30 1642z  ALENKI: Yekaterinburg (Koltsovo)   wkg ROA ??
```

And last but not least, Costas Krallis checks in with this log from Greece:

14 Feb 1998

```
5637    YR-BRC   0630    USB    wkg Bucurest Informare/YRA, req.
                                selcal check AG-FM  (CK)
```

That about does it for this abridged edition of ICA. We will be back next month with a full version of the column, including a large AIRLINE NEWS section. 73 and best of DX,

Tony/Peter

==========

```
                            #  DIGITAL  REVIEW  #
          - Editor: Ary Boender      *****      E-mail: ary@luna.nl  -
          -                                                          -
          - Nickname on IRC channels #wun, #monitor, #numbers: Ary-B -
```

! IMPORTANT ! I am still looking for a co-editor for this column. I did receive some reactions of people who wanna help but they have the same problem as I do: no time :-(

So, if you want to help and have a digital background, please contact me. I am basically looking for people who can do some research, who can write articles about 'digital' items and who can take over during my vacation.

DIPLO CORNER

o This month's profile: Indonesia, Ghana, Israel, Peru and Sudan
  The sked for the coming months is as follows:
  - next time: Turkey and Portugal
  - followed by: Sweden and Italy
  As usual, I ask all of you to contribute your logs, freqs and sample messages of the above stations and of course everything else that you have is also most welcome.

  Acknowledgments:
  CIA World Fact Book (country profile).
  The WUN-community (logs).
  Special thanks to Bob Hall, Takashi Kuroda, Mike Chace, Roberto Robba, Mohammad Sultan, Day Watson, Murray Lehman, and those of you who want to remain anonymous.

FRANCE update <supplied by Bob Hall>

  Two months ago I logged P6Z repeatedly calling up Y9L without success. Y9L is not identified in Klingenfuss, CFL and WUN's Diplo Info files and no-one seemed to know its location. Now all can be revealed !

  Last night (1605 UTC) I logged into a strong signal decoded on the M7000 and C3G as FEC-A @ 192/850 on 16228.7 kHz, obviously FF Diplo and trying to synch with another station. After 10 mins up came P6Z P6Z de Y9L de Y9L !! Eureka, at last we had it but it took many more such calls before a message in French came up to the effect that - WE HAVE BEEN TRYING TO CONTACT YOU FOR A LONG TIME BUT THERE HAVE BEEN BAD THUNDERSTORMS AND LIGHTNING AROUND PRETORIA. WILL KEEP TRYING.

  Indeed the Johannesburg/Pretoria area is notorious for severe lightning conditions.

INDONESIA

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o Country profile
The Republik Indonesia with capital Jakarta is divided in 24 provinces (propinsi) Bali, Bengkulu, Irian Jaya, Jambi, Jawa Barat, Jawa Tengah, Jawa Timur, Kalimantan Barat, Kalimantan Selatan, Kalimantan Tengah, Kalimantan Timur, Lampung, Maluku, Nusa Tenggara Barat, Nusa Tenggara Timur, Riau, Sulawesi Selatan, Sulawesi Tengah, Sulawesi Tenggara, Sulawesi Utara, Sumatera Barat, Sumatera Selatan, Sumatera Utara, Timor Timur, 2 special regions (daerah istimewa) Aceh and Yogyakarta, and 1 special capital city district (daerah khusus ibukota); Jakarta Raya.
Defense branches: Army, Navy, Air Force, and National Police.

o Notes on Operation:
- Language: Indonesian, English
- Idles in FEC-S with "lmlmlm" or "ccccc" before message sent.
- Some messages headed "k i l a t". Meaning unknown thus far.
- Messages separated and begin with "zzzz" or "++++".
- Messages end with "----" and operator/time/date stamp
- Frequencies may vary slightly depending on mode used
- Plain language Indonesian or English and offline encryption (5 letter groups)
- Inter-stations messages repeated by Jakarta

o Transmission modes:

ITA2	50bd	Erect	400Hz, 270Hz	
ARQ-S	96bd	Erect	170Hz	5CRC, 6CRC
ARQ-M2	96bd	Erect	170Hz	8CRC
FEC-S	96bd	Erect	170Hz	
SITOR-A	100bd	Erect	170Hz	
TWINPLEX	100bd	Erect		F7B-1 No Interleave
SSB				

o Logged Frequencies:

7944	10899.5	13501.7	14498	14500	14501.5	14502.5
14504.5	14506.5	14508	14511.7	14701.5	15466.5	15476.5
15640.3	15690	15991.5	16401.5	17478.5	17480.5	17481.5
17484.5	17486	17486.7	18024	18037	18039	18042
18042	18046.5	18051.5	18056.5	18063	18066.2	18066.5
18071.5	18074.5	18080.5	18100	18101.5	18103	18106.5
18206.5	18211.5	18216.5	18311.5	18316.5	18321	18321.5
18388.5	18391.5	18393	18400	18400.5	18401.5	18405.5
18407.7	18408.5	18409.7	18410.5	18411.5	18413.5	18416
18416.7	18421.5	18426.5	18443.5	18446.5	18448.5	18450
18451.5	18455	18458.5	18488.5	18491.5	18498.5	18501.7
18505.7	18506.6	18508.7	18511.5	18512	18576.8	18691.5
18701.5	18702	18792.5	18796.5	18798.3	18800	18801.5
18802	18804	18805.5	18806.5	18808.4	18931.5	18991.5
19056.5	19091	19091.5	19093	19096.5	19097	19101
19101.5	19106	19106.5	19111	19111.5	19115.3	19117.5
19220	19500	19501.5	19506.5	19755	19756.5	19762
19766.7	19776.5	20391.5	20396.5	20401.5	20406.5	20407.5
20411.5	24007.5					

o Reported Callsigns and selcals for MFA and embassies:

Selcal	Callsign	Location
VVXX		MFA Djakarta
VVPP		Dar es Salaam
VVKK		New Delhi
VVMM		Paramaribo
YKEK		Pyongyang
	BUNI	Tehran
VVSS		UNID

o Dictionary:
DEPLU MFA - DEPartmen LUar negeri (lit. department foreign)

MENLU	MENteri LUar negeri (lit. minister foreign)
duta besar	ambassador
nomor	number
perwakilan)	
perwakin)	delegation
pwk)	
segera	immediate
semua	all
kilat	urgent (lit. lightning)
Moskow	Moscow
Pekjen	Beijing
Wina	Vienna
pebruari	February
mei	May
juli	July
desember	December
gitu	over ?

o Sample Message Formats:

Example 1: Typical Indonesian originated Tunis

deplu jakarta (via wina) [MFA Jakarta via Vienna]
semua perwakilan ri (via deplu) kec. resort wina, bonn et ttcc lsg.

nomor : 087/tunis/060493. [message number]
pro : karo kepeg [Addressee]
info : semua keppris [Information addressee]
ex : dubes ri tunis [Originator]
------

mks nomor pl-2567/060293 disampaikan dgn hormat daftar alamat kantor, rumah et nomor telepon pejabats kbri tunis sbb :

kantor kbri tunis 117, avenue jugurtha
mutuelleville
tunis - tunisia
b.p. 63 el-menzah 1004
telp. (216.1.) 797.188
796.270

Example 2: Typical Indonesian text - originated Chicago

semua perwakilan via deplu

no.019/chicago/060893.
pro : menlu kma sekjen uupp karo kepegawaian deplu
semua eselon i kma eselon ii kma semua keppris.
info : dubesri washingtondc
ex : konjenri chicago

rks nomor pl-2567/060293 bersama ini kami sampaikan daftar namas kma alamat et nomor telepon pejabat kjri chicago sbb:

alamat kantor : indonesian consulate general
two illinois center, suite 1422
233 north michigan avenue
chicago, illinois ~0601

nomor telepon : (312) 938-0101 s/d 0104
(312) 938-0311 s/d 0312

nomor faksimil : (312) 938-3148

```
 nomor telex      : 210 222 inac ur

 no. nama et gelar jabatan     alamat rumah et telepon

 01. drs p. surahman     wisma keppri
     konsul jenderal     614 pine lane
       winnetka, illinois 60093
       tel (708) 446-0268

 02. drs tatang wikarman saputra  5106 prat avenue
     sek-i/ekonomi       skokie, illinois 60077
       tel (708) 675-5405

 03. drs suhaswoto hidyoningrat   350 w. wilshire drive
     sek-i/sosial budaya dan      wilmette, illinois 60091
     penerangan    tel (708) 853-8314

 04. walther s. kariodimedjo   4030 enfield avenue

 demikian utk dimaklumi ttkhbsindonesia chicago

 coll. pro semua  perwakilan  no. 019/chicago/060893 sent by ati.
 ----
```

Example 3: Typical Indonesian text

```
 pbo:01/0503/0800
  ===
  indon lagos

 no  : 1/png/050393
 pro : kaunitkom
 ex  : kaunitkom

 ---

 disampaikan ktd tgl 1 s/d 3 mei 1993 sbb:
 k i r i m :
 -------

 1. 09/png/043093
 terima :
 ---

 1. pc-099/043093
 2. pc-100/050193

 demikian ump ttkhbs

 - indonesia paramaribo -

 =====

 call:01/png/050393 pro indo  lagos ex indon paramaribo ttk

 =====

 ok mendarat sapai mbesok tks+?
```

Example 4: test slips from Jakarta in ITA2

```
BAGAIMA PENERIMAAN RYRYRYRYRYRYRYRYRY DELIMA TTKHBS
DELIMA KIRIM TEST  RYRYRYRYRYRYRYRYRY

DMA TESTING RYRYRYRRYRYRYRYRYRYRY
```

GHANA
-----
o Notes on operation:
  Single freq working.
  Accra uses "00", other heard "22", "55", "65".
  Offline encrypted traffic.
  On 18528   on CW at 0755-0845
  On 20954.7   at 1330-41

o Transmission modes used:
  ITA2   50bd
  CW

o Frequencies:
  15861, 17580, 18528, 18890, 20948, 20954.7, 20957 kHz

o Reported callsigns
  KNY22   Washington

ISRAEL
------
o Transmission modes used:
  Sitor/A
  FEC/A   144bd

o Frequencies:
  10452.7, 10473.7, 10590.7, 13690, 24300 kHz

PERU
----
o Transmission mode used:
  ITA2   45bd   170Hz?

o Frequency: 14437.8 kHz

SUDAN

NOTE: MFA Khartoum is said to be connected to the Iranian IRGC
network. See further WUN# 3, 4 and 10 from 1997.

o Transmission modes used:
  CW
  PACKET
  USB

o Frequencies: 15805, 18100 kHz

o Reported callsigns (unid locations): STL and SWH

o Sample message format:
(note: the following is _NOT_ necessarily diplo stuff. It is traffic
between IRGC Teheran (901) and Khartoum (701)

901-1*>701:
SINGLE LINE
701*>901-1:
!B/#mWWK7epH!,Ef!El!DSJq!(BHaL!4^<Y)y!1i
701*>901-1:
B
901-1*>701:
CT:
701*>901-1:
!(!(!+6]!Z!I[0Ed9

AMATEUR RADIO INTRUDER WATCH

Provided by Costas Krallis from various sources.

o Freq: 14234 kHz Mode: Sitor-A Date: 14-2-1998 Time: 8.45-9:18 UTC
  Language: Arabic

  Clear text in Arabic alphabet was monitored. Letter blocks (10 blocks per line) were sent with an Arabic header in front of the blocks.

o Freq: 7013 kHz Mode: MFSK 12 channels
  Direction: about 100 degrees - strength: S 9 plus 30 dBs in Germany

DIGITAL SNIPPETS
---
o Freq: 5108 kHz, callsign Y4XZ, unid station at 09.57 UTC, using RTTY 50/400. Msg: yyyy yyyy yyyy de y4xz y4xz
  yyyy yyyy yyyy de y4xz y4xz
  - same pattern as pfre logges about a year ago on same freq

o Italian Military
  Fabrizio Magrone and Mike Chace copied some Italian defense comms:

  ''Stations involved in voice were ISL (net control station), OM7 and IV5. Frequency is 8026 kHz USB. Traffic at 08-09 UTC and also later after 11 UTC. In between, and also from 12.40 UTC, there is also digital traffic in normal Packet Radio HF mode (300 Bd) centered on 8028.2 kHz! NCS is again ISL, with c/s ISLHF; other stations are IB2BZ, IU8UD, IV5VR (also relaying packets between ISLHF and YP9RO). ISLHF seems to be on the air both as a BBS and with live traffic.

  Interesting message from ISLHF at 1040:
  FROM NCS TO ALL RADIO NET STATIONS
  SUBJECT:RADIO EQUIPMENT INFORMATION
  ITALIAN MILITARY RADIO WITH AN OUTPUT RANGE BETWEEN 2 TO 30 MHZ
  OPERATIVE (garbled) WELCOME TO HF RADIO STATION ISL 2 DIPOLE
  ANTENNAS, ONE IS HORIZONTAL AND THE OTHER IS AN INVERTED V. THE
  FIRST (garbled) SE-NW, THE OTHER ONE TOWARD EAST-WEST.
  THEN WE HAVE A LITTLE VERTICAL ANTENNA FOR DIGITAL TRANSMISSION
  CONNECTED TO THE (garbled) PACKET A.E.A. (ADVANCED ELECTRONIC
  APPLication). ALL THIS EQUIPMENT ARE LOCATED IN (very big garble,
  alas!)''

  They seem to like Packet Radio. The Italian Air Force unit in Naquora was copied talking to Roma on 14831.9kHz in this mode. Calls used are IIEX and IIEY.

o From Klaus Betke comes the following unid. Comments are more than welcome!!!

  There are beacon-like signals with data bursts on 4672 and 5471 kHz (not to be confused with beacon LN2A on 5471.2 or with occasional SITOR traffic on 4601.5). These signals -or very similar ones- have been there for several years now. I remember that someone from the UK posted about it a few years ago. However, no attempt was made to decode them. Now it turned out that they use the most simple asynchronous rtty mode! Signal characteristics:

  About 22 times per minute the tx is switched on for 1.2 seconds. Within this period, a data burst is sent. Mode is ASCII 100 baud (startbit, 8 data bits, odd parity bit, 2 stop bits). Each burst consists of 6 characters. The first two are always FF hex and 16 hex, followed by 2 (capital) letters and 2 figures. 24 of these groups are sent in roughly alphabetical order, then the sequence repeats. On 28-DEC-97 I observed these sequences:

On 4602 kHz: BA81 BO23 CT07 CR32 FR60 GE79 IS15 SP32
LT41 LE50 MT14 ME22 NA59 OR86 PD95 PV22
PZ02 RE65 SI92 SR84 SO75 TA66 TR47 VR49

On 5472 kHz: AL18 AP54 AT61 BN01 CH64 CN25 FE00 FI33
MC87 MI31 PS43 PT80 RC74 RI57 RO39 TE52
TO38 TN10 TS99 UD82 VE62 VC58 VI35 VT17

o This unid is heard by dxers all over the world. Still no clues though, so come on folks, let's hear from you!

Freq: 8177.4, 9903.6, 9910.9, 10033, 10037.2, 10072.3, 10291.9, 16605.9, 17223.9 kHz. Time: ca 12.30-15.30 UTC

Mode: ??? Speed: 195,3bd ACF = 8
There is a large peak at 432.
Possible system: F7B four channels.
Peaks at ca. -300 - -100 - +100 - +300 Hz

o Bracknell Meteo; another era ended. Day Watson reports:
A phone call to the UK Met Office confirms that the broadcast ceased in January. Originally the transmitters were provided by the RAF (the Met Office started as part of the Air Ministry which became MOD(Air). They continued to provide the transmitters when the Met Office became an autonomous Government Agency until such times that they (MOD(Air)) had no longer an interest in them. The RN however still had an interest and provided transmitters. During this period the baud rate changed from 50 to 75bd. The RN it appears now has alternative means of obtaining the data and that they too have no need for these transmissions.

GFL26/4489 in particular must have been used by most of the UK's fledgling ute monitors in their first attempts at copying rtty and continued to do so for quick equipment checks.

I'm advised that there are no plans to scrap the Bracknell facsimile broadcast.

Right, that's I have time for this month. I hope to see you all next time. Don't forget to send me your findings. CU -ARY-

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Military Channel Designators List

Welcome WUNners to another 'Military Channel Designators List', and I hope that 1998 sees you ready to check these frequencies and confirm that they are still active and still using the same 'channel designators'.

As you will see from the lists below, I have updated several lists, and the 'Mystic Star' list now contains several entries which have been confirmed in 1998. The first confirmation of a 'Mystic Star' tie-up came on 4th January, when Jeff Chambers confirmed F295 as 11460.0 - so Jeff wins my unofficial 'good guy' award for 1998. In 1998 we already have two new frequencies to find - F107 and F240 have been mentioned by aircraft or Andrews operators, but we have no frequencies for them yet.

The 'STRATCOM' list, as expected, was one of the quickest to be updated with '1998 confirmations'. Jeff Haverlah does a sterling job tracking these, and almost every frequency and designator has been confirmed this year. Of note, 'Z185' (9809.0) was not confirmed during the whole of 1997 (well, from my checking of the WUN postings it wasn't, anyway), but it has been confirmed twice in January 1998 alone. Finally, Jeff found another new designator, when 'Z235' was confirmed at the start of March.

That's it for this month, see you next time.

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 01/01/98)

USAF MYSTIC STAR:

F003	8036 (6)	F365	11059 (7)	F664	15 MHz?
F005	9120 (8)	F369	20397 (8)	F667	6817 (7)
F007	4850	F370	17177	F673	3064
F009	17972	F372	16123	F677	MF 6 MHz
F020	16117	F380	3144 (5)	F690	3032
F033	15962	F382	15094 (6)	F700	4490
F039	10881	F395	9057 (6)	F701	11058 (7)
F046	13823	F400	6728 (5)	F702	9323 (6)
F054	8058 (7)	F404	7690	F703	9991.5 (6)
F058	4742 (6)	F405	6972	F706	8057 (5)
F061	23265	F406	18393 (6)	F707	10589
F063	14870	F417	4992	F708	23377
F064	11214 (7)	F419	11407 (5)	F709	9317 (7)
F066	15036	F420	7933 (7)	F713	16246 (5)
F077	?	F432	6731 (6)	F717	10883
F078	18532	F433	20972	F722	12270
F080	15677	F435	3821	F723	18323 (6)
F084	13205.5	F437	5684 (6)	F728	11236 (5)
F085	MF 6,8,11 MHz	F441	17440	F731	6683 (8)
F086	9461	F444	19267	F732	15011 (7)
F089	13204 (6)	F448	16-18 MHz	F734	4757 (7)
F090	6716	F451	13248 (7)	F736	11494
F094	9017 (6)	F452	5026	F741	7873
F098	14585	F453	19063	F748	6756(5)
F099	13247 (7)	F461	13211 (8)	F749	15-16 MHz?
F101	12106 (6)	F463	4610 (7)	F752	8047 (8)
F102	11118 (6)	F464	16157	F754	11627
F103	11488 (6)	F465	8040 (6)	F777	3113 (6)
F108	7316	F466	14864.5 (7)	F778	18023 (8)
F114	6986 (6)	F467	9023 (7)	F784	9043 (6)
F117	6993 (8)	F476	4-6 MHz?	F785	15687 (6)
F124	11217 (6)	F481	7605	F790	16323
F128	23242	F483	18626	F803	5078?
F134	4942.5	F486	5152 (7)	F807	12103?
F136	5429.5 (7)	F487	24483	F809	5700 (5)
F146	9027 (7)	F489	5437 (7)	F814	6989 (7)
F153	8063 (6)	F496	11059.5 (6)	F821	?
F173	14420.5	F497	5411 (7)	F823	11229 (8)
F182	3078 (6)	F498	8032 (8)	F825	19047?
F184	10648 (8)	F499	4442 (7)	F832	18267
F186	3046	F500	8989 (6)	F843	MF 6 MHz
F194	13825 (5)	F505	9006 (6)	F845	6-7 MHz?
F195	20631	F516	4645 (6)	F846	13822 (5)
F197	4982 (6)	F517	9270 (6)	F853	12 MHz?
F202	16014 (5)	F521	11484 (5)	F864	16008
F204	12057	F522	11232	F867	6830 (7)
F211	11056 (7)	F523	9215	F868	9218 (6)
F213	?	F529	8077 (7)	F869	16090
F226	5435.5 (6)	F530	23325	F873	13248 (7)
F228	7735 (5)	F533	18675 (6)	F874	13246?
F236	15041 (7)	F538	?	F875	6717 (8)
F243	18590	F540	5404.5	F877	4721 (7)
F248	5398 (5)	F542	5431 (6)	F885	13207 (5)
F249	4731	F545	10580	F895	5710 (7)
F250	15091	F551	18331 (6)	F904	10202 (7)
F251	13217 (6)	F555	4894 (6)	F906	4524

F262	10717	F561	11052 (6)	F909	7687 (8)
F264	7693 (6)	F567	13565 (6)	F910	19671
F265	15733 (6)	F569	18387	F912	7330
F266	7997 (6)	F574	11413 (6)	F917	10205 (6)
F267	6730 (8)	F575	10427	F918	13482
F268	7325 (8)	F576	11153.5 (7)	F919	11159 (6)
F271	18320	F577	10544 (7)	F920	7927 (7)
F277	11153	F579	MF 11 MHz	F924	16317
F287	11226 (7)	F595	10877	F933	?
F290	8026 (8)	F600	13878 (6)	F935	9 MHz?
F291	13960 (7)	F611	14863	F937	?
F292	9414.5	F614	8026 (7)	F940	11445
F295	11460 (8)	F616	9320 (7)	F943	19002 (6)
F300	15707 (6)	F622	5817	F948	15038 (6)
F301	7500.5	F623	18317	F952	Night
F302	?	F624	13241 (6)	F957	6761 (8)
F310	?	F626	19343	F965	11466 (6)
F311	11220 (8)	F627	7910 (5)	F974	10586 (6)
F322	?	F631	18755 (5)	F975	MF 11 MHz night
F326	14864	F633	18290 (7)	F980	15724
F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (7)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (7)	F997	15667
F360	7919.5 (6)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

..and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1

CA	6691 (7)
CB	11187 (7)
CC	?
CD	?

also check 11267 & 13240

*USAF STRATCOM 'Zulu':

Z100	3068 (8)	Z105	3116 (7)	Z110	3134?(8)
Z115	3143 (8)	Z120	3295 (8)	Z124	?
Z125	4495 (8)	Z130	4472 (8)	Z135	4745 (8)
Z140	5026 (8)	Z145	5705 (8)	Z150	5800 (8)
Z155	5875 (7)	Z160	6715 (8)	Z165	6757 (8)
Z170	7831 (8)	Z174	?	Z175	9016 (8)
Z180	9057 (8)	Z185	9809 (8)	Z190	10204 (8)
Z195	11104.0 (possibly?)			Z200	11181 (8)
Z205	11494 (8)	Z210	11229 (8)	Z211	12070 (8)
Z215	13242 (7)	Z220	13245 (7)	Z225	13907 (8)
Z230	15046 (7)	Z235	15094 (8)	Z240	15097 (7)
Z250	15962 (7)	Z255	17973 (7)	Z270	18027
Z275	?	Z280	?	Z285	?
Z295	?	Z315	23872	Z330	?

We had no positive confirmation during 1997 that Z110 was 3134, but that frequency was active with 'Nightwatch' traffic during January 1998 so it is still one of 'their' frequencies. Just before this column was sent off for inclusion into the WUN Newsletter, we had confirmation of a new designator - Z235 = 15094.

*USAF AFSOC

FOX 1	13207	FOX 2	5732	FOX 4	9017
FOX 8	23271	FOX 9	18027	?	9018

*US Customs/DEA/JTF

3428	Yankee Alpha	5277	Alpha (Night DEA Pri)
5571	Yankee Bravo	5841	Bravo
8912	Yankee Charlie	7300	Charlie

11288	Yankee Delta	9497	Delta
13312	Yankee Echo	11076	Echo (Day DEA ops)
17972	Yankee Foxtrot	7657	Foxtrot
		14690	Golf
27870	Victor Alpha	18666	Hotel (DEA Active)
20631	Victor Bravo	23675	India
18594	Victor Charlie	14350	Lima
15964	Victor Delta	14686	Papa (DEA day pri)
11494	Victor Foxtrot	23402.5	Romeo
3369	Victor Kilo		
		17171	Sierra Hotel
4500	Zulu Alpha	18171	Sierra India
7527	Zulu Bravo	19131	Sierra Hotel
9802	Zulu Charlie		
12222	Zulu Delta	7527	COTHEN Scan 1
15867	Zulu Echo	8912	COTHEN Scan 2
		10242	COTHEN Scan 3
10242	Tango Alpha (also VE)	11494	COTHEN Scan 4
13907	Tango Bravo (also VG)	13907	COTHEN Scan 5
20890	Tango Charlie (also YG)	15867	COTHEN Scan 6
23214	Tango Delta (also YH)	18594	COTHEN Scan 7
25350	Tango Echo (also YI)	20890	COTHEN Scan 8
		23214	COTHEN Scan 9
2808.5	Xray Alpha	25350	COTHEN Scan 10
4991	Xray Bravo		
5058.5	Xray Charlie		
7778.5	Xray Delta		
9238.5	Xray Echo		
11073.5	Xray Foxtrot		
15953.5	Xray Golf		
17601	Xray Hotel		
19131	Xray India		

5912	Whiskey Charlie	12138.5	Whiskey Delta
13658.5	Whiskey Echo	15964	Whiskey Foxtrot

*USCG "SECURE"
==========

3A3	5422.5	3A4	4448	3A5	?
3A8	7773.5	3A9	7421	3A30	?
3E4	6234.5	3E5	10608.1?	3E6	5272
3E7	?	3E9	?	3E10	7626
3E11	7783	3E12	7845	3E13	7884
3E14	7909	3E19	10675	3E20	10759
3E21	10788	3E24	11157.5	3E25	13413

For a full listing of USCG aircraft and helicopters, please 'surf' to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers
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CH-1	3345	
CH-2	5015	
CH-3	5327.5	
CH-4	5400	
CH-5	5437.5	
CH-6	6020	
CH-7	6785	
CH-8	9122.5	Pri
CH-9	11693.5	
CH-10	12070	Sec
CH-11	12122	
CH-12	16077	
CH-13	16326	Ter
CH-14	16358	
CH-15	20659	

*U.S. ARMY TRANS CORPS
==========

CH.1	4146
CH 2	6224
CH 3	6227
CH 4	8294
CH 5	8297
CH 6	12353
CH 7	12359
CH 8	12365

*FEMA
=====

FEMA uses "Foxtrot" designations for their frequencies. There are quite a few frequencies. I can't access my own data base right now, but according to Groves Shortwave Directory, here is the list:

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008
09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*SFOR BOSNIA
============

I2	6723	I8	6721.5 (5)
I9	2839.5 (5)	?	2841.5 (5)
PUSH	81 5788	PUSH	81A 6865
PUSH	82 4450	PUSH	85 3178
PUSH	89 6932.5	PUSH	103 5110
PUSH	150 8046	PUSH	151 9118.5
PUSH	155 11161	PUSH	153 6717
PUSH	154 8083	PUSH	157 5312

The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.

*'Habitat' net
==============
Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:

4704.4		(replaced 4721.0)
5700.4	WY02B	
6719.4	WY02A	(replaced 6736.0)
8978.4		
9005.4		
9011.4		
11212.4		(replaced 11214.0)
15095.4		

(the two designators listed above, WY02A and WY02B, are not yet confirmed.)

*Canadian Forces
================
A6A 4560.0
A6G 6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

*Belgian Air Force Designators
==============================
from Danny Peters via Gerard Bos and Gerbrand Diebels/SC-MAC.
4745.0   YD
8989.0   YG (used to be Y8)
11268.0   YJ (used to be Y11)
15010.0   ?? (new freq)
15015.0   YM (new freq. + desig.)
18006.0   YO (new desig.)
20050.0   YQ (new freq. + desig.)
20620.0   YP
23332.0   YS (used to be Y23)

*French Air Force 'Circus' Net
==============================
Marjolaine 2   6712
Racontar 1   8972
Vinaigrette 3 8992
Raphael   13236
Citadelle 1   18010
Citadelle 3   ?
Verite 3   23254
Reconfort 3   15 MHZ?
Capitole   6688
143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)

*German Navy
============
The following list comes from the WUN Newsletter, vol.4 of 1997. I have cut it down to just those frequencies listed as 'USB' (those deleted were all RTTY).

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
==========

From Ary Boender comes the following list of frequencies. It was 'current' during 1995, so there may have been some changes since then. I have removed all the non-USB frequencies.

Freq	Mode	Callsign		Location
3144.0 kHz	USB	DHM 91	German Air Force	Munster
5591.0 kHz	USB	DHM 91	German Air Force	Munster
5687.0 kHz	USB	DHM 91	German Air Force	Munster
5693.0 kHz	USB	DHM 91	German Air Force	Munster
6692.0 kHz	USB	DHM 91	German Air Force	Munster
6718.0 kHz	USB	DHM 91	German Air Force	Munster
6747.0 kHz	USB	DHJ 78	German Air Force	Munster
6762.0 kHz	USB	DHM 91	German Air Force	Munster
6762.5 kHz	USB	DHN 66	German Air Force	Geilenkirchen
8967.0 kHz	USB	DHM 91	German Air Force	Munster
8986.5 kHz	USB	DHN 66	German Air Force	Geilenkirchen
8991.0 kHz	USB	DHJ 78	German Air Force	Munster
9000.0 kHz	USB	DHM 91	German Air Force	Munster
9019.0 kHz	USB	DHM 91	German Air Force	Munster
11187.0 kHz	USB	DHM 91	German Air Force	Munster
11217.0 kHz	USB	DHM 91	German Air Force	Munster
11217.0 kHz 'M'	USB	DHO 23	German Air Force	Munster
11226.0 kHz	USB	DHM 91	German Air Force	Munster
11270.5 kHz	USB	DHN 66	German Air Force	Geilenkirchen
11272.0 kHz	USB	DHM 91	German Air Force	Munster
13203.0 kHz	USB	DHM 91	German Air Force	Munster
13245.0 kHz	USB	DHM 91	German Air Force	Munster
13248.0 kHz 'O'	USB	DHM 91	German Air Force	Munster
13342.0 kHz	USB	DHM 91	German Air Force	Munster
15015.0 kHz	USB	DHN 66	German Air Force	Geilenkirchen
17992.0 kHz 'W'	USB	DHM 91	German Air Force	Munster
17996.5 kHz	USB	DHN 66	German Air Force	Geilenkirchen
18006.0 kHz	USB	DHM 91	German Air Force	Munster

*NATO E-3 AWACS
==========

Ch.AA	6700.0	Ch.AB	11228.0	Ch.AC	8971.0
Ch.A5	?	Ch.KD	6760.0	Ch.KF	6695.0
Ch.NB	3081.0	Ch.NC	3225.0	Ch.ND	?
Ch.NE	4542.0	Ch.NF	4720.0	Ch.NG	?
Ch.NH	4758.0	Ch.NI	6762.5	Ch.NJ	8986.5
Ch.NK	11270.5	Ch.NL	15050.0	Ch.NM	17996.5
Ch.XC	6754.0	Ch.XD	8980.0	Ch.XE	10315.0
Ch.??	12165.0	Ch.??	5691.0	Ch.??	23241.2

The X-net is replacing N-net although the N-freqs are still sometimes used.
(Thanks to Gerbrand Diebels/SC-MAC)

*RAF Flight Watch Centres.
==========

(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)

Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's (actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above). If the UKADGE circuits are active, there will be an announcement after the weather broadcast with the code-letters for the active frequencies.
For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

  The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.
  The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5
  The final group is known as 'chick coordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0

BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz	Golf 08	4572.00 Khz
Hotel05	9010.00 Khz	Kilo 01	HF?
Kilo 04	HF?	Kilo 05	4520.00 Khz
Kilo 08	4020.00 Khz#	Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#	Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz	Kilo 14	(uhf)
Kilo 15	7860.00 Khz#	Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz	Kilo 19	(uhf)
Kilo 22	4785.00 Khz#	Kilo 26	(uhf)
Kilo 27	(uhf)#	Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz	Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz	Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz	Kilo 55	(uhf)
Kilo 56	(uhf)#	KJ 02	3357.0
KJ 04	3805.0	KJ 28	(uhf)
KJ 37	5910.0 (poss.)	TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========
(also known as 'Coastal Control')

Controlled from Whitehall ('GYA') with standby location at Forest Moor ('GXQ').
Transmitters:- Milltown and St. Eval
Receivers:- Kinloss and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z

Golf 13.1349 12.3641

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

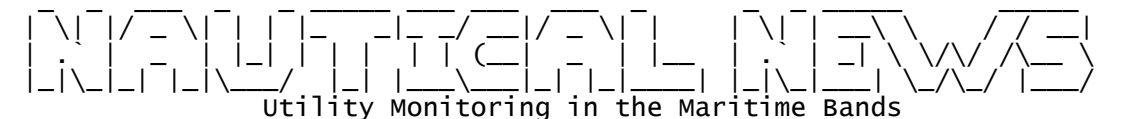
Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly use their ships name.

UKMACCS info Compliments of Graham Tanner

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========



Utility Monitoring in the Maritime Bands

Editor: Day Watson (jdwatson@cableinet.co.uk)
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Hi MariWUNners

Hope you like this next bunch of maritime radio news.

QTC list:
NAVAREA II broadcast by Oostende
MARITEX loses Bulacan/DZO
Hours reduction at Scheveningen/PCH
Major reoganisation expected in Athens

Russian hull numbers
2/3 MHZ maritime information bulletins - Pt.5
GMDSS - Ship equipment requirements Pt.1
Station overview
     Oostende Radio/OST
     USCG Guam/NRV
Shipping snippets

++++++ NAVAREA II broadcast by Oostende

With the demise of St Lys/FFL Oostende/OST has taken over the broadcasting of NAVAREA II warnings. These are transmitted in fec at 0900 1900 2100z on 8420 and 12582.5 sequentially i.e. first on 8 MHz then repeated immediately after on 12 MHZ; not in parallel as one would expect.

++++++ MARITEX loses Bulacan/DZO

Recent corrections to ALRS has indicated that the Bulacan/DZO node in the Philippines has been removed from the Maritex worldwide system.

++++++ Major reorganisation expected in Athens

Our man in Athens, Costas Krallis, has recently advised us of changes coming up affecting Athens Radio. He says

"According to a presentation [in "Mobile Communications", Technical Chamber of Greece, Feb. 18, 1998] by Vassilis Vagenas of O.T.E. (Hellenic Telecommunications Organization) Athens Radio will be closed down by the end of 1999. It will be replaced by a new HF station "Olympia Radio" in the western part of Greece which shall provide all HF services except CW. It seems that the LW/MW maritime network will be downsized and shall consist of only 4 remotely controlled stations at Kerkyra (Corfou), Crete (Iraklion?), Rodos and Limnos with only SSB and SITOR services. Chios Radio/SVX shall disappear as well.

The reason for the closure and relocation of Athens R. was not stated but it widely known that O.T.E. was forced to abandon their two sites east of Athens after extreme pressures by the private consortium building a new major civil airport nearby, at the town of Spata."

Costas thinks it is about the right time to get your last QSL cards from Athens Radio and Chios Radio, while they are still there.

Many thanks for the input Costas - we'll be looking (and listening) your way to see how Olympia Radio develops.

++++++ Hours reduction at Scheveningen/PCH

If you're listening for PCH don't bother outside the hours 0700-1500z. MF WT, MF RT and HF RT which are manned services are only available during this period. Ships will still be able to have MF/HF telex H24 but this is due to the system being fully automatic. They will not however be able to request operator (OPR+) assistance outside this period.

++++++ Russian hull numbers

Robin Hood is a keen watcher of Russian shipping on the teletype modes and has put together the following list of hull numbers AA and AB for those of you with a like interest.

Hull	c/s	Ship name (station worked)
AA-1312	????	unid (RKLM)
AA-1824	UFBY	IUOZAS ALEKSONIS (RKLM)
AA-1837	UAWH	KAPITAN BUBNOV (RKLM)
AA-2025	UAVI	PROFESSOR NESTOR SMIRNOV (RKLM)
AB-0026	UAVH	VIKTOR MIRONOV (RKLM) (OXZ)

AB-0032	UAVT	RYBACHIY (RKLM)
AB-0033	UAVU	ZAVOLZHSK (RKLM)
AB-0034	UBHR	SOVETSKAYA KONSTITUTSTIYA (RKLM)
AB-0035	UBHT	REVOLYUTSIYA (RKLM)
AB-0043	UCCF	LUN
AB-0116	UAVV	PODMOSKOVYE (UIW) (RKLM)
AB-0119	UAWE	PEVEK (RKLM) (UIW)
AB-0126	UAVY	KARPOGORY (RKLM)
AB-0437	UAVP	SIYANIE (RKLM)
AB-0456	????	unid (RKLM)
AB-0594	????	unid (RKLM)
AB-0595	UAVO	KAPITAN KONONOV (RKLM)
AB-2421	UAWI	ALEKSEY KUZNETSOV (RKLM)
AB-2423	UAWJ	VASILIY KISELYOV (RKLM)
AB-2521	????	unid (RKLM)

Thanks for the contribution, Robin.

++++++ 2/3 MHZ maritime information bulletins - Pt.5

This is the final part in Keith Haywood's series.

Argentina.					
Comodoro Riv.	L3A	2065	WX	0750,1950	(Spanish)
Comodoro Riv.	L3A	2065	NAV	1035,1450	(Spanish)
Mar del Plata	L2T	2065	WX	0315,1315,2115	(Spanish)
Mar del Plata	L2T	2065	NAV	1315,2215	(Spanish)
Uruguay.					
Montevideo	CWC39	2721	NAV	0103,1133,1903	(Spanish)
Surinam.					
Paramaribo	PZN	2818	WX	1233,2133	
Trinidad.					
North Post	9YL	2735	both	1250,1850	
		3165	Wx	1250,1850	
Martinique.	FFP	2545	WX	1333,2215	(French)
U.S. Virgin Is.					
St. Thomas	WAH	2506	WX	0000,1200,1400,1600 1800,2000,2200	
Puerto Rico.					
San Juan	NMR	2670	both	0305,1505	
Jamaica.	6YX	2738	both	1330,1830	
Cuba.					
Santiago	CLM	2760	NAV	2340	(Spanish)
Cienfuegos	CLC	2760	NAV	2305	(Spanish)
Arroyos Mantua	CLF2	2760	NAV	2350	(Spanish)
Habana	CLT	2760	WX	2005,2205	(Spanish)
Habana	CLT	2760	NAV	2310	(Spanish)
Nuevistas	CLK	2760	NAV	2320	(Spanish)
Bahamas.					
Nassau	C6N2	2522	WX	0100,0300,0500,0700,0900,1200 1300,1500,1700,1900,2100,2300	
Bermuda.	ZBM	2582	WX	1235,2035	
	ZBM	2582	NAV	0035,0435,0835,1235,1635,2035	
Mexico.					
Chetumal	XFP	2270	WX	0030,0530,1730	
Cozumel	XFC	2270	WX	0300,1500,2100	
Ciudad Carmen	XFB	2722	WX	0320,1520,2120	

Coutzacoalcos	XFF	2655	WX	0255,1455,2055
Tampico	XFS	2756	WX	0005,0305,0605,1505,1805,2005

USA - Gulf Coast.

Corpus Christi	NOY8	2670	both	1040,1240,1640,2240
Galveston	KQP	2530	NAV	0100,1830
Galveston	NOY	2670	both	1050,1250,1650,2250
New Orleans	NMG2	2670	both	1035,1235,1635,2235
New Orleans	WAK	2598	NAV	0500,1400
Mobile	NOQ	2670	both	1020,1220,1620,2220
Mobile	WLO	2572	WX	0000,0600,1200,1800
St. Petersburg	NME	2670	both	0320,1420

USA - Atlantic Coast.

Miami	NMA	2670	both	0350,1550
Mayport	NMV	2670	both	0620,1820
Charleston	NMB	2670	both	0420,1620
Fort Macon	NMN37	2670	both	0103,1233
Cape Hatteras	NMN13	2670	both	0133,1303
Chincoteague	NMN70	2670	both	0233,1403
Cape May	NMK	2670	both	1103,2303
Moriches	NMY42	2670	both	0010,1210

Canada - Atlantic Coast.

Fundy	VAR	2749	WX	0140,1040,1625,2020
Fundy	VAR	2749	NAV	1040,1248,1625,1730,1948
Halifax	VCS	2749	WX	0010,0810,1540,2010
Halifax	VCS	2749	NAV	0110,1310,1540,1910
Sydney	VCO	2749	WX	0040,0740,1440,2110
Sydney	VCO	2749	NAV	1510,2140
Placentia	VCP	2598	WX	0048,0737,1607,2137
Placentia	VCP	2598	NAV	1237,1937
Tors Cove	VCT	2487	WX	0000,1400
St.Johns	VON	2598	WX	0007,0837,1637,2207
St.Johns	VON	2598	NAV	1307,2007

Labrador (Cartwright and Hopedale)/VOK

	2598	WX	0137,1007,1437,2037
	2598	NAV	1107,2037,2307

Canada - Great Lakes.

Thunder Bay	VBA	2582	both	0040,1410
	2582	Ice	1520	

Canada - St. Lawrence.

Cap-aux-Meules	VCN	2749	WX	0633,1218,1735,2333
Cap-aux-Meules	VCN	2749	NAV	1118,1818
Sept Iles	VCK	2598	WX	0237,0937,1737,1907
(Natashquan)	VCK	2598	NAV	0237,1737
St.Anthony	VCM	2598	WX	0107,0907,1337,1807
St.Anthony	VCM	2598	NAV	1137,1807
Stephenville	VOJ	2598	WX	0207,0707,1707,2237
Stephenville	VOJ	2598	NAV	1207,1837,2237

St.Pierre et Miquelon.

	TXU	2410	WX	0635,1835	(French)

Canada - North Coast.

Iqaluit	VFF	(July - December)		
Killinek		2514	both	1340,2235
Iqaluit		2582	both	1340,2235
Resolute		2582	both	1240,2310
Coral Harbor		2514	both	0110,1320
Inuvik	VFA			
Kuqluktuk		2558	both	0235,1435

Greenland.				
Aasiaat	OYR			
Qeqertarsuaq		2304	NAV	0235,0535,0835,1135, 1435,1735,2035,2335
Sisimiuit		3125	NAV	0235,0535,0835,1135 1435,1735,2035,2335
Nuuk/OXI				
Maniitsoq		2400	NAV	0135,0435,0735,1035 1335,1635,1935,2235
Nuuk		2116		" "
Paamiut		2225		" "
Qaqortaq/OXF				
Qaqortaq		2129	NAV	0035,0335,0635,0935 1235,1535,1835,2135
Ikerasassuaq		2265		" "
Ammassalik		2250	NAV	0120,0420,0720,1020 1320,1620,1920,2220
		3250		" "
Svalbard	LGS	1731	NAV	0333,0733,1133,1533,1933,2333
Bjornoya	LJB	1722	WX	0905,1305,2005
Jan Mayen.	LMJ	1743	WX	0905,2005
	LMJ	1743	NAV	2100
Iceland.				
Reykjavik		1876	WX	0533,1133,1733,2333

I trust you have found something interesting to listen to in your part of the world from this series which Keith has put together. A big thanks to him for his efforts. Let us all know of any changes - these happen on an ongoing basis.

++++++ GMDSS - Ship equipment requirements Pt.1

There is a fairly basic requirement under GMDSS whereby each ship has the capability of transmitting a ship-shore distress alert by at least two independent means. There is a requirement to have the capability to perform other communications functions.

In general terms all ships will carry
VHF equipment, and
equipment for receiving Maritime Safety Information (MSI) broadcasts.

In addition to the above ships operating in sea areas

A1 will carry either a satellite EPIRB, or a VHF EPIRB

A2 " " MF equipment and a satellite EPIRB

A3 " " MF equipment, a satellite EPIRB, and either HF or satellite communications equipment

A4 " " MF and HF communications equipment, and a satellite EPIRB.

Having outlined the general requirements, this month we will look at the "all-ships" requirements and those for sea area A1. Yes WUN's range of topic is 30MHz and below but I believe a short comment on VHF and satellite helps to give a complete overview and places HF in context.

All ships must carry (these are Regulation 7 in the rules)

a VHF installation capable of transmitting/receiving
DSC on Ch.70, and
RT on channels 16, 6 and 13
Equipment capable of maintaining a continuous DSC watch on Ch.70.

a search and rescue radar transponder (SART) capable of operating in the 9 GHz band. Minimum 2.

a receiver capable of receiving NAVTEX broadcasts if it trades in waters where this service is provided

a radio facility for MSI reception by the INMARSAT enhanced group calling system if the ship is on voyages which take it through areas where NAVTEX coverage is not provided.

subject to the provisions for sea area A1, a satellite EPIRB (emergency position indicating radio beacon) capable of transmitting a distress alert either through
a. the polar orbiting satellite service operating in the 406 MHz band,
or if the ship remains within area of INMARSAT coverage through
b. the INMARSAT geostationary satellite service operating in the 1.6GHz band.

VHF (waterproof) walkie-talkies. Minimum 2 for ships 300-500 gt, 3 for ships over 500 gt.

Sea area A1 (Regulation 8).

The ship may if operating exclusively within A1 area carry a VHF EPIRB with 9 GHz SART attached, in lieu of the satellite EPIRB. The ship therefore can transmit independently a minimum of two distress alerts using either the EPIRB or the VHF DSC alert on Ch.70. from compulsory fitted equipment. It also has the capability of VHF RT general communications. If the ship is equipped for ocean passages then it will have additional means of alerting and communicating.

The above gives the situation but in very simple terms. There are of course variants where two functions can be provided by the same equipment, may add to, where exemptions are made for dates and equipment groups but these overcomplicate things and have been ignored.

Next month we'll move onto ships required to carry even more equipment.

++++++ Station overviews

++++++ Oostende Radio/OST
Location: Belgium at 51.06N 3.21E

HF Telex service

Station nr 0480 ---> selcall VMFV
Marker: "OST"
Tfc list: Sent hourly in fec on separate frequencies as follows
H+05 5376.5
H+10 7776.5
H+15 14719
H+20 19013.5
Nav wngs: Sent in fec at 0900, 1900 and 2100z, first on 8420 then repeated immediately after on 12582.5.

		Ship	ITU Chan	
OST	2815.5	1971.5		H24
OST28	4218	4180.5	[417]	H24
OST37	6322	6271	[617]	H24
OST40	8435.5	8395.5	[839]	H24
OST50	12639.5	12537.5	[12122]	H24

OST60	16883	16765	[16154]	0700-1900
	19698	18887.5	[1835]	0700-1900
OST79	22443	22351	[22134]	0700-1900

HF RT service

Watchkeeping: on 8237 and 8255 H24
on 12248 and 12290 for hourly periods where hour is even
0800-2100z (eg 1400-1459)
on 16396 and 16420 for hourly periods where hour is odd
0900-2000 (eg 1100-1159)
Autolink facilities on * designated channels.

Tfc list: 8761 every H+00 (0800-2000)
13095 every EH+00 (0800-2000)
17278 every OH+00 (0900-1900)

OSU24	4378	4086	[408]	*
OSU21	4387	4095	[411]	
OSU27	4405	4113	[417]	
OSU26	4417	4125	[421]	
OSU22	4420	4128	[422]	
OSU23	4429	4137	[425]	
OSU31	6504	6203	[602]	
OSU35	6516	6215	[606]	
OSU46	8725	8201	[803]	
OSU43	8731	8207	[805]	*
OSU44	8734	8210	[806]	
OSU49	8752	8228	[812]	
OSU45	8755	8231	[813]	
OSU41	8761	8237	[815]	
OSU48	8779	8255	[821]	
OSU42	8803	8279	[829]	
OSU51	13095	12248	[1207]	
OSU53	13113	12266	[1213]	
OSU52	13119	12272	[1215]	*
OSU54	13128	12281	[1218]	
OSU57	13131	12284	[1219]	
OSU56	13137	12290	[1221]	
OSU64	17266	16384	[1609]	
OSU63	17278	16396	[1613]	
OSU66	17302	16420	[1621]	
OSU61	17314	16432	[1625]	*
OSU62	17320	16438	[1627]	
OSU67	17329	16447	[1630]	
OSU74	22720	22024	[2209]	
OSU77	22735	22039	[2214]	
OSU73	22750	22054	[2219]	
OSU76	22756	22060	[2221]	
OSU71	22768	22072	[2225]	
OSU72	22810	22114	[2239]	

Address:
(Per SEEFUNK)
Oostende Radio,
Aartshertsoginnenstraat 27,
8400 Oostende,
Belgium.

(Per Klingenfuss)
Oostende Radio,
Gewest van de Maritieme Diensten,
Perronstraat 6
B-8400 Oostende
Belgium.

Research/acknowledgments
ALRS Vols 1 + 3 1997/98

Brannolte/Siebel SEEFUNK
CFL 10th Ed.
Klingenfuss Utility Guide 1998.

++++++ USCG Guam/NRV
Location: Mariana Islands at 13.34N 144.50E
Note: This station does not accept public correspondence. It handles communications with ships relating to distress, urgency and general maritime safety. It will also accept AMVER messages and weather observations (OBS). It does not handle telegrams of a private nature or relating to ships' commercial business.

HF Telex service

Station nr 1096 ---> selcall XVSC
Marker: "NRV"
Note: This facility is remotely controlled from CAMSPAC Point Reyes/NMC (San Francisco)
Broadcasts: By fec on the MSI frequencies of 12579, 16806.5, 22376.
Wx 0500 1500 1900 2315
Nav wngs 0230 0900

NRV	Ship	ITU Chan	Watch
4215.5	4178	[412]	
6319.5	6268.5	[612]	
8422	8382	[812]	H24
12585	12482.5	[1212]	1200-2200
16812.5	16689	[1612]	H24
22382	22290	[2212]	2200-1200

HF RT service

Broadcasts Wx: 6501 at 0930 1530
13089 at 0330 2130

NRV	Ship	ITU Chan	Watch
6501	6200	[601]	0900-2100
13089	12242	[1205]	2100-0900

Address:
(per SEEFUNK)
USCG Agana
US Coast Guard
PSC488.PO Box 149.
FPO AP 96540-1845,
USA.

(per Klingenfuss)
Commanding Officer
Operations Dept.,
USCG Communications Area Master Station
17000 Sir Francis Drake Boulevard
POB 560
POINT REYES Station
CA 94956-0560
USA

Research/Acknowledgements
ALRS Vols 1 + 3 1997/98
Brannolte/Siebel SEEFUNK
CFL 10th Ed.
Klingenfuss Utility Guide 1998.

++++++ Shipping snippets

With many thanks to Steve Schultz and the [SHIPS] list for these items

World Reefer Fleet 1998 released

The capacity of the world's refrigerated fleet increased 0.6 percent last year, according to World Reefer Fleet 1998. The report, by Lauritzen Reefers A/S, estimates that there were 1,310 refrigerated and freezer vessels of at least 3,000 cubic meters/100,000 cubic feet in service at the beginning of 1998, with a total capacity of 12.4 million cubic meters/413 million cubic feet. The average age of the ships about 19 years and the level is two-thirds the level five years ago. Specialized refrigerated vessels, such as dedicated refrigerated containerships, is said to number 782 vessels of 8.55 million cubic meters/285 million cubic feet. There are also about 180 breakbulk refrigerated ships of 1.35 million cubic meters/45 million cubic feet. Average age of the these ships is said to be 21 years. About 25 percent of palletized capacity is older breakbulk vessels which have been converted to a deck height of 2.2 meters/7.2 feet. Newbuilding orders include 25 palletized refrigerated ships with 330,000 cubic meters/11 million cubic feet. When added to the fleet, this is a net increase of 4 percent.

Number of crewmembers killed, taken hostage by pirates doubled in 1997

Fifty-one crewmembers were killed and 30 injured aboard vessels during pirate attacks last year, according to the International Maritime Bureau. In its annual report of piracy, released 19 Jan., the bureau said that there were 229 attacks aboard ships last year. While the number of attacks was 228 in 1996, 26 people were killed that year. In addition, pirates carried guns in 68 attacks last year, up from 32 in 1996. Knives were used in 26 incidents. More than 400 crewmembers were taken hostage by pirates last year, compared to 194 in 1996. Vessels were fired on 26 times in 1997 and six times in 1996. Ships were boarded 163 times and there were 14 hijackings. More than half the attacks occurred in six countries: Brazil, India, Indonesia, the Philippines, Sri Lanka and Thailand. Indonesia reported the most attacks, though the number declined from 57 to 47. Thailand had 17, one more than 1996. Thirty-three people were killed in Sri Lanka in attacks by the Liberation Tigers of Tamil Eelam. Twelve incidents occurred in India. Six people died in the Philippines, with some of the deaths attributed to the Moro Islamic Liberation Front. Attacks decreased from 38 to 15, however. Nigeria reported nine attacks up from four. At least four vessels are though to have been caught in the crossfire of rival Cambodian factions, although details are only known of one incident. The International Maritime Bureau said that most attacks in Brazil involve guns while attacks in the Philippines declined but of the attacks, the bureau noted a trend in which vessels are hijacked in the South China Sea by pirates wearing Chinese military uniforms. Many cargoes are then unloaded in southern China.

Royal Caribbean International signs orders for four new ships

Royal Caribbean Cruises Ltd. announced 2 Feb. it has signed letters of intent with three shipyards for as many as seven new passenger ships. Four are firm orders and three are options. The first two ships are Millennium-class ships for Celebrity Cruises Inc., the next is a Voyager-class for Royal Caribbean International and the last is the third Eagle-class, also for Royal Caribbean International. The two Millennium-class ships are 85,000-gt and will carry about 1,900 passengers each and will be built by Chantiers de l'Atlantique in St. Nazaire, France. They will be delivered in June 2000 and January 2001. The Voyager-class will carry just over 2,500 passengers and will be built by Meyer Werft in Papenburg, Germany, for delivery in 2002. The 85,000-gt ship is 292 meters/858 feet long and has more than 1,000 cabins. The ship will sail at 24 knots. The Eagle-class will be built by spring 2002 by Kvaerner Masa-Yards Inc. in Turku, Finland. The ship will carry 3,100 passengers and at 142,000-gt is the largest passenger ship design in the world. The order is worth about U.S.$500 million.

Disney Magic delayed again

Disney Cruise Line announced 18 Feb. that it has rescheduled the maiden voyage of its first ship, the Disney Magic, because of construction

delays. The first voyage has been moved from 30 April to 30 July. Construction of the ship immediately preceding the Disney Magic was delayed and so backed up following vessels. According to builder Fincantieri Cantieri Navali Italiani SpA, construction was also exacerbated by suplier problems and bad weather. People with tickets for the affected sailings will either receive a full refund or a discounted rate for a later sailing. The 85,000-gt, 6,000-dwt passenger ship is being built at Marghera, Italy. The vessel will carry 2,400 passengers and was ordered in 1995.

Canberra still being scrapped

The Canberra (49,073-gt, 8,775-dwt, 249-meter/818-foot 2,238-passenger ship), a British-registry vessel formerly operated by P&O Cruises Ltd., is still being scrapped by Gaddani at Karachi, Pakistan. The ship ran aground 365 meters/1,200 feet short of the beach and despite several efforts to drag it ashore, the ship remains stuck. The decision was made to scrap the ship where it is. The Canberra was built with a deeper draft than ships of similar size, and as a result, ran aground well before other vessels arriving at Gaddani. The ship was build in Belfast, Northern Ireland, by Harland & Wolff Holdings P.L.C. and was launched 16 March, 1960. The Canberra entered service 2 June, 1961.

++++++ signoff

Good listening guys/gals. Regards Day

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THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens
106 Anita Drive
Madison, AL 35757-8419, U.S.A.
E-Mail: jdstephens@geocities.com

To start off my first WUN QSL column, let me extend a hearty "Thank you" to Martin Barry for all his past work as editor. An increased work and personal schedule necessitated Martin's decision to pass on the column to someone else. My hope is to maintain the column at the same level of quality you've come to expect, so your input is always appreciated.

You'll notice that I've instituted a slightly different format than before, so when submitting your QSL information, please follow this format: Country, Callsign or Station Name, type of QSL, length of time for a reply, Verification Signer's name, your name and location, any other pertinent information - such as report enclosures, station address, type of return postage included with your report, etc. I am especially interested in the information regarding verification signers' names, as with QSLs becoming more difficult to obtain these days, a contact name is just as important as a valid postal address.

The deadline for submissions is the 15th of each month. Contributions received after that date will be held over until the next month. Your QSL information may be sent to me via E-mail at the address at the top of the column, or via the good old-fashioned way to my postal address. I look forward to your contributions.

So, without further ado, here's what we have for you this month:

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ARGENTINA: LSD-836. 8459 p/d "Globe Wireless" card in 14 days.
V/s: Michael G. Beck (A fellow WUNer). (JDS-AL)

AUSTRALIA: VIM - Melbourne Radio. 8607 f/d letter in 27 days for 1 IRC.
V/s: Roger Boyden - Station Coordinator. (JDS-AL)

BRAZIL: PPJ - Juncao Radio, Brazil. 8460.2 p/d letter in 9 months for a Portuguese report & 1 IRC.

V/s: Egas Schwochow - Gerente. (JDS-AL)

CANADA: CKN - Vancouver Military. 6465.5 f/d letter after 9 followups for a 1988 reception. V/s: R. Boughton - Chief Petty Officer 2nd Class/Operations Officer. Interestingly, the verie letter is dated 3 days short of the 10th anniversary of my reception. Address: Naval Radio Section Aldergrove, P.O. Box 4000, Aldergrove, BC V4W 2V1, Canada (JDS-AL)

CANADA: Halifax Military. 6694 ppl and card in 60 days.
V/s: R.A. Corradini. (JS - Sweden) Halifax Mil:

GUAM: KHF - Guam Radio. 8420 p/d "Globe Wireless" cd. in 53 days.
V/s: Michael Beck (A fellow WUNer). (JDS-AL)

MEXICO: XFM - Manzanillo Radio. 12826.5 p/d letter in 29 days for a Spanish rpt. & $1.00. V/s: Ing. Luis Guzman Suares. (JDS-AL)

NORWAY: LFI, Rogaland. 8683.5 p/d Globe Wireless card in 17 days.
V/s: Michael G. Beck. (JDS-AL)

SOUTH AFRICA: ZRQ, Capetown. 8474 & 6507 f/d map/coat of arms card in 64 days for $1.00. V/s: G. Roach. (JDS-AL)

SWEDEN: SAG - Gotheburg Radio. 12652 n/d map/callsign card in 6 months after a followup report. V/s: Ingmar Berggron (?). (JDS-AL)

UNITED STATES: USN MARS Station NNN0JHR, Elgin, TX. 14441.5 f/d PFC w/ station shack photo in 8 days. V/s: M.W. Hammond. (JDS-AL)

UNITED STATES: USN MARS Station NNN0KRQ, Cincinatti, OH. 14441.5 n/d QSL Certificate in 7 days. V/s: Jack (NNN0KRQ). (JDS-AL)

UNITED STATES: AAC2 - Port Operations Detachment, Fort Eustis, VA. 8297 f/d letter in 8 days. V/s: SSG Lance M. Travers.
Address: Department of the Army, Post Operations Detachment, Building 451, Fort Eustis, VA 23604. (JDS-AL)

AIRCRAFT:

King 79, 106RW, HC-130P, tail #650978, for comms on 11175 khz on 10/24/97.
V/s: Lt. Col R. Landayseidel - Flight Squadron Commander. For f/d ppd & postage (not used) in 7 days.
Address: 106 Rescue Wing, 150 Old Riverhead Rd., Francis S. Gabreski Airport (ANG), Westhampton Beach, NY 11978-1201. (CB-NY)

SHIPS, CUTTERS & OTHER SEA VESSELS:

USCG Cutter Campbell (WMEC-909). 8240 p/d letter w/ cutter decal, glossy 8 1/2 x 11 photo of ship, and "Welcome Aboard" brochure in 54 days after 5 followups.
V/s: LTjg M. Guldin - Communications Officer. (JDS-AL)

Troon Lifeboat. 2596, ppl, long & friendly letter, card in 50 days (also received e-mail earlier). V/s: Clive Lawson. (JS-NORWAY)

USS Spruance (DD-963). MARS Station NNN0CUO, 14441.5 f/d PFC stamped with ship seal in 11 days after a followup.
V/s: RMC(AW) Robert W. Clark - Communications LCPO. Also included were a business card and 6 stickers (3 different designs). One of these stickers is really unusual for a ship; it's an actual bumper sticker that could pass for one from a broadcast station. Quite colorful, it has "Spruance The Destroyer * DD-963" on it. The 'S' in 'Spruance" is a replica of the 'S' on Superman's outfit. (JDS-AL)

USCG Cutter Attu (WPB-1317). 5320 f/d PFC w/ ship's seal in 27 days.

V/s: (Illegible). (JDS-AL)

USS Guam (LPH-9). MARS Station NNN0KRQ, 14441.5 f/d PFC stamped w/ ship's stamp in 27 days. V/s: SMC (SW) Ronald Flagg. (JDS-AL)

USS John Hancock (DD-981). 5696 f/d PFC stamped w/ ship's stamp, plus a sticker, in 11 days after 4 followups. V/s: CW02 Lynn. (JDS-AL)

USS John Hancock (DD-981). MARS Station NNN0CZG, 14441.5 f/d PFC stamped w/ ship's stamp, plus a sticker, in 11 days after 4 followups. V/s: CW02 Lynn. (JDS-AL)

USCG Cutter Tampa (WMEC-902). 10780 & 6934 f/d PFC w/ ship's stamp, along with a sticker in 2 days after 3rd followup. V/s: Terry D. Brown (?) - TC2. (JDS-AL)

MISCELLANEOUS

Southbound II. 12359 n/d letter w/ business card and magazine article about their weather service in 57 ds. V/s: Brigitte (VE3LTA) and Herb (VE3LML) Hilgenberg. Address: 5468 Hixon Avenue, Burlington, ON L7L 3S2, Canada. (JDS-AL)

OTHERNESS

Received the following E-Mail from fellow WUNner Michael G. Beck of Globe Wireless (he's the one who signs the QSL cards):

"Just to let you know I will be changing positions. I am being transferred from our headquarters office to our Louisiana office. I still can be reached at : Globe Wireless, 1 Meyn Road, Half Moon Bay, CA 94019, Attn: Michael Beck.

My E-Mail addresses are:
QSL@globewireless.com
mbeck@globewireless.com

I will update you my new office address as soon as I am able to.

Thanks and Best Regards,
Michael G. Beck - Globe Wireless QSL Manager"

Thank you Michael for the update, and on behalf of all DXers, thank you for the great QSL service you have been providing. Best wishes in your move, and we look forward to an update once you get settled in at the new QTH.

==========

Abbreviations used:

f/d = Full data p/d = partial data n/d = no data
PFC = Prepared Form Card V/s = Verification signer

A hearty thank you to this month's contributors:

Michael G. Beck - Globe Wireless H.Q., California, U.S.A. (MB-CA)
Charles Bernth - Eastport, New York, U.S.A. (CB-NY)
John Svendsen - Oslo, Norway (JS-NORWAY)
J.D Stephens - Madison, Alabama, U.S.A. (JDS-AL)

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
- Nickname on IRC channels #wun, #monitor, #numbers: Ary-B -

Howdy folks! This month the 3rd part of the TSS series plus a new item, the Amateur Radio Intruder Watch. Further updates to the Radio Navigation series and the various PNG articles.

Please note that I urgently need your help to continue the column, so keep sending me your findings!

'Linking it to NATO. Tactical advantage via datalink' and 'Harnessing the C4ISR revolution' are two excellent articles (13 pages) about a.o. Link 11, 16 and 22, and other naval datalink systems in the October 1997 edition of Jane's Navy International. Check your local library or try to get a copy from the magazine from:

- Jane's Information Group or Jane's Information Group
  Sentinel House 1340 Braddock Place
  163 Brighton Road Suite 300
  Coulsdon Alexandria
  Surrey CR5 2NH VA.22314
  United Kingdom U.S.A.

I don't know if they sell back copies though.

Next month more about the various DATALINKS. Stay tuned!

AMATEUR RADIO INTRUDER WATCH <non-digital stations>

Provided by Costas Krallis and Thomas M. Roesner
Sources: DL5NEQ, NZ4NU, DK2OM, G4JUW, DL8AAM, 5Z4GD, DJ0MY.

o SOMALIAN MILITARY
Freqs: 21080 + 21090 kHz. Mode: USB. Time: 1128 utc
Somalian Military Net.

o VARIOUS AFRICAN STATIONS
Freq range: 7 MHz. Date: January 1998. The usual range of Somalis, DRC and southern Sudanese intruders can be heard here. Amongst them the French-speaking NGO on 7000 kHz and Somali military activity on 7003 kHz. Rather long skip late in the month brought in the Russian 'C' marker.

o TANZANIA
The Tanzania mission net on 7005 kHz remained active, as did the one on 7020 kHz.

The Tanzanian Peoples Defence Forces still uses 7078 kHz.

o UNID ASIAN AND AFRICAN STATIONS
A very new intruder has appeared on 7 MHz exactly, LSB, callsigns Nairobi Control, Japan Control, Alpha Japan, Meru, Julius, Joseph, Vincent, Kamotho and Kato.

o SPANISH STATIONS
Freq: 14090 kHz Mode: USB Date: 20-1-1998 Time: 17.30 UTC
Spaniards with ship traffic.

Freq: 21100 kHz Mode: USB Date: 5-2-1998 Time: 09.00 + 10.00 UTC
Spanish man from ship talking to his wife.

Freq: 21410 kHz Mode: USB Date: 21.02.1998 Time: 14.10 UTC
Male voice in Spanish: "Soy por aqui ... Melilla cambio!"
Then a woman answers in Spanish, only family traffic, no calls.

Freq: 7000 kHz Mode: USB Date: 13.02.1998 Time: 16.00 UTC
Freq: 14000 kHz Mode: USB Date: 13.02.1998 Time: 20.10 UTC
Spanish pirates Pepe, Paco, etc.

Freq: 10125 kHz. Mode: USB. Time: 18.30 UTC
2 Spaniards without call. Ship engine can be heard.

o GREEK SHIP TRAFFIC
Freq: 21110 kHz. Mode: USB. Date: 2-2-1998 Time: 10.14 UTC
Traffic between a Greek ship (male voice) and a woman, Greek language.

o NUNS AND PADRES
Freqs: 14290 + 14320 kHz. Mode: USB. Daily between 06.00-07.00 UTC
Italian padres and nuns with padres and nuns in Central Africa, family and church-traffic.

o FAR EAST
Freq: 18100 kHz   Mode: USB   Date: daily from 06.00-13.00 UTC
Language: unknown   Direction: 90 degrees from Germany
Could be URDU or SRI LANKA. Several persons, sometimes phonepatches

Standard frequency and time signal stations on LF and HF, pt.3

Time and Standard Frequency Station DCF77

Physikalisch-Technische Bundesanstalt (PTB) Braunschweig, Febuar 1984
Lab 1.21, Bundesalle 100, D-3300 Braunschweig
Translated from German by Peter Lamb, Swiss Fed. Inst. of Technology.

The 1978 law on time standards defines legal time in Germany on the basis of Coordinated World Time (UTC) and gives the PTB responsibility for the keeping and broadcasting of legal time. As well as this, the time standards law empowers the Federal government to issue regulations for the introduction of Summer Time.

Legal time in Germany is either Middle European Time (MEZ in German) or, in case of its introduction Middle European Summer Time (MESZ).
The following relationships hold between UTC and MEZ and MESZ.

```
MEZ(D)  = UTC(PTB) + 1h
MESZ(D) = UTC(PTB) + 2h
```

Legal time is generated in the PTB Atomic Clock Building in Braunschweig and it is broadcast mainly through the LF transmitter DCF77 which the PTB rents from the German Post Office (DBP). The PTB has sole responsibility for the control of DCF77, while the DBP has responsibility for the transmitter and antennas.

o DCF77 Specifications

Location: Mainflingen transmitter complex, (50:01N, 09:00E), ca. 25km south-east of Frankfurt a. Main.

Carrier Freq: Standard frequency 77.5kHZ, derived from the PTB atomic clocks. Relative deviation of the carrier from specifications:

averaged over 1d: <1e-12
averaged over 100d: <2e-13

The carrier phase is controlled so that deviations relative to UTC(PTB) are never greater than +-0.3us. Larger phase and frequency variation observed at the receiver are due to summation of ground and space waves.

Power output: Transmitter power 50kw, estimated emitted power approx. 25kW.

Antenna: 150m high (backup antenna 200m high) vertical omnidirectional antenna with top capacitance.

Transmissions: 24-hour continuous service. Short interruptions (of a few minutes) are possible if, because of technical problems or servicing, the service must be switched to

a backup transmitter or antenna. Thunderstorms can cause longer interruptions to the service.

Time signal: The carrier is amplitude-modulated with second marks. At the beginning of each second (with the exception of the 59th second of each minute), the carrier amplitude is reduced to 25% for the duration of either 0.1 or 0.2 seconds. The start of the carrier reduction marks the precise beginning of the second. The minute is marked by the absence of the previous second mark.

The second marks are phase-synchronous with the carrier. There is a relatively large uncertainty possible in the time of the second mark which depends on the receiver position. The causes are the relatively low bandwidth of the antenna, space wave and other interference sources. Despite this, it is possible to achieve accuracy better than 1ms at distances of several hundred kilometers.

Time code: The transmission of the numerical values for minute, hour, day, weekday, month and year are BCD-encoded through the pulse duration modulation of the second marks. A second mark with duration 0.1s encodes a binary 0 and a duration of 0.2s encodes 1. The order of encoding is shown in the following diagram [replaced by a table in this translation]. The three test bits P1, P2 and P3 extend the 3 major sections of the time code (7 bits for minutes, 6 bits for the hour and 22 bits for the date, including the week day number) to maintain an even count of 1's.

The second marks No. 17 and 18 indicate the time system for the transmitted time codes. In the case of transmission of MEZ, mark 18 has a duration of 0.2s and mark 17 a duration of 0.1s. If MESZ is being transmitted, this is reversed. Furthermore, an approaching transition from MEZ to MESZ or back is announced by extending mark 16 from 0.1 to 0.2s for one hour prior to the changeover.

o Encoding Scheme

Mark number(s)	Encodes (01.s=0, 0.2s=1)
0	Minute, always 0 (0.1s)
1-14	Reserved
15	0=Normal antenna, 1=backup antenna
16	1=Approaching change from MEZ to MESZ or back
17,18	Time zone 0,1=MEZ; 1,0=MESZ
19	The leap second is encoded in this bit one hour prior to occurrence.
20	Start bit for encoded time, always 1
21-27	1, 2, 4, 8, 10, 20, 40 Minutes (mark 21=1 minute)
28	P1 maintains even parity for marks 21-28
29-34	1,2,4,8,10,20 Hours (mark 29=1 hour)
35	P2 maintains even parity for marks 29-35
36-41	Day in month (1, 2, 4, 8, 10, 20)
42-44	Day in week (1,2,4)
45-49	Month number (1, 2, 4, 8, 10)
50-57	Year (1, 2, 4, 8, 10, 20, 40, 80)
58	P3 maintains even parity for marks 36-58 There is no mark transmitted for the 59th second.

o Additional information: DCF77

Since July 1983, the DCF77 carrier has been phase modulated in a test configuration. The phase modulation is a pseudorandom binary sequence sent twice each second. The clock frequency of the binary sequence is 645.833...Hz and the phase shift \Delta\tau about 3% of the period (\^{=} 10\deg). Equal numbers of shifts of +\Delta\tau and -\Delta\tau are always sent, so that the mean frequency remains unchanged, and the use of DCF77 as a frequency standard is unaffected. The timecode is

encoded in the sequence by inverting the sequence or not. Not inverted sequence corresponds to a 0 bit. The sequence is alleged to be generated by a 9 bit shift register which is coupled back on positions 5 and 9. The polynomial might be: x^9 + x^4 + 1.

Because the pseudo-random bitstring has a strictly deterministic nature, the correlation analysis at the receiver end leads to a correlation function with triangular form, and thereby to timing information. Early test results show that the time information received with the help of pseudo-random phase modulation is more resistant to interference and more accurate (standard deviation \approx 10\mu s during the day and \approx 25\mu s at night) than the conventional method using amplitude modulated second marks. Since this new modulation method is compatible with previous usage of DCF77, and that the users have made no difficulties known to us, the tests have been extended. The transmission of the pseudo-random phase distortion still has experimental status, and should not be seen as a permanent commitment. Further information will be made available in the future.

o Announcement bit for a leap second
The DCF77 control unit is currently being modified so that in future an announcement bit for a leap second can be sent. It is expected that for the first time on 1st July 1985 the second mark Nr. 19 will be extended to a length of 0.2s for one hour prior to the introduction of a leap second. Intelligent receivers will then be able to recognise the discontinuity and maintain correct indicated time in spite of a 61s minute.

Canada's Time Service

INTRODUCTION
The demands of science have pushed the capabilities for accurate time and frequency determination to very high levels that can meet almost all requirements. Accuracy levels are available in Canada that might appear excessively high for everyday applications, yet provide an economical basis for many modern systems of navigation and communication; for international acceptance of Canadian quality control measurements; and for measurements in diverse fields such as radio astronomy, spectroscopy, geodesy, length measurement, voltage measurement, broadcasting and much electronics manufacturing and testing.

There are also the more obvious requirements for time coordination: in radio and television networks, in automated data recording systems and in computer-controlled systems and networks. Quite apart from technical interests, part of the general public now demands time-of-day service accurate to the second for their quartz watches and clocks.

In Canada, the National Research Council (NRC) is the federal agency responsible for official time. Through the Time Standards group of its Institute for National Measurement Standards, NRC tries to satisfy requirements for time at all levels of precision, down to milliseconds and even to nanoseconds. It endeavors to make this service available throughout Canada, in some cases as a free public service, and in other cases on a fee-for-service basis.

Irrespective of the precision of the time obtained, NRC time is referred to its primary cesium atomic clocks, designed, built, and maintained at the NRC time standards laboratory in Ottawa. These clocks are used in conjunction with atomic clocks in the time laboratories of other countries to construct the internationally accepted scale of time, UTC (Coordinated Universal Time), which is now the reference for the official time used by all countries. UTC is the modern implementation of Greenwich mean time, incorporating the unequaled stability of atomic clocks. UTC is kept within a second of the time kept by the vastly more irregular rotation of the Earth by the use of a leap second, if required, at 00:00 UTC January 1 or July 1.

As a major contributor in the development of atomic clocks, NRC has played a significant role in the regulation of UTC through international organizations since well before the present implementation of UTC in 1972.

TIME OF DAY ANNOUNCEMENTS
Both the English and French radio networks of the Canadian Broadcasting Corporation carry the NRC time signal once per day, the former at 13:00 and the latter at 12:00 noon Eastern Standard or Daylight Time.

SHORT WAVE RADIO TIME SIGNALS
Time accuracy superior to telephone time accuracy is available throughout Canada and in many other parts of the world by means of NRC's radio time signals broadcast continuously from short wave radio station CHU. If corrections are made for the propagation delay from CHU to the user, and for delays in the user's receiver, an accuracy of better than 1 ms can be obtained. Signal availability at a user's location depends on ionospheric conditions. CHU also broadcasts a time code which can be decoded with common computers and modems.

Three frequencies are used: 3330, 7335, and 14670 kHz. The transmission mode, upper single sideband with carrier re-inserted, provides time signal service without requiring a special SSB radio, and also provides three standard frequencies. The frequencies are derived from one of a trio of closely synchronized atomic clocks located at the transmitter site. Three clocks are employed to permit majority logic checking. CHU time signals are also derived from these clocks. The clocks at the CHU transmitter site, about 20 km from NRC's time laboratory, are compared daily with the NRC primary cesium clocks.

The CHU station is located 15 km southwest of Ottawa at 45o 17' 47" N, 75o 45' 22" W. Main transmitter powers are 3 kW at 3330 and 14670 kHz, and 10 kW at 7335 kHz. Individual vertical antennas are used for each frequency. The electronics systems feeding the transmitters are duplicated for reliability, and have both battery and generator protection. The generator can also supply the transmitters. The announcements are made by a talking clock using digitally recorded voices.

Normally CHU's emission times are accurate to 10-4 s, with carrier frequency accuracy of 5x10-12, compared to NRC's primary clocks, which are usually within 10 microseconds and 1x10-13 compared to UTC. UTC is the international official time reference. It is constructed by the Bureau International des Poids et Mesures, based on the average of laboratory and commercial atomic clocks located in laboratories around the world. It is steered in frequency using the primary cesium standards (such as those at NRC) located at some of the major time laboratories. UTC loosely follows the irregularities of the astronomical time scale UT1, which is needed in astronomical observations and in celestial navigation. Since 1972, leap seconds have been used to keep UTC within 0.9 s of UT1. The difference [UT1-UTC] is called DUT1, and this fraction of a second [-0.8 s to +0.8 s] is broadcast by means of an internationally accepted code. To decode the size of DUT1, in tenths of a second, a user counts the number of emphasized seconds markers in one minute. For CHU, the emphasized seconds pulses are split, so that a double tone is heard. When the emphasis is on seconds 1 through 8, DUT1 is positive; and when DUT1 is negative, seconds 9 through 16 are used.

The complete sequence of the CHU time signals, is as follows. The first minute of each hour commences with a full 1 s pulse of 1000 Hz tone, followed by 9 s of silence, and then the normal pattern of 0.3 s pulses of 1000 Hz at one-second intervals. The normal pattern for each of the next 59 minutes starts with a 0.5 s 1000 Hz pulse, followed by the DUT1 code employing split 0.3 s pulses where required, and normal 0.3 s pulses up to and including that at 28 seconds.
The pulse at 29 seconds is omitted. Following the normal pulse at 30 seconds, for a 9 s period, 1000 Hz pulses of 0.01 s occur, each followed by the CHU FSK digital time code described in CHU Broadcast Codes. The pulses between 40 and 50 seconds are of normal length. In the final 10s period of each minute a bilingual station identification and time

announcement is made, with the 1000 Hz seconds pulses shortened to "ticks". Each minute's - announced time refers to the beginning of the pulse which follows. Since April 1 '90, the announced time is always UTC.

The data is in the form of an FSK data stream. The frequencies are compatible with the Bell 103 standard: 2225 Hz mark and 2025 Hz space. The carrier is active between 10 and 510 msec past the second. Each byte of data is encoded as one start bit, 8 data bits and two stop bits. there are ten bytes in each packet, and the last stop bit ends at precisely 500 msec past the second. (1 start bit + 8 data bits + 2 stop bits) x 10 characters = 110 bits. Each bit takes 1/300 of a second (300 bps). So the whole code takes 366.66... msec. 500 - 366.66... = 133.33...msec.

The data stream itself consists of ten bytes. There are two formats: format "B" for second 31 and format "A" for seconds 32 through 39. Each format has 5 bytes of data, then 5 bytes of redundancy. The "A" format redundancy bytes are exactly the same as the data bytes. The "B" format redundancy bytes are exactly inverted (one's complement, NOT, XOR 0xff, etc.) from the data bytes. This is how one can tell what sort of frame was received.

Once the data is received and the redundancy bytes are checked, the next thing to do is to swap the least and most significant nibbles in each byte. After doing all of this, the frames look like this:

A frame: 6D DD HH MM SS

DDD is the day of the year. HH:MM:SS is the time UTC. 6 is a constant. Each nibble is a BCD digit.

B frame: XZ YY YY TT AA

Z is the absolute value of DUT1 in tenths of a second. YYYY is the Gregorian year, TT is the difference between TAI and UTC, AA is a byte for a code number for the daylight saving time pattern in effect at this time across all time zones of Canada. The x is coded as follows:

```
   8  4  2  1
   |  |  |  |
   |  |  |  +--- The sign of DUT1 (0=+).
   |  |  +------ Leap second warning. One second will be added.
   |  +--------- Leap second warning. One second will be subtracted.
   +------------ Even parity bit for this nibble.
```

A sample A frame as received from the modem might look like this:
36 95 21 51 53 36 95 21 51 53

Note that these numbers are in hex. This translates to the 359th day of the year (Dec 25, or Dec 24 in a leap year), 12:15:35 UTC.

A sample B frame as received from the modem might look like this:
19 91 39 72 00 E6 6E C6 8D FF

This translates to a DUT1 of -0.1, year 1993, TAI-UTC=27, serial number 00 for Canada's daylight saving pattern.

DAYLIGHT SAVING TIME IN CANADA:
Clocks are turned forward by one hour on the first Sunday in April and turned back on the last Sunday of October. Most of Saskatchewan does not change their clocks. The daylight saving time code pattern #00 has been in effect since 1988 and will be in effect until further notice. If policies change the hour or date of daylight saving time in any zone, this will be documented and a new number will be assigned.

REMOTE CALIBRATIONS
Some Canadian calibration laboratories have received formal NRC recognition of their capabilities for time or frequency measurement under

the auspices of the Calibration Laboratory Assessment Service (CLAS). Current information about these laboratories' recognized measurement capabilities may be obtained from the NRC Institute for National Measurement Standards. Accurate time comparisons between the NRC time laboratory and other locations in Canada can be arranged if a suitable common-mode signal exists. TV line 10, Loran C, and GPS signals can be used to obtain time comparisons with NRC accurate to a few tens of nanoseconds, in the most favourable cases.

Radio Navigation Signals

The following press release was forwarded to me by Roger Caird. This is an interesting development. Thanks Roger!

o EUROFIX / LORAN-C
Eurofix - Differential Global Positioning System (dGPS) on Loran-C. Introducing a revolutionary concept for Loran-C/GPS integration and expansion of DGPS coverage.

The Northwest European Loran-C System (NELS) is established by Denmark, Germany, France, Ireland, the Netherlands and Norway to offer a regional, terrestrial radionavigation system for Northwest Europe.

The establishment of NELS has acted as a stimulus to Loran-C research and development at European universities and scientific laboratories. One result of this activity is the development by the Delft University of Technology in the Netherlands of an integrated navigation system called Eurofix - a system which combines Loran-C and dGPS by sending differential satellite corrections to users as time modulated signal information on the Loran-C signal without interfering with the Loran-C radionavigation function.

Eurofix test transmissions from the Loran-C station at Sylt in Germany have been ongoing for almost one year. The results of tests done in this period are very promising. A decision has therefore been made to implement Eurofix on another three stations; Lessay (France), Vaerlandet and Boe (Norway) offering Eurofix coverage throughout the area of the current NELS Loran-C coverage. Schedule for actual implementation is pending certain national funding authorisation procedures. A plan for full implementation of Eurofix on all NELS stations will be presented to the NELS Steering Committee, the system's supreme authority, in the spring of 1998.

Subject to such implementation, there is a potential for further Eurofix coverage expansion in Europe by making use of the existing Loran-C infrastructure in the Mediterranean Sea area and the Russian Chayka (Loran-C equivalent) infrastructure.

Eurofix can act as a DGPS system when using a Loran-C standard GPS correction output message fed into a suitably equipped GPS receiver. It does also allow position calculation using both DGPS and Loran-C and comparison of the two systems. If either system fails, the other can take over thus improving availability and continuity. Finally, Eurofix allows full DGPS/Loran-C integration which in a given situation will make for instance Loran-C act as a satellite source. A user will in this example be able to calculate a three dimensional position with only three satellites available.

The coverage of Eurofix is estimated to be at least 1000 km from each Eurofix equipped Loran-C transmitter. Fully implemented, an absolute accuracy of better than 5 meter and an availability of better than 99,9996% per month is achievable.

The NELS Eurofix programme is fully in line with the EU's policy on radionavigation system developments in Europe for the year 2000 and beyond.

Point of contact: Northwest European Loran-C System (NELS)
Co-ordinating Agency Office (CAO)
Langkaia1
N-1050 Oslo - Norway
Phone: +47 23 09 24 76
Fax: +47 23 09 23 91

o FROM OMEGA TO SUBMARINE STATION
This item comes from the "Seawaves Book Order Service" via Costas Krallis. Thanks OM!

RAN Acquires Gippsland navigation station

The Royal Australian Navy has acquired the Omega Navigation Station at Woodside, near Sale, Victoria, to use as a Very Low Frequency communication station for its submarines. VLF transmissions are particularly suited for communicating with submarines at depth.

Navy is currently negotiating with the Australian Maritime Safety Authority (AMSA) to run the station on its behalf from early next year. Three full-time and several part-time AMSA staff will maintain and operate the transmitter and aerial, under direction from Maritime Headquarters in Sydney.

The Omega Navigation Stations were the first world wide navigation system and were used by the aviation and maritime industries, as well as submarines. They were also used for an accurate time signals using Caesium atomic clocks, and recently, by meteorological bureaus to plot the course of weather balloons in the Antarctic.

Superseded by the greater accuracy provided by Global Positioning Systems (GPS) satellites, the world wide Omega system was shut down recently.

With the fourth highest man-made structure in the world at 427 metres, the Omega antenna at Woodside will remain a tourist attraction and the public viewing room will remain open for this next phase in its history. When it was built with high tensile steel in the early 80's, the Woodside Omega station was an Australian engineering feat that was designed by the Department of Housing and Construction.

Commissioned in 1982, the Woodside station is the last of eight stations that made up the world wide system. There were two in the US at North Dakota and Hawaii, one in Australia, La Reunion off Africa, Argentina, Norway, Liberia in North Africa and Japan. The United States, Norway and France, countries that operate submarines, are also transforming their Omega stations to provide submarines with navigation fixing services.

In its former role, the Omega system relied on cooperation between Governments, with the technical support and transmission equipment provided by the United States Coast Guard, and the host country provided the land, antenna and operating costs.

The Woodside Omega Navigation Station will now be an Australian facility supporting Australian submarine operations.

More Papua New Guinea news

Nick Lock supplied again new info about NPG stations. Thanks Nick!

A good contact address for the Seventh-Day Adventist Church for QSL purposes is: Radio Network Manager
SDA Aviation
P.O. Box 301
Goroka
Papua New Guinea 441

Telephone: (675) 72 1264. Fax: (675) 72 1030.

This is their aviation base. They fly 2 x Cessna 206, callsigns P2-SDA and P2-SDB

A full list of contact addresses for this organisation, which includes addresses for stations operating in this radio network, is at:

http://www.adventist.com.au/spdadmin/institpngum.html

o C.R.M.F.
In addition to the six channels (published in Nov.'97), PNG Spectrum Management has allocated a further three channels (SSB voice/data). These are USB, suppressed carrier frequencies 5197, 5794 and 7309 kHz.

5197 and 7309 kHz will be paired as a two-freq half-duplex "autopatch" telephony interconnect, with PSTN interconnect station being P2F899 Goroka (ie CRMF HQ). Any of the 700+ church/mission outstations in PNG will be able to initiate and receive calls via this service, once they have established account arrangements with CRMF.

5794 kHz will be added to the suite of single frequency simplex channels in current operation for point-point church administration.

o PNG Telikom
As a separate item, PNG Telikom is now operating an HF radio "autopatch" radio-telephony service via Port Moresby.

Frequencies are (USB, scf) Port Moresby

TX	RX
2584	2800
4630	4520
5737	5870
7343	7944
10294	10644
13945.5	13988

Signaling is via Australian standard selcall (a variant on CCIR two tone FSK), and PSTN subscribers can dial in and set up calls using DTMF keypad.

This service is accessible to all of the thousands of HF outstations in PNG, after account arrangements are complete.

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THE MILITARY NEWSREEL

---- Military Information of use to the UTE monitor ----

David C. Wright, Editor

email: dcwright@gte.net or dcwright@usa.net
#monitor id: DaveWUN

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Welcome, everyone, to this month's edition of The Military Newsreel. As the column heading indicates, I have taken the helm as editor of this column from Ary Boender. I would like to start out by thanking Ary for bringing the military column back from the world of "cyber-oblivion" it was in for awhile. Thanks a lot, Ary.
The goal of this column is to provide you, the UTE monitor, with information regarding the world's military forces. Much of the information

will come from you, the reader, and I'll try to fill in the blanks as much as possible. I am inviting you all to send in your military news so that it can be included in the column.
In addition, I will be attempting to focus on various military organizations that may be routinely monitored by the UTE listeners around the world. These focus-articles will include information such as frequencies, callsigns, and order-of-battle information. Again, the amount of information available will be dictated by what the readers
provide. Let's all take a look at a tentative schedule of upcoming focus articles to see what to expect, and to see what type of information you may be able to provide:

Focus-Article #1	February 98	- US Coast Guard Air (this issue)
Focus-Article #2	April 98	- Royal Australian Navy
Focus-Article #3	June 98	- US Army Transportation Corps
Focus-Article #4	August 98	- Royal Australian Air Force
Focus-Article #5	October 98	- Canadian Forces

Remember, we are looking for information such as callsigns, order-of-battle, and frequency usage for these focus-articles. Feel free to send any available information to either of my email addresses listed at the top of the column. Lastly, if the information comes in fast enough, and with enough volume, then I'll consider changing the focus-articles into a monthly, rather than bimonthly, section of the column.

Now for the news...

- Military News -

LANGLEY AIR FORCE BASE, Va. (AFNS) -- The Air Force will name the nation's newest B-2 Spirit stealth bomber the "Spirit of Arizona" in a ceremony at Davis-Monthan Air Force Base, Ariz., March 20.

The Spirit of Arizona, the 18th B-2 stealth bomber to be named, will be on display immediately following the ceremony, which is open to the public

Scheduled to preside over the activity are Gen. Richard E. Hawley, commander of Air Combat Command, and Mr. Kent Kresa, chairman of the board, president and chief executive officer of Northrop Grumman Corp.

Col. John D.W. Corley, commander of the 355th Wing at Davis-Monthan AFB, will host the event. Also invited to attend the ceremony are all members of Arizona's congressional delegation and Arizona's governor.

The B-2 stealth bomber, based at Whiteman AFB, Mo., is capable of delivering conventional and nuclear munitions anywhere on the globe. Its combination of low observability, large-payload capacity, near-precision munitions and long range give it a unique ability to penetrate sophisticated defenses and threaten an enemy's war-making capability.

The B-2 Spirit is an integral part of the Air Force's bomber force, which also includes the B-1B Lancer and the B-52H Stratofortress. Together, this bomber fleet gives the nation the capability to rapidly respond to crises anywhere in the world with tremendous lethality, at minimal risk to American lives. (Courtesy of Air Combat Command News Service)

Before turning over the column, Ary had compiled the following info from Bob Margolis. Following is Ary's write-up on this material.

Via Bob Margolis I received an interesting list of US Army radio gear. Nice shack guys :-)

Telecommunications Equipment

Section I. Teletypewriter Equipment

AN/UGC-74A(V)3 Communications Terminal
NSN: 5815-01-062-8194
Reference: TM 11-5815-602-10

o General Information
The AN/UGC-74A(V)3 is a message communications terminal used to compose, edit, store, transmit, receive, and print Army record traffic communications. The AN/UGC-74A(V)3 will interface/operate with existing and post-1980 communications security (COMSEC) equipment. It can communicate bit serial data represented in ITA-2 (Baudot) or American standard code for information interchange (ASCII) codes. The mode of transmission shall be asynchronous or synchronous depending on the data rate. The AN/UGC-74A(V)3 is designed to replace current tactical electromechanical teletypewriter equipment.

o Technical Characteristics
Method of Transmitting: Standard four-row keyboard plus four special keys
Method of Receiving: Page copy only, single or multiply roll paper
Type of Signal: 20 or 60 mA neutral operation and Lo Data
Operation Mode: Full or half duplex
Speed Option: 60 to 1,600 wpm
Power Requirement: 22 to 30 V DC (DC power to maintain memory only in the event of AC power loss), 115 V AC, 50, 60, or 400Hz. 230 V AC, 50, 60, or 400 Hz
Power Consumption: 100 W max
Weight: 45.4 kg (100 lb) two-man carry

AN/UGC-144 Communications Terminal
NSN: 5815-01-262-4611
Reference: TM-11-7025-267-12

o General Information
The AN/UGC-144 provides single subscriber operation. When in a network, the unit has a full-duplex asynchronous communications capability. It operates at signaling speeds of 45.5 to 32,000 b/s at ASCII data transfer rates. The single subscriber terminal (SST) can compose, edit, display, refile, store, transmit, and receive messages. It can monitor narrative message traffic in the R, U, and Y communities and can provide terminal-to-terminal voice communications if needed. ASCII or BAUDOT modes are available with normal input keying capability. The companion printer is a portable 85 column (or optional 136 column) serial, dot matrix line printer/plotter. It is a medium speed device that includes interface data, power supply, paper supply, and control mechanisms. It produces an alphanumeric printout at 50 to 240 characters per second depending on character font and number of characters per line selected.

o Technical Characteristics
TERMINAL:
Data Transfer Rate: DACB rates: 2,400 to 32,000 b/s
Non DACB rates: 75X2n to 9,600, 16,000, and 32,000 b/s
BAUDOT rates: 45.5, 50, and 75
Access Time: 10 msec
Primary Voltage Input: 100/130 V AC, 48/63 Hz or 200/260 V AC, 48/63 Hz
Consumption: 93 W
Dissipation: 15 W
Battery: Four 1.5-V NI-CAD, C-size
Height (Closed): 25 cm (10.0 in)
Height (Open): 43 cm (17.0 in)
Width: 51 cm (20.0 in)
Depth: 56 cm (22.0 in)
Weight: 25 kg (55 lb)
PRINTER:
Speed: 150/240 cps
Primary Voltage Input: 100/130 V AC, 48/63 Hz or 200/260 V AC, 48/63 Hz
Consumption: 13 W average
Height (Closed): 15 cm (6.0 in)
Height (Open): 19 cm (7.5 in)
Width: 38 cm (15.0 in)
Depth: 36 cm (14.0 in)
Weight: 6 kg (13.2 lb) without paper

MOD-40/8B Data Terminal
NSN: Not available
Reference: Not available

o General Information
The MOD-40/8B airport surveillance radar (ASR) terminal provides interactive data communications with a central message processor or other similarly equipped terminals. It includes a keyboard/display (KD) and also may be equipped with up to three cassette-drive units for storage and retrieval. The message being prepared locally or being received may be displayed on the computer terminal cathode ray tube (CRT) for editing prior to transmission or to storage on cassette. It also is equipped with an 80-column tractor-feed printer. The MOD-40/8B can be interfaced with automated message media equipment (AMME), automatic digital network (AUTODIN), and the AN/TYC-39.

o Technical Characteristics
Method of Transmitting: Standard four-row keyboard plus special keys
Method of Receiving: Screen display, magnetic tape, and page printer
Operation Mode: Full duplex

Section II. Facsimile Equipment and Tactical Computer Systems

AN/GXC-7A Tactical Facsimile Set
NSN: 5815-01-067-4655
Reference: TM 11-5895-1079-14-1

o General Information
The AN/GXC-7A is a lightweight, rugged, portable, low power system capable of operating from standard and vehicular power. It enables electronic transmission/reception of typed or handwritten record traffic, maps, overlays, drawings, photographs, and other types of documents containing black and white, color, or gray shades. The tactical fax will operate over existing and proposed standard voice radios and wire circuits.

o Technical Characteristics
Printing: Any paper, using carbon paper transfer, including single copy sets, multiple copy sets, transparencies, map overlays, and view graphs
Power Requirement: 115/230 V AC, 47/400 Hz or 22/32 V DC, 50 W
Weight: 24 kg (53 lb) including carrying case

AN/UXC-7 Tactical Digital Facsimile Set NSN: 5815-01-187-7844
Reference: TM 11-5815-615-10

o General Information
The AN/UXC-7 is a lightweight digital facsimile (LDF) set, rugged, waterproof, low power system capable of operating from standard alternating current (AC) and vehicle direct current (DC) power. It enables electronic transmission/reception of typed or handwritten record traffic, view graphs, map overlays, transparencies, and hand-drawn copies in black and white and eight shades of gray. The LDF will operate over existing and proposed voice radios and wire circuits; full digital or analog data/voice capability. Its brief transmission (burst) reduces the chance of detection by the enemy. The LDF set can store data in memory, and then can send in a short, high-speed transmission requiring 7 to 15 seconds to transmit a full page.

o Technical Characteristics
Printing: Prints on any paper, using carbon paper transfer. Receives on single or multiple copy sets.
Power Requirements: 115/230 V AC, 47/420 Hz; 22/32 V DC
Power Consumption: 55 W AC standby; 98 W AC operating 50 W DC standby;

90 W DC operating
Weight: 24.9 kg (55 lb) including carrying case

>>>>> Focus-Article #1 <<<<<

This month's focus-article is aimed at the air assets of the USCG. What follows is the latest version of the USCG Air Listing maintained on the WUN homepage. In January the listing underwent a major re-write with several new sections added, along with an expanded description of all USCG air assets. This listing is updated each month, with the newest version available on the WUN homepage (www.gem.net/~berri/wun) around the 10th of each month.

- Focus on USCG Air -

This list is constantly being updated; with new information being added as it becomes available. Check out the "Recent News" section each month for details on the changes make or information added. A "master listing" of all prior Recent News is maintained by Dave Wright and is available to anyone who requests it. If anyone has any recent logs, including those from VHF and UHF intercept, or any spotters information, feel free to send this information to Dave Wright or Rick Baker at the addresses given at the bottom of the list

Worldwide UTE News Club (WUN) Info File
Inventory of U.S. Coast Guard Aircraft & Homeplates
(Revised 02-28-98, Copyright 1998 WUN)

NO.	MODEL	HOMEPLATE	LAST HRD	REMARKS
01	C-20B	CGAS Washington D.C.	02-03-97	Commandant's Gulfstream III
02	VC-4A	CGAS Miami	09-15-97	VIP Gulfstream I
1500	HC-130H	CGAS Elizabeth City	12-02-97	
1501	HC-130H	CGAS Elizabeth City	02-13-97	
1502	HC-130H	CGAS Elizabeth City	02-21-98	
1503	HC-130H	CGAS Elizabeth City	01-27-98	
1504	HC-130H	CGAS Elizabeth City	02-19-98	
1600	HC-130H	Crashed, Out of Service		
1601	HC-130H	CGAS Sacramento	01-30-98	
1602	HC-130H	CGAS Sacramento	12-12-97	
1603	HC-130H	CGAS Sacramento	01-29-98	
1700	HC130H7	CGAS Kodiak	02-24-98	
1701	HC130H7	CGAS Kodiak	02-05-98	
1702	HC130H7	CGAS Barbers Point	02-18-98	
1703	HC130H7	CGAS Sacramento	01-07-98	
1704	HC130H7	CGAS Barbers Point	02-22-98	
1705	HC130H7	CGAS Barbers Point	01-15-98	
1706	HC130H7	CGAS Kodiak	02-23-98	
1707	HC130H7	CGAS Kodiak	10-13-97	
1708	HC130H7	CGAS Kodiak	02-05-98	
1709	HC130H7	CGAS Kodiak	01-22-98	
1710	HC130H7	CGAS Clearwater	02-22-98	
1711	HC130H7	CGAS Clearwater	12-05-97	
1712	HC130H7	CGAS Clearwater	12-05-97	
1713	HC130H7	CGAS Clearwater	09-08-97	
1714	HC130H7	CGAS Barbers Point	01-29-98	
1715	HC130H7	CGAS Elizabeth City	02-03-98	
1716	HC130H7	CGAS Clearwater	02-22-98	
1717	HC130H7	CGAS Clearwater	02-22-98	
1718	HC130H7	CGAS Clearwater	02-04-98	
1719	HC130H7	CGAS Clearwater	01-27-98	
1720	HC130H7	CGAS Clearwater	09-08-97	
1722	HC130H7	CGAS Barbers Point	07-30-96	
1790	HC130H7	CGAS Elizabeth City	02-28-98	
2101	HU-25B	CGAS Corpus Christi	12-05-97	
2102	HU-25A	Davis Monthan, Storage		

2103	HU-25B	CGAS Corpus Christi ?	12-14-97	
2104	HU-25C	CGAS Miami	08-09-97	
2105	HU-25A	Davis Monthan, Storage		
2106	HU-25A	Davis Monthan, Storage		
2107	HU-25A	CGAS Cape Cod	02-22-98	
2108	HU-25A	Davis Monthan, Storage		
2109	HU-25A	Davis Monthan, Storage		
2110	HU-25A	CGAS Miami	11-16-97	
2111	HU-25B	CGAS Corpus Christi	01-29-98	
2112	HU-25C	CGAS Miami	02-19-98	
2113	HU-25A	Davis Monthan, Storage		
2114	HU-25A	Davis Monthan, Storage		
2115	HU-25A	CGAS Miami	01-27-98	
2116	HU-25A	Davis Monthan, Storage		
2117	HU-25A	FAA AANC, Albuquerque,		Testbed Aircraft
2118	HU-25B	CGAS Cape Cod	02-28-98	
2119	HU-25A	Davis Monthan, Storage		
2120	HU-25A	ATC Mobile	02-03-98	
2121	HU-25A	Unknown	05-09-97	
2122	HU-25B	ATC Mobile	01-29-98	
2123	HU-25A	Davis Monthan, Storage		
2124	HU-25A	ATC Mobile	01-30-98	
2125	HU-25B	CGAS Corpus Christi	12-08-97	
2126	HU-25B	CGAS Cape Cod	02-05-98	
2127	HU-25A	Davis Monthan, Storage		
2128	HU-25A	Davis Monthan, Storage		
2129	HU-25C	CGAS Miami	01-29-98	
2130	HU-25A	Davis Monthan, Storage		
2131	HU-25C	CGAS Miami	01-08-98	
2132	HU-25B	ATC Mobile	11-20-97	
2133	HU-25C	CGAS Miami	02-10-98	
2134	HU-25A	Unknown	02-22-98	
2135	HU-25C	CGAS Miami	02-01-98	
2136	HU-25A	CGAS Cape Cod	01-30-98	
2137	HU-25A	Davis Monthan, Storage		
2138	HU-25A	Davis Monthan, Storage		
2139	HU-25C	CGAS Miami	02-25-98	
2140	HU-25C	CGAS Miami	02-17-98	
2141	HU-25C	CGAS Miami	02-22-98	
2142	HU-25A	Unknown	02-28-97	
6001	HH-60J	CGAS Cape Cod	12-31-97	
6002	HH-60J	CGAS Elizabeth City	02-19-98	
6003	HH-60J	Unknown, W. Coast	01-17-98	
6004	HH-60J	CGAS Clearwater	12-17-97	
6005	HH-60J	CGAS San Diego	08-13-97	
6006	HH-60J	ATC Mobile	02-05-98	
6007	HH-60J	CGAS Cape Cod	02-01-98	
6008	HH-60J	CGAS San Diego	11-14-97	
6009	HH-60J	CGAS Elizabeth City	01-25-98	
6010	HH-60J	CGAS Clearwater	02-22-98	
6011	HH-60J	CGAS Sitka	02-08-98	
6012	HH-60J	CGAS Clearwater	02-23-98	
6013	HH-60J	CGAS North Bend?/Astoria?	01-28-98	
6014	HH-60J	CGAS Cape Cod/E. City?	01-12-98	
6015	HH-60J	CGAS Clearwater	02-19-98	
6016	HH-60J	CGAS San Diego	10-01-97	
6017	HH-60J	CGAS Sitka	02-24-98	
6018	HH-60J	CGAS Sitka	02-24-98	
6019	HH-60J	CGAS Elizabeth City	02-09-98	
6020	HH-60J	Unknown, E. Coast	02-22-98	
6021	HH-60J	CGAS Cape Cod	01-28-98	
6022	HH-60J	CGAS Clearwater	01-28-98	
6023	HH-60J	CGAS Kodiak/CGAS Sitka?	10-31-97	
6024	HH-60J	CGAS Clearwater	02-01-98	
6025	HH-60J	Unknown, ATC Mobile?	10-02-97	Seen at Houston/C. Christi
6026	HH-60J	CGAS Kodiak	11-18-97	
6027	HH-60J	CGAS Kodiak	12-11-97	
6028	HH-60J	CGAS Kodiak	02-04-98	

6029	HH-60J	CGAS Sitka	02-11-98
6030	HH-60J	CGAS Clearwater	08-31-97
6031	HH-60J	CGAS Clearwater	08-12-97
6032	HH-60J	CGAS Clearwater	01-29-98
6033	HH-60J	CGAS Kodiak	01-18-98
6034	HH-60J	CGAS Elizabeth City	01-21-98
6035	HH-60J	CGAS Clearwater	02-20-98
6036	HH-60J	CGAS Elizabeth City?	10-02-97
6037	HH-60J	CGAS Clearwater	11-05-97
6038	HH-60J	CGAS Clearwater	01-16-98
6039	HH-60J	CGAS Clearwater	12-06-97
6040	HH-60J	ATC Mobile	08-15-97
6041	HH-60J	CGAS Kodiak	02-22-98
6042	HH-60J	CGAS San Diego	01-25-98
6500	HH-65A	CGAS Barbers Point	12-17-96
6501	HH-65A	CGAS Cape May	06-30-97
6502	HH-65A	CGAS New Orleans	09-15-97
6503	HH-65A	CGAS Traverse City	09-15-97
6504	HH-65A	Unknown	
6505	HH-65A	CGAS San Francisco	07-11-96
6506	HH-65A	CGAS Detroit	01-16-98
6507	HH-65A	CGAS Corpus Christi	01-16-98
6508	HH-65A	CGAS Savannah	02-08-98
6509	HH-65A	CGAS Barbers Point	03-26-97
6510	HH-65A	Unknown	
6511	HH-65A	CGAS Cape May	06-30-97
6512	HH-65A	CGAS Sitka	02-13-98
6513	HH-65A	CGAS Brooklyn	05-15-97
6514	HH-65A	Unknown	11-12-97
6515	HH-65A	CGAS San Francisco	11-17-97
6516	HH-65A	CGAS Houston	11-13-97
6517	HH-65A	CGAS Borinquen?	01-29-98
6518	HH-65A	Unknown	02-27-97
6519	HH-65A	CGAS Humboldt Bay	12-26-96
6520	HH-65A	CGAS Houston	11-24-97
6521	HH-65A	CGAS New Orleans	08-15-96
6522	HH-65A	CGAS Cape May	09-17-96
6523	HH-65A	CGAS Kodiak	01-06-97
6524	HH-65A	CGAS Traverse City	09-29-97
6525	HH-65A	CGAS Los Angeles	04-14-96
6526	HH-65A	CGAS San Francisco	06-15-97
6527	HH-65A	Unknown	
6528	HH-65A	CGAS Kodiak/CGAS Sitka	01-06-97
6529	HH-65A	CGAS Brooklyn	12-21-97
6530	HH-65A	Unknown	
6531	HH-65A	CGAS Traverse City	09-29-97
6532	HH-65A	CGAS Miami	05-15-97
6533	HH-65A	CGAS New Orleans	08-15-97
6534	HH-65A	CGAS Humboldt Bay	06-15-97
6535	HH-65A	CGAS Traverse City	09-15-96
6536	HH-65A	CGAS Detroit	05-31-97
6537	HH-65A	CGAS San Francisco	01-21-98
6538	HH-65A	CGAS Humboldt Bay	06-15-97
6539	HH-65A	CGAS Brooklyn	05-10-97
6540	HH-65A	CGAS New Orleans	09-15-97
6541	HH-65A	Crashed, Out of Service	
6542	HH-65A	CGAS Barbers Point	10-19-96
6543	HH-65A	Unknown	
6544	HH-65A	CGAS Savannah	10-28-97
6545	HH-65A	CGAS Borinquen	12-12-97
6546	HH-65A	Crashed, Out of Service	
6547	HH-65A	CGAS Corpus Christi	09-15-97
6548	HH-65A	Unknown	
6549	HH-65A	Crashed, Out of Service	
6550	HH-65A	Unknown	
6551	HH-65A	CGAS Corpus Christi	02-20-98
6552	HH-65A	CGAS San Francisco	04-15-97
6553	HH-65A	CGAS San Francisco	09-15-97

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6554 HH-65A  CGAS Corpus Christi        09-15-97
6555 HH-65A  CGAS New Orleans           12-14-97
6556 HH-65A  ATC Mobile                 09-15-97
6557 HH-65A  CGAS Miami                 05-08-97
6558 HH-65A  CGAS Savannah              01-16-98
6559 HH-65A  CGAS Miami                 01-05-98
6560 HH-65A  CGAS Miami                 02-05-98
6561 HH-65A  CGAS Los Angeles           04-27-97
6562 HH-65A  CGAS Humboldt Bay          01-18-98
6563 HH-65A  CGAS Brooklyn              02-11-97
6564 HH-65A  CGAS Mobile                06-15-96
6565 HH-65A  CGAS Detroit               12-17-97
6566 HH-65A  CGAS San Francisco         12-09-97
6567 HH-65A  CGAS Savannah              01-15-96
6568 HH-65A  CGAS Houston               01-16-98
6569 HH-65A  CGAS Barbers Point         10-09-97
6570 HH-65A  CGAS Savannah              01-13-98
6571 HH-65A  ATC Mobile?                12-16-97
6572 HH-65A  CGAS Houston               11-24-97
6573 HH-65A  CGAS Savannah              01-26-98
6574 HH-65A  Unknown
6575 HH-65A  CGAS Corpus Christi        09-15-97
6576 HH-65A  Unknown                    12-03-96
6577 HH-65A  CGAS Traverse City         09-26-96
6578 HH-65A  Unknown, E. Coast          08-01-97
6579 HH-65A  Unknown
6580 HH-65A  CGAS Cape May              06-30-97
6581 HH-65A  CGAS Miami                 05-31-97
6582 HH-65A  Unknown
6583 HH-65A  CGAS Detroit               04-20-97
6584 HH-65A  CGAS Los Angeles           04-15-97
6585 HH-65A  Unknown
6586 HH-65A  Unknown
6587 HH-65A  Unknown
6588 HH-65A  CGAS Corpus Christi        04-15-96
6589 HH-65A  CGAS Port Angeles          06-15-97
6590 HH-65A  Unknown                    02-19-97
6591 HH-65A  Unknown
6592 HH-65A  CGAS New Orleans           06-26-97
6593 HH-65A  CGAS North Bend            02-05-98
6594 HH-65A  Unknown
6595 HH-65A  CGAS Brooklyn              09-17-97
8101 RU-38A  CGAS Miami
8102 RG-8A   Crashed, Out of Service
8103 RU-38A  GCAS Miami
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USCG callsigns for DEA drug interdiction missions
##A             HH-65A?
##B             Unknown
##C             HH-60J
    ## equates to last two numbers of aircraft serial number
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USCG callsigns for Customs/DEA tactical missions
HERK ##         HC-130H
STALKER ##      HU-25
SWORDFISH ##    HH-60J
     ## equates to last two numbers of aircraft serial number


--------------------RECENT NEWS--------------------
---- 2/98
    Finally!  In response to a Freedom of Information Act request
submitted to the USCG, we have received confirmation that the two RU-38As
assigned to CGAS Miami bear the serial numbers #8101 and #8103. These
serial numbers are the same ones carried by the USCG RG-8s before they were
remanufactured as RU-38s. RG-8 #8102 was lost in an air accident near
Puerto Rico in early 1996 and was not converted to the RU-38 configuration.
---- 2/98
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CGAS Brooklyn and CGAS Cape May are both scheduled to close later this spring in a plan to consolidate both operations into the new CGAS Atlantic City, New Jersey. According to an article in the NY Daily News, excerpts of which were posted on the rec.aviation.military newsgroup, the new CGAS Atlantic City will open for operations in early June, while CGAS Cape May and CGAS Brooklyn will close in mid-May. During the peak boating season, CGAS Atlantic City will forward-base some helicopters with the New York Air National Guard Rescue units at Francis S. Gabreski Airport (former Suffolk County AFB) on eastern Long Island.

---- 1/98

There have been several changes and additions to the USCG Air List this month. Several sections have been added to the list, including CG Air frequencies, COMMSTA official addresses, USCG DEA/Customs callsigns, and a terminology listing. In addition, each of the aircraft listings have been updated with more information collected from a wide variety of sources. Also, the HU-25A/B/C serial numbers have been checked and cross-checked using multiple sources in order to get the most accurate accounting of the proper variants. The number of HU-25C variants has been confirmed to number nine in total, while the HU-25B variants have been confirmed to number eight. In addition, all HU-25A variants retired to Davis-Monthan AFB have been crosschecked with a database listing all aircraft retired in the "boneyard". The URL for this site is: http://www.dm.af.mil/amarc/a_prods.htm

HU-25A #2117, a long-time "unknown", has been found! In June 1994, #2117 was transfered to the Federal Aviation Administration's Airworthiness Assurance Nondestructive Inspection (NDI) Validation Center (FAA AANC), located at the Sandia National Laboratories, in Albuquerque, New Mexico. This aircraft serves as a testbed to develop new maintenance and inspection techniques for the USCG Aircraft Repair and Supply Center (ARSC). One of the major areas of focus has been the copilot window frames, where cracks ranging from less than an inch up to more than six inches have been found on various HU-25 aircraft. All operational and non-operational (in storage, Davis Monthan AFB) aircraft have been inspected and these cracks have been fixed. This information came from the Sandia National Laboratories FAA AANC web page.

HU-25A #2108, another "unknown", has also been found. 2108 was added to the HU-25As in storage at Davis Monthan AFB. 2108 was delivered to Davis Monthan on 27 May 1997. Yet another HU-25A is retired from service as the USCG continues its HU-25 drawdown, enroute to a final total of 17 HU-25B and HU-25C aircraft. Some sources list an eventual goal of 14 HU-25B and HU-25C, although all 17 HU-25Bs and HU-25Cs seems like a more likely target.

Graham Turner has once again supplied an extensive list of aircraft sightings for the list. Several new HH-65 locations have been identified, and many of the other aircraft locations have been confirmed once again. Notable among the sightings was USCG 02, VC-4A which was sighted and confirmed in September 1997 at CGAS Miami. Keep in mind that the "last hrd" column is also used for sightings. When only the month of sighting is provided, then the middle of the month is used (ex: 1-15-98). Once again, our thanks go out to Graham for the good information.

An article in the December 1997 issue of COASTLINE, the official publication of USCG District 7, detailed the USCG's participation in Operations, Bahamas, Caicos Islands and Turks (OPBAT). Since 1987 the USCG has been involved in this joint DEA/Bahamanian Police program. The USCG's involvement consists of four HH-60J JAYHAWK helicopters operating out of two locations in the Bahamas: two are based at Great Inagua, while the other two are based at Nassau. All aircrews and maintenance personnel are assigned to CGAS Clearwater and are rotated through the Bahamas every two weeks. The OPBAT Operations Center is located in Nassau. In addition, since 1986 the US Army has also operated as part of OPBAT, supplying three UH-60 Blackhawks and operating out of Georgetown. During operations throughout 1997, the OPBAT forces seized over 12,000 pounds of marijuana and more than 4,000 pounds of cocaine.

In an effort to keep this listing up-to-date and accurate, the following aircraft have been deleted from the list, either due to their removal from service or due to lack of confirmation/intercept:

0393 CASA 212-300, has been removed from service.
1013 UNID, not heard for over 16 months, misheard originally?
1521 HC-130H?, not heard for over 14 months. misheard originally?
2025 HU-25-A? Unknown, no confirmation.

--------------------AIRCRAFT INFORMATION--------------------
Information on aircraft is based upon info provided on the USCG website, as well as information available from various open sources. AirSta assignments are based on available USCG info. Where conflicts arise between sources, the individual AirSta website (if available) is used as the basis for the information.

-LOCKHEED HC-130H "HERCULES"-

The HC-130H HERCULES is the USCG's primary long-range surveillance and transport aircraft. The HERCULES is tasked by the USCG with a wide range of missions including search and rescue (SAR), law enforcement, fishery protection, environmental protection, drug interdiction, cargo and personnel transport and support of the International Ice Patrol. While operating at low altitude, the HC-130H is capable of remaining airborne for over 14 hours, while covering a flight route of 2000nm. The HC-130H is equipped with Inertial Navigation Systems (INS), OMEGA and LORAN-C receivers, and the Global Positioning System (GPS). These systems are tied into the HC-130H's AN/APS-137 radar system, allowing for automated flight planning and search programming. The AN/APS-137 Inverse Synthetic Aperture Radar is capable of providing "near photographic quality" radar images from distances in excess of 50nm. This is of obvious value during Search and Rescue operations. In addition, the HC-130Hs based at CGAS Elizabeth City are also equipped with an AN/APS-135 Side-Looking Airborne Radar (SLAR) pod for use during the International Ice Patrol mission, flown in the North Atlantic in search of drifting icebergs. This radar is mounted in a pod and can apparently be removed and transfered between aircraft. In addition to all of the electronics available to the HC-130H's crew, the HERCULES is also equipped with scanner windows for visual search, and has a ten-tube AN/ALE-40 or AN/ALE-47 flare launcher system for self-defense.

In 1991, one USCG HC-130H7 (1721) was converted into a EC-130V AWACS air-surveillance version equipped with an E-2C's AN/APS-145 radar. Due to budget constraints this aircraft was removed from service and was transferred to the USAF in 1993. This aircraft now bears the serial number 87-0157 and serves as a NC-130H with the 418th FLTS / 412th TW at Andrews AFB.

One last bit of information: USCG 1790 is numbered out-of-sequence in honor of the year that the USCG was founded.

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This is the WUN mailing list. WUN is the Worldwide UTE News Club, a non-profit hobby club formed Jan.1995 to promote the sharing of info about the shortwave utility hobby. WUN is not associated with any company or group and does not require dues. For further info see the club webpage at http://www.gem.net/~berri/wun

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HC-130H HERCULES Air Stations: Barber's Point, Elizabeth City, Kodiak
--------------   Clearwater, Sacramento.
Specifications

Maximum Takeoff Weight: 155,000 lbs
Empty Weight: 76,500 lbs
Overall Length: 113 ft
Wing Span: 133 ft
Maximum Height: 38 ft
Power Plant: Four Allison T56-A-15 turboprops, each with 4500 shp. Four blade props.
Max Fuel Capacity: 62,500 lbs
Maximum Speed: 315 knots

Operating Range: 1,950 nm
Avionics: AN/APS-137 Inverse Synthetic Aperture Radar
AN/APS-135 Side Looking Airborne Radar (E. City)
Crew: 5+ (4 flight crew, loadmaster, additional personnel as required)

-FALCON JET HU-25 "GUARDIAN"-

The HU-25 GUARDIAN is an American-built variant of the Dassault-Brequet FALCON 200 light-transport jet. A total of forty-one HU-25A jets were purchased by the USCG and were used to replace the slower, older HU-16E ALBATROSS and C-131A SAMARITAN prop-driven aircraft. With its increased speed; more than two times that of former aircraft, and its capability to operate from sea-level to over 42,000 feet, the HU-25 is uniquely capable of performing its assigned missions: Search and Rescue, illegal drug interdiction, law and treaty enforcement, and marine environmental protection.

The HU-25 airframes were constructed for the USCG by Falcon Jet Corporation which is a subsidiary of Dessault-Brequet Aviation. Once constructed, the HU-25s were deliverd to Grumman Corporation for installation of mission-specific equipment and various fuselage modifications. These modifications include acrylic search windows on each side of the fuselage, and a drop hatch in the floor for emergency equipment delivery. A computerized avionics system, designed by Rockwell International Collins Avionics group provides for automated flight control and duplication of all major avionics systems.

The HU-25A GUARDIAN reached Initial Operational Capability in early 1982 and delivery of the aircraft was completed by the end of 1984. While the USCG has been satisfied with the capabilities of the HU-25, the decision was made to retire almost 60% of the fleet due to high operation and maintenance costs. Most of these costs are attributed to the GARRETT ATF3-6-2C turbofan engines. As the only US Government operator of these engines, spare parts and supplies are difficult to come by, with most parts requiring ordering directly from Dassault-Brequet Aviation. This requirement greatly increases the costs while limiting the availability of parts. There are currently three variants of the HU-25 GUARDIAN in service; although, all HU-25As are expected to be retired from service over the next two or three years. This will leave the USCG with seventeen (some sources list fourteen) HU-25 aircraft, all of which will be of the "B" and "C" variants.

The HU-25A variant is the original HU-25 GUARDIAN. Now being retired from service, this aircraft has served admirably in a wide variety of roles. The HU-25A (and HU-25B) is equipped with the Texas Instruments AN/APS-127 Search and Weather radar. Seventeen of these aircraft were converted into the "B" and "C" variants. Most of the retired HU-25As have been delivered to the "boneyard" at Davis Monthan AFB, Arizona.

Eight HU-25As were modified to the HU-25B standard. The HU-25B variant is specially equipped to locate sea polution and to identify the parties responsible. Equipped with the AIREYE surveillance system, the primary mission of the HU-25B is to detect, verify, and document oil and other polution found on the water's surface. The AIREYE system consists of the Motorola AN/APS-131 Side-Looking Airborne Radar (SLAR) pod mounted on the forward/starboard side of the aircraft, a Texas Instruments RS-18C Linescanner Infrared/Ultraviolet sensor system mounted under the right wing, and a Chicago Industries KS-87B Reconnaissance Camera. The SLAR pod is able to detect pollution through a difference in wave height and signal return. The ultraviolet sensors aid in identifying the type and thickness of polution on the surface. The camera system documents data such as altitude, drift, date and time. Apparently, the USCG did not purchase eight full AIREYE systems, as the system is designed to be transfered between aircraft. This procedure is a time-consuming and difficult process. In addition to polution detection, the AIREYE is also used during Ice Patrols on the Great Lakes.

Nine HU-25As were converted into HU-25Cs. The primary mission of the HU-25C is the interdiction of drug smugglers by identifying and tracking sea and airborne targets, while vectoring in law enforcement personnel. The GUARDIAN INTERCEPTOR (nicknamed NIGHTSTALKER) is

equipped with a F-16's AN/APG-66 radar instead of the standard AN/APS-127. This radar requires a different nosecone, giving the HU-25C a distincly pointed nose, similar in shape to that on the F-16 FALCON. In addition, the HU-25C carries a Texas Instruments WF-360 Forward-Looking Infrared (FLIR) system, mounted in a stablilzed turret under the aircraft's main door. This FLIR system is capable of over 10x magnification and is supported by a video recorder to provide video evidence for later prosecution. The cockpit lighting scheme is designed for the use of Night Vision Goggles (NVG) to allow for operations at night.

HU-25 GUARDIAN Air Stations: Cape God, ATC Mobile, Corpus Christi, Miami

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Specifications

Maximum Takeoff Weight:	32,000 lbs
Empty Weight:	25,500 lbs
Overall Length:	55 ft
Wing Span:	54 ft
Maximum Height:	18 ft
Power Plant:	Two Garrett ATF3-6 turbofans, each with 5440 lbs thrust
Max Fuel Capacity:	10,680 lbs
Maximum Speed:	460 knots
Operating Range:	2,250 nm
Avionics:	AN/APS-127 Search/Weather Radar HU-25A/B AN/APS-131 Side Looking Airborne Radar HU-25B AN/APG-66 Multi-mode Radar HU-25C WF-360 Forward-Looking Infrared system HU-25C
Crew:	5 (Pilot, Co-Pilot, Dropmaster, Air Crewman, Surveillance System Operator)

-SIKORSKY HH-60J "JAYHAWK"-

With the USCG's aging fleet of HH-3F Sikorsky PELICANs approaching the end of their service life, the USCG made the decision to order 42 units of Sikorsky's HH-60J JAYHAWK helicopter. The HH-60J is capable of performing a variety of missions, as are all USCG aircraft; however, the primary mission is the same as its predecessor: Medium-range Search and Rescue (SAR). Unlike the HH-3F PELICAN, the HH-60J is not capable of performing water landings. Additional missions of the HH-60J include drug interdiction in support of OPBAT, law enforcement, and environmental protection. The JAYHAWK is manufactured by Sikorsky Aircraft Division of United Technologies. Initial Operational Capability was reached in 1991 with the establishment of the first HH-60J squadron at CGAS Elizabeth City.

The HH-60J has an extensive electronics suite, including a state of the art Electronic Flight Instrumentation System (EFIS) complete with CRT multi-function displays. Additional equipment includes the AN/APN-217 doppler search and weather radar, the AN/AAQ-15 Forward-Looking Infrared system, HF/VHF/UHF clear speech and secure communications equipment, GPS receivers, and a Night Vision Goggles (NVG) compatible cockpit.

Although smaller and lighter than the HH-3F, the HH-60J is faster and the two GE T700-GE-401C turboshaft engines are more powerful than its predecessor. This allows the HH-60J JAYHAWKs to operate up to 300 miles from their bases, and to remain airborne for durations up to 7 hours.

Though normally stationed ashore, the Jayhawk can be carried aboard Bear Medium-Endurance Cutters and the Hamilton High-Endurance Cutters. The HH-60J is is too large to operate from smaller cutters and even on these larger cutters, it is a tight-fit for the flight deck. The HH-65A is prefered over the HH-60J for flight-deck operations.

HH-60J JAYHAWK Air Stations: ATC Mobile, Kodiak, Sitka, Clearwater,
---------- Cape Cod, Elizabeth City, San Diego

Specifications

Maximum Takeoff Weight:	21,246 lbs
Empty Weight:	13,417 lbs
Overall Length:	52 ft
Rotor Diameter:	54 ft
Maximum Height:	17 ft
Power Plant:	Two GE T700-GE-401C turboshaft engines, each with 1800 shp.
Max Fuel Capacity:	6950 pounds
Maximum Speed:	180 knots
Operating Range:	300 nm standard / 700 nm maximum
Avionics:	AN/APN-217 Doppler search and weather radar AN/AAQ-15 Forward-Looking Infrared system Electronic Flight Instrumentation System NVG Compatible Cockpit
Crew:	4 (Pilot, Co-Pilot, 2 Air Crewmen)

-AEROSPATIALE HH-65A "DOLPHIN"-

The USCG, utilizing another French design, has added 96 short-range AEROSPATIALE HH-65A DOLPHIN helicopters to its fleet. The HH-65A DOLPHIN is manufactured by Aerospatiale Helicopter Corp in Grand Praire, Texas. The HH-65A was procured in order to replace the aging HH-52A Sikorsky Sea Guard. Whether stationed ashore or operating from USCG Cutters, the HH-65A is assigned the missions of Search and Rescue (SAR), enforcement of laws and applicable treaties, drug interdiction, environmental protection, airlift, and support of polar ice-breaking operations. The twin-engine DOLPHINS are constructed from large amounts of composite structure materials. These composite materials are corrosion-resistant and reduce the empty weight of the HH-65A to under 6,100 pounds. The composite rotor head, fiberglass rotor blades and shrouded eleven-blade tail rotor are all unique to the HH-65A DOLPHIN design.

Although weighing less than 10,000 pounds, the HH-65A is fully equipped to perform its wide variety of messions. In fact, the HH-65A has the largest equipment load ever placed on such a small helicopter. The DOLPHIN is equipped with a Rockwell-Collins HFCS-8000 automated flight management system which integrates all of the helicopter's communications and navigation equipment. Utilizing this system, along with the Bendix RDR-1500 radar, the pilot can program the autopilot to fly search patterns automatically, freeing the pilot and co-pilot to assist in visual searches. In addition, this system will automatically bring the HH-65A to a hover at an altitude of 50 feet. This feature is especially useful in rough weather or during darkness. The DOLPHIN is also equipped with a Traffic alert and Collision Avoidance System (TCAS) providing an added measure of safety to the HH-65A's operations, as well as a Northrop Sea Hawk Forward-Looking Infrared (FLIR) system. The cockpit is designed around an Electronic Flight Instrumentation System (EFIS) consisting of multi-function CRT displays.

Although reaching Initial Operational Capability (IOC) in 1985, the Textron Lycoming LTS-101 engines was plagued with problems throughout its early service life. Most of the problems are attributed to overloading of the LTS-101 engine due to several hundred pounds of excess weight in the DOLPHIN design. As a result of several design changes, most notably in the main gearbox, most of the engine problems have been eliminated and the overall gross takeoff weight has been increased to 9,200 pounds. The overall efficiency of the LTS-101 engine design allows the HH-65A DOLPHIN to operate at ranges in excess of 150nm from base and to fly at over 150 knots for over three hours.

Three HH-65A DOLPHINs have been lost in service-related accidents since their introduction in 1985. This compares to 1 HC-130H and no HH-60J or HU-25 aircraft.

HH-65A DOLPHIN Air Stations: Corpus Christi, Borinquen, New Orleans, Miami, ATC Mobile, Brooklyn, Cape May, North Bend, Astoria, Port Angles, Savannah Houston, Humbolt Bay, Detroit, Glenview,

Los Angeles, Barber's Point, Traverse City,
San Francisco, Kodiak, Sitka

Specifications

Maximum Takeoff Weight:	9,200 lbs
Empty Weight:	6,100 lbs
Overall Length:	38 ft
Rotor Diameter:	39 ft
Maximum Height:	12 ft
Power Plant:	Two Lycoming LTS-101-750B-2 engines, each with 690 shp. Four-blade fiberglass main rotor
Max Fuel Capacity:	291 gallons
Maximum Speed:	165 knots
Operating Range:	150 nm standard / 400 nm maximum
Avionics:	Bendix RDR-1500 radar Rockwell-Collins HFCS-8000 Automated Flight Management System Northrop Sea Hawk Forward-Looking Infrared system Traffic alert and Collision Avoidance System
Crew:	3 (Pilot, Co-Pilot, Air Crewman)

-RU-38A TWIN CONDOR-

The RU-38A TWIN CONDOR is a twin-engine, two-seat "powered glider" used by the USCG for electronic air detection for interdiction of drug smuggling. The RU-38A is a redesign of the RG-8A's previously used by the USCG. The first USCG RG-8A, #8101, was turned over to Schweizer in 1994 for conversion to the RU-38A configuration. The second USCG RG-8A, #8103, was to have been converted by mid-1996.

The RU-38A is equipped with a push/pull engine system, with one Teledyne Continental GIO-550A flat-six engines at each end of the fuselage. The dual-engine design increases over-water safety as compared to the RG-8. Normal operating procedure is to operate with only a single engine during normal cruise operations; although, both engines are heavily muffled allowing for "stealthy" surveillance of targets.

The RU-38A TWIN CONDOR has a "twin-boom" configuration. The forward end of each boom has a "pod" containing various instruments. The port pod contains the AN/APN-215(V) color radar which has search and mapping capabilities. The starboard pod contains an AN/AAQ-15 Forward-Looking Infrared (FLIR) system, as well as a Low-Light-Level TV vision system. This equipment is optimized for the RU-38A's primary mission of night-time surveillance. In addition to the above equipment, the RU-38A is fitted with OMEGA and GPS receivers, and HF/VHF/UHF clear voice and communications encryption systems. These aircraft are based at CGAS Miami and operate over the Gulf of Mexico and the Caribbean in support of various drug interdiction operations.

RU-38A TWIN CONDOR Air Station: Miami

Specifications

Maximum Takeoff Weight:	5,300 lbs
Empty Weight:	3,400 lbs
Overall Length:	30 ft
Wing Span:	64 ft
Maximum Height:	? ft
Power Plant:	Two Teledyne Continental GIO-550A flat-six engines, each w/350 hp.
Max Fuel Capacity:	600 pounds
Maximum Speed:	165 knots
Operating Range:	6-10 hours endurance
Avionics:	AN/APN-215(V) Color Weather/Search radar AN/AAQ-15 Forward-Looking Infrared system
Crew:	2 (Pilot, Co-Pilot)

-C-20B GULFSTREAM III-

The C-20B GULFSTREAM III is used by the USCG for VIP transport. This particular aircraft is ex-USAF C-20B 86-0205, formerly with the 89th AW. It is the only air asset assigned to CGAS Washington. Most likely, this aircraft is the Commandant's personal aircraft, but it is also used by the U.S. Department of Transportation, of which the USCG is a part.

C-20B GULFSTREAM III Air Station: Washington DC

Specifications

Maximum Takeoff Weight:	69,700 lbs
Empty Weight:	38,000 lbs
Overall Length:	83 ft
Wing Span:	78 ft
Maximum Height:	24 ft
Power Plant:	Two Rolls-Royce Spey MK511-8 turbofan engines each w/11,400 lbs thrust
Maximum Speed:	500 knots
Maximum Range:	4,100 nm
Avionics:	Standard commercial navigational radar
Crew:	2 pilots, 14 passengers

-VC-4A GULFSTREAM I-

USCG 02, a VC-4A GULFSTREAM I, is one of the few GULFSTREAM I aircraft remaining in US Government service. Stationed at CGAS Miami, 02 is used to provide VIP transport and to ferry personnel throughout District 7.

VC-4A GULFSTREAM I Air Station: Miami

Specifications

Maximum Takeoff Weight:	36,000 lbs
Empty Weight:	24,575 lbs
Overall Length:	68 ft
Wing Span:	78 ft
Maximum Height:	23 ft
Power Plant:	Two Rolls-Royce Dart 529-8E turboprop engines
Maximum Speed:	375 knots
Maximum Range:	1,720 nm
Avionics:	Standard commercial navigational radar
Crew:	2 pilots, 10 passengers

----------USCG Air Frequencies----------

Following is a short list of the most active USCG Air Frequencies. Communications usually occur at H+00, H+15, H+30 and H+45 with routine reports of flight operations and position.

Frequency	Usage
3023	International Search and Rescue
3122	USCG Safety of Flight, Night Secondary
5277	DEA Operations, Various USCG aircraft at times
5320	USCG Tactical, Various AirStas and USCG Groups
5692	USCG Aircraft w/phone patches
5696	USCG Safety of Flight, Night Primary
8983	USCG Safety of Flight, Day Primary
11202	USCG Safety of Flight, Day Secondary

----------USCG Terminology----------

The USCG has a tendency to use some unique terminology during

communications between USCG units. The following is a list prepared by Rick Baker based upon questions he has received over the years, with a few additional terms of my own thrown in. While not all-inclusive, this list provides a pretty solid background of most USCG-unique terminology.

Term	Definition
AIRSTA	Air Station
AMVER	Automated Mutual Assistance Vessel Rescue System
BENCHMARK+letter	Coverterm for reference point (used to pass position)
CAMSLANT	Communications Area Master Station, Atlantic
CAMSPAC	Communications Area Master Station, Pacific
CASREP	Casualty Report
CHARLIE	Copy (as in affirmative)
COMMSTA	Communications Station
DMB	Data Marker Buoy
ELT	Emergency Locating Transmitter
ELT PATROL	Enforcement of Laws and Treaties Patrol
EPIC	El Paso Intelligence Center
EPIRB	Emergency Position Indicating Radio Beacon
FLIR	Forward-Looking Infra-red
FOXTROT MIKE	"FM" Frequency, most often VHF Marine Band
FRTT	Fleet Radio TeleType
HFDL	High Frequency Data Link
HOMEPLATE	Aircraft's home airfield (not necessarily the airfield from which he is operating)
HOTEL FOX(TROT)	High Frequency Radio
IN THE BLIND	Sending message without hearing response
LANDLINE	Standard Telephone
LIMA CHARLIE	Loud and Clear
LE PATROL	Law Enforcement Patrol
NAS	Naval Air Station
NVG	Night Vision Goggles
PFD	Personal Floatation Device
PIW	Person(s) In Water
POB	People/Persons On Board
RADIO GUARD	To maintain a listening watch for safety reasons
RCC	Rescue Coordination Center
RDF	Radio Direction Finding
RESCUE ####	USCG on SAR mission
RTB	Return To Base
SAR CASE	Search And Rescue Mission
SARSAT	Search And Rescue Satellite
SCN	Systems Coordination Net
SKAD	Survival Kit / Air Dropped (CANFORCES)
SITREP	Situation Report
SOB	Souls On Board (older term for POB)
SOS	Save Our Ship, Mayday
UNIFORM HOTEL	Ultra High Frequency Radio, AM Military Aero Band
WILCO	Military term for "Will Comply"
WINDOW FREQUENCY	Frequency of Actual RF Carrier

----------Air Stations Addresses:----------
Sample Mailing Address

COMMANDING OFFICER
U.S. COAST GUARD AIR STATION
05-20130 Elizabeth City
Elizabeth City, NC 27909-5004

01-20115 Cape Cod
Otis ANGB, MA 02542-5024

01-20120 Brooklyn
Floyd Bennett Field
Brooklyn, NY 11234-7097

05-20130 Elizabeth City
Elizabeth City, NC 27909-5004

07-20135 Savannah
Hunter AAF Post Office
Savannah, GA 31409-5053

07-20140 Miami
15000 NW, 42nd Avenue
Opa Locka Airport
Opa Locka, FL 33054-2397

07-20150 Clearwater
15100 Rescue Way
Clearwater, FL 34622-2990

07-20235 Borinquen
Aguadilla, PR 00604-9999

08-20245 Corpus Christi
8930 Ocean Drive
Corpus Christi, TX 78419-5220

08-20250 New Orleans
c/o Naval Air Station
New Orleans, LA 70143-0001

09-20160 Traverse City
1175 Airport Access Road
Traverse City, MI 49686-3586

11-20170 San Diego
2710 Harbor Drive, North
San Diego, CA 92101-1028

11-20290 Sacremento
6037 Price Avenue
McClellan AFB, CA 95652-1260

13-20195 Astoria
2185 SE Airport Road
Warrenton, OR 97146-9693

13-20276 North Bend
2000 Connecticut Avenue
North Bend, OR 97459-2399

14-20255 Barbers Point
Barbers Point, HI 96862-5800

17-20270 Kodiak
P.O. Box 190033
Kodiak, AK 99619-0033

05-20125 Cape May
1 Munro Avenue
Cape May, NJ 08204-5089

08-20155 Houston
1178 Ellington Field
Houston, TX 77034-5569

09-20158 Detroit
c/o Selfridge ANGB
Mt. Clemens, MI 48045-5011

11-20180 San Francisco

SFO International Airport, Bldg.,1020
San Francisco, CA 94128-3099

11-20253 Los Angeles
7159 World Way West
Los Angeles, CA 90045-5824

11-20285 Humboldt Bay
McKinleyville, CA 95521-5000

13-20190 Port Angeles
Port Angeles, WA 98362-0159

17-20280 Sitka
611 Airport Road
Sitka, AK 99835-6500

----------COMMSTAs Addresses:----------
Sample Mailing Address

COMMANDING OFFICER
U.S. COAST GUARD COMMUNICATION STATION
20-32240 Miami-NMA
16001 SW 117th Avenue
Miami, FL 33177-1699

20-32240 Miami-NMA
16001 SW 117th Avenue
Miami, FL 33177-1699

20-32248 New Orleans
P.O. Box 520
Belle Chasse, LA 70037-0520

20-32400 Boston-NMF
P. O. Box 1310
Forestdale, MA 02644-1310

20-32425 Chesapeake CAMSLANT
4720 Milepost Road
Chesapeake, VA 23322-4399

21-32460 San Francisco
Station Pacific-CAMSPAC
17000 Sir Francis Drake Blvd
P.O. Box 560
Point Reyes Station, CA 94956-0560

21-32480 Honolulu
NCTAMS East Pacific
Bldg. 242
Wahiawa, HI 96786-3050

21-32490 Kodiak
P O Box 190017
Kodiak, AK 99619-0017

----------UPDATES / CORRECTIONS----------
Any corrections, updates, or additional info appreciated!

Dave Wright (dcwright@gte.net)
Rick "RD" Baker (CommConf@concentric.net)

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If you have problems in this, or need further information contact Stan Scalsky at: sscalsk@mail.ameritel.net

If you are reading this newsletter from another source, such as a BBS, please let us know!

Check out the WUN web site at: http://www.gem.net/berri/wun

From your Electronic Editor:

* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter. This month's newsletter has over 4000 lines of up-to-date information of interest to the UTE monitor. Enjoy!
* This month's newsletter combines the March and April Newsletters into one edition. This is to enable the editing staff to catch up on some of our backlog. Due to unforseen problems, most notably with the WUN mail server, there will be no WUN Logs column this month. Stan Scalsky is currently attempting to develop an automated method for collecting and processing all logs submitted to WUN, so keep those logs coming. In addition, due to last-minute conflicts, the International CIVAERO column will also be absent from this month's newsletter. Look for both columns to return in the May newsletter.
* This month we would like to welcome a new (old) column to the WUN Newsletter. Long-time editor Ary Boender has revived the Numbers and Oddities column. With the help of Number Station experts Chris Smolinski, Guy Denman and Jascha Ruesseler, Ary will be covering this fascinating aspect of the UTE hobby. This column is being set up in conjuction with the SPOOKS mailing list (majordomo@qth.net) and will focus on all types of Numbers Stations and other "Oddities."
* For those of you who have a particular interest you would like to see covered in the WUN Newsletter, here is your chance to make that happen. Although the WUN Newsletter has editors for every column, covering just about every aspect of UTE monitoring, you are more than welcome to submit your own material for publication. How do you this? Well, here you go!

1) If the topic falls under the "realm" of one of the existing columns, then contact the appropriate column editor. All of our column editors are more than happy to take submissions of "special articles" related to their individual areas of coverage. Of course, you will receive full recognition for your contribution to the column.

2) If your topic of interest does not fall under one of the existing columns, then contact myself (dcwright@gte.net) with details of

the topic and we'll make arrangements to get it published in the newsletter. One of the advantages of the electronic media vs. the normal print media is our wide coverage, large distribution, and the unlimited size of our newsletter.

So, get those typewritters/computers going and share your areas of interest and expertise with other members of WUN!

WHAT'S INSIDE:
o Membership News by Mike Wolfson
o Digital Review by Ary Boender
o Military Lists Area - Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o Numbers and Oddities ** NEW **
by Ary Boender, Chris Smolinski, Guy Denman, and Jascha Ruesseler
o The QSL Report by J.D. Stephens
o Utility Round-up by Ary Boender
o The Military Newsreel by David C. Wright

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MEMBERSHIP NEWS

Mike Wolfson, editor
mwolfson@bright.net

Greetings and welcome to the WUN NEWS Membership News column for March.

Hello. Its getting repetitious I know, but I am again able to report that we continue to attract more members to the club. The statistics are in the following table:

	3/98	12/97	4/97
WUN	801	757	694
WUN-DIGEST	228	202	93
Totals	1029	959	787

This month, the membership is from 36 countries. Those countries are: United States, Netherlands, Germany, United Kingdom, Taiwan, Canada, Japan, Australia, Great Britain, Italy, Ireland, Mauritius, Finland, New Zealand, France, Sweden, Brazil, Portugal, Switzerland, Greece, Spain,Indonesia, Suriname, Norway, Yugoslavia, Austria, South Africa, Croatia, Belgium, Denmark, Luxembourg, Sri Lanka, Poland, Iceland, Pakistan and Hungary.

So far, 241 members have volunteered their answers for the member's database. That's an increase over the last couple of months. If you would like to be added to the total please e-mail me at:

mwolfson@bright.net

E-Mail Address
Name
Where you're located (State/Province, Country)
Main receiver(s)
Main decoding equipment (HOKA, JVFAX, etc.)
Monitoring interests (aero, marine, etc.)

The information will not be shared or used by anyone except club officers for club purposes. The database management program I'm using can accept ASCII text. I am requesting that you answer each question on a separate line followed by a carriage return. Please do not include the question itself in the answer; just the information requested. For example:

mwolfson@bright.net
Mike Wolfson

Ashland, Ohio USA
NRD535, R5000
None
milair, civilian aeronautical, USCG SAR

If you're sending me a revision please indicate that in your response.
Until next time good listening. Mike.

==========

DIGITAL REVIEW

- Editor: Ary Boender ***** e-mail: ary@luna.nl -
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

Hello everyone, welcome to yet another edition of the Digital Review. A very long edition this time, almost 1300 lines. Why? Well, after 35 Digital Reviews it is time to say goodbye. I do regret it, but I must take a step down. As I told you many times before, I have no time to search for new(s) items these days and no-one volunteered to co-edit the column. That leaves me no other option than to drop the Digital Review.

I'd like to thank the faithfull digi-dxers who did send their contributions to the column during the past 3 years. It was great working with you. THANKS!!!

Starting next month, Day Watson will be taking over and I am very glad that I found a skillful successor. I hope that you will support him. Don't let him down, folks! Send him all the digital stuff you can find. Thanks for taking over, Day and GOOD LUCK!

DTS - Digital Transmission System

A while ago Tom Roesner forwarded some info about DTS. The original info came from DTS' Volker Heese. Thanks for the info gents!

o What is DTS ?

DTS is a software package that allows you to send data, mail, text and pictures across wireless radio links. Using a high frequency (HF) or very high frequency transceiver (VHF/UHF), data modems are used to span any distance--across towns, between countries or worldwide. Based on an easy-to-use Windows user interface, DTS automates the operation and makes data over radio accessible to everyone.

A DTS system is composed of standard components. A personal computer or laptop and a radio transceiver is all that you need to cover distances as short as a few kilometers or as distant as another continent.

o System Description

The DTS Internet E-Mail and Fax Gateway is a new and innovative system that allows users in remote locations such as private companies, international organisations, and interested peoples to access the Internet via or HF radio server. Places that lack direct Internet access due to a weak public telephone infrastructure can now easily send and receive E-Mail through the Internet or exchange Fax messages with the rest of the world.

As a matter of fact, in many developing countries no Internet access is available and the telephone infrastructure is only working well in the capital or some big towns but not in rural areas. Most of the international organisations already uses short wave radios (HF) to keep in touch with regional or international offices and send messages by voice. These systems are limited to voice or - in some cases - low speed data but do not have automated access to the Internet community or any fax machine in the world.

o History

Early 1996 the Republic of Benin opened access to the Internet by the installation of a first Internet Server in the country and one of the first in the countries south of the Sahara.

In June 1996 EURAF installed the first private Internet Server in Benin to keep in touch with the rest of the world. A new software release for DTS was developed and operational in August to allow DTS radio system users access to and from the Internet. Using EURAF's own radio and antenna installations, DTS Cotonou now serves as a Internet and Fax gateway to many users across Africa. As data transmission via radio is limited on speed to about 3000 bps it was necessary to restrict the access for DTS clients to the E-Mail and file transfer features of the Internet.

In 1998 the Cotonou Gateway will also be accessible for Bern Radio customers and vice versa.

o Internet E-Mail

As EURAF runs its own Internet Server in Cotonou, e-mail addresses can be allocated to DTS users. The standard address of the Server is ...@dtsdata.intnet.bj, the address of a DTS radio client becomes similar to wrldkins@dtsdata.intnet.bj, unhcrben@dtsdata.intnet.bj etc. Several addresses can be attributed to the same radio location to allow direct delivery to various end users.

o Equipment

On EURAF's side in Cotonou, a heavy duty radio installation, antennas and a computer infrastructure have been set-up to allow users from all over Africa and other continents to connect easily by radio to EURAF.

Currently three DTS-Systems assure the connection with the rest of the world. Barrett-550 radio transceivers connected to one computer controlled Log-Periodic HF antenna, one vertical HF antenna and a broadband dipole antenna 1 to 30 MHz. UPS systems assure power even when main power fails. The systems are working fully automatically. HAL DTS HF 750bd and 3000bd data modems are connected to the various transceivers and computers. Switching between the different modems, antennas and transceivers is fully automated.

On the user's side only the standard DTS equipment is required to use the above services. The standard equipment consists of: PC with 8MB RAM, hard disk, SVGA Screen, Windows 3.11 or Windows'95. Optional a laser printer and scanner with TWAIN Interface for fax use. A HF transceiver, antenna an power supply; a DTS 3000bd Modem 3000 and DTS software.

DTS currently supports the following data transmission hardware:

HF Radio Modems:
  SCS PTC-2 (Pactor 2 (800 bps),Pactor 1 (200 bps), Sitor)
  SCS PTC-1, PTC-plus (Pactor 1 (200 bps), Sitor)
  Paccomm PTC-2 (Pactor 2 (800 bps),Pactor 1 (200 bps), Sitor)
  Paccomm PTC-1 (Pactor 1 (200 bps), Sitor)
  HAL DSP4100 (Clover(750 bps),Clover 2000(3000 bps),Pactor, Sitor)
  HAL PCI4000 (Clover(750 bps),Pactor, Sitor)
  HAL P-38 (Clover(300 bps),Pactor, Sitor
  HAL 2000 (Clover(3000 bps))
  Codan 9001/9002 HF data modems

VHF/UHF Radio Modems:
  Any packet modem supporting KISS mode (AEA, Paccomm, Kantronics, MFJ etc.) up to 19,200 bauds.

HF Transceivers:

Barrett Australia 550 HF transceiver
Yaesu, all models
Kenwood, all models
Codan 9360
Codan X-2
ICOM 700TY
ICOM with IC-V interface
Datron Transworld TW-7000
Motorola Micom
Ten-Tec models with RS232 interface
Japan radio, all models with RS-232 interface
SGC-2000 / PRC-2250/MIL

o Callsigns and frequencies

The prefix for radio amateur callsigns in Benin is 'TY'. DTS callsigns look like this TY1DTS. Using this structure makes it easy for the DTS organisation to scan the frequencies for DTS users.

Frequencies used: 4175, 4232, 5340, 8389, 8382, 12503, 12607, 13445, 16702 and 22403 kHz.

Note: Leif Dehio copied on 24-3-98 two stations on 9309.5 kHz operating in 8-tone Clover-2000 at 20:15 UTC. As Clover-2000 is not a very common mode, this might have been DTS traffic. Keep an eye and ear open folks!

DIPLO CORNER

Next month's Diplo Corner will be my last. I don't know if Day will continue the diplo series. I have 6 profiles left; 3 of them are in this edition of the newsletter and the rest will follow next month.

o This month's profiles: Turkey, N.Korea and Portugal, plus a corrected version of the German 'diplo' dictionary and an interesting Algeria update. Further, on special request, a bilingual list of Egyptian diplo stations.
Next time the final part: Sweden, Italy and Switzerland

Acknowledgements:
CIA World Fact Book (country profiles).
The WUN-community (logs).
Special thanks to Day Watson, Mike Chace, Murray Lehman, Graeme Bartlett, Ian Julian, Roberto Robba, Ralf Rademacher, Greg Lewin, Ronny Peeters, and various anonymous dxers. Wolfgang Palmberger, thanks for the Indonesian contributions last month.

TURKEY

o Country profile
The Republic of Turkey with capital Ankara, measures 780,580 km2, and is situated in the East Mediterranean area, between Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Iran, Iraq, and Syria.
Turkey is divided in 73 provinces (il); Adana, Adiyaman, Afyon, Agri, Aksaray, Amasya, Ankara, Antalya, Artvin, Aydin, Balikesir, Batman, Bayburt, Bilecik, Bingol, Bitlis, Bolu, Burdur, Bursa, Canakkale, Cankiri, Corum, Denizli, Diyarbakir, Edirne, Elazig, Erzincan, Erzurum, Eskisehir, Gaziantep, Giresun, Gumushane, Hakkari, Hatay, Icel, Isparta, Istanbul, Izmir, Kahraman Maras, Karaman, Kars, Kastamonu, Kayseri, Kirikkale, Kirklareli, Kirsehir, Kocaeli, Konya, Kutahya, Malatya, Manisa, Mardin, Mugla, Mus, Nevsehir, Nigde, Ordu, Rize, Sakarya, Samsun, Siirt, Sinop, Sirnak, Sivas, Tekirdag, Tokat, Trabzon, Tunceli, Urfa, Usak, Van, Yozgat, and Zonguldak.
The Turkish Defense Forces has the following branches: Land Forces, Navy (including Naval Air and Naval Infantry), Air Force, Coast Guard, and Gendarmerie.

o Operational notes:
  # Language: Turkish and English
  # Operator exchanges in CW.
  # Traffic in plain Turkish or off-line encrypted.
  # Only sparing use made of FEC-A equipment since the adoption of Rohde & Schwarz RS-ARQ system in Q1 1996.
  # Majority of 240bd 8 tone RS-ARQ traffic consists of standard diplo circulars and messages compressed with PKZIP and therefore sent with the system in 8 bit mode. Zipfile headers give a good clue as to the sender, although this does not conform to a standard:
    MUSTnnnn.ZIP Multi-addressed messages from MFA
    BA-dd-nn.ZIP Messages number "nn" from Baku sent on day "dd"
    AMMAnnnn.ZIP Message number "nnnn" from Amman
  # Operator chatter in between zipfile transfers is very common with MFA and embassies identifying eg "MOSK DE TAD" on the Moscow/Ankara link.
  # No traffic seen in 5 bit (ITA2) mode using the 8 tone RS-ARQ system, but 228.7bd RS-ARQ in ALIS mode is used to establish and check link quality.
    ALIS procedure takes place 2kHz below CF of 240bd transmission.
  # Same frequency may be used by sending/receiving stations to pass traffic.
  # As multi addressed traffic, from stations, is repeated by Ankara, positive sending station identification may not always be possible.

o Transmission modes:

ITA-2	100bd	Erect	850Hz
FEC-A	144bd	Erect	825Hz
RS-ARQ	240bd	Erect	8 tone, 8 bit
RS-ARQ	228.7bd		ALIS Procedure
CW			

o Freqencies

4684	4754	5300.9	6724	7808	8073.5	8195
8906.8	9068	9274	9974	9992	10006	10027
10043	10094	10112	10193	10204	10254	10263
10272	10274	10292	10294	10332	10354	10364
10372	10431	10433	10436	10440	10443	10638
10649	10802	10810	10812	10864	10880	10904
10904	10984	11006	11016	11018	11114	11117
11127	11136	11146	11149	11171	11482	12162
12175	12224	12226	13303	13313	13323	13360
13360	13362	13390	13417	13464.2	13550	13552
13554	13556	13558	13812	13814	13823	13832
13843	13858	13861	13864	13875	13892	13895
13914	13922	13932	13935	13942	13953	13955
13982	13989	13996	14114	14215	14504.5	14517
14527	14558	14607	14617	14619	14627	14636
14637	14647	14662	14677	14695	14833	14863
14867	14882	14903	14907	14917	14919	14936
14941	14947	14952	14957	14959	14961	14963
14963	14973	14977.7	14993	15717	15761	15781
15793	15795	15819	15833	15841.6	15843	15847
15847	15863	15885	15892	15894	15953	15958
15966	15967	15984	16023	16054	16074	16112
16174	16199	16204	16213	16234	16244	16254
16264	16288	16292	16293	16296	16334	16437
16484	16520	16657	16694	16844	16898	16902
16908	16944	16963	16973	17411	17414	17421
17425	17437	17526	17914	17919	17933	17987
17997	18034	18054	18064	18134	18154	18181
18184	18213	18214	18216	18475	18606	18644
18708	18802	18833	18862	18864	18882	18888
18898	18908	18912	18914	18916	18918	18922
18926	18928	18934	18941.6	18944	18952	18954
18956	18960	18962	18964	18972	18978	18988.5
19034	19044	19052	19054	19064	19074	19154
19264	19303	19324	19334	19354	19454	19664

19812	19846	19863	19868	19888	19892	19898
19913	19944	19973	19976	19992	20044	20054
20074	20244	20253.9	20354.5	20654	20766	20802
20934	20964	20993	21403	21918	21953	21957
21964	21966	21976	21984	22876	23034	23944

o Reported callsigns for MFA and embassies:

Call	Tactical	Location	Call	Tactical	Location
ONN32		Brussels	YML1		Rome
			YML2		Belgrade
TAD	SFA	MFA Ankara	YML3/TAD52	SFF	Baghdad*
TAD27		Nicosia	YML4		Vienna
			YML5		Prague
TAD68	SFG	Paris	YML6		Brussels
TAD77		Sofia	YML7		Moscow*
			YML8		Algiers
			YML12	SFG	Paris
YME		Stockholm	TAD46		Kabul
			YMN/TAD89		New Delhi (Yeni)
YMK		Beirut	YMN2		London
YMK1		Damascus	TAD88		Copenhagen
YMK2		Nicosia			
	SFI	Athens*	YMN5		New Delhi
YMK6		Tel Aviv	YMN8/TAD80	SFE	Teheran*
YMK7	SFQ	Cairo	YMN9		Tirana
YMK8		Bucharest	YMN12		Madrid
YMK9		Amman*	YMO		Kuwait
	SGE	Jeddah	YMS		Warsaw*
TAD83		Tripoli			Vienna
		Helsinki			Geneva
		Baku*			Tashkent
		Moscow*			Vilnius
		Sarajevo*			Tblisi
		Washington			Zagreb
		Ottowa	TAD54		Lagos
		Bonn	TAD42		Khartoum
TAD21		Addis Ababa			Dushanbe
		Brasilia			Dakar
		Tunis			Kiev
		Lisbon			Mexico City
		Beijing			Singapore
		Sam (?)			Saana
TAD50		Kinshasa			Tebriz, Iran
		Askhabad			Biskek
		Minsk			Kishinev
		Berne			Karachi
TAD65		Nairobi			Pretoria
		Riyahd	TAD38		Dhaka
TAD45		Islamabad	TAD26		UNID

* = embassy communicates using 240bd 8 tone RS-ARQ

Consulates:	Aleppo (Halep)	Cidde ?
	Batumi	Benghazi
	Cologne	Deventer
	Frankfurt	Hamburg
	Hanover	Kazan, CIS
	Mainz	Mostar
	Nahcivan ?	Naples
	Rotterdam	Paris
	Piryatin, Ukraine (Piratina-Pire)	
	Kudus ?	Mosul, Iraq (Musul)
	Urumqui, China (Urumiye)	Zuerich

Delegations: Turkish UNO Delegation (.turk.uno/newyork dt)
Turkish OECD Delegation (.oecd. dt)

o Dictionary

acele	- urgent
ara	- It literally means "a gap, a space, an interval" in time or place. It is one of those words that depends entirely on context. It is sometime used in conversation as "bir ara" meaning "just a second."
be	- Embassy (abbreviation for "Buyuk Elcilik")
bk	- Consulate (abbreviation for "Bas Konsolos")
ca	- date (abbrev?)
devam	- continues
Devamidir	- continuous
Disisleri	- Foreign Ministry (MFA), Ankara
dt	- Delegation
musterek	- multi-addressed (or better: "Circular")
oto	- automatic (transfer)
saygilarimla arzederim	- with my respects
tasnif disu	- unclassified

Atina	- Athens	Kuveyt	- Kuwait
Lahey	- The Hague	Lefkosa	- Nicosia
Trablus	- Tripoli	Viyana	- Vienna
Zurih	- Zuerich	Cidde	- Jeddah
Nahcivan	- Nakhichevan (Georgia)	Kudus	- Jerusalem

Ocak	- January	Subat	- February
Mart	- March	Nisan	- April
Mayis	- May	Haziran	- June
Temmuz	- July	Agustos	- August
Eylul	- September	Ekim	- October
Kasim	- November	Aralik	- December

bir - 1	iki - 2	uc - 3	dort - 4
bes - 5	alti - 6	yedi - 7	sekiz - 8
dokuz - 9	on - 10		

o Sample messages:

==========
Example 1: 25/May/92 - Turkish plain language message.
==========

nr : 67 normal 25.05.92 12:05 fm disisleri ck-50

to:

.kope.nhag be.

buyukelcilikleri calisma bolgesinde din gorevlisi ahmet naim sari ile esi ve cocuklarinin mevcut hizmet pasaportlarinin 02.03.1993 tarihine kadar temdit edilmesinde sakinca bulunmadigi icisleri bakanligindan alinan bir yazida bildirilmistir.

geregini saygilarimla musaadelerine arzederim. kgsi-(c-186)

disisleri

(Message nr 67 from MFA Ankara (Disisleri) with word count of 50).
(to the Embassy (be.) in Copenhagen - note the use of decimal points preceding the location and after the fourth letter of the location).
(The message ends with a salutation (see dictionary) and signature.

==========
Example 2: 27/May/92 - Offline encrypted message
==========

```
nr 178                                                    [mssage number]
acele                                                            [urgent]
fm: disisleri                                               [MFA Ankara]
to:
     .lond.ra be.                                       [London Embassy]

271620c  mayis  1992                                         [date/time]

ilbeg

hjyab hagug hagug hagug hagug hagug bygrv jqzjh yzlhj woius
qhqqe bzrxs glfer knohi lwcrh lmglk iowhg fqert xwmoo xyfgw
                     <clip clip clip>
koeoh tyily wgfmn lomzg rjbwk fsttx eekci ajchr hqljr lxkow
jvjfh hjyab

bt                                                                [break]
gr112                                                       [group count]

saygilarimla arzederim.                                      [salutation]

disisleri                                                [signature - MFA]
------
```

(Date/time, month and year. Note localtime in Ankara (zone c - UTC+3). (Note the use of five-letter groups with groups 2-6 inclusive being the same. Double line feed is used. The first and last groups are the same. The group count is given at the end of the message after the break (bt). The message ends with the salutation and signature).

==========
Example 3: Multi-address header - Baku monitored or Ankara relay?
==========

```
.pa

oto/nr : 42814                                            [message number]
oto nr 186/13  ca  29 ara 12.30 gr : 733
cok acele                                                  [urgent]
fm:.baku. be                                               [from Baku Embassy]
to:
1.dis.isleri                                                [MFA Anakara]
2.mosk.ova be                                              Moscow Embassy
3.vasi.ngton be                                         Washington Embassy
4.lond.ra be.                                              London Embassy
5.pari.s be                                                 Paris Embassy
6.bonn. be                                                   Bonn Embassy
7.roma. be                                                   Rome Embassy
8.tahr.an be                                               Tehran Embassy
9.prag. be                                                  Prague Embassy
10.nato./delturkotan                                       NATO Delegation
11.turk.uno/new york dt.                                 Turkish rep at UN
12.akku.m/viyana dt.
13.cene.vre ofisi dt.

291130 aralik 1992                                       [date/time December]
gsdim                                                    [part of encryption?]


nstoa xmjpl xmjpl xmjpl xmjpl xmjpl rnzeg murhw naebw qrsfw
```

==========
Example 4 Traffic list from Embassy Tripoli (TAD83) to MFA Ankara
            Operator exchange at end confirms QSX for MFA's reply
==========

```
tfc
normal

19.12.1996 - 0900c
```

```
fm:trablus be. hbrl
to:disisleri tfc kontrol

ck-nc
              18.12.1996 trafigi asagida sunulmustur:
              ---------------------------------------
 nr:      dipno:    ck:     gr:     fm:      to
 -----    -----    -----    ----   ----     ----
 alinanlar:
---------
 38       188      30       --     dis       trab
 39       224      30       --     dis       bin
 40       225      30       --     dis       bin

cekilenler:
-----------
100      --      --        883    trab      dis
101      --      --        969    trab      dis

musterekler:
------------
10872    --       --       155    dis       trab
10873    --       200      --     dis       trab-bin
10882    --       --       878    dis       trab
10890    --        80      --     dis       trab-bin
10901    --       440      --     dis       trab
10902    --       290      --     dis       trab

oto transfer:
------------
49815    442      160      --     kud       trab
49818    470      150      --     tunu      trab
49842   1424      300      --     kiev      trab
49878    471      600      --     tunu      trab

saygilarimla arzederim.      y. e .kucukoglu
----
.pa
------
tad de tad83 103/103 ve tfc dhl qsl?? ise nw dort acik daha var
punc edecegim. pse ans 16968/16968 fec pese
vericime guvenemiyorum  alindilar icin bekletmesseniz
minnettar kalacagim efm
```

==========

Example 5 New Delhi embassy to Ankara

==========

```
TAD TAD TAD DE TAD 89 89 DELHI
(date time)
FM: YENI DELHI TLS
TO: TFC KONTROL   (date/s)  TFC LIST
CEKILEN
------------
                traffic types sent/received

.PA
```

==========

Example 6 Repeat, by Ankara, of message from Islamabad to New Delhi

==========

```
OTO/NR  :  38327
OTONR   :  116/3
261300
GR-257
NORMAL
```

FM: ISLA.MABAD BE
TO:
1.DIS.ISLERI
2.TURK.UNO/NEW YORK
3.YENI. DELHI
(time date)

5 letter groups

BT
GR257
SAYGILARIMLA ARZEDERIM/ASULA
.PA

Example # from Islamabad to Ankara

NR: 104 COK ACELE (date time) FM: ISLAMABAD BE. CK:100
TO:
DIS.ISLERI

message in Turkish

SAYGILARIMLA ARZEDERIM KKVM-KOKD (ISLA-755) ASULA

PORTUGAL
---

o Country profile
The Republic Portugal measures 92,080 km2. The capital is Lisboa. The country is divided in 18 districts (distrito); Aveiro, Beja, Braga, Braganca, Castelo Branco, Coimbra, Evora, Faro, Guarda, Leiria, Lisboa, Portalegre, Porto, Santarem, Setubal, Viana do Castelo, Vila Real, Viseu, and 2 autonomous regions (regiao autonoma); Acores (Azores), and Madeira.
The Portuguese Defense Forces has the following branches: Army, Navy (including Marines), Air Force, National Republican Guard, Fiscal Guard, and Public Security Police.

o Operational notes:
Language: Portuguese
Single frequency operation.
Station (embassy) calls ZPZP. Lisbon responds "sboa p +?"
(sboa abrv lisboa)

o Transmission modes used:
Sitor/A 100bd N 170

o Frequencies:
7314, 12218, 19221.7, 21181.7, 21818.7, 23818.7

o Reported callsigns and selcals:

selcal	Location
ZPZP	MFA Lisbon

o Sample message formats:

Example #1 - Operator chat in Portuguese

ok meu caro mas isto nao serve de nada lamentar-se a casa ee assim e temos que a aceitar tal que elq ela ee nada mais . vou protestar mas naao haa nada fazer. eu
esperei tres dias para abrirem a mala qure veio dai. paguei para que ela fosse aberta. por isso nao haa muito a espperar que isto melhor -. mas diga me etra essa a sua mensagem ? ou tem algp mais para me dizer+?
ok meu caro isto pouco melhor ee que o zaire soo a or ee que ee diferente.
mas entao jaa agora que haia nas 15 caixas que para aii enviaram . foram

os bolos rei ou que mais? se assim for gardem um tambem para mim ok ?+?

ok jjaa naao ee nada mau se forem aspirinas mesmo velha. necessitam algo daqui ?+?

ok isso jaa edstaa seguro. desejo-vos tambem um ano novo cheio de felicidades
. agradecco que transmita a sexa e familia os meus votos de bom ano novo e sua familia. um abracco e atee domingo +?

ok naao diga nada ao victor pois nao se sabe o que poderaa acontecer. depois quando ai chegar eu falo com o victor sobre o assunto pois o pacote ee

---

Example #2 - Further operations indicating Kinshasa and Lisbon

---

de emb~ port kins~~~e (de emba port kinshase)
~~~~a~~~~ne~trdangeiros

k ok bem recebido
mais alguma coisa+?

pk go ok+?
ut lisboa p (MFA Lisbon)
+?

NORTH KOREA

---

o Country profile
The Democratic People's Republic of Korea; abbreviated DPRK; with capital Pyongyang, measures 120,540 km2. The country is divided in 9 provinces (do); Chagang-do, Hamgyong-namdo, Hamgyong-bukto, Hwanghae-namdo, Hwanghae-bukto, Kangwon-do, Pyongan-bukto, Pyongan-namdo, Yanggang-do, and 3 special cities (jikhalsi); Kaesong-si, Namp'o-si, and Pyongyang-si.
The DPRK Defense Forces has the following branches: Korean People's Army (including the Army, Navy, Air Force), and Civil Security Forces.

o Operational notes:
Language: Korean
Offline encrypted messages using 5-fig groups. An additional group indicating the x100 groups every tenth line (see final sample msg).

o Transmission modes used:
CW
ITA2 50bd R 500Hz and 1000Hz
BPSK 1200bd

o Frequencies

3322.3	8200	8819.7	8824	8850
8876	8878.1	8879	8882.2	8888.3
9395	10031.2	10075.6	10135	10460
10467	10590	10594.6	10595.1	10635.3
10770	11121.8	11326.6	12154	12411
12431	13288.7	13310	13312.8	13315
13317.5	13327.7	13820	13856	13859.5
13872.5	14214.7	14225	14800	14860
14975	15856	16167.9	16232	16240.5
16248	16251	16422	16428.9	16487.7
16875	17228.7	18031	18095	18100
18111	18215	18409.5	18420.7	18422.5
18815.9	18816.5	19221	20058	20560
20660	20903	20906.3	20935.3	21067
21369.6	21863.5	23165	23520.2	
~~~~

o Callsigns for parent MFA and embassies:
  None reported / listed.

o Sample message formats:

Example #1 - Plain language, partially corrupt
---
zenseung 40 dolyqeul mazneun qemunvye8zosen qinminqeigei
qyelqyelhan chuhalauvqainda.
zinan 3 nyenganqeui gaqyelhjvk~ug haibangzenzaingqeun
gaz haibangdoin zosen qinminqeigei qissqese kedalan nagoanqi
qanilsu qebsqessda.
geulena quidaihan gunsa zenlyaggaqisin gim qil seng zuseg ggeiseneun
((modeungesqeul zenzaingseungliqeilo)) laneun hyegmyevgzz1(0+9~ihasigo
zenchei zosenqinmingoa qinmingundaileul
quzvsqugyegmyelqeilo bulle qilqeukisiqye machpvvwqbvkvwxmxw1xvjq y~~@.
zengcvqnpqks?6kvvvichseunglileul qilughaqyessda.
zosen qinminqeun zagiqeui heuisaingzegqin tuzaingqeulo zogugqeui
zaqyuqoa doglib, minzogqeui zonqemqeul suhohaqyessda.
zogug haibangzenzaingqeise zosenqinminqeui seunglinzun minzogzuv
o1/OO8@mmggohi hagiquihai tuzainghaneun nala qinmindeulqei37
kekapapypvswjm/++71+''$-.

Example #2 - Offline encrypted messages
---

mf42/58   540   50   (ID?   msg nr   group count)

51403 34885 10093 32399 15128 24773 75965 72732 82143 68773
89197 60260 59109 65490 66431 36003 63047 47229 07832 19512
37554 41129 60767 28378 99504 57439 10276 78391 66347 36530
57567 83413 29667 04601 19867 31475 98533 76385 52345 34145
40008 78866 45680 82089 63390 05717 38847 29894 10237 79021

4646464646464646464646464646464646464yryryryryryryryryryry

 aaaaaaaaaaa
 74/01   22   68   03115   03115 (id?, msg nr, gr.count, key?)

 25370 43477 16319 98781 68958 40714 14339 24337 48066 76596
 99351 73946 91502 44101 86033 80856 51496 62703 51750 52598
 15957 55883 82776 23264 42149 96304 31372 56295 67894 37748
 96912 53848 75362 11977 64291 63982 09322 78514 16158 89166
 24606 47976 81982 99295 47612 01696 01812 69828 28513 28472
 74974 53598 76171 60150 75206 97634 92600 75688 16413 84576
 45094 74442 47477 88772 91081 71197 05463 21089
 ....

 74/02   228   343   ui66   05100   05100
 01705 47024 80412 67964 62359 58285 72878 30328 75093 20311
 21902 48671 66785 95006 50875 08385 81992 77008 41927 83209
               <clip clip clip>
 53508 68296 32265 97813 34520 16846 97791 60407 80487 81246
 62235 81666 08822 82770 76016 02015 10816 89775 33206 89379 100
 25958 09866 17176 61051 63522 37044 43732 64499 97361 10051
               <clip clip clip>
 01846 61946 13099 08150 66065 13378 41275 06588 78036 11675
 61091 15829 22244 41201 25526 67851 21543 87094 02162 16319 200
 38421 93708 93621 46336 22458 42643 62554 14342 10660 75666
               <clip clip clip>
 95161 60880 55387 73516 67969 74192 02366 50990 16071 14278
 47659 44354 47822 75406 18235 62140 04924 97933 92434 35631
 66640 27984 29810 38579 65393 28260 52230 62991 40896 59014
 22537 79144 38523

GERMANY

There were a couple of errors in the German Diplo Dictionary.
I had to hurry and didn't check the text. Thanks to Ralf and
Greg is here a corrected version.

o Dictionary:

aa	Aussenamt (Foreign Ministry)
an	to
auch	also
auch fuer	copy/info (also for)
aus	from
betr.	subject (betreff)
bezug	reference
citissime	citissime = latin = 'most quickly'
cti	consulate? (citissime)
fm cti	foreign mission
diplo cti	diplomatic mission
euro cti	european commission delegation
danke	thanks
edv	Elektronische Datenverarbeitung -> electronic data processing (somewhat old-fashioned for computer systems and their use in general, used to be the name of the computer department in those days when computers were still operated by men in white coats...)
eingegangen	arrived at/on
fernschreiben	telegram (originally it meant 'a telexmachine')
fernschreiber	teleprinter
folgt teil	part (page) ... follows
fuer	for
hier	here
ihnen	to you/them
lage	situation
nachrichtlich	the party mentioned after 'nachrichtlich' receives a copy for information purposes only)
offen	open (in plain language / in the clear?)
omnez	all?
oz	ortszeit (local time)
plurez	?
poea	Presse- und Oeffentlichkeitsarbeit (press and PR work)
vom	of (von)
wtlg	weiterleitung (forwarding)
wz	Weltzeit (UTC)

ALGERIA

Several Algerian diplo stations, including the MFA, recently started
using a Racal 10 channel VFT modem. Alphabet used was synchronous
ITA-5/ASCII/IRA.

Freqs logged so far: 8129.5, 10245.5, and 11467.5 kHz.

The transmissions started off with MIL-STD-188-141A ALE and followed
by 10 channel VFT traffic.

The header of one of the captured messages clearly shows that this
really is Algerian diplo: AMBALG: TUNIS, TRIPOLI, RABAT. The header
could clearly be seen in the bitstream.

As no start and no stopbits are being sent, the normal ASCII module
cannot be used. The bitstream has to be decoded with character-analysis
duplex set to ITA-5/NOT-interleaved and 8 bit per character.

Depending on the contents of the transmission, you will get readable
text. Of course when sending faxes and other binary data you just get
garbage on your screen. What makes it difficult, is the fact that each
channel contains different packets, so you would actually need a
demultiplexer to read the traffic "armchairwise".

EGYPT - bilingual location list
---

bkfqsr	-	MFA Cairo	cfkydp	-	Tripoli
dgmg	-	London	kdakrfr	-	Cairo
hlgp	-	Tunis	kdiqef	-	Algiers
kdbfclj	-	Khartoum	kdlmth	-	Doha
kdfskx	-	Riyahd	kdfykc	-	Rabat
kdwlsh	-	Kuwait	kdytfsg	-	Bahrain
mjza	-	Damascus	xgoke	-	Sanaa
jpac	-	Muscat	lkzgcg	-	Washington
glkwzlc	-	Nouakchott	kysmqkg	-	Abidjan
gmqkjsgk	-	N'djamena	kmsp kykyk	-	Addis Ababa
kwfk	-	Accra	ykjkwl	-	Bamako
mkf kdpdkj	-	Dar Es Salaam	wsgzkpk	-	Kinshasa
wjykdk	-	Kampala	wlgkwfs	-	Conakry
?kpjfh	-	Asmara	dkqlp	-	Lagos
dlkgmk	-	Luanda	gsflys	-	Nairobi
rfkfs	-	Harare	kpdkjkykm	-	Islamabad
?ywsg	-	Beijing	yslgqs???kgq	-	Pyongyang
qkwfhk	-	Djakarta	hd kysy	-	Tel Aviv
wldkdjylf	-	Kuala Lumpur	gslmdrs	-	New Delhi
k?nsgk	-	Athens	kgaf?h	-	Ankara
yfg	-	Berne	yfkq	-	Prague
ylg	-	Bonn	ydqfkm	-	Belgrade
fljk	-	Rome	kdukhswgk	-	Vatican
ussgk	-	Vienna	jlpwl	-	Moscow
jmfsm	-	Madrid	gsalpsk	-	Nicosia
rkukgk	-	Havana	yvmkm	-	Baghdad

DIPLO ENCORE.....

Embassies in Canberra, Australia:

VLA 223 Swedish Emb 20809, 23584 & 26660 Mode 2K80JXX Power 400W Licence expires 2001

VJA 224 Philippines Emb 11600, 14600, 19650, 22860 & 27800 Mode 3K00J3E Power 1KW Licence expires 2001

VJA 225 US Emb 7952.5, 10196, 12200 & 13985 Mode 3K00J3E Power 100W Licence expires 2001

VJA 227 Yugoslav Emb 9060, 12096, 14734, 15677, 18622 & 20049 Mode 3K00J3E Power 1KW Licence expires 2001

VJA 228 French Emb 7407, 10161, 12185, 14393, 15665, 18036 & 20123 Mode 3K00J3E Power 1KW Licence expires 2001

VLB Swiss Emb 13585.2, 16107.5, 18279.3, 20603.2, 22966.1 & 25227 Mode 3K00J3E Power 1KW Licence expires 2000

Ed Deasy logged the Cuban MFA Havana-Managua link; the packet link hasn't been logged for a while but is still alive and kicking. Here is Ed's log. <thanks to our anonymous friend for his help>

13857.8 1930 Packet 300/200 Sp. msg and ADT msg (5 number grps), tactical callsigns Mola and Cola

Callsigns are many and varied, but always composed of consonant vowel. Bocu and Sara have been other common callsigns. Another interesting feature is that they trade ADT traffic. In this case the adt groups are 5 figures, often preceded by sets of numbers with periods following, then numbers in brackets (sorry, not a group count, I counted). Here's a sample:

```
 MOJA   COLA
 ok adt 1
 COLA   MOLA
```

```
 COLA   MOLA
 ok voy
 COLA   MOLA
 3184.  200.  50.
 ..............
 <576>
 29722 91412 85080 00600 12964 00852 81138 47323 46757 78526
 62250 17355 57321 58290
 MOLA   COLA
 COLA   MOLA
 8 15718 33161 28679 11662 78078
 97186 57610 23515 18108 19956 60961 94388 64152 87687 44694
 31728 01264 31263 01595 29293 57
```

The number groups are often split between packets. Here's the typical end..

```
 COLA   MOLA
 como rx adt
 MOLA   COLA
 rx ok ssdsdds chaoooooo
 BBS    COLA   GINRE4
```

Interesting last line. Other than the BBS, is the GINRE4 a relaying station or digipeater?UNIDS, LOTS OF UNIDS & DIGI-NEWS

From Day Watson comes an interesting navtex log:

```
 zczc sa02
 navarea one 072
 british isles, differential gps.
 transmission of coded format dgps signals from united kingdom and
 republic of ireland stations will cease on 28 feb 98. signals
 received after this time will be unreliable as transmissions will be
 discontinued without notice.
 nnnn
```

These stations will be replaced by uncoded transmissions later on. You can only use them when you are subscribed to this service and have the necessary decoder (-Ary-)

-o-o-o-o-o-

Royal Navy: the RN broadcasts on 78.2 kHz LF and 2582, 3434.9, 4245.9, 6434.4, 8492.9, 12739.9, 16936.9 kHz on HF which for many years has been recognisable by its use of 7-bit Baudot encryption at 100 bd with "reversed" polarity and message headers beginning with "VMGTCNJ BH" suddenly started to use pseudo-random encryption like any common non-RN station and so was no longer positively identifiable.

Apparently the new encryption system was being tested only because after a couple of weeks of pseudo-random, the broadcasts have gone back to the usual 7-bit encrypted Baudot. <Info from John Doe. Thanks OM!>

-o-o-o-o-o-

The station transmitting in an unknown mode on 111.8 kHz is still there. It is on the air Mo-Fr 07-15 UTC and can be heard in at least Germany and in the Netherlands. First idea: test transmission from Mainflingen, Germany. But a coarse bearing with a loopstick antenna from approx. 53N10 8E10 indicates a location in SE direction (or NW, to the North Sea...). 111.8 kHz has been used by Prague Meteo (OLT21) for a long time, so maybe the signal is from Czech Republic? Ideas on location, mode, purpose etc. are highly appreciated... <Klaus Betke>

-o-o-o-o-o-

Murray Lehmann copied the following unid:

5204.9 unid 2220 ARQ-M2 144 mark only part TESTER QSL msg;
        same msg type prev copied this freq ARQ-M2 96 bd
        mark only. Start up, both cases, was ZCZC05102/

He adds: ''Also, was able to get sync at 144 bd on 5077.9 and 5166.9 which used to be at 96 bd - all were/are on mark only but no tfc. Although more checking needed, it certainly seems that at least some of the ARQ-M2 96 bd single tone stations, whoever they are, have changed to 144 bd''

-o-o-o-o-o-

Ed Deasy deasy@cstone.net sent us a lot of unids. Who can help?

18483 ? ? 1430 RS-ARQ 228.5/170 5lg's, with "page X" labels interspersed. French operator comms.

19868 ? ? 1546 RS-ARQ 228.5/170 5lg's, with "page X" labels inter-spersed. French op comms, monitored over 9 days with only FF. op coms.

Details: These RS-ARQ freguencies has been identified as German and Italian diplo in the past.

18483 has been identified as DEU, German diplo. Here's the ending format of the transmission I monitored.....
---
iwyrn gwqxy abbvx slsor qyebn jllhl qnoja cyqys ntbtn jkirc
 jdyfm bjsaq cv oqkmv pvaop zzzzzd
 hbt
 gr1146
 nnnn
 et voila fini pour el moment

Other than the French, the whole format doesn't look like GG. diplo... I've only got one day of text capture from this frequency.

19868 has been identified as Ital. diplo.....I've got nine days of monitoring files with only French operator comms(?) The transmission format is identical to the station on 18483. They may be two legs of a duplex circuit.
There could be two other RS-ARQ stations operating on the same frequencies. However, it doesn't seem likely.....
Would any of the WUN European monitors have loggings for these frequencies???

-o-o-o-o-o-

Pim Ripken reports from the Netherlands an unknown 4-tones signal on 16605.9 kHz (day time) and on 9910.9 kHz (night time).

Markus Buttinger from Austria reports the same station on 17223.9 kHz transmitting with 195.3 bd

Mohammad Sultan listens in Mauritius and sez that he copied this station on 8177.4, 9903.6, 10033, 10037.2, 10072.3, 10291.9 kHz

Alex from Germany joins the club and reports these stations on
16,605.92 ??? 1330Z UNID 195.3 bd   4 x 150 Hz
17,223.92 ??? 1342Z UNID 195.3 bd   4 x 150 Hz

No id copied so far. Anyone????

-o-o-o-o-o-

On to the next unids. Bert van Rij listened in the Netherlands to four so far unid ARQ-E stations.

4948.4 Unid 7.19z Arq e 85.7bd/161hz online encryption
4944.0 Unid 7.23z Arq e 85.7bd/161hz online encryption
4802.4 Unid 10.30z Arq e 85.7bd/165hz online encryption
4798.0 Unid 10.37z Arq e 85.7bd/165hz online encryption

Who can identify these stations?

-o-o-o-o-o-

''Can anyone help me out with this one?'', asked Dave Wright from Texas, USA. He caught the following on 13 Feb 98.

6691.5 Unid 0706 ARQ-E 96/146 synch w/betas. Solid signal. Monitored until 0813 w/no traffic noted. During overnight monitoring, callsign?/selcal? 'MTE' sent repeatedly, usually in groups of apx 200 times. Anyone have any idea who this is?

-o-o-o-o-o-

The unids champion this time is Ed 'Unid' Deasy. Here we go again :-)

6909.9 ? ? 2215 ARQ-M2(CCIR 242) 144/00K Single tone 00K modulated, sending betas at indicated speed. Odd one.

7850.4 ? ? 0110 PACTOR 100/170 Someone attempting to log onto "Netpoint de Venezuela." Domain is sucre.ven.net, an Internet provider in Venezuela. Is this another I-net/radio gateway provider?

8071.74 ? ? 2310 PACTOR 200/170 GG. msg, email sent to Berne from Trinidad and other locations. Strong signal, unid station sending to Berne. For more about the network see http://www.bernradio.ch

Note: I couldn't find any listings suggesting who the user is of this frequency. The web site indicates that bernradio is a commercial radio to email/fax link open to anyone with a transceiver and pactor or clover modem.

*** see also the DTS item in this column, Ed (-Ary-)

-o-o-o-o-o-

The Iron Eagle captured a couple of unid 4PSK stations and likes to know who they are. Anyone???

 6773,10 unid: 1655z 4psk 1280 bps
 6771,02 unid: 1655z full carrier
 6768,94 unid: 1655z 4psk 1280 bps
 3821,09 unid: 1710z 4psk 1280 bps
 3819,02 unid: 1710z reduced carrier
 3816,94 unid: 1710z 4psk 1280 bps

10586,11 unid: 1556z 4PSK 1280 BPS unid CIS (?) system
10581,95 unid: 1600z 4PSK 1280 BPS unid CIS (?) system twins with abw.

The Eagle sez: ''There is a new analysis result: when you see a twin 4psk, between them there is a full carrier:

Result: first 4psk: 10581,95
        full carrier: 10584,03
        second 4psk: 10586,11

They left the air at 1608z. All freq. were off air at the same time! This system can be an AM/DSB or AM/ISB, this depends on what the decoded msg. contains. The distance of the two 4psk' sub carrier from the main carrier are the same: 2080 Hz. Further study must be done.''

-o-o-o-o-o-

Our next guest lives in Ontario, Canada. Dave Ross copied his first Piccolo station and wants to know who GSU is. As far as I know, GSU is MoD London, Dave.

10317.80 GSU UNID location 2201 Piccolo 6 with a of all the fishes in the sea the mermaid is the one for me, test test test gyu de gsu test test test 1234567890987654321 ryryry tape ar 2201.

-o-o-o-o-o-

The Amateur Radio Intruder Watch reported the following unid station: Freq: 7013 kHz Mode: MFSK - 12 channels - each channel 90 Hz shift - phasemodulation - time/frequency/multiplex - Direction: about 100 degr.

THE 14373.3 MYSTERY

A couple of months ago Mike Chace, Michiel Schaay, and Bert van Rij copied an unid African network. As it's still a mystery who's behind the network, we'd like to hear from you. Here are the details and thoughts:

o Mode used: G-TOR, 200bd ASCII

o Callsigns
  AMADO, ASAFO, BATI, KDUA, LEOIA, LOME, LUNSAR, MNRV, NGTI, SANT, TARO, TGTA.

  MNRV is Monrovia, LOME is probably in Lome, and KDUA might be Kaduna. LUNSAR is most probably Sierra Leone.

o Notes
  * Messages/chats about Liberia, Togo and Accra have been noted.
  * Traffic is usually Spanish, and often involves chatter about religious matters.

So, who are they? Perhaps it is one of the aid agencies affiliated to one of the large Christian organisations? There are a lot of different protestant missions in Central America and Spain, so maybe one of those started their own (relief)mission for Africa? There is a Spanish aid organisation called Prosalus, which currently runs projects in both Lunsar (Sierra Leone) and Monrovia (Liberia). However, there is no indication that Prosalus has projects in any of the other locations in this net. Furthermore, another Spanish aid organisation called the Fundacion Juan Ciudad has had projects in Lunsar and Monrovia a few years ago. Yet another aid organisation from Spain, called Manos Unidas, were active in Monrovia.

TRANSWORLD DATA TERMINAL

Following the discussion about the Transworld Data Terminal, I made a recap of the facts. I think it's also interesting for those who are not on the list. <info: David Crawford, Al, Bert Brummel, Bill, and Bruno Haineault>

It started with a note from Al, that he copied a SITOR-A transmission with a speed of 109.1bd (varied up to 109.4). The message was offline encrypted (5LG's) with "ALLPP" at the start of the message. Others noted the same 109.x SITOR-A/B on a number of frequencies. The chatter was always plaintext Spanish.

The vast majority of the stations copied, has been Mexican military, not sure which branch. On one occasion Dave copied some plaintext with an ALLPP header that was clearly Ecuadorian in origin; but he has also seen a few others seemingly not Mexican or Cuban but not ID'd otherwise. There is often voice traffic between the data transmissions, and this is the easiest way to identify the origin if you know your Spanish.

The SITOR 109.x appears to be generated by the same comm-box responsible for the online crypto ARQ-100/400 transmissions also used by the Mexican military. This is a contraption called the "TRANSWORLD DATA TERMINAL"; the text shows up in the clear in the ARQ sessions at times. It is not clear what Transworld (now Datron World Communications) system is used though. If these are really references to old "Transworld" terminals, then they probably refer to a product called an "RT5500". Datron WC currently provides PSK "MIL-STD-110A" and APSK "X-CLOVER" (CLOVER-2000 variant) based data systems. Current military telecom computers are called RT9200 and RT9300.

As for regular times and freqs, there aren't any. Try frequency ranges where Mexican military show up often, such as around 4900, 5700, 6300, 6800, and 8100 kHz, plus/minus a couple of hundred kHz. One of the ARQ-100/400 links appeared on 4906 around 0200 UTC, all online crypto. Other frequencies: 7648.5, 7666.4, 7678.5, 8267.5, 8895.4, 9228.4, 12210.7, 18838.5, 18841.5 kHz.

Here's a typical ALLPP crypto message:

```
 zczc
 allpp
 qkqkq
 mbfnn azkuo pvnbm dpxhh ycdfx clqyn ooxto coxnf xvurb ulwth
 oebsz pfwrp stqpf zpvux qhzxz zkugw ksumt kfozb dgljl crdar
 kyqed egohv rodqv berlv zgmdf uxpng ysqlv pqjsx qrscz yqybo
 webey hfrvy gsswp sgtyd vgkyl yrpug nlgmv unmjs fkvtr qskcw
 stzyu mxcjs ubvlc zrrkd qljep kmcmc wytto feeou ztwbw bmgyb
 bpatk xatnz xhfrq hdkuc wrlqb itura fahju
 nnnn
```

The ALLPP header appears at the beginning of plaintext messages also; the QKQKQ always appears in the ciphertext.

RACAL'S SKYFAX

LDO sent me some interesting info a while ago, regarding a Racal HF Modem called RC5000 SkyFax.

o High Speed Modem
The optional enhanced High Speed Modem (HSM) adds a high speed serial tone modem to the functions and facilities of the SkyFax. Skyfax-HSM offers selectable traffic data rates of 3600, 2400 or 1200 bps and with favourable propagation conditions, fax and data files can be transferred in significantly less time than with the standard MSM.

o High Speed Modem Characteristics

Traffic Data Rates	1200, 2400, 3600 bits per second
On-air Waveform	2400, 4800, 7200 bps. STANAG 4285
Symbol Rate	2400 symbols per second
Modulation	1800 Hz carrier 2, 4 or 8 phase DPSK
Equalisation	Kalman directed Decision Feedback Equaliser
Throughput	Up to 750, 1500, 2250 bits per second depending upon channel conditions
Operational Mode	Half duplex adaptive ARQ with CRC error detection and Forward Error Correction (FEC).

o Medium Speed Modem
The Medium Speed Modem (MSM) uses 10 parallel data channels in the audio baseband of the transceiver. Each of the data channels is modulated at 125 bps, providing a total capacity of 1250 bps. Advanced digital signal processing techniques are employed to generate the tones and recover the data from each tone.

The most dominant effect of ionospheric propagation is the selective fading of frequencies within the channel baseband. The communications protocol divides the data into packets and sub-packets with each data channel carrying one sub-packet at a time. Each data packet and sub-packet is individually checked for errors and re-transmission is requested (ARQ) if an error is detected.

o dium Speed Modem Characteristics

Traffic Data Rate	1250 bits per second
On-air Waveform	10 parallel FSK tones
Symbol Rate	125 symbols per second
Tone Set	437.5 to 2687.5 in 250Hz steps
Modulation	FSK 62.5 Hz
Throughput	Up to 600 bits per second depending upon channel conditions
Operational Mode	Half duplex adaptive ARQ with CRC error detection and Forward Error Correction (FEC).

"Medium" speed 10 channel VFT heard on the following frequencies:

10245.5, 12228.0, 12229.5, 14423.5, 15919.5, 16338.3 kHz

o Robust Operation
Both versions of SkyFax support a low speed "Robust" mode for use when propagation conditions are too poor to support the higher rates. This allows single page faxes (or small computer files) to be transferred using an extremely robust Low Speed Modem (LSM) at 187 or 53 bps.

o Robust Modem Characteristics

Traffic Data Rate	53.57 or 187.5 bits per second
On-air Waveform	8-ary FSK
Symbol Rate	125 symbols per second
Tone Set	750, 1000, 1250, 1500, 1750, 2000, 2250, 2500 Hz
Throughput	Up to 187.5 bits per second depending upon channel conditions
Operational Mode	Half duplex adaptive ARQ with CRC error detection, Forward Error Correction (FEC) and Interleaving.

"robust" 8 tone mode heard on the following frequencies:

 9203.5, 11403.5 kHz

The modem employs the standard NATO 8-tone ALE system keyed with 125Bd (FED STD1045).

-o-o-o- That's all I have time for. -o-o-o-

==========

Military Channel Designators List

Welcome to another column. During these past few weeks I have been spending a lot of time listening to the German Air Force network, hoping to catch some of their sel-cals (another interest of mine), and this has allowed me to check and confirm several of their frequencies. As a result, that part of this column has been updated with some new information. I was surprised to see a Log from Ian Julian in New Zealand which included one of these GAF frequencies, and he reported that the signals were 'loud and clear' from down-under.
  President Clintons 'jolly' to the African continent looked like a promising chance to log/confirm lots of 'Mystic Star' channels, but I saw very few logs apart from ATC comms as he crossed the Atlantic in either direction.

So, on with the show...

**NOTES:

(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 1st April 98)

USAF MYSTIC STAR:

F003 8036 (6)	F365 11059 (7)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)
F054 8058 (7)	F404 7690	F703 9991.5 (6)
F058 4742 (6)	F405 6972	F706 8057 (5)
F061 23265	F406 18393 (6)	F707 10589
F063 14870	F417 4992	F708 23377
F064 11214 (7)	F419 11407 (5)	F709 9317 (7)
F066 15036	F420 7933 (7)	F713 16246 (5)
F077 ?	F432 6731 (6)	F717 10883
F078 18532	F433 20972	F722 12270
F080 15677	F435 3821	F723 18323 (6)
F084 13205.5	F437 5684 (6)	F728 11236 (5)
F085 MF 6,8,11 MHz	F441 17440	F731 6683 (8)
F086 9461	F444 19267	F732 15011 (7)
F089 13204 (6)	F448 16-18 MHz	F734 4757 (7)
F090 6716	F451 13248 (7)	F736 11494
F094 9017 (6)	F452 5026	F741 7873
F098 14585	F453 19063	F748 6756(5)
F099 13247 (7)	F461 13211 (8)	F749 15-16 MHz?
F101 12106 (6)	F463 4610 (7)	F752 8047 (8)
F102 11118 (6)	F464 16157	F754 11627
F103 11488 (6)	F465 8040 (6)	F777 3113 (6)
F108 7316	F466 14864.5 (7)	F778 18023 (8)
F114 6986 (6)	F467 9023 (7)	F784 9043 (6)
F117 6993 (8)	F476 4-6 MHz?	F785 15687 (6)
F124 11217 (6)	F481 7605	F790 16323
F128 23242	F483 18626	F803 5078?
F134 4942.5	F486 5152 (7)	F807 12103?
F136 5429.5 (7)	F487 24483	F809 5700 (5)
F146 9027 (7)	F489 5437 (7)	F814 6989 (7)
F153 8063 (6)	F496 11059.5 (6)	F821 ?
F173 14420.5	F497 5411 (7)	F823 11229 (8)
F182 3078 (6)	F498 8032 (8)	F825 19047?
F184 10648 (8)	F499 4442 (7)	F832 18267
F186 3046	F500 8989 (6)	F843 MF 6 MHz
F194 13825 (5)	F505 9006 (6)	F845 6-7 MHz?
F195 20631	F516 4645 (6)	F846 13822 (5)
F197 4982 (6)	F517 9270 (6)	F853 12 MHz?
F202 16014 (5)	F521 11484 (5)	F864 16008
F204 12057	F522 11232	F867 6830 (7)
F211 11056 (7)	F523 9215	F868 9218 (6)
F213 ?	F529 8077 (7)	F869 16090
F226 5435.5 (6)	F530 23325	F873 13248 (7)
F228 7735 (5)	F533 18675 (6)	F874 13246?
F236 15041 (7)	F538 ?	F875 6717 (8)
F243 18590	F540 5404.5	F877 4721 (7)
F248 5398 (5)	F542 5431 (6)	F885 13207 (5)
F249 4731	F545 10580	F895 5710 (7)
F250 15091	F551 18331 (6)	F904 10202 (7)
F251 13217 (6)	F555 4894 (6)	F906 4524
F262 10717	F561 11052 (6)	F909 7687 (8)
F264 7693 (6)	F567 13565 (6)	F910 19671
F265 15733 (6)	F569 18387	F912 7330

F266	7997 (6)	F574	11413 (6)	F917	10205 (6)
F267	6730 (8)	F575	10427	F918	13482
F268	7325 (8)	F576	11153.5 (7)	F919	11159 (6)
F271	18320	F577	10544 (7)	F920	7927 (7)
F277	11153	F579	MF 11 MHz	F924	16317
F287	11226 (7)	F595	10877	F933	?
F290	8026 (8)	F600	13878 (6)	F935	9 MHz?
F291	13960 (7)	F611	14863	F937	?
F292	9414.5	F614	8026 (7)	F940	11445
F295	11460 (8)	F616	9320 (7)	F943	19002 (6)
F300	15707 (6)	F622	5817	F948	15038 (6)
F301	7500.5	F623	18317	F952	Night
F302	?	F624	13241 (6)	F957	6761 (8)
F310	?	F626	19343	F965	11466 (6)
F311	11220 (8)	F627	7910 (5)	F974	10586 (6)
F322	?	F631	18755 (5)	F975	MF 11 MHz night
F326	14864	F633	18290 (7)	F980	15724
F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (7)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (7)	F997	15667
F360	7919.5 (6)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

..and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1
CA 6691 (7)
CB 11187 (7)
CC ?
CD ?
also check 11267 & 13240

*USAF STRATCOM 'Zulu':

Z100	3068 (8)
Z105	3116 (7)
Z110	3134?(8)
Z115	3143 (8)
Z120	3295 (8)
Z124	?
Z125	4495 (8)
Z130	4472 (8)
Z135	4745 (8)
Z140	5026 (8)
Z145	5705 (8)
Z150	5800 (8)
Z155	5875 (7)
Z160	6715 (8)
Z165	6757 (8)
Z170	7831 (8)
Z174	?
Z175	9016 (8)
Z180	9057 (8)
Z185	9809 (8)
Z190	10204 (8)
Z195	11104.0 (possibly?)
Z200	11181 (8)
Z205	11494 (8)
Z210	11229 (8)
Z211	12070 (8)
Z215	13242 (7)
Z220	13245 (7)
Z225	13907 (8)
Z230	15046 (7)
Z235	15094 (8)
Z240	15097 (7)
Z250	15962 (7)

Z255 17973 (7)
Z270 18027
Z275   ?
Z280   ?
Z285   ?
Z295   ?
Z315 23872
Z330   ?
We had no positive confirmation during 1997 that Z110 was 3134, but
that frequency was active with 'Nightwatch' traffic during January
1998 so it is still one of 'their' frequencies.

*USAF AFSOC
==========
FOX 1 13207
FOX 2 5732
FOX 4 9017
FOX 8 23271
FOX 9 18027
?   9018

*US Customs/DEA/JTF
==================
 3428   Yankee Alpha
 5571   Yankee Bravo
 8912   Yankee Charlie
11288   Yankee Delta
13312   Yankee Echo
17972   Yankee Foxtrot

27870   Victor Alpha
20631   Victor Bravo
18594   Victor Charlie
15964   Victor Delta
11494   Victor Foxtrot
 3369   Victor Kilo

 4500   Zulu Alpha
 7527   Zulu Bravo
 9802   Zulu Charlie
12222   Zulu Delta
15867   Zulu Echo

10242   Tango Alpha (also VE)
13907   Tango Bravo (also VG)
20890   Tango Charlie (also YG)
23214   Tango Delta (also YH)
25350   Tango Echo (also YI)

 2808.5   Xray Alpha
 4991   Xray Bravo
 5058.5   Xray Charlie
 7778.5   Xray Delta
 9238.5   Xray Echo
11073.5   Xray Foxtrot
15953.5   Xray Golf
17601   Xray Hotel
19131   Xray India

 5912   Whiskey Charlie
12138.5   Whiskey Delta
13658.5   Whiskey Echo
15964   Whiskey Foxtrot

 5277   Alpha (Night DEA Pri)
 5841   Bravo
 7300   Charlie
 9497   Delta
11076   Echo (Day DEA ops)
 7657   Foxtrot
14690   Golf
18666   Hotel (DEA Active)
23675   India
14350   Lima
14686   Papa (DEA day pri)
23402.5 Romeo

17171   Sierra Hotel
18171   Sierra India
19131   Sierra Hotel

 7527   COTHEN Scan 1
 8912   COTHEN Scan 2
10242   COTHEN Scan 3
11494   COTHEN Scan 4
13907   COTHEN Scan 5
15867   COTHEN Scan 6
18594   COTHEN Scan 7
20890   COTHEN Scan 8
23214   COTHEN Scan 9
25350   COTHEN Scan 10

*USCG "SECURE"
==============
3A3   5422.5
3A4   4448

```
3A5     ?
3A8    7773.5
3A9    7421
3A30    ?
3E4    6234.5
3E5   10608.1?
3E6    5272
3E7     ?
3E9     ?
3E10   7626
3E11   7783
3E12   7845
3E13   7884
3E14   7909
3E19  10675
3E20  10759
3E21  10788
3E24  11157.5
3E25  13413
```

For a full listing of USCG aircraft and helicopters, please 'surf' to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers

```
CH-1   3345
CH-2   5015
CH-3   5327.5
CH-4   5400
CH-5   5437.5
CH-6   6020
CH-7   6785
CH-8   9122.5 Pri
CH-9  11693.5
CH-10 12070   Sec
CH-11 12122
CH-12 16077
CH-13 16326   Ter
CH-14 16358
CH-15 20659
```

*U.S. ARMY TRANS CORPS

```
CH.1   4146
CH 2   6224
CH 3   6227
CH 4   8294
CH 5   8297
CH 6  12353
CH 7  12359
CH 8  12365
```

*FEMA

FEMA uses "Foxtrot" designations for their frequencies. There are quite a few frequencies. I can't access my own data base right now, but according to Groves Shortwave Directory, here is the list:

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008
09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*SFOR BOSNIA
==========
I2   6723
I8   6721.5 (5)
I9   2839.5 (5)
 ?   2841.5 (5)
PUSH 81 5788
PUSH 81A 6865
PUSH 82 4450
PUSH 85 3178
PUSH 89 6932.5
PUSH 103 5110
PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312

The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.

*'Habitat' net
==============
Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:
4704.4   (replaced 4721.0)
5700.4   WY02B
6719.4   WY02A   (replaced 6736.0)
8978.4
9005.4
9011.4
11212.4   (replaced 11214.0)
15095.4
(the two designators listed above, WY02A and WY02B, are not yet confirmed.)

*Canadian Forces
================
A6A   4560.0
A6G   6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

*Belgian Air Force Designators
==============================
from Danny Peters via Gerard Bos and Gerbrand Diebels/SC-MAC.
4745.0   YD

8989.0   YG (used to be Y8)
11268.0   YJ (used to be Y11)
15010.0   ?? (new freq)
15015.0   YM (new freq. + desig.)
18006.0   YO (new desig.)
20050.0   YQ (new freq. + desig.)
20620.0   YP
23332.0   YS (used to be Y23)

*French Air Force 'Circus' Net
==============================
Marjolaine 2   6712
Racontar 1   8972
Vinaigrette 3 8992
Raphael   13236
Citadelle 1   18010
Citadelle 3   ?
Verite 3   23254
Reconfort 3   15 MHZ?
Capitole   6688
143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)

*German Navy
============
The following list comes from the WUN Newsletter, vol.4 of 1997. I have cut it down to just those frequencies listed as 'USB' (those deleted were all RTTY).

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
=================
>From Ary Boender comes the following list of frequencies. It was 'current' during 1995, so there may have been some changes since then. I have removed all the non-USB frequencies.

Freq	Mode	Callsign	Location
3144.0 kHz	USB	DHM 91 German Air Force	Munster
5591.0 kHz	USB	DHM 91 German Air Force	Munster
5687.0 kHz 'E'	USB	DHM 91 German Air Force	Munster
5693.0 kHz	USB	DHM 91 German Air Force	Munster
6692.0 kHz	USB	DHM 91 German Air Force	Munster
6718.0 kHz	USB	DHM 91 German Air Force	Munster
6747.0 kHz	USB	DHJ 78 German Air Force	Munster

6762.0 kHz		USB	DHM 91	German Air Force	Munster
8965.0 kHz	'K'	USB	DHM 91	German Air Force	Munster
8991.0 kHz		USB	DHJ 78	German Air Force	Munster
9000.0 kHz		USB	DHM 91	German Air Force	Munster
9019.0 kHz		USB	DHM 91	German Air Force	Munster
11187.0 kHz		USB	DHM 91	German Air Force	Munster
11217.0 kHz		USB	DHM 91	German Air Force	Munster
11217.0 kHz	'M'	USB	DHO 23	German Air Force	Munster
11226.0 kHz		USB	DHM 91	German Air Force	Munster
11272.0 kHz		USB	DHM 91	German Air Force	Munster
13203.0 kHz		USB	DHM 91	German Air Force	Munster
13245.0 kHz		USB	DHM 91	German Air Force	Munster
13248.0 kHz	'O'	USB	DHM 91	German Air Force	Munster
13342.0 kHz		USB	DHM 91	German Air Force	Munster
17992.0 kHz	'W'	USB	DHM 91	German Air Force	Munster
18006.0 kHz		USB	DHM 91	German Air Force	Munster

Other frequencies are 'A' and 'B'.
Regular/daily callsigns heard are DHM91 (Munster), DHO23 (Landsberg), DHO60 (Hohn), DHO75 (possibly a collective callsign for all previous three) and DHM81. Callsign 'O5IP' (Oscar-5-India-Papa) seems to be another 'regular/daily' callsign. The Primary frequency appears to be 'E'/5687.0; on Friday's (German Time), DHJ59 makes a weather broadcast at H+55 on several announced channels, with warning announcements at H+53 and H+54.

*NATO E-3 AWACS
==========

Ch.AA	6700.0
Ch.AB	11228.0
Ch.AC	8971.0
Ch.A5	?
Ch.KD	6760.0
Ch.KF	6695.0
Ch.NB	3081.0
Ch.NC	3225.0
Ch.ND	?
Ch.NE	4542.0
Ch.NF	4720.0
Ch.NG	?
Ch.NH	4758.0
Ch.NI	6762.5
Ch.NJ	8986.5
Ch.NK	11270.5
Ch.NL	15050.0
Ch.NM	17996.5
Ch.XC	6754.0
Ch.XD	8980.0
Ch.XE	10315.0
Ch.??	12165.0
Ch.??	5691.0
Ch.??	23241.2

The X-net is replacing N-net altough the N-freqs are still sometimes used.
(Thanks to Gerbrand Diebels/SC-MAC)

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's (actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above).
If the UKADGE circuits are active, there will be an announcement after the
weather broadcast with the code-letters for the active frequencies.
For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG'
(which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

  The first 2-letter-group is the code for the active HF frequency from
the list below. It is sometimes referred to a the 'Jorsk Frequency'. It
carries most of the voice traffic, including target positions and Beaver
details. This channel also carries frequency changes and position reports.
  The third group is the 'Charlie squared' channel, where AWACS aircraft
pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5
  The final group is known as 'chick co-ordination', where combat
aircraft which are HF-capable can be passed target positions and other
information.

Therefore, in the example above, Buchan is the ADR station, using 5095
khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks'
are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0

BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 08	4020.00 Khz#
Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#
Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 26	(uhf)
Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#
KJ 02	3357.0
KJ 04	3805.0
KJ 28	(uhf)
KJ 37	5910.0 (poss.)
TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint

Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========
(also known as 'Coastal Control')

Controlled from Whitehall ('GYA') with standby location at Forest Moor ('GXQ').
Transmitters:- Milltown and St. Eval
Receivers:- Kinloss and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

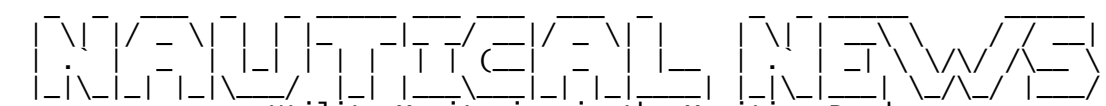
Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly use their ships name.

UKMACCS info Compliments of Graham Tanner

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

Cheers...

==========



Utility Monitoring in the Maritime Bands
Editor: Day Watson (jdwatson@cableinet.co.uk)
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Hi MariWUNners

Important Notice - Situation Vacant:

Starting with the May newsletter I shall be taking over the Digital Review column from Ary Boender. From this time I will continue to produce Nautical News but at a reduced size until one of you cares to relieve me of this position.

So guys/gals, if you fancy writing the column each month and putting your own stamp on it step right up. Send either Dave Wright or myself an email outlining your maritime interests/background and a brief outline as to how you would structure the column. The general column should cover maritime radio in all its modes - CW, MF/HF, RT, and digital (arq, fec inc NAVTEX, rtty and dsc (GMDSS implementation date 1/Feb/99 approaching rapidly).

Now for your interest this month -

QTC list:

Service reduction at Auckland/ZKLF
Double ID at Globe
GMDSS - Ship equipment requirements Pt.2
Final deadline for GMDSS pushed back
Scheduled HF CW MIBs - Far East
7 letter selcalls
Station overview
     Karachi/ASK
     Mahina/FJA
Shipping snippets

++++++ Service reduction at Auckland/ZKLF

Auckland Met is well known for its facsimile transmissions on 5807, 9459, 13550.5 and 16340.1. It has come to our attention that they will cease the transmission of aviation weather charts wef 0000z 1/May/98.

Integrated (keying the black tone) on these transmitters using frequencies 5806.1, 9458.6, 13550.1 and 16339.7 are periodic storm warnings, shipping forecasts and met codes in morse. wef 2359z 30/Jun/98 these WT transmissions will cease.

If you want a last chance to log them listen at
0330 0500 0530 0830 0920 1530 1800 1930 2120 2230 UTC but note that times will be 1hr earlier when daylight saving time is in force.

++++++ Double ID at Globe

Murray Lehman in Perth, W.A. posed the following question in a recent post. This reminded me that I had asked something similar back in January.

16235   VCT/WCC: ? which QTH 1240 FEC tfc list & wx, both

msgs ended w/WCC SITOR 414 (4216.5 KHZ) so tx prob
ex Chatham;then to VCT/WCC in CW; only had this
sig once (ML2)

8426.5 VCT/WCC: TORS COVE RADIO 1951 CW. Chan free marker (Globe)
"VCT/WCC" Why the double csign here but not on 8435? (DW)

Time to ask the people who know and I appreciate Peter Kierans of Globe Wireless taking time out to provide us with the answer.

"Good question .... 8426.5 was and is a WCC frequency, operated out of Chatham. Massachusetts. Chatham is shut down and we license and operate that same frequency out of Torscove. We use the callsign VCT/WCC (We have to use VCT/..... to make it legal in Canada) so that casual ships looking for "WCC" on that frequency will find us. We have a few such frequencies operating out of Torscove; 4, 6, 8 and 12. The rest of WCC is temporarily operating out of WNU.
A new permanent site for WCC is being prepared just E of Washington, DC, on the Delaware/Maryland border. It is just NW of Ocean City, Delaware, near the town of Bishopville. Many of the WCC Sitor frequencies had QRM problems. We have just received a new license with replacements for all those problem frequencies. We have also added 18 Mhz and data/fax as well as voice frequencies on all bands, 2 to 26. WCC out of Maryland will be ready by June. We do not expect to operate CW from that location but many of those frequencies will convert to data emissions at 3 Khz bandwidth.

Note that Globe Wireless now has 16 stations in 10 countries.
The use of HF is not dead.

How's that for a long answer to a short question ! "

Many thanks Peter.

++++++ GMDSS - Ship equipment requirements Pt.2

Sea area A2 (Regulation 9)

Last month we looked at the requirements for ships in sea area A1. Now moving into sea area 2 out of VHF range of coaststations. By coaststations we normally mean those stations which are open for public correspondence. Here we include stations run by coastguards etc which maintain a watch on the GMDSS alert channels.

Our ship must now, in addition, carry an MF radio capable of transmitting and receiving
DSC on 2187.5 khz and
RT on 2182 khz for distress and safety purposes..

Also an installation to maintain a continuous watch for DSC alerts on 2187.5 khz ie ships are watching for distress alerts as well as coaststations. This installation may be combined with that above or be separate from it.

As the ship may be in area A2 VHF is out of range. The ship must still have two separate alerting systems. It now has MF. The other may be
1. using the satellite EPIRB provided it is installed close to the Bridge. It may be located elsewhere but remotely activated from the Bridge.
2. on HF using DSC
3. INMARSAT.

These latter two may be available if the ship is proceeding beyond area A2.

In addition to the above for distress/safety purposes the ship is required to carry an installation for general radio communications using
1. RT or telex in the bands between 1605-4000khz, or between 4000-27000khz, or
2. an INMARSAT ship station.

Sea area A3 (Regulation 10).

Here the ship is on transoceanic voyages beyond the range of shore station coverage of VHF and MF but within the coverage of an INMARSAT satellite.

Two alternatives are possible where the system depends on the fitment of satellite or MF/HF equipment.

Fitment 1.

An INMARSAT ship station able to
transmit/receive distress/safety comms
transmit/receive distress priority calls (alerting)
maintain shore/ship watch for distress alerts, and
be used for general radio communications.

An MF installation sufficient to transmit/receive for distress/safety purposes using DSC on 2187.5 khz (alerting)
RT on 2182 khz

MF equipment to maintain continuous watch on 2187.5 khz for DSC alerts

And a means to transmit ship/shore distress alerts on
1. EPIRB 406 khz, or
2. HF DSC, or
3. INMARSAT epirb, OR
4. additional INMARSAT ship station.

or Fitment 2.

An MF/HF installation able to cover distress/safety comms (transmit/receive) on all distress/safety frequencies in the bands between 1605-4000 khz and 4000-27000khz. Modes will include DSC, RT and telex.

An installation to maintain a continuous DSC watch on 2187.5 khz and 8414.5 khz, and on at least one from 4207.5, 6312, 12577 and 16804.5 khz. These are the GMDSS DSC alerting channels.

A means to transmit ship-shore distress alerts on
1. EPIRB 406Mhz, or
2. INMARSAT ship station, or
3. INMARSAT epirb.

Equipment to provide general radio communications using RT or telex on the bands between 1605-4000khz and 4000-27000khz.

It will therefore be seen that for the ship-shore alerting path the ship has at all times at least two means of achieving this on ocean passages. In addition all ships in A2 and A3 areas are also maintaining a watch on 2187.5 khz for distress alerts from ships in the vicinity (50-400 nautical miles).

++++++ Final deadline for GMDSS pushed back

So said an item in the 6 March World Maritime News (WMN) by Steve Shultz in the SHIPs mailing list.

Political and safety concerns of the International Maritime Organization have pushed the final deadline for implementing the Global Maritime Distress and Safety System back by six years.

This caused all manner of enquiries with the International Maritime Organisation (IMO) in London (inc one from your editor). The original information (an item in Lloyd's List which reported the change) had been passed by a third party to the author. Lloyd's List apparently ran a correction on 9/Mar and Steve Schultz provided the following in the 13/Mar WMN

GMDSS clarification

Information reported in the last issue regarding implementation of the Global Maritime Distress and Safety System was incomplete. All provisions of GMDSS will come into force on schedule. However, it is planned that Channel 16 [VHF] will be monitored for another six years. The date from which monitoring of the channel will no longer be required has been changed from 1 Feb., 1999, to 1 Feb., 2005. As a result, the GMDSS will not be completely instituted until 2005. The only provision preventing full implementation as planned is the Channel 16 provision.++++++ Scheduled HF CW MIBs - Far East -

It was first intended to cover the whole of the Pacific but the Far East on its own turned out to be sufficient for one item. Good hunting.

Singapore to Petropavlovsk-Kamchatskiy

Time	Station	c/sign	Freq.	Item
	HongKong	VRX	4232.5 8619 13031 17192	Navs ev H+18
	KaoHsiung	XSW	8582 8632	Navs ev OH+18
	HuaLien	XSY	8546 8700	Navs ev EH+18
	Keelung	XSX	8445 8506	Navs ev EH+18
	Taichung	XSW2	8511	Navs ev EH+18
	Tientsin	XSV	8600	Navs ev EH+18
	Tokyo	JMC	4298 6397 8526 12840 17029	Wx in Japanese, storm wng in Jap/Eng, SYNOP, SHIP various times intermediate to those listed below.
0000	Seoul	HLL	5810 11610	Wx
0005	Tokyo	JNA	4276 8492 12942 17052.5 22648.5	Navs
0018	Haiphong	XVG	8470	Wx Navs
0025	Kholmsk	UQB	3890 8680 13029 16970	Wx Russian/MAFOR Navs Russian/Eng
0030	Guangzhou	XSQ	6382 8458 12973	Wx
0030	Vladivostok	UKA	4241 12870	Navs Russian/Eng
0048	HoChiMinh	XVS	8590	Wx
0050	Darien	XSZ	6333.5 8694	Wx Chinese/Eng
0100	Vladivostok	UFL	8595 12729 22350	Navs Russian/Eng
0118	Singapore	9VG	4322 6412	Wx Navs
0130	JuznoSakhalinsk	UHO	4480 8180 11025	Wx Russian
0118	HongKong	VRX	8619 13931 17192	Wx
0148	HoChiMinh	XVS	8590	Navs
0150	Bangkok	HSA	7955 8573.5 8686	Wx
0200	Shanghai	XSG	4290 6454 8487 12954 17002.4	Navs
0240	Seoul	HLL	5810 11620	Wx
0248	Guangzhou	XSQ	4288 6382 8458 12973 17002.4	Navs Eng/Chinese
0248	Tokyo	JMC	4298 6397 8526 12840 17029	Wx
0300	Shanghai	XSG	4290 6454 8487 12954	Wx Eng/Chinese
0400	Taipei	BMB	3641 5909 13560	Wx
0405	Tokyo	JNA	4276 8492 12942 17052.5 22648.5	Navs
0430	Keelung	XSX	8445 8506	Wx
0500	KaoHsiung	XSW	8582 8632	Wx
0518	Singapore	9VG	4322 6412	Navs
0530	HuaLien	XSY	8546 8700	Wx
0548	Guangzhou	XSQ	4288 6382 8458 12973	Navs Eng/Chinese
0600	Tientsin	XSV	8600	Ice Chinese/Eng
0618	Haiphong	XVG	8470	Navs
0630	Vladivostok	UKA	4241 12870	Wx Russian
0630	JuznoSakhalinsk	UHO	4480 8180 11025	Wx
0700	Guangzhou	XSQ	4288 6382 8458 12973	Navs Eng/Chinese
0748	HoChiMinh	XVS	8590	Navs
0750	Bangkok	HSA	7955 8573.5 8686	Wx
0805	Tokyo	JNA	4276 8492 12942 17052.5 22648.5	Navs
0825	Kholmsk	UQB	3890 13029	Wx Russian/MAFOR
0840	Seoul	HLL	5810 11620	Wx
0848	Guangzhou	XSQ	4288 6382 8458 12973	Navs Eng/Chinese

0848	Tokyo	JMC	4298	6397	8526	12840	17029	Wx
0900	Shanghai	XSG	4290	6454	8487	12954	17002.4	Wx Eng/Chinese
0900	Vladivostok	UFL	2605	8595	12729	22350		Navs Wx Russian/Eng
0900	P.Kamchatskiy	UBE	4271	6370				Wx Russian
								Navs Russian/Eng
0918	Singapore	9VG	4322	6412				Navs
1000	Taipei	BMB	3641	5909	8117	13560		Wx
1030	Keelung	XSX	8445	8506				Wx
1050	Darien	XSZ	6333.5	8694				Wx Chinese/Eng
1100	KaoHsiung	XSW	8582	8632				Wx
1120	Tokyo	JNA	4276	8492	12942	17052.5	22648.5	Navs Japanese
1130	HuaLien	XSY	8546	8700				Wx
1148	HoChiMinh	XVS	8590					Wx/Navs
1148	Guangzhou	XSQ	4288	6382	8458	12973		Navs Eng/Chinese
1150	Bangkok	HSA	7955	8573.5	8686			Wx
1200	Seoul	HLL	5810	11620				Wx
1205	Tokyo	JNA	4276	8492	12942	17052.5	22648.5	Navs
1218	Haiphong	XVG	8470					Wx Navs
1230	Guangzhou	XSQ	4288	8458	12973			Wx
1300	Tientsin	XSV	4283	8600				Ice Chinese/Eng
1318	Singapore	9VG	4322	6412				Wx Navs
1318	HongKong	VRX	4232.5	8619	13031			Wx
1448	Tokyo	JMC	4298	6397	8526	12840	17029	Wx
1440	Seoul	HLL	5810	11620				Wx
1500	Vladivostok	UFL	2605	8595				Navs Russ/Eng
1600	Taipei	BMB	3641	5909	8117			Wx
1630	Keelung	XSX	8445	8506				Wx
1700	KaoHsiung	XSW	8582	8632				Wx
1718	Singapore	9VG	4322					Navs
1730	HuaLien	XSY	8546	8700				Wx
1730	Vladivostok	UKA	4241	6431				Navs Russian/Eng
1748	Guangzhou	XSQ	4288	6382	8458	12973		Navs Eng/Chinese
1900	JaznoSakhalinsk	UHO	4480	8180	11025			Wx Russian
2040	Seoul	HLL	5810	11620				Wx
2048	Guangzhou	XSQ	4288	6382	8458	12973		Navs Eng/Chinese
2048	Tokyo	JMC	4298	6397	8526	12840	17029	Wx
2118	Singapore	9VG	4322					Navs
2148	HoChiMinh	XVS	8590					Navs
2200	Taipei	BMB	3641	5909	8117			Wx
2200	Tientsin	XSV	8600					Ice Chinese/Eng
2200	Vladivostok	UKA	4241	12870				Wx Russian
2200	P.Kamchatskiy	UBE	6370	13000				Wx Russian
								Navs Russian/Eng
2230	Keelung	XSX	8445	8506				Wx
2300	KaoHsiung	XSW	8582	8632				Wx
2300	Vladivostok	UFL	2605	8595				Wx Russian/Eng
2320	Tokyo	JNA	4276	8492	12942	17052.5	22648.5	Navs Japanese
2330	HuaLien	XSY	8546	8700				Wx
2348	Guangzhou	XSQ	4288	6382	8458	12973		Navs Eng/Chinese

++++++ 7 letter selcalls.

In the column of the May 97 WUN newsletter construction of the Maritime Selcall was discussed wherein these were sent as two three-character bursts or groups containing the four selcall letters and two Rq control signals to indicate to the receiver which is the first and second pair and thereby recognise its own selcal.

These four-letter selcalls are generated from 4 figure (Coast Station) and 5 figure (Ship Station) exclusive identity numbers.

Recently however I've become aware of 7 letter selcall strings appearing on my screen (Code30) with no inter-selcall spacing which appears with the 4 letter variety.

This seven character string is derived from the 9-digit Maritime Mobile Service Identity (MMSI) number which all stations will have on being

upgraded to meet the GMDSS specifications in advance of the 1 Feb 99 implementation date.

Calculation of the selcall from the 9-digit MMSI is a somewhat complex calculation requiring up to seven divisions by 20 and noting the remainder each time. These individual remainders are then mapped to 1 of 20 letters which form the selcall.

This selcall is sent in three sequential blocks or bursts with the Rq control signal imbedded to indicate which block is which. eg
for selcall mvrrutv

Block 1	Block 2	Block 3	
m Rq v	Rq r r	u t v	

To recap

q Rq y	y v Rq	scal derived from 4 digits
q Rq c	x t Rq	scal derived from 5 digits

Now it can be seen that the block with the central Rq control signal is to be taken as the start of the selcall. The next block therefore provides the second pair of letters and the position of the Rq within this block indicates whether the following block provides the remaining three letters to make up the 7 letter selcall or consider it as block 1 again for the repeated 4 letter selcall.

If your decoder can display non-printable control characters as graphics give it a go.

++++++ Station overview

++++++ Karachi Radio/ASK
Location: Pakistan

WT service
Marker: "vvv de ASK qsx 8/12 mhz ch 3/4 khz for qrj ch 809/1214 k"
Tfc lists: Every H+30 on frequencies in use at that time.
Wx: At 0830 on 13024.5 and at 1630 on 8694 and 13024.5
Nav wngs: At 0845 on 13024.5 and at 1630 on 8694 and 13024.5

4250	2300-0600
6414.5	
8658	1600-0000
8670	
8694	
13024.5	0000-1900
13051.5	
17050.5	
17156	0600-1600

Telex Service
Stn nr 4060 ---> selcall MVCV
Marker: Not known but believed does not exist, as telex only operator assisted and not automatic.
Tfc lists: Every EH+00
Watchkeeping: 12 Mhz - remainder on request.

ASK	Ship	ITU Chan	
4217.5	4180	[416]	
6329.5	6283.5	[632]	
8422	8382	[812]	
12610.5	12508	[1263]	H24

16827.5	16704.5	[1643]

HF RT service

Tfc lists: 8743/13116 every H+30
Watchkeeping: As indicated - other frequencies available on request.

ASK	Ship	ITU chan	
4399	4107	[415]	
4411	4119	[419]	
4423	4131	[423]	
6510	6209	[604]	
8725	8201	[803]	
8743	8219	[809]	H24
8770	8246	[818]	
8809	8285	[831]	
13116	12269	[1214]	H24
13158	12311	[1228]	
13170	12323	[1232]	
17275	16393	[1612]	
22774	22078	[2227]	
22813	22117	[2240]	

Address:
No information.

Research/Acknowledgements:
ALRS Vols 1 + 3 (97/98)
Brannolte/Siebel SEEFUNK
CFL/10
Klingenfuss Utility 98.

++++++ Mahina/FJA
Location: Tahiti at 17.30S 149.29W

WT service
Marker: Not known
Watchkeeping: See table
Traffic list: At the beginning of each watch period

FJA41	4298	0903-0915 1733-1745
FJA8	8461	0118-0130 0433-0500 0933-1000 1333-1400 2018-2045
FJA26	17040.8	0133-0145 0503-0530 2048-2100

HF RT service
Wx: In French at 0640 and 2100z on 8803 kHz
Navs: At 0030 0230 1800 2100 on 8803 kHz

FJA	Ship	ITU chan	
4402	4110	[416]	
8803	8279	[829]	H24
17254	16372	[1605]	

Address:
Not known

Research/acknowledgements
ALRS Vol 1 + 3 (97/98)
Brannolte/Siebel SEEFUNK
Klingenfuss Utility 98

++++++ Shipping snippets

Carnival takes Elation and orders first of three possible new ships

Carnival Corp. announced 24 Feb. it has reached an agreement with Kvaerner Masa-Yards Inc. for construction of up to three passenger ships. An order for one was placed with options for two more. They will cost U.S.$375 million each and will form a new class. The lead vessel is 82,000-gt and will carry 2,100 passengers. The first will arrive in late 2000 with the other two possible in 2001 and 2002. On the same day, Kvaerner Masa-Yards delivered the Elation (70,000-gt, 7,180-dwt, 2,040-passenger ship) to Carnival two weeks early. It is the first passenger ship with Azipod propulsion. The Elation's maiden voyage will be from Miami on 20 March for a 15-day cruise through the Panama Canal to Los Angeles. The Elation cost U.S.$300 million and will operate from Los Angeles on seven-day cruises to Mexico. It will be the first new cruise ship to offer regular service from Los Angeles.

World's largest sailing vessel under construction in Poland

Star Clippers Inc. announced 26 Feb. it is building the largest sailing vessel in the world as its third clipper ship. It will enter service in late 1999. The 5,000-gt vessel will be 139 meters/439 feet long with a 16-meter/54-foot beam. The five-masted ship will be fully rigged with 40 sails, most of them square. The vessel will carry 224 passengers in double-occupancy cabins. The clipper is being built in Gdansk, Poland, from an uncompleted hull that will form the central hull of the new ship. Lloyd's Register of Shipping has certified the steel for the ship and the certification for the vessel will be +100 A-1 Plus. Robert McFarlane, the Paris-based naval architect, is working on the vessel and the interior is being done by Donald Starkey of London. Design features include three outdoor swimming pools, single seating for meals in a 250-person dining room on several connecting levels and 14 deck suites and two owner's suites. There will be a single diesel engine with a controllable-pitch propeller as well as a bow thruster.

Thanks once again to Steve Shultz and the SHIPs mailinglist for these items.

++++++ Sign off

That's it again for another month - happy listening 73s Day.
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NUMBERS & ODDITIES

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THE COME-BACK OF A COLUMN.

When we started WUN in January 1995, 'Numbers & Oddities' was my first column. When the amount of other items increased, the name 'Numbers & Oddities' didn't cover the contents of the column any longer and I changed the name to 'Utility Round-up'.

The numbers or 'spook' scene is very much alive these days and I think that this is a good time to revive this column. 'Numbers & Oddities' will cover the radio stations which are generally associated with secret services. Actually, I'd like to cover all fascinating covert-like communications, from numbers stations to terrorist comms and from the buzzer to jammers. Here is a summary of what I have in mind:

- Voice numbers stations

- Morse numbers stations
- RTTY and other mysty stations
- Terrorist and other covert comms
- Spy articles
- Crypto stuff
- 'Memory Lane'; stations from the past
- Schedules
- Log summaries
- Articles about jamming and more.....

I found three experienced 'spooks-dxers' who agreed co-edit this column with me. Guy Denman will handle the morse stations and Chris Smolinski the voice stations, while Jascha Ruesseler takes on the logs.

Numbers & Oddities will be posted as a separate newsletter for the members of the Spooks mailing list. The 'newsletter edition' will be slightly different from the WUN column, as we will include a log section at the end.

Needless to say that we cannot do this without your help. We hope you will enjoy the stuff in this column and don't forget to send us your findings. Flood our mailboxes :-) -Ary-

We start this first edition of N&O with a slightly edited ''introduction to spy numbers transmissions'' by the late Havana Moon. He posted this a couple of years ago to the SWL newsgroup.

INTRODUCTION TO SPY NUMBERS TRANSMISSIONS
"Spy Numbers Transmissions" are a shortwave oddity which have been around for the last 30 years. They are commonly heard in English, German, Spanish and the Slavic languages and take the form of four and five digit groups of numbers which are preceded by a three digit "identifier" and a "group count" which corresponds to the number of number groups transmitted in the crypt. They are generally broadcast by a mechanical-sounding YL, although Morse code (CW) "cut number" transmissions are also frequently reported, as are phonetic alphabet transmissions. Several distinctly different formats have been noted.

The "who" and "why" aspects of these transmissions are, for the most part, unknown. Their mysterious nature has resulted in their common characterization as 'spy' transmissions. The spy theory has been enhanced over the years by the FCC's inconsistent position in response to numerous inquiries by the Shortwave Listening community.

If you've never heard a numbers transmission, tune your radio to one of the frequencies on the log-list. You'll almost certainly hear a 'classic' numbers transmission which will run from 15-30 minutes.

In regards the "where" - a number of sites have been identified in recent years, notably in Warrenton and Remington, VA and Miami, FL. In addition, with the aid of sophisticated RDF (radio direction finding) equipment and the invaluable assistance of highly authoritative and professional resources, several new transmission sites have been positively identified over the past years, including sites in Nicaragua, Honduras, El Salvador, Cuba and Cozumel.

One particularly dangerous station has been interfering with air to ground traffic on 6577 kHz, a frequency allocated to international aeronautical communications in the busy Caribbean sector. On at least one monitored transmission, the air traffic controller at ARINC moved the pilot to an alternate frequency as the numbers transmission was totally blocking the frequency from effective use.

An identified Cuban site (Guineo) is believed to be a major transmitter site used by DGI (Cuban Intelligence).

There has been some suggestion that the numbers are a form of 'one-time-pad' - a crude but unbreakable form of encryption (unless you've got the

key, that is) - if that's the case, it's very curious to note that the same five-digit groups are often seen to repeat over and over again in the very same crypt - and that the same transmissions are seen to repeat from week to week, and from month to month - so often, in fact, that tape breaks are sometimes noted. When spliced back together, the sloppy handling sometimes results in truncated 5-digit groups - the end result being amixture of 4 and 5 digit groups in the very same transmission!

These facts would tend to point one away from the one-time-pad concept and support a couple of other theories - suggesting that the numbers are NOT a cipher, but rather a code unto themselves, and that much of this traffic is 'dummy' in nature - broadcast simply to keep a frequency open over a long period of time.

In addition, most five-digit Spanish numbers transmissions are very badly over-modulated, resulting in numerous spurs up and down frequency. When broadcast under such conditions, the numbers (6) seis and (7) siete are almost indistinguishable, making it impossible to copy a crypt without numerous errors. It is worth noting that the four-digit Spanish and English transmissions do not reflect this same technical ineptitude.

<Havana Moon>

Besides WUN and the Spooks mailinglist, there is another group that covers the numbers stations: ENIGMA, the European Numbers Information Gathering and Monitoring Association. ENIGMA coded all numbers stations. N&O and Spooks will use the same designators. We intend to publish extended profiles of these stations in due time. Here is the list:

ENIGMA DESIGNATORS (updated 2-4-1998 by Simon Mason)

E1- "Ready Ready" YL/EE
E2- Arabic Man
E3- "Lincolnshire Poacher" YL/EE MI6
E4- "Cherry Ripe" YL/EE MI6
E5- "Counting Station" YL/EE CIA
E6- "Russian Man" OM/EE 00000 ex KGB
E7- "Russian Man" OM/EE 000 000 ex KGB
E8-
E9- "Magnetic Fields" YL/EE 44D
E10- MOSSAD Phonetic Alphabet Station YL
E10a VLB2 etc. variant YL
E11- "Oblique" YL/EE
E12- "NNN" YL/EE
E13- "5 Dashes" YL/EE
E14- "Count Control" YL/EE CIA
E15- "Mary Susan Adam" YL+OM
E16- "2 Letter" YL/EE BND
E17- "English Lady" 274 00000 YL/EE ex KGB
E18- "Fife Free" YL/EE
E19- "Irish Man" OM/EE
E20- 2 message format of E17 or E6 YL/EE
E21- "4F Counting Station" YL/EE CIA

G01- Tyrolean Music Station YL+OM/GG
G02- "Swedish Rhapsody" YL/GG
G03- "The Gong Station" YL/GG Stasi
G04- "3 Note Oddity" YL/GG
G05- "Counting Station" YL/EE CIA
G06- "German Lady" 00000 YL/GG
G07- "German Lady" 000 000 YL/GG
G08- "Four Note Rising Scale" YL/GG Stasi
G09- "Saxaphone Piece" YL/GG
G10- "Bert Kaempfert" YL/GG
G11- "Strich" YL/GG
G12- "NNN" YL/GG
G13- "Five Dashes" YL/GG

G14- DFC37/DFD21 YL/GG BND
G15- "Papa November" YL/GG BND
G16- "2 Letter Station" YL/GG BND
G17- German Lady on 5420 kHz YL/GG
G18- 8 Note Rising and Falling
G19- "German Man" 00000 OM/GG ex KGB
G20- "Spruch" OM/GG
G21- "Music and Morse"
G22- "Edna Sednitser" YL/GG
G23- "2M8" Hitler's Birthday

S01- "Aida"
S02- "Drums and Trumpets"
S03- Czech Words OKNO OKNO
S04- "Edna Sednitzer"
S05- OLX null messages
S06- Russian Man 00000 OM/RR
S07- Russian Man 000 000 OM/RR
S08- "YT" YL/RR
S09- Polish Counting
S10- Czech Lady five note intro
S11- "Presta"
S12- "Cherta"
S13- Russian Counting UPT76 etc.
S14- As S13 Shield 58 etc.
S15- Rapid Dots YL/CZ
S16- OLX YL/CZ
S17- Czech Lady "Control"
S18- Czech Man 3F 5F
S19- Czech Man Control
S20- "Aifada"
S21- Russian Lady 342 etc.
S22-
S23- "Barbara"
S24-
S25- Russian Man Control
S26- "Zyt Zyt"

V01- Rumanian Skylark OM/RU
V02- Spanish Lady 2 finals 3 finals
V03-
V04-
V05- Spanishcounting 3/2f
V06- Spanish Lady 00000
V07- Spanish Man 000 000
V08- Eastern Music Arabic
V09- Oriental Language 5738kHz
V10- "Schlosst"
V12- "NNN" YL/FF
V13- New Star Taiwan
V14- "Count Control" YL/SS
V15- North Korea R. Pyongyang
V16 Chinese 11028kHz
V17- Rumanian3F 000
V18- "NNN" Hungarian
V19- WTR21 "Argentina"

M01- "2-Tone"hand-keyed
M02- Ends AR Long Zero
M03- / Ends ==000
M04 LOLO Long Zero
M05- 6 Fig 000000 Long Zero
M06- OLX
M07- Formerly Rapid Dashes MCW ends 000 + TS
M08- Cut Numbers, Ends AR AR AR SK SK SK
M09-
M10- Formerly Rapid Dashes CW 2 fig DK, End 000
M11-

M12- Ends 000 000(3 or 4 fig. DK)
M13- Ends 3 long dashes
M14- Ends 00000 or 5 long dashes
M15- DEA 47
M16- 8BY
M17- MCW ends VA
M18- 4 fig pseudo time signal
M19- MPL
M20- V ends == 000
M21- ????? 14 fig pseudo time signal type.
M22- 4XZ
M23- Odd/Even Many Variants (all long zero)
M24- Ends 5 long dashes, see M14
M25- KKN, KRH, KWS series
M26- 98
M27- BTV
M28- HEP
M29- VDE ends AR
M30
M31- FDC, FDG etc series
M32- (Russian Military Net)
M33- P8K Long Zero
M34- 11 12345 2fig IDs, no ending
M39- 3 fig IDs + 4 elements of 5 fig.
M40- CQ 3 fig
M41- WZD
M42- KUL etc network
M43- 6XM8/C37A group
M44- Continuous Letters
M45- S21 Morse, ends 000
M46- 3 fig cumulative
M47- 1/2/3fig cumulative (JST)
M48- Ciocirlia Morse
M49- G8A morse
M50- Hand Keyed 5431kHz+ 4947kHz Many Variants
M51- 100x 5L groups
M52- 2fig:6fig

MX SLHFMs
MXC Clusters
MXF FSK Mode
MXL Solitary long-term
MXS Solitary short-term
MXP "P" with message
MXV irregular V

X1 Bugle
X6 six notes
XC Crackle
XB Buzzer
XF Faders
XE Echo
XW Workshop
XP Polytone
XPL Polytone Low Pitch
XM Backward Music
XX Pip
XS Saw/Whine

CUT NUMBERS

Some numbers stations use 'cut numbers' in CW transmissions. Six variations have been noted so far.

The most popular is the one where only the zero is a cut number: 'T'.

```
1 2 3 4 5 6 7 8 9 0
1 2 3 4 5 6 7 8 9 T
```

M8 and perhaps also other stations use the following variation:

```
1 2 3 4 5 6 7 8 9 0
A N D U W R I G M T
```

The QWERTY variation:

```
1 2 3 4 5 6 7 8 9 0
Q W E R T Y U I O P
```

The 4FG station uses a system that has at least 3 variations. The first one is being used by the 4FG station. The others have been noted in

military and maritime communications:
1 2 3 4 5 6 7 8 9 0
A U 3 4 5 6 7 D N T
A U V 4 E 6 B D N T
A U V 4 5 6 B D N T

MORSE STATIONS by Guy Denman

Ary has asked me to write some information for those of you interested in Numbers stations. As my main interest is in Morse stations I intend to cover some of these to start with. Particularly as there are many more morse families than voice. A very busy time is 2000, where you can have 4 on at the same time. Whatever your morse speed there is one that you would be able to copy out of the many. They vary in speed from 5 WPM to 40 WPM.I intend to use the ENIGMA classification for these.

M1 A Network is hand sent using short zero,and the messages have a usual group count of 40 groups.Although just recently the group counts have been varying between 32 and 48. The last group is now always the date the message was compiled and the group count minus one. For example a message of 40 groups compiled on the 10th of the month, the last group would be 10039.

This also applies to the M1 B network.

Type of transmission is MCW using low modulation of 2 audio tones. Sent at about 17 WPM although this can vary depending on the operator

Reference	Call	Preamble	Message	Ending
M1	197 R4	381 381 40 40 = =	40x5F	= = 381 381 40 40 000

The IDs for this group remain the same for the following months.
197 November December January February
463 March April September October
025 May June July August

Transmission times are
Sunday 0700 Tuesday 1800 2000 Thursday 1800 2000 Saturday 1500

Frequencies

197	5464	5320 4490	5320 4490	5810
463	6508	5474 5017	5474 5017	6261
025	6780	5280 4905	5280 4905	6434

Variants of M1
M1A End of Month transmissions, the last Thursday and Saturday of each Month. But not always. The February end of Month were just the normal transmission.It has happened before when one month was missed, but they returned the next month. Hopefully this will be at the end of March. These transmissions are an entirely different format to the normal M1 but they can vary each time. One characteristic is the long pauses between various parts of the message. As the last part of the format is a repeat of some of the groups in the message sent, I assume the pauses are for replies to be sent. There is not always a message sent so the transmission can be considerably shorter than the example listed.

463 463 463 88528 88528 Repeated 5 times
Pause 60 seconds
463 463 333 89909 89909 Repeated 2 times
Pause 60 Seconds
111 Pause 10 Seconds
111 223 43 =
Message of 43 single 5 figure groups, the last group is not always the date and group count as in M1A
= 223 43
Pause 35 Seconds
111 48738 65465 Repeat of groups 17 and 32
Pause 15 Seconds

111 000

M1 B Network.
These are sent to individual IDs and the frequencies are changed at intervals so cannot be listed. I can supply some current frequencies if required. These messages are repeated and can be the same for four weeks or more. Parallel freqs are used, group counts vary between the low twenties and as high as seventy five. Some present skeds are:

Day	Time	Freq	ID
Sunday	1640	4771	?
Monday	1818	4950	103
Monday	2110	5335	136
Wednesday	1610	5235	325
Wednesday	1818	4950	103
Thursday	2132	4905	302
Friday	2202	4761	271
Saturday	0810	4959	594
Saturday	1610	5240	325

Some of these repeat the same message to a different ID The one on Thursday at 2132 and Friday at 2202 are the same message. It is also strange how some of them start at odd times

M1C A common format of these is listed. Several other formats exist. If a message is sent it is nearly always 10 groups:

385 385 385 84297 84297 Repeated 8 times
30 Second pause
385 385 385 86652 86652 Repeated 8 times
Can be any number of these, usually machine sent, ending is hand sent.
385 385 385 000

These can be on at any time and do not use the normal M1 frequencies so are very difficult to find.

MEMORY LANE: THE SKYLARK by Simon Mason

This was probably the strangest of the European numbers stations, not the least because of the distinctive interval signal used. The tune itself lasts for 2 minutes, 42 seconds and is played on a violin and pan pipes. It was composed by Ciocorliar and is titled "The Skylark". By coincidence, one evening at 2301 was listening to the BBC's domestic Radio Four. After the program ended the studio announcer said that the next program was going to be all about traditional Rumanian folk music. Not my cup of tea, I thought, so I headed across the room to switch off the receiver. Before I got to the off switch a piece of music stopped me in my tracks. It was the same tune as used by the Romanian number station. After the song ended, the announcer identified the music and went on to say that it was a very popular melody of Romania and was instantly known to natives of that country. Not surprising perhaps then, that this tune should be chosen for such a clandestine activity.

The next encounter with the station came in a newsletter issued by the DX Club of Radio Budapest. A member from Britain, a Mr. Palmer, had written to the club asking if any of its members could identify a strange Gypsy tune that could be heard on certain frequencies. A few months later a club member from the Soviet Union, a Mr. Skarzhinsky, gave this explanation: Very unusual station. You have heard a transmission in Romanian which can often be heard in the band up to 10 MHz, on "outside band" frequencies very clearly and distinctly. It broadcasts a Skylark melody which is followed by groups of figures in Romanian. The transmission ends with the word terminat, terminat. There are several similar transmissions, however these usually are not interesting to DXers due to the closed nature of their activities."

Despite what the Soviet contributor said, the majority of these broadcasts do not contain any traffic in 5 figure groups or otherwise. The usual format was that the tune was played twice, which lasts until six minutes past the hour. A male voice in Romanian then says "terminat" three times and the tune is repeated twice again, followed by 'terminat, terminat" again. If traffic is being sent then a taped, real male voice reads but the five figure text in Romanian. These are "unu, doi, trei, patru, cinci, sase, sapte, opt, noua, zero." These sound like: "oonu, doy, trey, patru, sinch, sassay, shaptay, noah, zero." The numbers come after the two Skylark tunes and end again with 'terminat, terminat" repeated three times. It is certain that "live" announcers are used, as different male voices have been noted.

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THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens
106 Anita Drive
Madison, AL 35757-8419, U.S.A.

E-Mail: jdstephens@geocities.com

Welcome to another edition of the WUN QSL Center. A small but nice selection of QSLs and other tips reported this month. Why haven't we heard from YOU? Not only is this column for reporting QSLs received, but also for other news related to QSLing. Need a verification signer's name for a certain station? We'll post your question here. Have a station address update? This is the place to send it. Have a QSL related question? Send it in. See your name in lights - contribute to the WUN QSL Center! Now, on with the show.....

BRAZIL: Recife Aero. 8861 letter, photos of airport, info, and sticker in 25 ds. V/s: Jorge Tadeu de Andrade - Press Relations Officer. (JS)

CANADA: Riviere-au-Renard Coast Guard. 2182.00 letter, info, and sticker in 10 ds. V/s: Russel Tanguay - Acting Manager. (JS)

CANADA: Prince Rupert Coast Guard Radio. 2054 p/d letter, business card, and photo of station in 48 ds. for rpt. with ms. V/s: Robert Crooks - Acting Officer-In-Charge. Address: Canadian Coast Guard M.C.T.S., Bag 444, Prince Rupert, BC V8J 4K2, Canada. (JDS)

UNITED STATES: U.S. Navy MARS Station NNN0TSD, Fullerton, CA. 14441.5 f/d PFC in 8 ds. V/s: David Mann. (JDS-AL)

AIRCRAFT:

ROLER 16. 11175 PFC in 41dss for rpt. with SASE. V/s: LTC John Chatburn - Navigator. This is a C-130H, #62-7777, of the Nevada Air National Guard's 152nd Airlift Wing out of Reno/Tahoe International Airport, Nevada. Address: Nevada Air National Guard, 152nd Airlift Wing, 1776 National Guard Way, Reno, NV 89502, U.S.A. Additional information: Note that this aircraft serial number doesn't match up. There is no USAF C-130 #62-7777. There is a 63-7777, but it is a C-130E of the 167th Airlift Wing, West Virginia Air National Guard. I don't know if this was a mistake, or deliberate misinformation. (BL)

SHIPS, CUTTERS & OTHER SEA VESSELS:

WECB - R/V Melville (Scipps Institute of Oceanography). 16697.5 PFC w/ship's stamp in 984 ds. for SASE from a Sitor-B reception. Card noted that the research ship was off the coast of Mexico in the Pacific Ocean at the time. Report sent in 1995! Nice surprise after all that

time.. (RB)

MISCELLANEOUS

Received a nice E-mail from WUNer Clay Mayrose, who is currently stationed overseas. Clay writes "Hello again. Currently, I am in Vicenza, Italy. I'm TDY working with NATO on Operation Deliberate Guard (Bosnia). Normally, I am one of the voices of Offutt Global." Clay supplies us with the QSL address for the U.S. Air Force's GHFS station, Offutt Global, as follows:

Detachment 1, 755th Communications Squadron
ATTN: SSgt Mayrose
21011 Rainwood Road
Elkhorn, Nebraska 68022

Thanx for the E-mail Clay. Best wishes to you while overseas.

OTHERNESS

That's a wrap for this month. Remember, submissions for the column can be sent via E-mail or post to the addresses listed on the masthead. Your editor and hundreds of WUN members are looking forward to hearing from you. See you in 30 days.

Abbreviations used:

f/d = Full data p/d = partial data n/d = no data
PFC = Prepared Form Card V/s = Verification Signer
ds = ds SASE = self addressed stamped envelope

A hearty thank you to this month's contributors:

Bob Lewallyn - Atlanta, Georgia, U.S.A. (BL)
John Svendsen - Oslo, Norway (JS)
Rick Baker - Youngstown, Ohio, U.S.A. (RB)
Your Editor - Madison, Alabama, U.S.A. (JDS)

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
-
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

G'day everyone. Starting this month, the Utility Round-up has a sister column, named Numbers & Oddities. Covert operations, numbers stations and other mystery stuff will from now on be covered in the N&O column.

IRC #MONITOR

Is there a WUN or Utility chat channel? This question is often asked. The answer is YES. Many ute dxers gather on IRCNET channel #monitor. Sometimes #wun is also up, but most uters moved to #monitor. During the weekend, especially during the UTC evenings, you can find quite a bunch of us on this channel. Try it!

The #monitor channel also has its own home page on
http://www.gssr.org/usr/wun_wav/index.html

and a great sound page on
http://www.intellitel.com/~pile/monitor.html

WHAT'S THE TIME PLEASE?

During the Western European evenings, you can hear a weird ''time'' station. Geoff reported it before on 3803 kHz and now I also copied

it on 4073 kHz.

Freq: 4073 kHz, weak signal at 19.55 UTC, became stronger later on. Good signal at 23.15 UTC. The transmission is in CW and consist of 4 digits. This represents the time in -presumably- Russia or Middle East. Time given is UTC+4, the station's clock is one minute ahead of DCF77. So at 23.15 UTC is transmits ''0316''

The same station was reported by Geoff Halligey. There is a slight difference though; mine was UTC+4 hours +1 min off UTC time, while Geoff's was UTC+3 hours -1 min off UTC time. The time difference on various frequencies follows the same pattern as the Russian Air Defense stations ''BT990057??7?????'', where the time given depends on the area that is serviced. Is this its sister station???

Here is Geoff's log:
On 3803 kHz, CW, a station is sending a sort of time signal thus:
0317 0317 (8 times) 0318 0318 (8 times) 0319 0319 9 (8 times)....
indicating 03 hrs, 17, 18, 19 mins.... Heard around midnight+ UTC.
He is 3 hrs fast and one minute slow on UTC.

Any idea who, what, where???????????????

RADIO NOSTALGIE NEIGE

Radio Nostalgie Neige is a sort of TIS, not in the USA or Canada, but in France. With good F2 conditions you might even hear them in the USA. The station was logged in Florida in February.

Freq: 25900 kHz NBFM, date 13-2-1998, 15.00 UTC weak w/ music service for French ski lifts, also on 26070 kHz, both faded quickly.

Radio Nostalgie Neige is broadcasting on shortwave with narrowband-FM aimed at ski-lifts in he french alpes. The transmissions on 25710, 25900 and 26070 kHz are relay of the Nostalgie-network (via satellite) mixed with local commercials and service-messages for the ski-people. During winter Nostalgie Neige are using 42 small HF-transmitters with a power of 5 to 150 Watts on the mentioned frequencies, but in the summer-time Mostalgie Neige only use 3 HF-transmitters.
<info: Risto Kotalampi and AN>

MAFFBASE

Geoff Halligey supplied some interesting info about MAFF. Thanks Geoff.

The UK fisheries surveillance service is run partly by the Royal Navy but controlled by the Ministry of Agriculture, Food and Fisheries, hence the callsign 'MAFFBASE' of its HQ at Nobel House, Smith Square, Westminster, in the center of London.

The service also looks after North Sea oil rigs.

The northern sector (north of 56 North) is patrolled by Cessna Caravan II aircraft callsigns 'Watchdog Alpha November and Delta Hotel' on a frequency of 4128 kHz (and VHF) and the southern by Dornier 228-200, callsigns 'Watchdog 91, 93 and 94' on 6647 kHz (and VHF). The aircraft are civilian operated and have also been heard on 4463 and 5197 kHz, but 4128 and 6647 are primaries.

Royal Navy patrol ships include HMS Guernsey GUYW and Atherstone GBFJ, using the same frequencies when in touch with the aircraft, which also have a data link with Nobel House.

ODDS & ENDS

Weird things happen.... On 8939 kHz, the Russian volmet frequency, various Moscow based NDB's could be heard on the volmet channel, even when Moscow wasn't on the air. Later another NDB, this time from St.Petersburg, could be heard on 11297 kHz.
Some of the Moscow beacons were also copied on 11297 kHz. Nothing on the other volmet frequencies 6617 and 2941 kHz.

Geoff Halligey was the first to report this odd effect. After that more reports came in. So far we still do not know how this strange thing could happen. Ideas anyone???

The following NDB's have been heard:
WM, Moscow, normally on 486 kHz
GG, Moscow, normally on 290 kHz
OB, Moscow, normally on 290 kHz
TQ, Moscow, normally on 468 kHz
PK, St.Petersburg, normally on 342 kHz

The following two unids were reported by the HAM Intruder Watch:

  Freq: 21450 kHz   Mode: USB   Time: 1600 UTC daily
  Spanish man talking to his wife, no calls!
  When there is interference they change to 21414 and 21395 and back
  to 21450 kHz

  Freq: 28035 kHz   Mode: USB,LSB,AM   Time: from 18 UTC daily
  Station from Brasil making "DX", CB-like traffic.

The mysterious "A2A" is back on his summer schedule - 0500 GMT on 6763 and 5807 kHz, with the other stations answering on 4753 kHz. Sometimes they are audible on these same freqs during daylight, but weak.
<Info John Doe>

The historic Grimeton Transmitter will be on air at May 28, 1998, probably at 11.00 CET and 15.00 or 16.00 CET. Grimeton operated in the past on longwave 17.2 kHz. A few years ago, they were also on the air for a special transmission. Also test transmissions are planned a day or two before. Note that CET is UTC+2 now. You can also visit the Grimeton home page at http://www.telemuseum.se/Grimeton/
<info: MT's Rachel Baughn & Kevin Carey>

SAHARA

An UN MINURSO Net was recently active on 6678 kHz USB.
Base Station: Dahkla.

At 20.00 UTC two Americans discussing mined airfields and then a relayed message from "HQ G2" with various kilometer distances and corresponding times [i.e. 240 km 6 hours, 20 km 40 minutes].
At 21.46 a non American station checked in with a position of 22.21.48n 014.11.55 west. Still sporadically active at 23.00 UTC
During January 1997 this UN MINURSO net was reported on 4686.
<Info supplied by Roger from Ireland>

NEW ZEALAND CIVIL DEFENCE

Here are the schedules for the New Zealand Civil Defence weekly roll calls for wunners who want to give them a try.

5383 ZKCT Civil Defence Net Palmerston North NI our Wednesday mornings at 2000 UTC will be + 1 hr UTC after Daylight savings ends in March 98
CH# Foxtrot

5389 ZKNT Civil Defence Net Auckland NI our wednesdays at 2000 UTC will be + 1hr after Daylight saving ends March 98 CH# November

5407 ZKST Civil Defence Net Christchurch SI our Thursdays at 2130 UTC will be + 1hr after daylight saving ends March 98 CH# Sierra

Intially before the Roll call starts the Net Control station will give a general call on 5386 the national calling & emergency channel,CH# Alpha before going to their respective channel. The 2 North Island stations have only come back on HF for their roll calls. There is a fairly extensive VHF Repeater network here so in recent times most of the activity has been on them. On the other hand the South Island Station has always used HF due to the longer distances.Look out for ZKST33 on their network which is the Chatham Islands.

<Info by Ian Julian, New Zealand)

ROYAL NAVY ''CONTROL'' NET

The Royal Navy operates a trainings network on which both RN vessels and other NATO vessels can be heard.

The vessels are sailing in the Plymouth area, off the SW coast of the UK. Sometimes coordination traffic can be heard between the vessels and MXU. Although I'm not sure about this, MXU may be in Dartmouth, a minor naval base but home of the Royal Naval College where all the RN cadets are trained. The traffic copied so far is typical exercise traffic. The net is very active, too active for 'normal' exercises imho. This makes cadets training more logical. Another thing that makes me suspect that this is a training net, is the fact that in one of the comms, MXU is telling 'Control' how he should handle 'Flash' messages. The discipline on the net can be better, there are sometimes long delays in answering calls. The same thing also happens on the SCC network on Sunday morning.

The HF transmissions are often coordination comms for UHF activities, such as RATT and other digital transmissions. Calls to 'All Ships' are quite common.

o Frequencies
5206 (primary) and 8303.7 kHz (secondary).
Sometimes also on 5203 and 6242.3 kHz.

o Callsigns
CONTROL   - control station, ship or land based
MXU   - possibly RN Dartmouth or Plymouth
K. and G. - naval vessels
M8U etc. - tactical callsigns; vessels and aircraft

KA, KB, KD, KE, KG, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KX, KY and GA, GI, GK and GN have been heard so far.

Broadcast designator X81T has been used on various occasions.

Standard frequency and time signal stations on LF and HF, pt.4

Welcome to the fourth part of a series about Time and Frequency Stations on LF and HF. This month the Russian stations.

Many thanks to Klaus Betke and the Institute of Meteorology for Time and Space in Moscow.

RAB99: Khabarovsk, RUS

Frequency 25.0 kHz. Former call sign UQC3. Never heard here. Probably to weak and too far away. Not sure if it still exists.
Schedule: Winter 0206-0247, 0806-0847, 1406-1447,

Summer 0106-0147, 0706-0747, 1306-1347
No transmision on the 10., 20., 30. of each month

RBU: Moscow, RUS

Frequency 66.67 kHz. Operates 24h a day, except for the 3rd Thuesday of the month between 08.00 and 16.00 UTC and the 1st Sunday in June between 08.00 and 16.00 UTC.

RJH63: Krasnodar, RUS

Frequency: 25.0 kHz.
Schedule: Winter 0906-0940, (1706-1740),
Summer 0806-0840, (2006-2040)
No transmision on the 3., 13., 23. of each month

RJH66: Bishkek, KGZ

Frequency 25.0 kHz, Former call sign USB2, former town name "Frunze". According to the ITMS, the callsign is RJH86, although they transmit RJH66. ALRS lists RJH66 as well.
Schedule: Winter 0406-0447, 1606-1607
Summer 0306-0347, 0906-0947, (1906-1947) *)
No transmision on the 6., 16., 26. of each month

RJH69: Molodecno, BLR

Frequency 25.0 kHz. Former call sign UNW3.
Schedule: Winter 0706-0747, (1306-1307) *)
Summer 0606-0647, (1206-1247) *)
No transmision on the 2., 12., 22. of each month

RJH77: Arkhangelsk, RUS

Frequency 25.0 kHz. Former call sign UPD8.
Schedule: Winter (1106-1147), 2106-2147
Summer 0206-0247, (1006-1047) *)
No transmision on the 4., 14., 24. of each month

RJH99: Nizhniy Novgorod, RUS

Frequency 25.0 kHz, Former call sign UTR3, former town name "Gorki". According to the ITMS, the callsign is RJH90, although they transmit RJH99. ALRS lists RJH99 as well.
Schedule: Winter 0506-0547, 2106-2147,
Summer 0406-0447, (1006-1047), *)
No transmision on the 8., 18., 28. of each month

*) Listed by the IMTS, but obviously no tranmission at that time, as of spring 1997. In case of RAB99, of course, it is unknown whether they have reduced their schedule as well. On certain days the stations do not transmit, even if it is not one of the 3 "quiet days" per month.

RID: Irkutsk, RUS

Frequencies 5004, 10004, 15004 kHz. Inoperative since the end of 1996. At times there is a signal on 5004 or 10004, but this is a spurious emission of RWM Moscow. Note: If it sounds like RWM on 4996 or 9996, it IS RWM! The schedules of RWM, RID and ULA4 are similar, but shifted against each other in time. They never transmit the same pattern at the same time.

RTZ: Irkutsk, RUS

Frequency 50 kHz. Never heard. According to the ITMS it operates 23h a day (01.00-24.00), except on the 3rd and 4th Monday of the month between 03.00 and 11.00 UTC. Not sure if it's still on the air.

RW166: Irkutsk, RUS

Frequency 198 kHz. Of course never heard here. Looks as if this is a broadcast station that an be used as a frequency standard, like Droitwich (BBC) or France Inter. It operates 24h a day, except on the 1st, 2bd and 4th Thursday of the month between 03.00-12.00 UTC.

RWM: Moscow, RUS

Frequencies 4996, 9996, 14996 kHz. Operational. 24h a day, except for the 1st Wednesday of the quarter (4996), the 2nd Wednesday (9996) and the 3rd Wednesday (14996), between 08.00 and 16.00 UTC. Easy to identify as it transmits its callsign in CW on the 8th and 38th minute.

ULA4: Tashkent, UZB

Frequencies 2500, 5000, 10000 kHz. Operational.
Times: 2500 kHz; 00.00-07.00, 08.00-24.00 UTC
        5000 kHz; 00.00-07.00, 17.00-24.00 UTC
       10000 kHz; 08.00-16.30 UTC
Maintenance on the 3rd Monday of the month between 04.00-14.00 UTC

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THE MILITARY NEWSREEL

---- Military Information of use to the UTE monitor ----

David C. Wright, Editor

email: dcwright@gte.net or dcwright@usa.net
#monitor id: DaveWUN ----- AIM ID: DCWUN ----- IChat ID: Davewun
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This month's column contains a wide variety of information for the military monitor. Along with several news articles, you will find a complete and up-to-date listing (as of 31 Mar 98) of the US Air Force's B-2 bomber fleet. In addition, I have included a listing of the US Navy's VP squadrons (P-3C Patrol Squadrons), complete with squadron Nickname, Homeplate and Tail Codes. Lastly, following the news articles, you will find the second of our focus articles. This month we will focus on the Royal Australian Navy.

- Military News -

USAF B-2A SPIRIT Serial Numbers and Names

This listing has been compiled from various sources. If anyone has any additional information, or any possible corrections, please write me at dcwright@gte.net

82-1066 USAF B-2A DEVELOPMENT AIR VEHICLE 1
82-1067 USAF B-2A DEVELOPMENT AIR VEHICLE 2
82-1068 USAF B-2A SPIRIT OF NEW YORK (FORMER DEVELOPMENT AIR VEHICLE 3)
82-1069 USAF B-2A DEVELOPMENT AIR VEHICLE 4
82-1070 USAF B-2A SPIRIT OF OHIO (FORMER DEVELOPMENT AIR VEHICLE 5)
82-1071 USAF B-2A SPIRIT OF ARIZONA (FORMER DEVELOPMENT AIR VEHICLE 6)
88-0328 USAF B-2A SPIRIT OF TEXAS
88-0329 USAF B-2A SPIRIT OF MISSOURI
88-0330 USAF B-2A SPIRIT OF CALIFORNIA
88-0331 USAF B-2A SPIRIT OF SOUTH CAROLINA
88-0332 USAF B-2A SPIRIT OF WASHINGTON
89-0127 USAF B-2A SPIRIT OF KANSAS
89-0128 USAF B-2A SPIRIT OF NEBRASKA
89-0129 USAF B-2A SPIRIT OF GEORGIA
90-0040 USAF B-2A SPIRIT OF HAWAII
90-0041 USAF B-2A SPIRIT OF ALASKA

92-0700 USAF B-2A SPIRIT OF OKLAHOMA
93-1085 USAF B-2A SPIRIT OF FLORIDA
93-1086 USAF B-2A SPIRIT OF KITTY HAWK
93-1087 USAF B-2A SPIRIT OF PENNSYLVANIA
93-1088 USAF B-2A SPIRIT OF LOUISIANA

One additional Development Air Vehicle is named Spirit of Mississippi

(Compiled by D. Wright)

The following USN VP squadrons are commonly heard on GHFS frequencies as well as USN Safety of Flight frequencies. Typically these aircraft identify themselves as Navy XX### (where XX equates to the Tail Code). Hope you find this listing to be of use.

P-3C ORION SQUADRONS	Homeplate	Tail Code and #'s
VP-1 SCREAMING EAGLES	NAS WHIDBEY ISLAND	YB ###
VP-4 SKINNY DRAGONS	NAS BARBERS POINT	YD ###
VP-5 MAD FOXES	NAS JACKSONVILLE	LA ###
VP-8 TIGERS	NAS BRUNSWICK	LC ###
VP-9 GOLDEN EAGLES	NAS BARBERS POINT	PD ###
VP-10 RED LANCERS	NAS BRUNSWICK	LD ###
VP-16 WAR EAGLES	NAS JACKSONVILLE	LF ###
VP-26 TRIDENTS	NAS BRUNSWICK	LK ###
VP-30 PRO'S NEST	NAS JACKSONVILLE	LL ###
VP-40 FIGHTING MARLINS	NAS WHIDBEY ISLAND	QE ###
VP-45 PELICANS	NAS JACKSONVILLE	LN ###
VP-46 GREY KNIGHTS	NAS WHIDBEY ISLAND	RC ###
VP-47 GOLDEN SWORDSMEN	NAS BARBERS POINT	RD ###
VP-62 BROAD ARROWS	NAS JACKSONVILLE	LT ###
VP-64 CONDORS	NAS WILLOW GROVE	LU ###
VP-65 TRIDENTS	NAS POINT MOGU	PG ###
VP-66 THE LIBERTY BELLS	NAS WILLOW GROVE	LV ###
VP-69 TOTEMS	NAS WHIDBEY ISLAND	PJ ###
VP-91 BLACK CATS	NAS MOFFETT FIELD	PM ###
VP-92 MINUTEMEN	NAS BRUNSWICK	LY ###
VP-94 CRAWFISHERS	NAS NEW ORLEANS	PZ ###

(Compiled by D. Wright)

BEALE AIR FORCE BASE, Calif. (AFNS) -- Beale's last U-2R reconnaissance aircraft flew out recently to the Lockheed-Martin Skunk Works facility in Palmdale, Calif., where it will be upgraded to an S model.

The new U-2S model features an upgraded engine and provides better fuel economy and relieves some of the pilot workload, said Lt. Col. Mario Buda, 1st Reconnaissance Squadron commander.

"The S model simplifies engine management for the pilot," said Buda. "While the R model required pilots to pay attention for an engine over-temperature concern, the S model has an on-board computer to manage the engine system."

While the airframe will remain essentially the same, the lighter engine provides the U-2 with up-to-date technology, and improved reliability and maintainability.

"The new computer-controlled engine reduces maintenance effort and aircraft downtime," said Master Sgt. James Cox, 99th Reconnaissance Squadron propulsion element chief.

The new engines are in the same "engine family" as those used in F-16s, F-117s and B-1s. U-2S aircraft share about 88 percent of its parts with the standard production engine, making it much easier and cheaper to get replacement parts, said Fred Carmody, Lockheed Advanced Development Co. field operations manager.

The new engine and accessories are also about 1,300 pounds lighter than the previous version, allowing the U-2S to fly higher.

Beale's U-2 fleet began engine upgrades in 1994. The U-2R flew its last operational sortie from France early last year. The U-2R flew more then 30,000 operational missions. Beale operates U-2s from four operating

locations worldwide.
(Courtesy of Air Combat Command News Service)

HANSCOM AIR FORCE BASE, Mass. (AFNS) -- The U.S. government formally delivered the first two of four Airborne Warning and Control Systems to the Japanese government in ceremonies March 11 at Boeing Field, Seattle.

Lt. Gen. Yasuo Okushi, vice chief of staff, Japan Air Self Defense Force, accepted the two Boeing 767 aircraft on behalf of the Japanese government from Robert D. Bauerlein, deputy under secretary of the Air Force for international affairs.

The remaining two aircraft will be delivered to Japan in early 1999 and are part of the same foreign military sale.

The system, with its distinctive fuselage-mounted radome, provides airborne surveillance, command and control functions and early warning detection and tracking of targets at extended ranges over varying land configurations and water.

Developed and managed by Electronic Systems Center, the 767 AWACS has been in production since December 1996. At that time, the first of the four 767 airframes was transferred from a direct commercial sale to a foreign military sale contract between Boeing and the U.S. government on behalf of Japan. Installation of the AWACS prime mission equipment began on the first 767 airframe in January 1997 and the Mission System Qualification Flight Test Program began in June 1997.

"The 767 AWACS is an outstanding example of acquisition success and international cooperation among the United States, Japan and the Boeing Co.," said Col. Charles J. O'Connor, ESC's 767 AWACS program manager. "Our team successfully developed a completely new airframe for the AWACS prime mission equipment and, because the 767 is a commercial airframe, we conducted an exhaustive flight test program under the standards of the Federal Aviation Administration.

"This allowed us to fully utilize the extensive capabilities of the 767 AWACS and to demonstrate its versatility to the international community."

The 767 AWACS program was officially inaugurated in 1993 with the signing of a formal Letter of Offer and Acceptance for the four systems by the government of Japan. Once the 767 was chosen as a replacement for the discontinued Boeing 707, an accelerated acquisition program was structured by ESC in close cooperation with Japan and Boeing.

The 767 is six feet longer than the 707, has 50 percent more floor area, nearly twice the cabin volume and can fly higher, faster, and remain on station longer without re-fueling than the 707, according to O'Connor.

"We implemented several critical acquisition reform initiatives, developed a streamlined acquisition program and set in motion both teaming and technical requirements with Boeing to meet requirements set forth by Japan," said O'Connor. "These management structures gave us the ability to begin our first flight test of the system on August 9, 1996, barely three years after the Letter of Acceptance was signed."

The system then progressed through initial flight tests, air worthiness tests, flight handling characteristics, cross-wind takeoff and landing demonstrations and ground testing in preparation for today's delivery, according to O'Connor.

Millions of dollars in developmental cost savings were achieved by using variations of existing E-3 AWACS software, which also provides the 767 AWACS with a built-in upgrade capability.

As part of the delivery contract, Japan will also receive a Mission-Simulator Facility and a Daily Mission Support Facility, both located at Hamamatsu air base, Japan, the country's main operating air base.

The Mission Simulator is a full-scale training facility that duplicates the 767 AWACS computer consoles and provides simulated mission scenarios. It allows the JASDF mission specialists to remain fully trained in all aspects of AWACS operation. The Daily Mission Support Facility is an operational facility that supports actual AWACS missions. Its primary function is to develop computerized mission profiles for pending operations and to evaluate data from completed AWACS missions.

The AWACS fleet currently totals 66 worldwide, operating in the United

States, the United Kingdom, France, Saudi Arabia and NATO.
"This marks a significant acquisition achievement for Electronic Systems Center and a major step forward in international peace and security," said O'Connor. "We are proud to deliver a truly remarkable and historic command and control system to our close friend and ally and to welcome Japan to membership in the international AWACS community."
(Courtesy USAF News Service)

DECHAINEUX, the fourth submarine in the Collins class, and the first to be built and outfitted at different Australian shipyards, was launched in Adelaide this morning.
The Minister for Defence, Mr Ian McLachlan, in his keynote address, described the Collins class as having the potential to be as fine a conventional submarine as there is in the world today. Speaking during the ceremony at the Australian Submarine Corporation headquarters at Outer Harbour, the Minister referred to what he called "exaggerated" and "nationally irresponsible" comments on the project.
"It is sometimes overlooked that the early F111 fighter aircraft was beset with problems, yet it turned out to be one of the great strike aircraft in the history of aviation," Mr McLachlan said. "We have a clear plan to bring these submarines into service with a proven operational capability which will be enhanced on a continuing basis."
The Minister said that HMAS COLLINS had been successfully deployed to Malaysia recently, and he looked forward to the WALLER (launched last year) and the DECHAINEUX joining their sister submarines.
"DECHAINEUX and her predecessors are helping to keep Australia at the forefront of submarine technology and capability well into the 21st century."
Mr McLachlan emphasised the importance of Government, industry and Defence working together to further develop the technology, knowledge and industrial infrastructure.
"It would be infantile to pretend, on a project as complex as this, that some things could not have been done better."
"These lessons - about project management, about design, about how we run our acquisition system, all these areas and more can be used to improve how Defence manages future major projects."
"Certainly, we put a great deal of effort into making sure we are able constantly to improve our project management."
"We need to build a defence industry that meets or surpasses world standards on quality, value for money, besides delivering a product on time," Mr McLachlan said.
"Australia has a strategic asset of enormous importance in its submarine building capability. We cannot afford to let this capability disappear simply because the current submarine building contract will come to an end."
"That is why I announced in the Strategic Review that the Defence Department is developing an enhanced submarine design based on the Collins class."
"That work will provide the basis for any future decisions Government will make on acquiring even more capable submarines," the Minister said.
The submarine was formally named at the ceremony by Mrs Mary Purbrick, widow of the late Captain Emile Dechaineux, who died when HMAS AUSTRALIA was hit by a kamikaze bomber in the Leyte Gulf in 1944. The ceremony was attended by other members of the Dechaineux Family and by retired Navy personnel who served with the Captain during World War Two.
NOTE - DECHAINEUX is pronounced 'D-SHANE-Oh'.
(Courtesy: Royal Australian Navy Press Release)

OFFUTT AIR FORCE BASE, Neb. (AFNS) -- The Commander in Chief of the United States Strategic Command ushered in a new era of strategic deterrence April 3, flying as Airborne Emergency Action Officer during the first operational flight of the nation's newest airborne nuclear command post, the Navy's E-6B TACAMO, or "Take Charge and Move Out," aircraft.
"This is an historic event," said USSTRATCOM CINC Gen. Eugene E. Habiger. "By October of this year the TACAMO will replace the workhorse of our command and control mission, the Air Force 'Looking Glass' EC-135 aircraft that's been around for more than 40 years."

Besides estimated cost savings of about $50 million per year, the conversion from Looking Glass to TACAMO will offer the advantage of consolidated communications. An airborne command post needs the ability to communicate with all three legs of the nation's nuclear triad -- bombers, missiles, and ballistic missile submarines. The EC-135 lacked the capability of communicating directly with submarines and had to relay messages through TACAMO. With slight modifications, TACAMO is able to assume all of the functions of the EC-135, with the added capability of communicating with submarines.

"TACAMO was always just a relay platform," explained Navy Lt. Dan J. Fee, aircraft commander for TACAMO's first operational flight. "We got a message that came from another aircraft or ground command center and we would relay that message to our submarines and to other platforms. Now, since we're married up with Looking Glass, we'll carry the folks on board who will directly pass the National Command Authority's guidance simultaneously to all three legs of the nuclear triad."

Currently, four TACAMO aircraft are operational. The plan is to have 12 more ready by October when the Air Force fleet of EC-135s will retire. At that time the E-6Bs will fully assume the Looking Glass mission of command and control of the nation's nuclear forces. The total cost for conversion of the 16 E-6B aircraft is expected to be around $750 million.

"When you look at the overall expense of what we do at USSTRATCOM with submarines, missiles, airplanes, bombers, and command and control aircraft, we're talking about three percent of our $250 billion defense budget. That's a pretty small price to pay for a life insurance policy for our great nation," said Gen. Habiger.

(Courtesy of U.S. Strategic Command News Service)

----------Focus-Article #2----------

----------Focus on Royal Australian Navy----------

The Royal Australian Navy - Major Shore Establishments

Like many of the world's militaries, the RAN has had to absorb its share of reductions. Over the past few years, HMAS Moreton, HMAS Encounter, and HMAS Huon have been closed. In addition, HMAS Platypus is scheduled for closing and will join the other three bases shortly. What follows is an up-to-date, multi-source look at the current situation with the RAN's shore establishments. Training bases and minor support bases have been left out in the interests of space and time.

-Royal Australian Navy Headquarters

The Royal Australian Navy Headquarters is located in Canberra, New South Wales.

-HMAS Albatross

HMAS Albatross, located near Norwa, New South Wales, is the home of the Naval Aviation Element of the Royal Australian Navy (RAN). Currently, three squadrons of rotary wing aircraft are operated out of this base.

-HMAS Cairns

HMAS Cairns, located in Cairns, Queensland, is the home of the Patrol Boat Force Headquarters as well as numerous patrol boats and other miscellaneous vessels.

-HMAS Coonawarra

HMAS Coonawarra, aka Darwin Control, is the home of a RAN Communication Station that is tasked with providing support to the numerous patrol boats patrolling the northern coast of Australia. HMAS Coonawarra is located in Darwin, Northern Territory.

-HMAS Darwin

HMAS Darwin, located in Darwin, Northern Territory, is the home of several of the RAN's patrol boats.

-HMAS Harman

HMAS Harman, located near Canberra, New South Wells, is the Communication Station serving RAN HQ in Canberra.

-Jervis Bay Range Facility

Jervis Bay Range Facility serves as a weapons range to provide support to RAN units.

-HMAS Platypus

HMAS Platypus, located in Darwin, New South Wells, is currently the home of one Oberon Class submarine. This base is scheduled to be closed in the near future.

-HMAS Stirling

HMAS Stirling, the largest base on Australia's West Coast, is located near Perth, Western Australia. The subject of an ongoing expansion, HMAS Stirling is to become the home of the Collins Class submarines and is currently serving as the home port for the West Coast fleet. HMAS Stirling is also known as Fleet Base West.

-HMAS Sydney

HMAS Sydney, aka Fleet Base East, is the home for the majority of the RAN fleet.

-HMAS Waterhen

HMAS Waterhen serves as the home of the RAN's minesweeping forces, and is located near Darwin, New South Wales.

-Naval Communication Station Harold E. Holt

Naval Communication Station Harold E. Holt is located on the North-West Cape of Australia and provides communications support to the RAN units deployed along Australia's western coast.

The Royal Australian Navy - The Fleet

The Royal Australian Navy, while not the world's largest nor most active, is a dynamic naval force and a definite regional power. With three major building projects underway, the RAN is in the midst of a modernization program which will carry the fleet into the 21st century. All three major projects; the Collins Class submarine (Swedish Type 471), the ANZAC Class (German Meko 200) frigate, and the HUON Class (Italian Gaeta class) coastal minehunter, are based upon proven international designs with most of the construction being performed in Australian shipyards. The following list contains the names and pennant numbers of every vessel in service with the RAN as of early 1998. In addition, where available, the vessel's home ports have been provided for reference.

Class	Name	Pen #	Homeport
Perth Class (US Charles F. Adams) (DDG) (HMAS Perth to decommission in 2001)			
	HMAS Perth	38	Fleet Base East
	HMAS Hobart	39	Fleet Base East
	HMAS Brisbane	41	Fleet Base East
ANZAC Class (German Meko 200) (FF)			

	HMAS Anzac	150	Fleet Base East (?)
	HMAS Arunta	151	Launched, Will Commission Aug 98
	HMAS Warramunga	152	Will Launch, May 1998
	HMAS Stuart	153	Building 1998
	HMAS Parramatta	154	Building 1998
	HMAS Ballarat	155	Building 1999
	HMAS Toowoomba	156	Building 2000
	HMAS Perth	157	Building 2001
Adelaide Class (US Oliver Hazard Perry) (FFG)			
	HMAS Adelaide	01	Fleet Base West
	HMAS Canberra	02	Fleet Base West
	HMAS Sydney	03	Fleet Base East
	HMAS Darwin	04	Fleet Base West
	HMAS Melbourne	05	Fleet Base East
	HMAS Newcastle	06	Fleet Base East
River Class (FF) (to be decommissioned September 1998)			
	HMAS Torrens	53	Fleet Base West
Oberon Class (SSK) (to be decommissioned: Otama in 1998, Onslow in 1999)			
	HMAS Onslow	60	Fleet Base West
	HMAS Otama	62	Fleet Base West
Collins Class (Swedish Type 471) (SSK)			
	HMAS Collins	73	Fleet Base West
	HMAS Farncomb	74	Fleet Base West
	HMAS Waller	75	Fleet Base West
	HMAS Dechaineux	76	Launched, Will Commission 1998
	HMAS Sheean	77	Launched, Will Commission 1998
	HMAS Rankin	78	Will Launch 1998, Commission 1999
Fremantle Class (PC) (to begin decommissioning in 2000)			
	HMAS Fremantle	203	Fleet Base East
	HMAS Warrnambool	204	Fleet Base East
	HMAS Townsville	205	HMAS Cairns
	HMAS Wollongong	206	HMAS Darwin
	HMAS Launceston	207	HMAS Darwin
	HMAS Whyalla	208	HMAS Cairns
	HMAS Ipswich	209	HMAS Cairns
	HMAS Cessnock	210	HMAS Darwin
	HMAS Bendigo	211	HMAS Cairns
	HMAS Gawler	212	HMAS Darwin
	HMAS Geraldton	213	Fleet Base West
	HMAS Dubbo	214	HMAS Darwin
	HMAS Geelong	215	HMAS Darwin
	HMAS Gladstone	216	HMAS Cairns
	HMAS Bunbury	217	Fleet Base West
Huon Class (Italian Gaeta) (MHC)			
	HMAS Huon	82	Launched, Will Commission 1999
	HMAS Hawkesbury	83	Launched (?), Will Commission 1999
	HMAS Norman	84	Building 2000
	HMAS Gascoyne	85	Building 2000
	HMAS Diamantina	86	Building 2001
	HMAS Yarra	87	Building 2002
Bay Class (MHI)			
	HMAS Rushcutter	M80	HMAS Waterhen
	HMAS Shoalwater	M81	HMAS Waterhen
Large Tug Auxiliary Minesweeper 9MSA(T))			
	HMAS Bandicoot	Y298	HMAS Waterhen
	HMAS Wallaroo	Y299	HMAS Waterhen
Small Auxiliary Minesweeper (MSA(S))			
	HMAS Brolga	1102	HMAS Waterhen
	HMAS Koraaga	1185	HMAS Waterhen
	HMAS Bermagui	1121	HMAS Waterhen
Newport Class (LPA/LST)			
	HMAS Kanimbla	L51	Fleet Base East
	HMAS Manoora	L52	Fleet Base East
Heavy Lift Ship (LSL)			
	HMAS Tobruk	L50	Fleet Base East
Landing Craft Heavy (LCH/LSM)			
	HMAS Balikpapan	L126	HMAS Darwin
	HMAS Brunei	L127	HMAS Cairns

	HMAS Labuan	L128	HMAS Cairns
	HMAS Tarakan	L129	HMAS Cairns
	HMAS Wewak	L130	HMAS Cairns, non-operational
	HMAS Betano	L133	HMAS Cairns

Survey Vessels (AGS/AGSC)

	HMAS Leeuwin	HS01	Will Launch 1998
	HMAS Melville	HS02	Will Launch 1998/1999
	HMAS Moresby	A73	Fleet Base West
	HMAS Flinders	A312	HMAS Cairns
	HMAS Paluma	A01	HMAS Cairns
	HMAS Mermaid	A02	HMAS Cairns
	HMAS Shepparton	A03	HMAS Cairns
	HMAS Benalla	A04	HMAS Cairns

Attack Class Navigational Training Vessel (AXL)

	HMAS Ardent	A243	Fleet Base East

Sail Training Ship

	STS Young Endeavour		

Underway Replenishment Tankers (AOR/AOT)

	HMAS Westralia	O195	Fleet Base West
	HMAS Success	OR304	Fleet Base East

Torpedo Recovery Vessels (TRV)

	HMAS Tuna	TRV801	Jervis Bay Range Facility
	HMAS Trevally	TRV802	Fleet Base East
	HMAS Tailor	TRV803	Fleet Base West

Trails and Safety Vessel (ASR) (Supports Collins Class submarine trials)

	HMAS Protector	ASR241	Adelaide

Diving Tenders (YDT)

	HMAS Seal	2001	Fleet Base East
	HMAS Malu Baizam	2003	?
	HMAS Shark	2004	Fleet Base West

Self-Propelled Lighters (WFL/AOTL)

	HMAS Warrigal	WFL8001	Jervis Bay Range Facility
	HMAS Wallaby	WFL8002	Fleet Base East
	HMAS Wombat	WFL8003	Fleet Base East
	HMAS Wyulda	WFL8004	Fleet Base West

The Royal Australian Navy - The Naval Aviation Element

All squadrons of the RAN's Naval Aviation Element are based at HMAS Albatross. The current active squadrons and aircraft are provided below. All aircraft

Squadrons and Aircraft

HC723 Squadron: 2 Hawker Siddley HS748 used for EW training
3 Bell 206B1 Kiowa

HS816 Squadron: 16 Sikorsky S-70B-2 Seahawk

HS817 Squadron: 7 Westland Sea King HAS50/50A

The Royal Australian Navy - Communications Information

The RAN is an "easy catch" for UTE listeners, especially in South East Asia and in the United States. While monitors in SE Asia can monitor the RAN around the clock, those monitors in the United States will have to settle for early morning monitoring (apx 0600-01300 UTC) if they hope to catch the RAN at work.

Communications of the RAN are easy to monitor, with the ships identifying themselves by name, and with the shore establishments using titles such as "Canberra Control" or "Darwin Control." Most of the traffic consists of routine communications servicing or the occasional radio check. Often times, off-line encrypted messages will be passed

to the RAN vessels, with some of these messages reaching 200 groups or more. Occasionally a plain text "Operations Order" or other priority message will be passed giving the monitor a chance to get an "inside glimpse" at the operations of the RAN.

What follows is a listing of the primary RAN frequencies. Communications on these frequencies is in USB voice. The primary frequency seems to be 8122, with 13116 the second-busiest frequency. Often times, references to the other frequencies will be made, using the "Alpha" designators.

Frequency	Channel Designator
2768	A1
4375	A2
6218	? - Exercise Related
6510	A3
8122	A4
9014	? - Exercise Related
13116	A5
17344	A6
22708?	A7?

The RAN operates several "control" stations for communications with the fleet. Of these stations, Darwin Control and Canberra Control seem to be the most active, with Jervis Bay Control active only as needed. All of the control stations are listed below:

Cairns Control	Canberra Control
Darwin Control	Fremantle Control
Jervis Bay Control	

Credits: Jane's Fighting Ships 1997-98
Confidential Frequency List, 10th Edition
Royal Australian Navy Home Page (http://www.navy.gov.au)
Ian Julian, New Zealand
Noel Jones, New Zealand
Ary Boender, Netherlands
John Batty, Australia
Robert Williams, Australia

================================ END ================================
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== END == FIN == ENDE == FINE == FIM == KONETS ==
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\\\ An Electronic Club Dealing Exclusively in Utility Stations ///
\\\\ WUNNEWS Vol. 4, No.4 May., 1998 /////
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If you have problems in this, or need further information contact Stan Scalsky at: sscalsk@mail.ameritel.net

If you are reading this newsletter from another source, such as a BBS, please let us know!

Check out the WUN web site at: http://www.gem.net/berri/wun

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From your Electronic Editor:

* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.

* As a reminder to all WUNers who use HTML-compatable mail programs (such as OUTLOOK or NETSCAPE), please ensure that your posts to WUN are made in text-only mode. It is possible to switch the HTML setting off on all browsers. Please do so when posting to WUN.

* Look for the return of the Logs Column in the July edition of the WUN Newsletter. We hope to get everything back in order after Stan Scalsky figures out a way to automate the collection of the logs. So, those of you who just love the logs, don't worry. They WILL return.

* Once again, I would like to remind you that this newsletter is only what you make of it. Without support from you, the readers, this newsletter would cease to exist. So, PLEASE support you favorite column(s) by sending in ANY information that may be of interest to ANYONE. Email addresses for each of the editors are listed at the beginning of each column. The editors do NOT receive any compensation for the time they spend working on the columns, so help them out! Share some information today...

WHAT'S INSIDE:

o International Civil Aero by Tony Orr and Peter Ivakitsch
o Digital Review by Day Watson
o Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o Numbers and Oddities by Ary Boender, Chris Smolinski, Guy Denman, and Jascha Ruesseler
o The QSL Report by J.D. Stephens
o Utility Round-up by Ary Boender
o The Military Newsreel by David C. Wright

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INTERNATIONAL CIVIL AERO

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CACOAL LDOC BRAZIL - 8849 kHz

A neat log from Brazil this month, courtesy of Fabio Fonseca of Gravatai (Porto Alegre). Cacoal Operations working HLS186 (PT-MEL) "Operações Cacoal" on frequency 8849 kHz. Fabio informs us that Cacoal Operations is an LDOC station associated with TAM, Transportes Aereos Meridionais, located in the town of Cacoal in the Amazonica region. Fabio also logged another HLS flight working the TAM LDOC on the same frequency.

As the solar cycle continues to upswing, keep in mind the following frequency for some good daytime NAT DX: 13291.

In AIRLINE NEWS this month, we have the following:

AIR FRANCE should have begun new nonstop services to both Atlanta and Boston by the time you read these words:

AF042 CDG-ATL 767-300ER

AF043 ATL-CDG 767-300ER

AF322 CDG-BOS A310
AF321 BOS-CDG A310

Their new Boeing 777's are now being operated on AF010 CDG-JFK, AF007 JFK-CDG, AF344 CDG-YUL, and AF345 YUL-CDG.

IBERIA has begun nonstop Airbus A340 service from Madrid to Johannesburg:

IB6051 dep MAD 2320 arr JNB 0920+1 on Tu/Thu/Sat.
IB6050 dep JNB 2115 arr MAD 0730+1 on Wed/Fri/Sun.

The airline has also begun 767 service to Montreal on thrice-weekly nonstops IB6000/6001.

SWISS WORLD AIRLINE NETWORK - SWAN, should have begun service from Geneva to Miami and Newark in mid-June. 767-300ERs will ply the routes as follows:

SO1 GVA-EWR
SO2 EWR-GVA
SO5 GVA-MIA
SO6 MIA-GVA

In news from SABENA this month, the airline has added the following Transatlantic services:

BRU-ATL   SN545   A340 x16
ATL-BRU   SN546   A340 x16
BRU-EWR SN537   MD11 daily
EWR-BRU SN538   MD11 daily
BRU-YUL   SN581   MD11 1256
YUL-BRU   SN582   MD11 1256

MALAYSIA has placed 777's on their new Kuala Lumpur-Dubai-Newark route:

MH090 DXB-EWR dep 0230 arr 0850   Tue/Fri/Sun
MH091 EWR-DXB dep 1130 arr 0800+1 Tue/Fri/Sun

DELTA has a new route from Atlanta to Hamburg using 767-300ERs, DL61 HAM-ATL, DL61 HAM-ATL.

We'll have an expanded column next month as we get back into the monthly groove. Remember, your contributions are always welcome!

73,

Tony + Peter

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DIGITAL REVIEW

- Editor: Day Watson E-mail: jdwatson@cableinet.co.uk

- Nickname on IRC channels #wun & #monitor DayW

Hi DigiWUNners

What an act to follow. It is with some trepidation I take over from Ary who you, I'm sure, will all agree has set the standard with this column since WUN's inception in '95. I trust I can live up to those levels. In the meantime [cue: standing ovation] three cheers for the great man.

Where do we go from here? The general sections I hope to cover will be / Aero / Diplo / Met (RTTY and FAX) / Press (RTTY and FAX) / Military / International Agencies (UN, IFRC, MSF's of this world), / National Governmental (The MOI's, Guardia Civil, Customs, etc),

/ Commercial (Oil nets, Bank circuits etc).

Numbers RTTY will be covered by Ary in his new N+O column.

I'd like to highlight the UNIDs and see what we can make of them. This includes the digital strangers encroaching in the Amateur bands as reported by their Intruder Watchers.

Techi stuff. We're not all highly experienced monitors (that includes me) who know it all. We're all perched at different points on the learning curve and can learn from each other. What may be so simple to one person may just be the information another is looking for. So I'm inviting you to pass on your tips.

The other techi stuff is to try and appraise new systems - we may not be able to decode them but the first thing is to recognise them. I'll also be dealing with DGPS.

Monitoring to me is investigating the signals out there, and doing some diagnostic work on both structure and content. And diagnosis to me is like doing a jigsaw puzzle. The more pieces we gather the clearer the picture becomes. And we (yes we - we are a large hobby club) can help each other by gathering/sharing that information, large or small, in posts or by email through column editors.

So on with the mottley. This month's menu

Aero	Aerolist
dgps	intro
Diplo	North Korea
	Belgrade
	Bucharest
	Sofia
	Diplo corner - Sweden, Italy, Switzerland.
Met	Canadian CG FAX
Military	IDing circuits (FF model).
	Greek (Hellenic) Navy callsigns
Press	Info request
Special	GWEN
Tech Tips	Input levels
	Bandwidth setting.
Unid	75/850

>>....Aero.....>

A query was raised with Ary a few weeks ago by John Cole who asked if the Aero rtt list (May 96) had been updated. (btw - I shall be using the mnemonic "rtt" to cover radio teleprinter modes in general and not to be confused with rtty as the specific asynchronous ITA2/Baudot mode). The fact is it hasn't; so this seems an ideal opportunity to review what is likely to
be one of unfortunately many services declining on HF in modes that we can copy.

My thanks to Murray Lehman, Mohammed Sultan, Bob Hall, Roger Caird and "Annonymous" for assistance in checking the old list to provide the new.

FREQ	Location	MODE		ICAO	C/S	CCT	TO
3177.5	Calcutta	rtty	50/500	VECC	AWC	EDA	Dhaka
3850	Addis Ababa	rtty	50/425		ETD3		
4012	Antananarivo	ARQ-E3	48/400	FMMM	5ST	TPA	Plaisance
4023.5	Plaisance	ARQ-E3	48/850	FIMM	3BZ	PTA	Antananarivo
4512.5	Addis Ababa	rtty	50/425		ETD3		
5160	Niamey	ARQ-M2	96/400	DRRR	5UA	NUA	Cotonou
5221.5	Cotonou	ARQ-M2	96/400	DVVB	TYE	UNA	Niamey
5293.5	Calcutta	rtty	50/500	VECC	AWC	EDA	Dhaka
5333.5	Jibouti	rtty	50/400	HDAM	DJR	HVA	Addis Ababa

5932	Addis Ababa	rtty	50/300	HAAB	ETD3	VHA	Jibouti
6790	Asmara	rtty	50/850	HHAS	E3A	TVA	Addis Ababa
6882.5	Dhaka	rtty	50/850	VGZR	S2D	DEA	Calcutta
6975	Brazzaville	ARQ-M2	96/400	FCBB	TNL	FRA	???
7524	Cotonou	ARQ-M2	96/400	DBBV	TYE	UNA	Niamey
7596	Niamey	ARQ-M2	96/400	DRRR	5UA	NUA	Cotonou
7763.5	Moroni	ARQ-E3	48/400	FMCH	D6Z	NTC	Antananarivo
7831.5	Antananarivo	ARQ-E3	48/250	FMMM	5ST	TNC	Moroni
7913	Lusaka	rtty	50/400	FLLS	9JZ	CVA	Livingstone
8074	Ho Chi Minh	rtty	50/ 85	VVVS	XVZ	VLA	Vientiane
8118	Lusaka	rtty	50/400	FLLS	9JZ	CLA	Lilongwe
8137.5	Lilongwe	rtty	50/400	FWLL	7QZ3	LCA	Lusaka
9154	Sal	rtty	50/850	GVAC	D4B	CMA	Santa Maria
9192.5	Antananarivo	ARQ-E3	48/400	FMMM	5ST	TPA	Plaisance
9378.5	Plaisance	ARQ-E3	48/950	FIMM	3BZ	PTA	Antananarivo
9873.5	Addis Ababa	rtty	50/400	HAAB	ETD3	VKA	Nairobi
10055.5	Addis Ababa	rtty	50/400	HAAB	ETD3	VKA	Nairobi
10132	Brazzaville	rtty	50/850	FCBB	TNL	FSA	Sao Tome
10144	Ho Chi Minh	rtty	50/ 85	VVVS	XVZ	VLA	Vientiane
11527.2	Vientiane	rtty	50/ 85	VLAO	XWI	LVA	Ho Chi Minh

And there's more from Murray -

5ST Have dropped their frequencies around 2500 khz.

5333.5 The Klingenfuss RCD Manual #15 shows Jibouti as HFFF but not an HD series. The HDAM is from traffic compiled in Jibouti.

6780 Callsign E3A taken from test tapes.

6882.5 (ICAO) VGZR taken from test tapes.

7763.5 JK lists circuits as MTC and TMC but all tfc seen over last
7834.5 six plus years has shown NTC and TNC respectively.

8137.5 Csign 7QZ3 from CH messages.

11527.2 ID is from circuit/tfc previously copied on this freq.

6745 Previously IDed as UNII Yeniseysk to Tura on circuit ETG and which it may well still be. It now runs at 100 bd with same cct ETG but from tfc seen, i can't positively confirm that the ID is correct although nothing seen to the contrary. Most traffic is addressed to UNIB Baykit NDB but have seen Tura mentioned in addresses and text. It also carries LL (?) messages which are air related.

and from Mohammed

8098.7 There appears to be a Mozambique air related Sitor/A net on this frequency. Despite good signals copies always seem to be poor in Mauritius - But one ICAO address is FQVL/Vilankulu. Anyone with further info ?

and annonymous

6975 Brazzaville ? (ARQ/M2) Ch.A with wx on circuit FRA, included METAR for FCBB, FCPP but some non-Congo items also. WUN reports Dakar met here, but not sure. [Give or take 100 hz CFL/10 has both Brazzaville and Dakar listed here. - maybe both do use - need for further investigation.

finally from me (and Roger Caird)

I've been looking at the North Atlantic rtt circuits
Shannon/EIP [S] Santa Maria/CSY [M] Sal/D4B [C]

Although signals are there and at least Shannon seems to send the 20 minute CH svc the links seem virtually non-existant. Sounds like a flaky HF backup for something else. Roger confirms this

"As far as I know this IS only a backup for either a landline or satellite link between EINN and Santa Maria. I have given up monitoring these freqs as I haven't heard any *real* traffic on them for years.
Current Status: According to AIP - Ireland: 02 Jan 1997
Shannon COM Centre AFTN Switch and Air Ground Station (EIAAYFYX) have duplex *landline* teletype circuits to the following:
London COM Centre (2 X 1200bd)
Shanwick OAC, Prestwick (Discreet CCTS) (2 X 1200bd)
Orleans COM Centre (1 X 1200bd)
One HF RTTY circuit to Santa Maria (1 X 50b) Frequencies:
3250, 5813.5, 8145, 11440 kHz. [SMA]
Santa Maria to Shannon 5474, 10540, 12323kHz [MSA]"

I've also logged Santa Maria with ry's and 50bd/1880 hz shift(!) rtty on 14497.5 and Sal on 9154.

6975 I've noted an ARQ/M2 here some nights but not all. Unfortunately when I've monitored just before midnight UTC little traffic and much static not helping investigations.

Roger has sent me some interesting notes on the evolution of Shannon Aeradio
- but that's for next month.

>>....dgps.....>

Due to the current restrictions on obtaining the full resolution on the Global Positioning System (gps) a number of MF stations are sending Differential GPS correction signals in order to reduce these limitations. These are provided at various locations worldwide (although the range of each dgps is 100-150 miles). Until 28/Feb this year those round the shores of the British Isles have been encrypted and one has been unable to tackle them on an amateur basis. Things are changing.

At this point in time the UK and Irish General Lighthouse Authorities (GLA's) are replacing the dgps modems with an unencrypted system supporting the worldwide accepted format RTCM SC104.

Next month I'll show those of you within range of one (or more) of these transmission(s) how to decode some of the basic information imbedded therein. For this your decoder needs a module or facility to produce the bit stream preferably to file for subsequent analysis.

>>....Diplo.....>

At the moment I'm doing a major review of my notes in this area and will pass new stuff as it becomes available. In the meantime the last of Ary's Diplo Corners appears at the end of this section covering Italy, Sweden and Switzerland.

::: N Korea

Dave Wright sent Ary an interesting note. He copied MFA Pyongyang on 8260 kHz (this freq was not in last month's list) in sloppy CW and both 50 and 75bd RTTY. He sez that the signal is very strong in Texas; too strong for N.Korea. Ary wonders where the transmitter is located, Cuba perhaps, or Managua?

==

We've just passed the time of year when Daylight Saving Time (DST) comes

and
goes depending on one's location. Invariably the diplos who run daily multi-frequency broadcasts change times/possibly frequencies. Thanks to John Doe for giving me a hand in recent checks

::: Belgrade

rtty 75bd / Rev / 400hz

0600z   4482 5312 6792 7808 9046 10332 11139 13397 14674 18972(?)
1400z   7808 0057 13399 14912 16302 17432 18055 22888(?)
1900z   4482 5312 5807 7808 9057 10332 10802 14912

Winter broadcasts - 0700, 1430, 2000z.

and almost as soon as the 1900z broadcast was found so has it seemingly disappeared.

::: Bucharest

FEC/ROU   164.5bd   Rev 400hz   Often Bit Inversion = 24

1000z (Summer) 1100z (Winter)

8028 10493 14681 16322 16325 16327 16332 16342 18552 18762 19853

Lately the frequencies relative to the given whole khz point and the shifts have been found inconsistent.

::: Sofia

0830z (Summer) 0930z (Winter)   210.2bd / Rev / 500 hz

8099.3 10484.3 12134.3 13933.3

The third shift Cyrillic shift command noted in abundance.

::: Diplo corner

Hi everyone! This is the final edition of 'my' Diplo Corner. I don't know if Day will continue the Diplo Corner, but I am sure that he will cover diplo in the Digital Review. [Yup - in one form or another - Day]

I covered 55 countries in this column and cannot think of a country with diplo on HF that I missed. This month's profiles -Italy, Sweden and Switzerland- will bring this series to an end. I hope you enjoyed it and once again I'd like to thank everyone who participated. I could not have done it without your help. ----- Ary Boender -----

o This month's profiles: Sweden, Italy and Switzerland
o Acknowledgements:
  CIA World Fact Book (country profiles).
  The WUN-community (logs).
  Special thanks to Day Watson, Mike Chace, Murray Lehman, Graeme Bartlett, Roberto Robba, Wolfgang Palmberger, and various anonymous dxers.

::: ITALY

o Country profile
  The Italian Republic with capital Rome, is divided in 20 regions (regione); Abruzzi, Basilicata, Calabria, Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Liguria, Lombardia, Marche, Molise, Piemonte, Puglia, Sardegna, Sicilia, Toscana, Trentino-Alto Adige, Umbria, Valle d'Aosta, and Veneto.
  The Italian Defense Forces has the following branches: Army, Navy, Air Force, and Carabinieri.

o Operational notes
  - Offline encrypted messages
  - Operators reported to have the habit of QSYing in steps of
    1Mhz/100khz/1khz
  - Traffic sent with RS equipment ends in a variant of that used
    by the German Diplo:
    nnnn
    (+/end messages/+) (/+end messages/+) (/+end messages/+)

o Transmission Modes
  RS-ARQ 228.7bd Erect 170 ITA2 or ITA5 mode
  RS-ARQ 240bd   8 tone   ITA2 or ITA5 mode
  FSK   1200bps UNID System (not sure if this is actually used
          by diplo stations. Possibly military/police only)

  The Italians have been using quite a lot of different modes in the
  (recent) past, including SITOR-A, SITOR-B (reported), ARQ-E, ARQ-N,
  FEC-100, POL-ARQ (reported).

o Frequencies

5289	6763	6771	6804.7	6811.7	6814.5
7446.5	7447.5	7449.5	7457.5	7459.5	7477.5
7858.7	7885.5	7910.5	8013	8033.5	8043.5
8044	8053.5	8103	8126	8131.7	8134.5
8141.5	8150.5	8161.5	8172.5	8177.5	8180.5
8192.7	9075.5	9085.5	9087.5	9090.5	9090.7
9106.5	9126.5	9130.7	9140.7	9145	9150.7
9161.7	9180	9187.7	9191.5	9283	9294
9296	9333.5	9426.5	10150	10156.5	10178.5
10191	10209.5	10339	10485.7	10537.7	10547.5
10721	10844.9	10871.7	10873.5	10886.1	11035.7
11092	11096.5	11098.5	11131.5	11141.5	11151.5
11173	11276.7	11393	11432.7	11441.7	11461.5
11463	11479	11480	11616.5	11643	12118
12125.6	12126.5	12131.7	12135	12141	12145.5
12150	12152	12157	12160	12216	12250
12976	13341.5	13346.5	13378.5	13381.5	13388.5
13389	13398.5	13425.2	13425.7	13446.5	13718
13813.5	13847	13865	13877	13904.5	13904.7
13911.7	13919.9	14036	14039	14152	14321
14427	14447	14526.5	14534.5	14537.5	14543.5
14546.5	14566.7	14568.5	14597.7	14668.5	14849.7
14911	15681.5	15683.5	15795.5	15801.7	15806.5
15810.8	15811.5	15821.5	15895	15927.7	15936.5
15937.7	16023	16023.4	16032	16034.5	16056.5
16064.5	16156.5	16195.5	16233.5	16319.5	16339
16339.5	16643	17412.5	17422.7	17431.5	17440.5
17443	17452.5	17473	17498.5	17504	17505.5
17513.9	17973	18071.5	18083	18086	18123
18160.8	18161.5	18191.5	18206	18246.5	18385.5
18443	18471	18556	18691.5	18694	18733
19037	19056	19059.5	19275	19377	19461
19463	19526.5	19567.7	19577	19640.6	19655.5
19671.5	19873	19876	19877	20007	20035.5
20053	20055.5	20123	20167.5	20173	20321.5
20369.5	20386.5	20465.5	20573	20574.5	20584
20776.8	20836.5	20860	20861	20873	21117
23083	23120	23273	23381.5	23385	23473
24034.5	24073				

o Reported Callsigns and selcals for MFA and embassies

Selcal	Call	Location	Mnemonic
VQMK		Abu Dhabi	
		Accra	"ambaccr"
VVMM	7OB450	Aden	

VXQF	9EU76	Addis Ababa	"ambaddi"
VQCX		Algiers	"ambalge"
		Almaty	"ambalma"
VQYF		Amman	"ambamma"
VVSQ		Ankara	
VXXS		Athens	
VXXF		Baghdad*	
VXXK		Beirut	"ambbeir"
	IPG27	Belgrade*	"ambbelg"
		Bonn	"ambbonn"
		Bucharest	"ambbuca"
VQQX		Budapest?	"ambbuda"
		Cairo	"ambcair"
	VJ1YG	Canberra	
		Caracas	"ambcara"
		Dakar*	"ambdaka"
		Damascus	"ambdama"
		Doha	"ambdoha"
		Dublin	"ambdubl"
VXXM		Islamabad	"ambaisla"
		Kiev	"ambkiev"
		Kinshasa*	"ambkins"
		Kuwait	"ambkuwa"
		Lagos*	"amblago"
		Lima	"amblima"
		London	"amblond"
		Ljubljana	"amblubi"
		Luanda*	"ambluan"
		Luxemburg	"ambluss"
		Madrid	"ambmadr"
		Minsk	"ambmins"
VXQP/VQXP		Mogadiscio	
		Muscat	"ambmasc"
VVVK		Moscow	"ambmosc"
VXQQ		Nairobi	"ambnair"
		New Delhi	"ambndel"
VQMY		Nicosia	
		Beijing	"ambpech"
		Prague	"ambprag"
		Rabat	"ambraba"
		Riga	"ambriga"
		Riyahd	"ambriad"
VVVX	IPG20	MFA Rome*	"maeroma"
VXQV	IPG20	MFA Rome*	"maeroma"
VQMP		Sanaa	"ambsana"
		Santiago	"ambsant"
		Sarajevo*	"ambsara"
		Singapore	"ambsing"
		Skopje*	"ambskop"
		Sofia	"ambsofi"
		Tallinn	"ambtall"
		Tashkent	"ambtask"
VXXQ		Teheran	"ambtehe"
		Tel Aviv	"ambtela"
		Tirana	"ambtira"
	IPG71	Tripoli*	"ambtrip"
VQPK		Tunis	"ambtuni"
VQMF/VXXQ		Valetta	
		Vilnius	"ambviln"
	IPG22	Warsaw	"ambvars"
		Washington	"ambwash"
		Zagreb	"ambzaga"
VQFV		UNID	
VXQK		UNID	
VXQX		UNID	

* denotes embassy equipped with RS-ARQ

o Consulates

Mnemonic	Location	Mnemonic	Location
conambu	Consulate Hamburg	conamst	Consulate Amsterdam
conbarc	Consulate Barcelona	conberl	Consulate Berlin
conedim	Consulate Edinburgh	congeru	Consulate Jerusalem
conhong	Consulate Hong Kong	conlang	Consulate Los Angeles
conlion	Consulate Lyon	conmadr	Consulate Madrid
conmanc	Consulate Manchester	conmara	Consulate Marrakesh?
conmars	Consulate ?	conmelb	Consulate Melbourne
conmetz	Consulate Metz	conmopr	Consulate ?
conmpla	Consulate ?	conmulh	Consulate Mulhouse
conspie	Consulate ?	conshan	Consulate Shanghai
constoc	Consulate Stockholm	consydn	Consulate Sydney
contolo	Consulate	contrip	Consulate Tripoli
convanc	Consulate Vancouver	convien	Consulate Vienna
conwett	Consulate	conzuri	Consulate Zuerich

o Ministries

Mnemonic	Ministero	Mnemonic	Ministero
minagri	Agricultura	minbila	Bilancio
mincome	Commercio	minfina	Finanze
minindp	Industria	minindg	?
mininte	Affari Interni	minlavo	Lavoro
minposg	Poste	mintesd	Tesoro

o Delegations

rappocs	Organisation for Security & Cooperation in Europe
rapponu	United Nations
rappnat	NATO
rappcee	European Community

o Intelligence Attaches

sismimd	SISME
sisdemi	SISDE

o Dictionary

allamba	- all embassies		
allrapp	- all delegations?		
Esteri Roma	- MFA Rome		
Italdipl..	- Italian Emb ..		
Italnato	- Italian NATO delegation, Brussels		
MAEROMA	- MAE (Ministry of External Affairs) Rome.		
Navitalia	- Italian navy		
Amburgo	- Hamburg	Atene	- Athens
Belgrado	- Belgrade	Lussemburgo	- Luxembourg
Lione	- Lyon	Pechino	- Beijing
Varsavia	- Warsaw		
at	- to (attention)	da	- from
del?	- date	ordinario	- routine
tx	- relayed by	urgente	- urgent
urgentissimo	- very urgent		
Gennaio	- January	Febbraio	- February
Marzo	- March	Aprile	- April
Maggio	- May	Giugno	- June
Luglio	- July	Agusto	- August
Settembre	- September	Ottobre	- October
Novembre	- November	Dicembre	- December

RIFDA - routing indicator. Military to diplomatic eg Naval attaches???

o Sample Message Formats

```
==========================================================================
Example 1: Off-line encrypted message
==========================================================================
 da esteri roma                                                [fm MFA Rome]
 at italdipl amman                                        [to It. Emb. Amman]
 nr. 26379/c del 26/10/1992     - urg -                 [msg nr/date/priority]
 /////                                                  [characteristic break]
 /////                                                  [characteristic break]

 etegu vizts ksygy xqmrf ruukj tdadj ndgkl cemlj wavzy cxnic
 eqoap kvffn vtqwj edkwq suitq inwsz bocuk lrjwp pmhkx voeqh
                   <clip clip clip>
 fncuk gbpdj jkzex qeein aznne gkdqc ximhv lzwue vtkms mvkrm
 ucftp asmzz fiymy mdhqo ecpyi adevp hmfde

 /////                                                [characteristic break]
 0435                                                 [groups assumed relate
 bpnyr grpmj                                           to encryption and/or
 bpnyr grpmj                                           authentication]
 /////                                                 [characteristic break]
 nnnn                                                  [message end]

==========================================================================
Example 2: Off-line encrypted message
==========================================================================
 nr 230/gr 88/d/261630z
 messaggio computerizzato non toccare la tastiera
 da esteri roma
 at italdipl amman
 n. 26370/c del 26/10/1992    - urg -
 /////

 /////

 szhpw lgrhl aosqu kjnmr wnegs rvdqo nqrmt glcpt uyhcs pphrv
 fujvc kvjkm hykua qkibv ivozz yimdn ixodu uqfwq pbzpd mukxx
                  <clip clip clip>
 xdemz scszk tsbxc jmpjq tjlhs asbsn noypa kxrcv nskto ewaaf
  aawks knnzx cyltd aauii jzjjh ufjfd xdaht xhtci

 /////
 0440
 gfwdp rttnw
 gfwdp rttnw

 /////

 nnnn

==========================================================================
Example 3: Message originated Tel Aviv being relayed by Rome to Amman
==========================================================================
 da italdipl tel aviv

 at esteri roma

 et italdipl abu dhabi - algeri - amman - beirut - cairo - damasco -
       kuwait - rabat - riyadh - teheran e tunisi (pregasi
       centro cifra provvedere).

 n. 1082 del 26 ottobre 1992 - urgentissimo -

 /////

 /////

 bvjtr phofk toamx lnrbo uuicy omuja jbalj ejjyk nzaor juwhf
```

```
 hrxus gcoje flvan    ... etc

==========================================================================
Example 4: Alternative heading/tail arrangement
==========================================================================

 nr 233 gr 126 d 271040z

 da ministero affari esteri roma

 at italdipl amman

 n. 235 del 27/10/92 10:55   urgente

 kkkk001 025 urg 235 271092 ba m1895 00043 0126yyyy

 -----

 ockla kivro pnosh mguuc gnmkc kkocj axyfi gemas mzhjt arynz

 sudpc twkxy      ... etc ...

 -----

 kkkk001 025 urg 235 271092 ba m1895 00043 0126yyyy

 nnnn

==========================================================================
Example 5: Alternative heading arrangement
==========================================================================

 nr 226/gr 932/261515z

  932/261200z

 zczc

 k9k9cif,1162,oearyme,26.10.92,rt,ord,tg,1/1,k9k9

 da italdipl  riyadh

 at esteri    roma

 et italdipl: abu dhabi - algeri - amman - beirut - cairo

==========================================================================
Example 6: Alternate addressing and Italian plain language
examples

==========================================================================
 zczc
 at mosca/varsavia                                        [Moscow/Warsaw]
 da ambmins                                             [Ambassador Minsk]
 at maeroma                                                     [MAE Rome]
 tg 173/010793/uss
 ch
 pc ambmosc/ambvars/ambkiev             [Ambassadors Moscow/Warsaw/Kiev]
 /////

 visita in bielorussia del presidente polacco walenza.

         1.  in ambienti governativi e parlamentari qui a
 minsk ho raccolto valutazioni molto positive sulla visita
 del presidente walenza nei giorni 28 e 29 giugno (mio tg
 164).

==========================================================================
```

Example 7: Off-line encrypted traffic sent by 240bd 8 tone RS-ARQ
==========

```
 zczc
 da ambriad                                          [from Embassy Riyahd]

 at maeroma                                          [to MFA Rome]

 tx ambtrip                                          [sent by Embassy Tripoli]
 tg 743/210797/ord/2.2

 cf

 pc ambabud/ambkuwa/ambalge/ambamma/ambbeir/ambcair/ambdama/
    ambdoha/ambmasc/ambraba/ambtehe/ambtela/ambtrip/ambtuni
 /////

 /////

 aphfj abcpa qlegz dfqyq aespe puiwr sikgr ahhsu kyarc efflt
 rpecw etc.

 /////

 2035
 hcani fmrye
 hcani fmrye

 /////

 nnnn
 (+/end messages/+) (/+end messages/+) (/+end messages/+)


::: SWEDEN
    ------
o Country profile
  Stockholm is the capital of the Kingdom of Sweden. Sweden is
  divided in 24 provinces (lan); Alvsborgs Lan, Blekinge Lan,
  Gavleborgs Lan, Goteborgs och Bohus Lan, Gotlands Lan, Hallands
  Lan, Jamtlands Lan, Jonkopings Lan, Kalmar Lan, Kopparbergs Lan,
  Kristianstads Lan, Kronobergs Lan, Malmohus Lan, Norrbottens Lan,
  Orebro Lan, Ostergotlands Lan, Skaraborgs Lan, Sodermanlands Lan,
  Stockholms Lan, Uppsala Lan, Varmlands Lan, Vasterbottens Lan,
  Vasternorrlands Lan, and Vastmanlands Lan.
  The Swedish Defense Forces has the following branches: Army,
  Navy, and Air Force.

o Operational notes
  - Single frequency operation.
  - Offline encrypted traffic. Double line feed every 100 groups.
  - Similar crypto lead-in scheme to that used by Norwegian and
    Danish Diplo.
  - Offset 1900hz?
  - Stockholm begins with CABINET STOCKHOLM followed by addressed
    ends with message number.
  - If relaying embassy tfc messages ends UDSTHS.  ????

o Transmission Modes
  SWED-ARQ         100Bd   Inverted    400Hz   CHBs 3, 9, 22
  SITOR-B          100Bd   Erect       400Hz
  Late 1995 it was announced that Swedish diplo is going over to
  Clover. A system of this type, located just outside Stockholm
  has been heard on 11272.10kHz. System comprises of 100bd 4 tone
  Clover-type, with tone displacement of -600/-200/+200/+600Hz and
  ACF of 190. Now (April '98), SWED-ARQ is still being used.

o Frequencies (logged since 1-'97)
   6981.9     7603.9     8321.9    10582.9    11046.9    11272.1
```

12102.9 14523.9 14814.4 14823.9 14970.4 15821.9
15861.9 16106.9 16209.9 17416.9 17428.9 18187.9
18688.1 18757.4 18757.9 20699.9 20810.9

o Reported callsigns and selcals for MFA and embassies

Call	Selcal	Location	Call	Selcal	Location
SAM	SEEP	MFA Stockholm	SAM17		Maseru
SAM19		Rome	SAM60	SEYP	Islamabad
SAM20		Athens	SAM61		New Delhi
SAM21		Berlin (W)?	SAM62		Beijing
SAM23		Helsinki	SAM63		Tokyo
SAM24		Copenhagen			
SAM25		Lisbon	SAM64		Pyongyang
SAM26		London	SAM65		Seoul
SAM30/AND5		Madrid	SAM66		Panmunjom
SAM31	SEEQ	Algiers	SAM67		Colombo
SAM32		Kuwait	SAM69		Abu Dhabi
SAM34		Harare	SAM70		Addis Ababa
SAM35		Belgrade	SAM71		Dar es Salaam
SAM36		Budapest	SAM72		Kinshasa
SAM37		Bucharest	SAM73	SEUE	Lagos
SAM38		Moscow	SAM74		Monrovia
SAM39		Prague	SAM75	SEUT	Nairobi
SAM40		Warsaw	SAM76		Pretoria
SAM41		Jerusalem	SAM77		Tripoli
SAM45		Ankara	SAM78		Tunis
SAM46		Baghdad	SAM79		Lusaka
SAM47		Beirut	SAM80		Gaberone
SAM48		Damascus	SAM81		Bissau
SAM49		Riyahd/Jeddah	SAM82		Maputo
SAM50		Cairo	SAM83		Santiago
SAM51		Teheran	SAM84/KNY34		Washington
SAM52		Tel Aviv	SAM86		Mexico City
SAM53		Amman	SAM88		Buenos Aires
SAM54		Vientiane	SAM89		Havana or Luanda
SAM55	SEYT	Bangkok	SAM91		Lima
SAM56/VLA223		Canberra	SAM92		Managua
SAM57		Dhaka	SAM95		Sofia
SAM58		Djakarta	SAM98		Manila
SAM59		Hanoi	?	SEOI	
?	SEOR	Guatemala City	?	SEPP	

Luanda
Windhoek

o Dictionary

Ambassaden	Ambassador
Cabinet	MFA Stockholm
fvb	forward to
kl	local time
meddelande	message
SIDA	Swedish International Development Authority
Svensk	Swedish
UD	Utrikesdepartementet (Foreign Ministry)
udtex	Utrikesdepartementet Tele Text System?

o Sample Message Formats

==========

Example 1: Header for message in Swedish

==========

to: lissabon [to Lisbon]
msg no: 920904-175 sensitivity: personal

utrikesdepartementet 1992-09-04 t j ae n s t e [fm MFA]

ambassaden lissabon [to Ambassador Lisbon]

foer arkivet fraan a 4/ada, etc.....

==========
Example 2: Messages in Swedish
==========

delivered by udtex 1995-12-20-14.54

from: siv ed time: 1995-12-20-14.45
to: islamabad
msg no: 951220-268 itivity: personal

message handled by operator - original no: 951220-257

20 dec 95 13:14 gmt
statens invandrarverk 1995-12-20

~venska ambassaden i islamabad 185

singh, davind 860112
medborgare i afghanistan dossienummer 9-083371

beslut: 1995-12-20

uppehaallstillstaand beviljas foer tiden 1995-12-20 -
1996-08-08.
beslutsklass: k2 maerkning: a
uppehaallstillstaandet kan enligt invandrarverkets mening ligga
till grund foer folkbokfoering.
beslutsfattare: gunilla vieweg
50940 stivrk s
- end of message

stiverk 1996-09-27

ud-radio
svensk damaskus

er skr 338 e l k a h a o u i ahmad 820101

beslut 960926
uppehaallstillstaand beviljas foer tiden 960926-970326.
tillstaandet grundas paa anknytningsskael enligt 2 kap 4 paragrafen
1. utlaenningslagen.
uppehaallstillstaandet kan enligt invandrarverkets mening ligga till
grund foer folkbokfoering.

g johansson
stiverk

==========
Example 3: Off-line encrypted traffic
==========

det du saende hit kom bara halva
pls ta det igen sen
fffff+?
1996-09-27-09.56
to: damaskus-k
msg no: 960927-25 sensitivity: personal

kckc

cccc
ud stockholm 1996-09-27

ambassaden damaskus

1343 gr

kckc
sssllsssllsssllll
nfnym yjcjc jcjcj dtdfn fjcjx zxbgb bgbqv qtdtx zxapa qvrix
wzxvd vavbu yiygl etc. etc.
divha bjdif pwhsi exnei jbdbq rtivm vdnfw tmeij hczat bgsfx
zweli sqvzb bpnxp

cabinet

ud stockholm kl. 09:45/ah1

ffff

- end of message

::: SWITZERLAND
    ----

o Country profile
  The Swiss Confederation, or Switzerland, with capital Bern, is
  divided in 26 cantons (canton in French; cantone in Italian; kanton
  in German); Aargau, Ausser-Rhoden, Basel-Landschaft, Basel-Stadt,
  Bern, Fribourg, Geneve, Glarus, Graubunden, Inner-Rhoden, Jura,
  Luzern, Neuchatel, Nidwalden, Obwalden, Sankt Gallen, Schaffhausen,
  Schwyz, Solothurn, Thurgau, Ticino, Uri, Valais, Vaud, Zug, Zurich.
  The Swiss Defense Forces has the following branches: Army, Air Force,
  Frontier Guards, and Fortification Guards.

o Operational notes:
  - Languages: English, French, German
  - Single freq operations.
  - Offline encrypted traffic. No apparent paging or grouping of
    offline encrypted groups.
  - Ends qso with ID.

o Mode used
  Sitor/A 100bd N 170Hz

o Frequencies

5752.5	5756.9	5773.2	7653.7	7659	7668.5
7674	7677	7678.5	9166.4	9174.5	9179
10952	10961	10963	10967	10969	10971
10973	10973.5	12961.5	13571	13585.3	13586.7
13951	13954.4	13958.4	13961.5	13963	13964
13965.5	13976	13977	16098	16101	16102
16108	16109	16111	16111.3	16113	16118
16120	18257	18268	18269	18270.5	18279.5
18280.8	18283.5	20596	20604.8	22967.6	25228.5

o Reported callsigns and selcals for MFA and embassies

callsign	selcal	location	callsign	selcal	location
HBD10	BMBV	'teststation'			
HBD12	BMBQ	?	HBD13	BMBK	?
HBD20	KPVP	MFA Berne	HBD21	BMUX	Washington
HBD22	BMUQ	New Delhi	HBD23	BMUK	Athens
HBD24	BMUM	Harare	HBD25	BMUP	Tel Aviv
HBD26	BMUC	Berlin	HBD27	BMUY	Bucharest
HBD28	BMUF	Khartoum	HBD29	BMUS	Mexico City
HBD30	BMEV	Lagos	HBD31	BMEX	Buenos Aires
HBD32	BMEQ	Brasilia	HBD33	BMEK	Baghdad
HBD34	BMEM	Caracas	HBD35	BMEP	Beijing
HBD36	BMEC	Helsinki	HBD37	BMEY	Djakarta or Manila

HBD38	BMEF	Oslo	HBD39	BMES	Nairobi
HBD40	BMOV	Belgrade	HBD41	BMOX	Pretoria
HBD42	BMOQ	Bangkok	HBD43	BMOK	Canberra
HBD44	BMOM	Stockholm	HBD45	BMOP	Tokyo
HBD46	BMOC	Havana	HBD47	BMOY	Lisbon
HBD48	BMOF	Riyadh	HBD49	BMOS	Budapest
HBD50	BMIV	?	HBD51	BMIX	Algiers
HBD52	BMIQ	Rabat	HBD53	BMIK	Dar es Salaam
HBD54	BMIM	Rome	HBD55	BMIP	Madrid
HBD56	BMIC	Warsaw	HBD57	BMIY	Vienna
HBD58	BMIF	Moscow	HBD59	BMIS	Ankara
HBD60	BMRV	Paris	HBD61	BMRX	Cairo
HBD62	BMRQ	Teheran	HBD63	BMRK	London
HBD64	BMRM	Bonn	HBD65	BMRP	Beirut
HBD66	BMRC	Ottawa	HBD67	BMRY	Accra
HBD68	BMRF	Guatemala City	HBD69		
HBD70	BMZV	Sofia	HBD71	BMZX	Amman
HBD72	BMZQ	Islamabad	HBD73	BMZK	Lima
HBD74	BMZM	Kinshasa	HBD75	BMZP	Colombo
HBD76	BMZC	Copenhagen?	HBD77	BMZY	Brussels
HBD78	BMZF	Seoul	HBD79		
HBD80	BMDV	Bogota	HBD81	BMDX	Abidjan
HBD82	BMDQ	Dakar	HBD83	BMDK	Addis Ababa
HBD85	BMDP	Monrovia	HBD88		Tripoli
HBD89	BMDS	Yaounde	HBD90		
HBM41		Panmunjon	KNY27	BMUX	Washington
OMZ23		Prague	ONN38	BMZY	Brussels
VLB	BMOK	Canberra	7TO20	BMZM	Kinshasa

HBD20/1. MFA Bern channel 1?
HBD20/2. MFA Bern channel 2? 13976
HBD20/4. MFA Bern channel 4?
HBD20/5. MFA Bern channel 5? 18269
HBD20/6. MFA Bern channel 6?

o Dictionary:

amammanjo	Ambassador	Amman	amatheneo	Ambassador	Athens
ambonnrfo	"	Bonn	amahayepa?	"	The Hague
amhelsino	"	Helsinki	amlisbono	"	Lisbon
amlondreo	"	London	amoslonoo	"	Oslo
amparisfo	"	Paris	amromeito	"	Rome
amstockho	"	Stockholm	amtelavio	"	Tel Aviv
amtunisto	"	Tunis	amvarsovo	"	Warsaw
amvienneo	"	Vienna	amwashino	"	Washington
bruxelamo	"	Brussels	madridamo	"	Madrid
moscouamo	"	Moscow			

Note: on the above the address indicator is always nine characters long and the last character is always "o".

Bernda	MFA Bern
edaberna	MFA Bern
mibruxel	Military Attache, Brussels?

o Sample message formats:

==========

Example #1 - Online encrypted message with lead-in and ending

==========

```
 bmrk bmrk bmrk bmrk bmrk bmrk $                (selcal - London)
 +?
                                                (London responds?)

 hbd 20/1                                       (Bern confirms own ID)

 04.12.1992   utc  0939     pm                  (current
date/time)
```

```
 ((((    (((( muro3572 mura5477 04/12 08:03g     (message start)
 ur amatheneo ambonnrfo amhelsino amlisbono amlondreo amoslonoo
 amparisfo amstockho amvienneo amwashino         (addressees)
 .amromeito                                      (originator)
 rome, le 3 dec. 1992      18.15   u r g e n t   (originating Embassy,
                                                   DTG, and priority)

 00176 hhhhh

 vvvrr rrrrc ccxxx sssyy yuuua aaqqq cytou jbxyl utryj vysgy    #Note.
 knyjo ylnrn yotiy ltjvy hvnhw jlwby javna ylbyo rcmry sajuy
 lyhyl kkdzy hmhqk ylugj drkjy oeccq wrcyj yleyh eatdt yjkrn
                     <clip clip clip>
 nojny koess ylbgy sjyjn stdjd spwhd tunyl lcyhy otwlg aqytq
 uvylo ogkpe pgrxn clutk ebuyo fohwk yyyyy


 08:16 04 dec ~2~~~~))~~

 04.12.1992   utc   1010  pm                          (current date/time)

 ////+?                                               (over)
 this is hbd 6~~=                                    (London responds)

 we are qru tks for your call 73  +?
```

#Note: The encryption opens with the first characters each being repeated thrice - v r r c x s y u a q

==========

Example #2 - Lead-in, header and online encrypted message

==========

```
 bmzy bmzy bmzy bmzy$                                (selcal - ?)
 +?                                                  (over)

 hbd 20 /2                                           (Bern identifies)

 04.12.1992  utc   1047      pm

      ((((    (((( muro3578 edaa0712
 ur bruxelamo madridamo                               (addressees)
 .edaberna                                            (originator)
 zir00176
 cszxc onjjy rfoih ybwfy ijvxx oolxe fwoxe vfhjt ltbiv ovlfv
 yoybb irhhu bojjy lnfyr nggxt inzne xibkn jmiwe nyywt jvyvj
 hjgzq lhoeu koxsm svsmt xblby qltio mzphk ygrxk axoue pypsr
 wokbx woken yzrhq lmaoi mbrbf bsrbj ytkfu rybuu jaxwt nbxun
```

Thanks for a great series, Ary.

>>....Met.....>

::: Canadian CG FAX

With the summer season upon us in Canada's N Coast keep an ear open for FAX

on 3251.1 and 7708.1 (believed suppressed carrier rather than assigned) from
Iqaluit   0500 0900 2100 2135 and
Resolute 0010 0700 1000 2330

on 8456 from
Inuvik   0200 1630

>>....Military.....>

Is this delegation, or passing the buck ? Observed by a WUNner to Ary who then passed to me.

"I expect you have seen several incorrect loggings of French military digital transmissions recently - usually caused by lack of understanding of C de V messages, or failure to interpret the circuit ID. This has been explained in WUN before - more than once - but it looks as though another explanation is necessary, for new members. Perhaps your next Digital Review ... ?"

Due to the length of the column this month I intend to cover this in two parts, with next month giving a table of the known data on French Forces (FF) circuits. The other area where circuit IDs are commonly seen is with AFTN - see the Aero section.

::: IDing circuits.

We will use FF circuits as the model.

Suppose we have two fictious locations FREDVILLE and JOVILLE. They communicate between each other using ARQ/E, ARQ/E3 or ARQ-M2 (CCITT rec.342 - invariably containing two (-M2) time division multiplex (tdm) channels).

All these connections are duplex requiring TWO frequencies per connection ie one in direction Fredville > Joville and the other in the direction Joville > Fredville. Traffic may be passed in either direction. If there is no traffic the Beta (common) or Alpha (rarely) padding character is inserted to keep the system running [and infuriate monitors]. At all times the system is error checking. Each end checks its incoming data and if an error is detected asks (via its return circuit) the other end to repeat the last block (4 or 8 chars). This is carried out automatically as necessary according to propogation conditions. So much for basics/1.

Basics/2. All messages must be tagged to keep track of it in the system. This is done by giving each circuit (ie the frequency/channel connection between the transmitting station to the receiving station) a three letter circuit ID group eg
The circuit FREDVILLE to JOVILLE could be IDed at ABC. There is a second circuit from JOVILLE to FREDVILLE. It has its own ID - say XYZ.
To cover H24 operation FREDVILLE will have a number of frequencies assigned to it for communication to JOVILLE. Irrespective of the frequency in use the ID will remain ABC for that circuit.

All messages start with zczc and is immediately followed by the six character block consisting of the circuit ID (3 chars) and the message serial number (three numerals) usually run on a daily basis. This is the only means of positively identifying the transmitting station of the circuit
one is monitoring.

On to basics/3. Routing Indicators. Whereas circuit IDs are used in the management of the individual components of the system RIs are used in the overall system. An originator in an office in Paris places his/her message with the local communication centre (COMCEN). On it is placed his RI "de ....." to indicate where it is from. On it the destinations will be shown as RIs, often expanded with /unitname. Each unit, has an RI, not only within France and its dependancies but other countries, the system being NATO and the second letter indicating the NATO member.

The system treats these RI's as a telephone exchange would. Our message goes from the local comcen to Paris transmitter to say Ft de France in the Caribbean to Papeete in the Pacific to the specified comcen there for delivery. Two radio circuits are involved. One can copy the same message on both. Since the message has "de rffa/mailoffice paris" there is room for
mislogging. If in fact one is listening to the Ft de France transmitter

and uses "de rffa" as an identification then the logging is wrong. I've said the same message appears on both circuits - not quite correct. Whilst each will carry the same message re Priority, DateTime, orginator, addressees and text they will differ in that each has its individual circuit ID and serial number from which one can identify the transmitter.

Controle de voie (literally Control of track) service. This will not positively identify the transmitting station but only one of the two stations involved in the link.

One of the two stations on a particular link is responsible for sending a check message. This is a C de V svc addressed to itself. Eg let's say Ft de France sends one to Paris ie will be addressed RFLI de RFLI. Ft de France will send this down the appropriate circuit with that circuit ID/serial number. The system in Paris will look (automatically) at the RI see it's for Ft de France and send it back down the appropriate circuit. Again both messages are exactly the same bar the ID/serial group immediately
after the zczc start.

Finally there are the service messages which go from one station to the other with text refering to the other's messages. Here the originator's RI will be the transmitting comcen and will invariably be referring to the other station's messages utilising their ID/serial. This immediately gives an indication of the ID of the complementary return path to the circuit one is currently monitoring.

At the end of each day the comcen's at either end of the link
will send the other a zic/zid service indicating the
(zic) The last serial sent to you was ....
(zid) The last serial received from you was ...
Again a useful tool for pairing the complementary circuits in a link.

Note that where ARQ-M2 is the link mode two circuits will be imbedded in the
one structure (and normally refered to as channels A and B) and these two circuits will be allocated their own individual ID.

Finally some C de V services use PARIS and PROVENCE. These do not adhere to the normal routing indicator format. I can only assume that the software can recognise them as valid addresses and route such messages to a separate system support terminal within those (busy) comcens thereby relieving the main support terminal of routine and cluttering C de Vs.

::: Greek (Hellenic) Navy callsigns

Some of my loggings (due to variances in the popular frequency lists) were recently in error. Costas Krallis has been on hand to enlighten me.

"The SXA callsigns are not Piraeus Naval. They belong to
"Spatta Naval", which is West of Athens, at 23d55'E, 37d58'30"N.
This station serves the East Mediterranean Sea Allied Command HQ."

and in a follow up he says

"I am pretty sure about the location of SXA, I pass frequently near the transmitter site. The Greek (Hellenic) Navy callsigns which are formally registered with the ITU are:

SXA: Spatta
SXB: Patras (Ionian Sea Naval Command)
SXC: Thessaloniki (North Aegean Sea Naval Command)
SXD: Piraeus (Aegean Sea Naval Command)
SXH: Souda Bay Naval Base Comms Facility
SXK: Kerkyra (Corfou) Naval Comms Facility

SXA used to transmit on 120 kHz as well, but its tall LF antenna

was demolished last summer, being too close to the new airport
under construction. The old U.S.Navy (NGR) transmitter at Marathon
on 134.7 kHz is used instead in RTTY.

All callsigns other than SXA and SXH are extremely rare.
For voice and RTTY comms tactical callsigns are used almost
exclusively. The callsigns change on a daily basis, at local
midnight."

Great stuff, Costas - keep it coming.

>>....Press.....>

Having looked at Aero rtt and again with these services diminishing on the
HF bands this may be be one of the last chances to tabulate
frequencies/schedules. So please monitor your own regional
propaganda-monger and email me this information inc start times/languages
so
together a table can be assembled.

>>....Special.....>

This month's special again comes from Ary and takes us down to the
lowest end of our spectrum.

GWEN Ground Wave Emergency Network

Because STRATCOM will reportedly phase out the GWEN later this year,
I think it's time that we take a look at this network before it is
too late.

The Ground Wave Emergency Network (GWEN) is a joint operation of the
FEMA and USAF. It provides survivable connectivity to designated bomber
and tanker bases. The system is in sustainment. GWEN is designed as an
ultra-high powered VLF network intended to survive massive broadband
destructive interference produced by nuclear EMP, and recovering quickly
from the changes imposed on radiowave propagation by EMP-ion damage to
the upper atmosphere. A large number of the 200 GWEN relay nodes can be
destroyed without compromising the overall effectiveness of the system.
GWEN antennae include an 8km trailing long-wire winched out of WWABNCP,
and the DARPA/Westinghouse 750-6000m tether Aerostat-Augmented balloon.
The GWEN system includes 299-foot, low-frequency (LF) antenna and an
UHF antenna located at each relay node (RN) station, and a UHF antenna
located at each input/output (I/O) station.

Although GWEN was designed to provide survivable connectivity for time-c
ritical force survival actions, the configuration does not meet required
availability or reliability. As portable Milstar terminals become
available in the 1997-1998 time frame, STRATCOM will phase out the GWEN,
which is the only survivable link to ensure launch of ground-alert air-
craft.

The Federal Railroad Administration, concerned with the importance of
the inland navigation systems to support railroad real time positioning
activities, has suggested that GWEN sites be included in the developing
of inland navigation systems. The Federal Highway Administration has
agreed to continue to investigate the utilization of 54 GWEN sites for
inland navigation.

GWEN operates on VLF frequencies between 150 and 175 kHz. The mode used
is encrypted FSK. The packet-like bursts are only a few seconds long.
There is a sound sample available on our sound page.

Frequency	Station / location	Mode
150.625	FEMA/USAF GWEN, GLEN FALLS, HUDSON FALLS, NY	- FSK
150.625	FEMA/USAF GWEN, KENSINGTON, DUNBAR, SC	- FSK

150.625	FEMA/USAF GWEN, LYONS, SPOKANE, WA	- FSK
150.625	FEMA/USAF GWEN, MACON, HUBER, GA	- FSK
150.625	FEMA/USAF GWEN, WENATCHEE, WA	- FSK
153.125	FEMA/USAF GWEN, DRIVER, CARROLLTON, VA	- FSK
154.375	FEMA/USAF GWEN, BELLEVUE, OMAHA, NE	- FSK
154.375	FEMA/USAF GWEN, HACKLEBURG, AL	- FSK
154.375	FEMA/USAF GWEN, MECHANICSVILLE, IA	- FSK
154.375	FEMA/USAF GWEN, ST MARYS, GLENWOOD / PACIFIC JCT, IA	- FSK
155.000	FEMA/USAF GWEN, MEDORA, ND	- FSK
155.625	FEMA/USAF GWEN, OBERLIN, KS	- FSK
156.875	FEMA/USAF GWEN, LANSING, ALAEIDON TWP, MI	- FSK
156.875	FEMA/USAF GWEN, SENECA, OR	- FSK
158.125	FEMA/USAF GWEN, CANTON, OK	- FSK
158.125	FEMA/USAF GWEN, FAYETTEVILLE, SPRING VALLEY, AR	- FSK
158.125	FEMA/USAF GWEN, HOLTVILLE, SLAPOUT, AL	- FSK
159.375	FEMA/USAF GWEN, GETTYSBURG, PA	- FSK
159.375	FEMA/USAF GWEN, WALDORF, BEANTOWN, MD	- FSK
160.625	FEMA/USAF GWEN, APPLETON, WA	- FSK
160.625	FEMA/USAF GWEN, ELMIRA, PINE VALLEY, NY	- FSK
160.625	FEMA/USAF GWEN, MILWAUKEE, MEQUON, WI	- FSK
161.875	FEMA/USAF GWEN, ROSEVILLE, CA	- FSK
163.125	FEMA/USAF GWEN, ANNAPOLIS, CROWNSVILLE, MD	- FSK
163.125	FEMA/USAF GWEN, ERIE, HARBORCREEK, PA	- FSK
163.125	FEMA/USAF GWEN, KINGSLEY FIELD, KLAMATH FALLS, OR	- FSK
163.125	FEMA/USAF GWEN, LOWRY AFB ANNEX, AURORA, CO	- FSK
165.625	FEMA/USAF GWEN, AINSWORTH, NE	- FSK
165.625	FEMA/USAF GWEN, BILLINGS, MT	- FSK
165.625	FEMA/USAF GWEN, CLARKSDALE, ALLIGATOR TWP, MS	- FSK
165.625	FEMA/USAF GWEN, GRIDLEY, BIGGS, CA	- FSK
165.625	FEMA/USAF GWEN, PUEBLO ARMY DEPOT, PUEBLO, CO	- FSK
165.625	FEMA/USAF GWEN, RONAN, MT	- FSK
165.625	FEMA/USAF GWEN, STOCKETT, GREAT FALLS, MT	- FSK
165.625	FEMA/USAF GWEN, UTICA, REMSEN, NY	- FSK
166.875	FEMA/USAF GWEN, BAKERSFIELD, CA	- FSK
168.000	FEMA/USAF GWEN, KIRTLAND AFB, NM	- FSK
169.000	FEMA/USAF GWEN, RAYMOND, CLARK, SD	- FSK
169.375	FEMA/USAF GWEN, PUEBLO, CO	- FSK
169.625	FEMA/USAF GWEN, SAVANNAH BEACH, PEMBROKE, GA	- FSK
170.000	FEMA/USAF GWEN, NAVAJO ARMY DEPOT, FLAGSTAFF, AZ	- FSK
170.625	FEMA/USAF GWEN, HAGERSTOWN, LAPPANS, MD	- FSK
171.000	FEMA/USAF GWEN, ESSEX, CA	- FSK
171.875	FEMA/USAF GWEN, HAWK RUN, PHILLIPSBURG, PA	- FSK
171.875	FEMA/USAF GWEN, LITTLE COMPTON, RI	- FSK
171.875	FEMA/USAF GWEN, ROCKY FLATS, DENVER, CO	- FSK
171.875	FEMA/USAF GWEN, WESTWAY / HEREFORD, SUMMERFIELD, TX	- FSK
173.000	FEMA/USAF GWEN, ACUSHNET, MA	- FSK
173.000	FEMA/USAF GWEN, AMHERST, BARRE FALLS, MA	- FSK
173.000	FEMA/USAF GWEN, PENOBSCOTT, ME	- FSK
173.000	FEMA/USAF GWEN, SHERMAN, HERSEYTOWN, ME	- FSK
173.000	FEMA/USAF GWEN, TOPEKA, MAPLE HILL, KS	- FSK
173.125	FEMA/USAF GWEN, BEAUFORT, ANTIOCH, NC	- FSK
173.125	FEMA/USAF GWEN, DEVILS LAKE, ND	- FSK
173.125	FEMA/USAF GWEN, LANGDON, EDINBURG, ND	- FSK
174.000	FEMA/USAF GWEN, KIRTLAND AFB, ALBUQUERQUE, NM	- FSK
174.000	FEMA/USAF GWEN, LITTLE EGG HARBOR, NJ	- FSK

<Sources: American Forces Information Service and the Federation of American Scientists -FAS->

>>....Techi stuff.....>

Open for your tips and comments.

::: Input levels.

Don't have high levels of audio being applied to your decoder input. The same applies to any post receiver audio filtering. It ends up distorting the signal and giving a degraded output from the decoder.

::: Bandwidth setting.

There is a temptation to reduce the bandwidth to too narrow a width in order to overcome interference. I wish I could remember or find the book but I seem to recall the simple formula for F1b (fsk) signal minimum width being [(2x baudrate) + signal shift] .
eg Sitor/A(arq) - [(2 x 100) + 170] = 370 hz
An ARQ/E of 48bd /400 hz requires at least 496 hz whilst
an ARQ/E3 of 192bd /400 hz requires at least 784 hz.
It's all to do with having sufficient bandwidth to maintain the squareness of the signal through the system. Mr Fourier and his basic analysis will explain further.

The same goes for copying fax. The formula to get best resolution from small symbols/text where the signal is switching rapidly between black and white (at the modulation frequency) is the same namely
2x mod.frequency plus shift.
The modulation frequency is calculated as - (Pi x IOC x revs.per.sec)/2.
So the final bandwidth is
(Pi x IOC x rpm/60) + shift

A standard 120rpm/576 IOC/800hz shift FAX signal therefore requires a bandwidth of (3.14 x 576 x 2) + 800 hz or 4417 Hz for best quality.

>>....UNID.....>

::: 75bd/850hz

The query comes up with great regularity due to its appearance throughout the HF spectrum. Log and forget. It's invariably a NATO online encryted transmission.

>>...signoff...>

Enough for this month. Some sections not covered, I know, but that will vary month on month dependant on the quantity/quality of input and comment coming mainly from yourselves. In meantime happy listening. 73s Day.

==========

Military Channel Designators List

Welcome to this month's column. I am happy to report that I have a number of updates this month, including a few more 'Mystic Star' confirmations (courtesy of the WUN list), a possible new 'Zulu' frequency (from Hugh Stegman), a CFARS frequency list, and (best of all) a major update to the German Air Force frequencies.

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 1st June 98)

USAF MYSTIC STAR:

F003 8036 (6)	F365 11059 (7)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123 (8)	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)

F054 8058 (7)
F058 4742 (6)
F061 23265
F063 14870
F064 11214 (7)
F066 15036
F077 ?
F078 18532
F080 15677
F084 13205.5
F085 MF 6,8,11 MHz
F086 9461
F089 13204 (6)
F090 6716
F094 9017 (6)
F098 14585
F099 13247 (7)
F101 12106 (6)
F102 11118 (6)
F103 11488 (6)
F108 7316
F114 6986 (6)
F117 6993 (8)
F124 11217 (6)
F128 23242
F134 4942.5
F136 5429.5 (7)
F146 9027 (7)
F153 8063 (6)
F173 14420.5
F182 3078 (6)
F184 10648 (8)
F186 3046
F194 13825 (5)
F195 20631
F197 4982 (6)
F202 16014 (5)
F204 12057
F211 11056 (7)
F213 ?
F226 5435.5 (6)
F228 7735 (5)
F236 15041 (7)
F243 18590
F248 5398 (5)
F249 4731
F250 15091
F251 13217 (8)
F262 10717
F264 7693 (6)
F265 15733 (6)
F266 7997 (6)
F267 6730 (8)
F268 7325 (8)
F271 18320
F277 11153
F287 11226 (8)
F290 8026 (8)
F291 13960 (7)
F292 9414.5
F295 11460 (8)
F300 15707 (6)
F301 7500.5
F302 ?
F310 ?
F311 11220 (8)
F322 ?
F326 14864
F404 7690
F405 6972
F406 18393 (6)
F417 4992
F419 11407 (5)
F420 7933 (7)
F432 6731 (6)
F433 20972
F435 3821
F437 5684 (6)
F441 17440
F444 19267
F448 16-18 MHz
F451 13248 (7)
F452 5026
F453 19063
F461 13211 (8)
F463 4610 (7)
F464 16157
F465 8040 (6)
F466 14864.5 (7)
F467 9023 (7)
F476 4-6 MHz?
F481 7605
F483 18626
F486 5152 (7)
F487 24483
F489 5437 (7)
F496 11059.5 (6)
F497 5411 (7)
F498 8032 (8)
F499 4442 (7)
F500 8989 (6)
F505 9006 (6)
F516 4645 (6)
F517 9270 (6)
F521 11484 (5)
F522 11232
F523 9215
F529 8077 (7)
F530 23325
F533 18675 (6)
F538 ?
F540 5404.5
F542 5431 (6)
F545 10580
F551 18331 (6)
F555 4894 (6)
F561 11052 (6)
F567 13565 (6)
F569 18387
F574 11413 (6)
F575 10427
F576 11153.5 (7)
F577 10544 (7)
F579 MF 11 MHz
F595 10877
F600 13878 (6)
F611 14863
F614 8026 (7)
F616 9320 (7)
F622 5817
F623 18317
F624 13241 (8)
F626 19343
F627 7910 (5)
F631 18755 (5)
F633 18290 (7)
F703 9991.5 (6)
F706 8057 (5)
F707 10589
F708 23377
F709 9317 (7)
F713 16246 (5)
F717 10883
F722 12270
F723 18323 (6)
F728 11236 (5)
F731 6683 (8)
F732 15011 (7)
F734 4757 (7)
F736 11494
F741 7873
F748 6756(5)
F749 15-16 MHz?
F752 8047 (8)
F754 11627
F777 3113 (6)
F778 18023 (8)
F784 9043 (6)
F785 15687 (6)
F790 16323
F803 5078?
F807 12103?
F809 5700 (5)
F814 6989 (7)
F821 ?
F823 11229 (8)
F825 19047?
F832 18267
F843 MF 6 MHz
F845 6-7 MHz?
F846 13822 (5)
F853 12 MHz?
F864 16008
F867 6830 (7)
F868 9218 (6)
F869 16090
F873 13248 (7)
F874 13246?
F875 6717 (8)
F877 4721 (7)
F885 13207 (5)
F895 5710 (7)
F904 10202 (7)
F906 4524
F909 7687 (8)
F910 19671
F912 7330
F917 10205 (6)
F918 13482
F919 11159 (6)
F920 7927 (7)
F924 16317
F933 ?
F935 9 MHz?
F937 ?
F940 11445
F943 19002 (6)
F948 15038 (6)
F952 Night
F957 6761 (8)
F965 11466 (6)
F974 10586 (6)
F975 MF 11 MHz night
F980 15724

F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (8)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (7)	F997	15667
F360	7919.5 (6)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

..and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1
CA 6691 (7)
CB 11187 (7)
CC ?
CD ?
also check 11267 & 13240. References have been made to designators CF, CG, CK and CL.

*USAF STRATCOM 'Zulu':

Z100	3068 (8)
Z105	3116 (7)
Z110	3134?(8)
Z115	3143 (8)
Z120	3295 (8)
Z124	?
Z125	4495 (8)
Z130	4472 (8)
Z135	4745 (8)
Z140	5026 (8)
Z145	5705 (8)
Z150	5800 (8)
Z155	5875 (8)
Z160	6715 (8)
Z165	6757 (8)
Z170	7831 (8)
Z174	?
Z175	9016 (8)
Z180	9057 (8)
Z185	9809 (8)
Z190	10204 (8)
Z195	11104.0 (possibly?)
Z200	11181 (8)
Z205	11494 (8)
Z210	11229 (8)
Z211	12070 (8)
Z215	13242 (7)
Z220	13245 (7)
Z225	13907 (8)
Z230	15046 (7)
Z235	15094 (8)
Z240	15097 (7)
Z250	15962 (7)
Z255	17973 (7)
Z270	18027
Z275	18046 (possibly?)
Z280	?
Z285	?
Z295	?
Z315	23872
Z330	?

We had no positive confirmation during 1997 that Z110 was 3134, but that frequency was active with 'Nightwatch' traffic during January 1998 so it is still one of 'their' frequencies.

*USAF AFSOC
==========
FOX 1 13207
FOX 2 5732

```
FOX 4  9017
FOX 8 23271
FOX 9 18027
?      9018
```

*US Customs/DEA/JTF
==========

```
 3428   Yankee Alpha
 5571   Yankee Bravo
 8912   Yankee Charlie
11288   Yankee Delta
13312   Yankee Echo
17972   Yankee Foxtrot

27870   Victor Alpha
20631   Victor Bravo
18594   Victor Charlie
15964   Victor Delta
11494   Victor Foxtrot
 3369   Victor Kilo

 4500   Zulu Alpha
 7527   Zulu Bravo
 9802   Zulu Charlie
12222   Zulu Delta
15867   Zulu Echo

10242   Tango Alpha (also VE)
13907   Tango Bravo (also VG)
20890   Tango Charlie (also YG)
23214   Tango Delta (also YH)
25350   Tango Echo (also YI)

 2808.5   Xray Alpha
 4991     Xray Bravo
 5058.5   Xray Charlie
 7778.5   Xray Delta
 9238.5   Xray Echo
11073.5   Xray Foxtrot
15953.5   Xray Golf
17601     Xray Hotel
19131     Xray India

 5912     Whiskey Charlie
12138.5   Whiskey Delta
13658.5   Whiskey Echo
15964     Whiskey Foxtrot
```

*USCG "SECURE"
==========

```
3A3    5422.5
3A4    4448
3A5     ?
3A8    7773.5
3A9    7421
3A30    ?
3E4    6234.5
3E5   10608.1?
3E6    5272
3E7     ?
3E9     ?
3E10   7626
3E11   7783
3E12   7845
3E13   7884
3E14   7909
3E19  10675
3E20  10759
```

```
 5277   Alpha  (Night DEA Pri)
 5841   Bravo
 7300   Charlie
 9497   Delta
11076   Echo  (Day DEA ops)
 7657   Foxtrot
14690   Golf
18666   Hotel  (DEA Active)
23675   India
14350   Lima
14686   Papa  (DEA day pri)
23402.5 Romeo

17171   Sierra Hotel
18171   Sierra India
19131   Sierra Hotel

 7527   COTHEN Scan 1
 8912   COTHEN Scan 2
10242   COTHEN Scan 3
11494   COTHEN Scan 4
13907   COTHEN Scan 5
15867   COTHEN Scan 6
18594   COTHEN Scan 7
20890   COTHEN Scan 8
23214   COTHEN Scan 9
25350   COTHEN Scan 10
```

3E21 10788
3E24 11157.5
3E25 13413
Another two frequencies may be 13809.0 and 13950.0.
For a full listing of USCG aircraft and helicopters, please 'surf' to
'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers

CH-1	3345	
CH-2	5015	
CH-3	5327.5	
CH-4	5400	
CH-5	5437.5	
CH-6	6020	
CH-7	6785	
CH-8	9122.5	Pri
CH-9	11693.5	
CH-10	12070	Sec
CH-11	12122	
CH-12	16077	
CH-13	16326	Ter
CH-14	16358	
CH-15	20659	

*U.S. ARMY TRANS CORPS

CH.1	4146
CH 2	6224
CH 3	6227
CH 4	8294
CH 5	8297
CH 6	12353
CH 7	12359
CH 8	12365

The USACE holds a weekly 'Net' on Ch.8 where many USACE stations
'check-in'.

*FEMA

FEMA uses "Foxtrot" designations for their frequencies. There are
quite a few frequencies.

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008
09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*SFOR BOSNIA

I2	6723
I8	6721.5 (5)
I9	2839.5 (5)
?	2841.5 (5)
PUSH 81	5788
PUSH 81A	6865
PUSH 81B	5346
PUSH 82	4450
PUSH 85	3178
PUSH 89	6932.5
PUSH 103	5110

PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312
The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.

*'Habitat' net
==========
Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:

4704.4		(replaced 4721.0)
5700.4	WY02B	
6719.4	WY02A	(replaced 6736.0)
8978.4		
9005.4		
9011.4		
11212.4		(replaced 11214.0)
15095.4		

(the two designators listed above, WY02A and WY02B, are not yet confirmed.)

*Canadian Forces
==========
A6A 4560.0
A6G 6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

CanForces CFARS
CFARS is the Canadian Forces Affiliated Radio System. CFARS stations are located at various United Nations peace-keeping operations around the world and operate amateur radio equipment that provides phonepatches for service personnel to their families.

Hotel	(unid 10-meter frequency)
Lima	20976.0
Fox	20970.0
Golf	20962.0
Delta	14461.5
Charlie	14458.5
Juliet	14452.5
Kilo	14448.0
Echo	14445.0
Bravo	14385.0
Alpha	6977.0 (ex- 13971)

*Belgian Air Force Designators
==============================
from Danny Peters via Gerard Bos and Gerbrand Diebels/SC-MAC.
4745.0   YD
8989.0   YG (used to be Y8)
11268.0   YJ (used to be Y11)
15010.0   ?? (new freq)
15015.0   YM (new freq. + desig.)
18006.0   YO (new desig.)
20050.0   YQ (new freq. + desig.)
20620.0   YP
23332.0   YS (used to be Y23)

*French Air Force 'Circus' Net
==============================
Marjolaine 2   6712
Racontar 1   8972
Vinaigrette 3 8992
Raphael   13236
Citadelle 1   18010
Citadelle 3   ?
Verite 3   23254
Reconfort 3   15 MHZ?
Capitole   6688
143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)

*German Navy
============
The following list comes from the WUN Newsletter, vol.4 of 1997. I have cut it down to just those frequencies listed as 'USB' (those deleted were all RTTY).

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
=================
From a listener in Europe comes an extensive update to the German Air Force frequency list. This information comes from a very good source, and he wishes to remain anonymous.

3107 - Alpha   13203 - Oscar
3143 - Bravo   13233 - Papa
3903 - Charlie   15073 - Quebec
4721 - Delta   17973 - Romeo

5687 - Echo 17991 - Sierra
5717 - Foxtrot 18012 - Tango
6700 - Golf 23201 - Uniform
6715 - Hotel 23215 - Victor
6730 - India 23255 - Whisky
6751 - Juliet 23318 - X-ray
8965 - Kilo 23341 - Yankee
9025 - Lima 23345 - Zulu
11217 - Mike 29724 - Alpha-bravo
11265 - November

These frequencies are used by DHM91, which is the HQ Station of the German Air Force Air Transport Command. The other ground stations in this net are DHO23 (61st Air Transport Wing at Landsberg AB, southern Germany), DHO32 (62nd ATW at Wunstorf AB, north-central Germany) and DHO60 (63rd ATW at Hohn AB in northern Germany).
  Other callsigns heard are DHO32, DHO75 (a collective callsign for all the three ATW's) and DHM81. Callsign 'O5IP' (Oscar-5-India-Papa) seems to be another 'regular/daily' callsign. The Primary frequency appears to be 'E'/5687.0.

*NATO E-3 AWACS
==========
Ch.AA 6700.0
Ch.AB 11228.0
Ch.AC 8971.0
Ch.A5 ?
Ch.KD 6760.0
Ch.KF 6695.0
Ch.NB 3081.0
Ch.NC 3225.0
Ch.ND ?
Ch.NE 4542.0
Ch.NF 4720.0
Ch.NG ?
Ch.NH 4758.0
Ch.NI 6762.5
Ch.NJ 8986.5
Ch.NK 11270.5
Ch.NL 15050.0
Ch.NM 17996.5
Ch.XC 6754.0
Ch.XD 8980.0
Ch.XE 10315.0
Ch.?? 12165.0
Ch.?? 5691.0
Ch.?? 6728.0
Ch.?? 23241.2
The X-net is replacing N-net altough the N-freqs are still sometimes used.
(Thanks to Gerbrand Diebels/SC-MAC)

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at
H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247

All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's (actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above). If
the UKADGE circuits are active, there will be an announcement after the
weather broadcast with the code-letters for the active frequencies.
For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG'
(which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

  The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.
  The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5
  The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0

BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 08	4020.00 Khz#
Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#
Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 26	(uhf)
Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#
KJ 02	3357.0
KJ 04	3805.0
KJ 28	(uhf)
KJ 37	5910.0 (poss.)
TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========
(also known as 'Coastal Control')

Controlled from Whitehall ('GYA') with standby location at Forest Moor ('GXQ').
Transmitters:- Milltown and St. Eval
Receivers:- Kinloss and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was
6.203 MHz. Two channels are always being monitored - calling tones (once every
5 seconds) are transmitted on the appropriate frequencies when they are free for
use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly
use their ships name.

UKMACCS info Compliments of Graham Tanner

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========

Utility Monitoring in the Maritime Bands
Editor: Day Watson (jdwatson@cableinet.co.uk)
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CLEVEDON, North Somerset
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Hi MariWUNners

I can't believe that there's no one out there who's not interested in maritime monitoring. Or is it that everyone out there is just not interested in giving some time to putting a column together? The editorship
of this column is still in the situations vacant state - so prove me wrong.

QTC list:

Cullercoats/GCC
Riviere-du-Renard/VCG replaces Sept Iles/VCK
Summary of Canadian CG stations
SAR frequencies
GMDSS - Ship equipment requirement - Pt.3
GMDSS - Watchkeeping
NAVTEX
Scheduled HF CW MIBs - Pacific
Station overview
Acapulco Radio/XFA

++++++ Cullercoats/GCC

British Telecom's coastradio station on the NE coast of England lost 500 khz
1/Jan when BT terminated the service throughout the UK. Since then the station has been manned by one operator on RT. However traffic levels have been such to make it commercially unviable that BT has now closed the station as far as being manned is concerned. However two transmitters remain; both remotely controlled. One for RT wx/nav warnings on 2719 khz (wx at 0703/1903 and navs at 0233/0633/1033/1433/1833/2233) and one for NATVEX (ID [G]) on 518 khz (wx at 0848/2048 navs at 0048/0448/0848 /1248/1648/2048).

++++++ Riviere-du-Renard/VCG replaces Sept Iles/VCK.

According to recent corrections to ALRS VCK is no longer. That area is now covered by Riviere-au-Renard/VCG which remotely controls

MF/WT facilities at		Cap de Rosiers	500/434
MF/RT	"	" Cap de Rosiers	2182/2514/2582
		Riviere du Renard	2182/2118/2206
		La Verniere	2182/2514/2582
		Cap-aux-Meules	2182/2118/2206
		Natashquan	2182/2582

plus vhf at 10 sites.

There is a NAVTEX transmitter on 518 khz with ID's
[C] for English transmissions, and
[D] for French.

Various MSI's are broadcast on 2598 via the Natashquan site, and

++++++ Summary of Canadian CG stations.

The following is a summary of facilities of Canadian CG radio stations covering the Gulf of St Lawrence and the Atlantic approaches. These stations remotely control many of the facilites including vhf. The St Lawrence River itself is not covered by MF WT or RT, only vhf.

Station	MF WT	MF/RT	NAVTEX ID (Eng/Fr.)
Fundy/VAR		*	U V
Halifax/VCS		*	
Sydney/VCO	*	*	Q J
Riviere-au-Renard/VCG	*	*	C D
Placentia/VCP		*	
St Johns/VON		*	
Stephenville/VOJ	*	*	
St Anthony/VCM	*	*	
Labrador/VOK	*	*	X

++++++ SAR frequencies

A query was made a number of weeks ago on this subject.

At the present time maritime distress working will be on 500 khz (WT), 2182 khz (RT) and VHF channel 16 (RT on 156.8 Mhz) - range (500/2182) a few hundred miles depending on transmitter power and whether day or night time or line of sight (say up to 30 miles) for vhf. Once rescue ships have reached the casualty VHF16 and/or 2182 khz will be the preferred frequencies.

These are the international distress channels. But what if aircraft are involved. The international HF RT channels used are 3023 and 5680 khz for use by aircraft/helicopters when part of the SAR deployment for communicating basically between themselves and rescue coordination ashore. If warships are involved they are likely to use one of these two channels to liaise with the aircraft.

But time marches on. Come 1 Feb 99 GMDSS will be implementated and 500 khz will disappear from the distress communications scene. A new set of MF/HF/VHF frequencies will come into play.

Band	DSC alert	Distress/safety RT	Distress/Safety Telex
MF	2187.5	2182.0	2174.5
4 Mhz	4207.5	4125.0	4177.5
6 Mhz	6312.0	6215.0	6268.0
8 Mhz	8414.5	8291.0	8376.5
12 Mhz	12577.0	12290.0	12520.0
16 Mhz	16804.5	16420.0	16695.0
VHF	Chan.70	Chan.16	--

DSC alert is a short digital packet which triggers off the SAR procedures with shore authorities and ships. (See earlier Nautical News columns). Stations should set watch on the complementary RT frequency above and await further details. Sit on one of these frequencies for a while with a narrow filter (300-500 hz) and eventually you will hear one of these DSC packets. Not every packet is Distress/Urgency/Safety related - too many ships have started using this channel for digital selective calling (DSC) another ship towards setting up an RT qso which has nothing to do with an emergency.

Most of the comms are likely to occur on 2182 or 4125 possibly 6 and 8 Mhz if mid ocean and early stages of a rescue situation.

Provision is made for telex. It remains to be seen how this will develop. The recommendation is for the use of fec (Sitor/B - broadcast mode) so that all involved can copy. Arq/Sitor-A is by its nature a 1:1 mode.

5696/8984 also provide interesting listening to USCG units but remember these frequencies are Air-Ground channels within the USCG service and not international. ie they are only pertinent to SAR (and normal patrols) within the USCG area of influence and not used to communicate with other (non-USCG) stations involved.

++++++ GMDSS - Ship equipment requirement Pt.3

Sea area A4

This is the area were the ship is no longer in the footprint of an Inmarsat satellite (A3). It is outside VHF (A1) and MF (A2) ranges as well. This ship has no other course of action but to be fitted with the HF equipment which I described last month as Option Fitment 2 for area A3 together with a 406 mhz EPIRB.

Finally, whilst the ship is at sea, there must be a constant supply of electricity to operate these radio installations and also to charge any batteries which are used as a reserve supply for this equipment.

++++++ GMDSS - Watchkeeping

Have seen the equipment requirements for making passage through the various areas I'll wind up this series with a few lines on watchkeeping requirements
by the ship (assuming equipped for all areas) whilst at sea.

1. On VHF (if not exempted) Chan 70 for DSC alerts,
2. On MF 2187.5 Khz for DSC alerts,
3. On MF/HF 2187.5 and 8414.5 Khz plus one other (appropriate to time of day and geographical position) from 4207.5, 6312, 12577 or 16804.5 khz for DSC alerts. This watch may be kept by a scanning receiver.
4. On INMARSAT for shore-to-ship alerts if ship fitted with INMARSAT.

5. A radio watch for broadcast of MSIs on the appropriate frequency/frequencies for the area in which the ship is on passage eg NAVTEX (518 khz), SafetyNET (INMARSAT).

6. Until 1 Feb 99 (or other date deemed applicable by the Maritime Safety Committee) every ship at sea where practicable maintain a continuous listening watch on VHF Ch.16 and 2182 khz at a position from which the ship is normally navigated ie the Bridge.

++++++ NAVTEX -

Egypt is now using two NAVTEX transmitters instead of sharing the one at Serapeum.
Alexandria [N] scheduled 0210 0610 1010 1410 1810 2210
Serapeum [X] scheduled 0350 0750 1150 1550 1950 2350.

I notice from my browsing through ALRS Vol.5 that a number of countries seem to be planning to have NAVTEX transmission on the 4 Mhz channel of 4209.5 khz. The following is the current status - those of you with any further info or logging please let us know.

Egypt	Planned before 1/2/99
Taiwan (Kaoshuing)	On trial 1997
Brazil	Planned

++++++ Scheduled HF CW MIBs - Pacific -

For the CW buffs looking for some broadcasts before they eventually

disappear. This month we look at the Pacific N and S but excluding Indonesia, Papua-New Guinea and Australasia. Those will come in the final article in the series covering the Indian Ocean.

Time	Station	c/sign	Freq.	Item	
0000	Bacoor	DZF	8547.5 12822	Wx	
0000	Bacoor	DZI	4336 6335.5 8672 13008 22506	Wx	
0000	PagoPago	KUQ	8585	Navs	
0000	Noumea	FJP8	8698	Wx Navs	[FF]
0000	Guayaquil	HCG	8474	Navs	[SS + EE]
0100	La Paz	XFK	8505	Wx	
0110	Valparaiso	CBV	4228 8677 12741 17146.4	Wx	[SS + EE]
0130	Manzanillo	XFM	4225 8568.5	Wx	
0150	Seattle	KLB	2063	Wx	
0200	Magallans	CBM	4322 8694	Wx	[SS + EE]
0215	Valparaiso	CBV	4228 8677 12741 17146.4	Navs	[SS + EE]
0230	Manila	DZZ	8577.6 12862.5	Wx	
0230	Paita	OBY2	6436	Navs	[SS]
0230	Antofagasta	CBA	8461	Wx	[SS]
0245	Mollendo	OBF4	6351	Navs	[SS]
0300	Bulacan	DZJ	8604.5 12906	Wx	
0300	Manila	DZD	4286 6429 8572 12858 17144	Wx	
0351	Palo Alto	KFS	8558.4	Wx	
0400	PagoPago	KUQ	8585	Wx Navs	
0450	Oalo Alto	KFS	8558.4 12844.5 17026 22581.5	Wx	
0500	San Franc	KPH	6477.5 8642 13002 17088.8 22557	Wx	
0500	La Paz	XFK	4268	Wx	
0530	Manzanillo	XFM	4225 8568.5	Wx	
0800	PagoPago	KUQ	6361	Navs	
0830	Noumea	FJP8	8698	Navs	[FF]
0930	Manila	DZZ	8577.6 12862.5	Wx	
0930	Noumea	FJP8	8698	Navs	[FF]
0951	Palo Alto	KFS	8558.4	Wx	
1000	Bulacan	DZJ	8404.5	Wx	
1050	Palo Alto	KFS	8558.4 12844.5 17026 22581.5	Wx	
1100	Manila	DZH	6486	Wx	
1100	Manila	DZD	4286 6429 8572 12858 17144	Wx	
1200	Bacoor	DZF	8547.5 12822	Wx	
1200	Guayaquil	HCG	8474	Navs	[SS + EE]
1210	Valparaiso	CBV	4228 8677 12741 17146.4	Wx	[SS + EE]
1230	Manila	DZH	6486	Wx	
1300	PuertoMontt	CBP	247	Navs	
1400	Magallans	CBM	4322 8694	Wx Navs	[SS + EE]
1430	Antofagasta	CBA	8461	Wx	[SS]
1430	Valparaiso	CBV	4228 8677 12741 17146.4	Navs	[SS + EE]
1551	Palo Alto	KFS	8558.4	Wx	
1600	PagoPago	KUQ	8585	Navs	
1600	La Paz	XFK	8505	Wx	
1600	Mazatlan	XFL	8470	Wx	[SS]
1610	Valparaiso	CBV	4228 8677 12741 17146.4	Wx	[SS + EE]
1630	Paita	OBY2	6436	Navs	[SS]
1645	Mollendo	OBF4	6351	Navs	[SS]
1650	Palo Alto	KFS	8558.4 12844.5 17026 22581.5	Wx	
1700	Guayaquil	HCG	8474	Navs	[SS + EE]
1730	Manzanillo	XFM	8568.5 12829.5	Wx	
1750	Seattle	KLB	2063	Wx	
1830	Mazatlan	XFL	8470	Wx	[SS]
1845	Valparaiso	CBV	4228 8677 12741 17146.4	Wx	[SS + EE]
1900	San Franc	KPH	6477.5 8642 13002 17088.8 22557	Wx	
2000	PagoPago	KUQ	8585	Wx Navs	
2030	Noumea	FJP8	8698	Navs	
2130	Paita	OBY2	6436	Navs	[SS]
2145	Mollendo	OBF4	6351	Navs	[SS]
2150	Seattle	KLB	2063	Wx	
2151	Palo Alto	KFS	8558.4	Wx	
2200	Magallans	CBM	4322 8694	Wx	[SS +EE
2210	Valparaiso	CBV	4228 8677 12741 17146.4	Navs	[SS + EE]

```
2230 Bulacan     DZO     8580   12870                    Wx
2250 Palo Alto   KFS     8558.4 12844.5 17026 22581.5    Wx
2300 PuertoMontt CBP     4247                            Navs


++++++ Station overview

Acapulco Radio/XFA

Location: Mexico at 16.50N 99.54W

HF WT service

Marker:        not known
Watchkeeping:  On call channels 5-10 between 1400-0700z
Tfc lists:     Every H+30 on 8514 khz.

      4292
      6414.5
      8514
     12752
     16935.2
     22465

HF RT service

Watchkeeping:  1400-0700z

     XFA       Ship      ITU Chan

      4363      4071     [ 403]
      4417      4125     [ 421]    Intnl calling
      8743      8219     [ 809]
      8779      8255     [ 821]    Intnl calling
     13137     12290     [1221]    Intnl calling
     13140     12293     [1222]
     17251     16369     [1604]
     17302     16420     [1621]    Intnl calling
     22768     22072     [2225]

Address:
     Not known

Acknowledgements:
ALRS Vol 1 (97/98)
Brannolte/Siebel SEEFUNK
CFL/10
Klingenfuss Utility 98


That's it - good monitoring - Regards  Day.

================================================================================

                          # NUMBERS & ODDITIES #
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       \\\\\\\\\\\\\\\\\\\\\\\\\\\ ///////////////////////////

Welcome to the second edition of the N&O column / Spooks newsletter.
We received some very encouraging reactions from you and I think that
you'll like this edition as well. What do we have for you this time?
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First of all an item written by Toby Andersson (we have more of his crypto items for future N&O's), further a round-up of the numbers stations, logs, and profiles.

Let us know what you think of N&O. We like to hear from you. Tell us what you want to see in this column and send us all you have about numbers stations, spy and covert stuff, other weird stations, etc. Have fun! -Ary-

WORLDWIDE JAM SESSION

I want do a 'Jammer Special' next month. I already asked for your help with regards to this item, but because the response was extremely low, I try it once more. Whenever you find a jammer -on a utility, HAM or broadcasting station frequency-, be so kind to report the following info back to me. Thanks for your cooperation!

1) Jammed frequency
2) Time in UTC and date
3) Type of jammer (if known)
4) Who's being jammed (if known)
5) Your location (city and/or country)

IT'S TICKING, BUT WHAT IS IT?

A strange ticking sound can be heard in Europe, 24h a day, on 4041.5 kHz. The signal strength varies only slightly and is S1-S3, night and day. It sounds like someone is practicing morse with chopsticks on a wooden table :-)

Irregular ticks, nothing like a timesignal station. It sometimes speeds up and then goes back to a relaxed ticking sound. The ticks are ca. 333 msec apart, or a multiple of 333 (eg 666, 999)

Beside 4041.5 kHz, the station was also active in May on the following frequencies: 4690.5, 14005, 16000.5, 17003, 18002 kHz, all in the European mornings between ca. 09.30 and 11.30 UTC.

Because of the extreme short transmissions it is very difficult to DF the station.

Ideas anyone???

LANGUAGE, WHAT LANGUAGE...???

For those of you who are not familiar with foreign alphabets, there is a magnificent list available called ''Phonetic/spelling alphabets for various languages'' maintained by Gwillim Law. You can download it from: http://www.mindspring.com/~gwil/phon.menu.html or I can send you a copy by e-mail if you like. The list does NOT include figures, but I can also supply a list of 0-9 counts in the relevant languages.

THE SKYLARK REVISITED

I received the following interesting reaction to the 'Skylark' article in last month's column. Thanks for sending it!

A Romanian, who heard a recording of this station, made the following observations: The tune is very well known over there, it is commonly played in the countryside at weddings, parties, etc. He said that it was a tune that every Romanian would instantly recognize. He also said that the OM reading the numbers had an accent that seemed to indicate that he spent time in either Britain or the USA, maybe the last ten or so years. But it was a native speaker, just someone who developed an accent from living abroad.

THE WORLD'S FIRST CRYPTOMACHINE
by Torbjorn Andersson

According to Bengt Beckman the world's first cryptomachine was Swedish. It was invented by Fredrik Gripenstierna and presented to king Gustaf III in 1786. No copy of the original machine exists today, but a record in the National Archives has survived, and allows us to reconstruct it.

The machine, called in 18th century Swedish: "Chiffre-Machinen", consisted of 57 wheels mounted on a common shaft. These wheels were housed in an oblong cylinder. On half of the circumference of each wheel, the normal ordered alphabet was engraved, and on the other half numbers between 0 and 99 were likewise engraved, but in mixed order, with each of the 57 wheels having their own mixed sequence. On one side, along the length of the cylinder, was a slot wide enough to show one letter of all 57 wheels, and on the opposite side a similar slot shows a row of 57 figures.
Two persons were to operate the apparatus. When encrypting, one turns the wheels till a row of cleartext is visible through the slot on the letterside of the cylinder, and the other reads off the cryptogram through the slot on the figureside. When decrypting, it's the other way around. One person turns the wheels on the figureside till the received cryptogram is visible through the slot, while the other reads the clear-text through the slot on the letterside. The inventor alerts us to the security benefits of this arrangement. The authorized official gets to operate the letterside, and his unauthorized accomplice, who operates the figureside, only gets to see encrypted text.

A maximum of 57 letters can be encrypted at a time, but a row needn't be a full row of 57 characters. It is obvious that the last row entered into the machine may be shorter than 57 characters, and in that case one only writes down as many cryptogroups as there are cleartext letters in the last row. But, mr Gripenstierna, who obviously was a very good cryptographer, had also provided means of varying the starting position of a row. Above the first ten wheels, ten codenumbers were engraved on the cylinder, thus making it possible to index each of the first ten wheels. It follows that a row could start in one of ten positions, and this position was given by the codenumber, which had to be added to the row of copied down figures in the dispatch to be sent. As a further com-plication to a would-be codebreaker, with zero-knowledge of the machine's working, the cryptogram in fact reflected the cleartext in backwards fashion and the last figure on a row gave the startingposition.

GUY'S MORSE STATIONS CORNER

I hope you found the first of the Morse Station information interesting. This month I intend to give some news on recent happenings and expand on the profile of some more of the Morse families.

The end of Month transmissions from M1 in March were very interesting. The Thursday at 1800 caught me out as they changed from the normal frequency to the one used at 2000. It was only a short transmission as it ended at 1807. The transmission at 2000 was characterised by the very long pauses, much longer than usual. The Saturday at 1500 was the opposite, very short pauses, sounded as if the Op was in a hurry to get away.

Now that the clocks have changed to summer time in the UK, some of the stations have changed times. Oddly enough M1 remains at the same time and M1B is on 1 hour earlier. Others on earlier are M12, M17 and M29.

Schedule for M1B as follows, they seem to be getting busier lately. Listed as time/frequency/ID

Monday 1718/5220/719 2010/5804/298

Tuesday	1723/6283/382		
Wednesday	1718/5220/719		
Thursday	1500/6823/???	1725/6283/???	2032/5737/931
Friday	1748/4771/168	2102/5235/871	
Saturday	1510/5473/745	1605/5350/053	

Logs of any other M1B would be appreciated, also the missing IDs

Another to add to the list is M53, not heard since last October when I suspect it changed frequency for the Winter, now back on its usual frequency of 8231 at 2000 and 2100.

Format is

Call	Preamble	Message
VVV CQ 747.585 R5	CQ585 CQ585 CQ585 HR HR 23 23 = =	23x5f AR AR RPT RPT CQ585 CQ585 CQ585

Repeat	Ending
HR HR 23 23 = = Message repeated	AR AR VA VA

The call is always 747 with a different ID. The stop in between is sent as AAA the morse full stop. Uses short zeros and is macine sent at 20 WPM. Repeats the same message on the next day. Has been known to send 2 messages but this was only heard once.
An interesting transmission took place on Friday 3 April. Nothing was heard until 2002, then a few blips were sent, then the call and message were sent by hand. First time ever heard hand sent. It seems they must have an operator standing by at each transmission in case the machine goes wrong.

M12 Still sending the same message on a Sunday at 1840 1900 and 1920. The frequencies, which always end in 67 are 12167 11567 and 10167. The ID this month is 151. Still the same frequencies as in April. This same message has been sent since at least October 1996. Is always the same DK and GC 792 66 and the message identical.

M2 Not heard since 31 October 1997 so presumed ended If it comes on again will list times and frequencies.

M3. Modes usually ICW a few use MCW

Ref	Call	Preamble	Message	Ending
M3	044/00 (R5)*		No Message	= = 000
M3	044/54 (R5)*	= =	54x5F	= = 000
M3A	552/111/00(R5)*		No Message	= = 000

(R5)* rarely are (R10) Morse is sent at about 17 WPM except for 503 which is very slow at 5 WPM. That transmission is normally on 10721. Some transmissions sent in MCW.

M3A is not sent very often and the meaning of it is not known could possibly be confirmation of receipt of message. Only triplets of 111 and 333 have been noted.

When M3 send a message after the 54x5F groups the ID is sent again 6 times then the message is repeated as 54x5f groups. 54 single groups Is usually on between 0700 and 1200 on the hour and the half hour. Messages are usually between 50 and 59 groups, possibly so they fit in the 30 minutes transmission time. Repeat transmissions are usual. Frequencies that have been used are. Those in brackets in use at present

3060	3250	3392	3450	3823	3923	4015	4090	4465	4610
4722	4750	4780	(4870)	4900	5050	5090	(5120)	5150	(5180)
5220	(5360)	5365	5409	5550	(5520)	5610	5625	5670	(5830)
5860	5870	(6330)	6334	(6430)	6540	6640	6750	6810	6840
6850	6905	6950	7208	7255	7276	7444	7540	7580	7620

7649 7670 7710 7830 7840 8033 8037 8100 9030 9272
9180 9950 10250 10270 10540 (10721)

IDs heard to date
010 011 012 013 014 015 016 017 018 019 035 040 041 042
043 044 045 047 048 121 183 214 216 282 284 287 312 317
493 496 503 507 508 552 553 558 584 621 629 624 857 741
742 743 976

Traffic for this station varies, sometimes can go for a week without sending any traffic.

Some of the IDs never get a message sent. For example 503 always on 10721, sent very slowly at 5 WPM. If it ever gets a message it will take an age to send. Some other IDs are special transmissions at odd times and perhaps will only be on for 2 weeks. One at present in April is on a Saturday at 0800 on 8187 to 624. Has been on several Saturdays but never sent a message

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M4 U R10 LO LOx3/75977 75977 100x5f Always 100
LO LO/75977 75977 Repeats Message AR SK AR SK

Frequencies used: 3825 4195 5340
This station uses long zeros. Always MCW with quite low level mod. Speed 19 WPM. Activity level of M4 and G2 has recently drastically reduced, at the moment there is only one M4 transmission a month. That is on week 2 of the schedule on Wednesday and Thursday at 1000. Frequency is also unusual for M4 as it always used to be on the same 3 frequencies. This one was on 7250. Another log of M4 on Wednesday 13 May at 1000 on 7250 at 1200 on 8188 and at 1300 on 5748 ID LO LO/29175. Same message repeated

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M7 Mode, Always MCW, constant carrier.Speed 17 WPM. Strange call, sounds like letters with long dash. "Letters" used A N U and K, Call is for one minute. Then 749 749 749 85 85 35 35 = = 35x5F = = 85 85 35 35 000 Then one minute of letters with long dash, sometimes same letter, sometimes different letter.
Frequencies used, same as M10, Favourite time is Hour+20 although can be heard at any 10 minute interval within the hour. Parallel frequencies never used. It has been suggested that this method is used to activate some unattended recording device. I have heard recently the same ID and message sent both by M10 and M7

Morse activity still remains high, for example on one day I have logged 21 different times from these groups M1, M1b, M3, M8, M12, M13, M14, M17, M23, M29, M45, and M53.

M45 has changed for May. Is now on at 1703 on 5074 and 5474. ID 704

-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-

INTRODUCTION TO VOICE NUMBERS STATIONS
by Chris Smolinski

Chances are, most shortwave listeners who tune outside the established broadcast bands will eventually stumble upon a voice, usually female, reading out a series of numbers. The seasoned numbers enthusiast will discover that the morse code stations are by far the most common, and seem to be conveying the bulk of the traffic. But the voice stations are special, each seems to have it's own unique charm and flavor. Unlike many of the morse code stations, all of the voice stations have a name, and while the ENIGMA classification system helps to avoid confusion, I think the name of the station is important also, since it gives a feel for the station's character. We'll take a look at these stations

individually in depth, but first here's a brief overview of the more common stations:

* The Counting Station (E5 and V5)
This station is rumored to be run by the US CIA. It is known to transmit from Warrenton Training Center site(s) SW of Washington DC, which are listed as being part of the NCS. It is also believed to transmit from sites outside the US, presumably at US military bases, and possibly US intelligence sites.

This station gets it's name from the count heard at the beginning of each transmission, followed by a three digit identifier (rpt three times), believed to be the address of the recipient. For example "1234567890 798 798 798". This is sent for ten minutes. Then ten tones are heard, followed by the length of the message, for example "COUNT 215". The message is then sent using 5FG groups with a definate pause between the third and fourth digits, leading them to be referred to as 3/2FG groups. The entire message is then resent.

The Counting Station uses both English and Spanish. A German langauge version of this station has been inactive. Transmissions start on the hour. The technical quality is usually quite excellent.

* Lincolnshire Poacher (E3)
This station is rumored to be run by British Intelligence, and believed to transmit from Cyprus, with targets in the Middle East. It is on the air using two or three of the following frequencies in USB:

5422, 5746, 6485, 6900, 6959, 7337, 7755, 7887, 8464, 9251, 10225, 10426, 11545, 12603, 13375, 14487, 15682, 16084, 16413, and 16457

Format:
On the hour, several bars from the tune "Lincolnshire Poacher" will be played twelve times on an instrument that sounds like a calliope. When done, a synthesized female voice with an English accent will repeat a five digit message identifier (or possibly a decode key) ten times. The process of the tune and message number will repeat a total of five times until ten minutes past the hour. At this time, a two-tone door bell chime will be sounded three times. The synthesized female voice will then proceed into exactly 200 five figure groups; each repeated twice (5FGx2). This "message" will continue until :45 past the hour. When complete, the chime will sound three more times, and the Lincolnshire Poacher tune played once more. It should be noted that the tune is a well known folk song in a certain portion of England. The station is frequently jammed. Curiously, the 1st, 3rd, and 5th digits of each five figure group are overly emphasized. (i.e. SEVEN two FIVE three SIX). [Thanks to John Maky for this description]

There is a sister station, called Cherry Ripe, which uses a different tune, and is believed to transmit to targets in Asia.

* MOSSAD (E10)
MOSSAD stations are peculiar for using phonetic letters rather than numbers to convey the message. These stations may be heard throughout the day. Transmissions begin at the hour, and at quarter-past, half-past, and quarter-till the hour. A three letter phonetic identifier is repeated, sometimes with a number appended at the end. Commonly, a 1 is used to indicate that no message will follow, a 2 means a message will follow. If a message follows, the length is given, and then the message is sent. Then this is repeated.

Quite rarely, the format of this station changes radically. Strings of letters and numbers are repeatedly sent, sometimes for days. Interestingly, this sometimes corresponds to periods of international crisis, at least in the Middle East.

Most transmissions are in USB mode, sometimes in AM. The technical quality is usually quite good, although the stations have a habit of making false starts a few minutes early, stopping, and then starting back up again. In

addition to transmissions from Israel, other sites are believed to include embassies and consulates, based on propagation information.

* Atencion Stations (V2)
These stations get their name from the YL voice heard repeating "Atencion", followed by the recipient ID numbers. Two distinct formats for these stations exist. The most common has three messages sent in each transmission. The preamble announcement has all three recipient IDs, for example "Atencion 48398 84873 92834". This is repeated for a few minutes. Then the message to the first recipient is sent, followed by the second and the third. The message length is always 150 groups.

In the second format, the preamble might be "Atencion 245 01", then "01 51" would be repeated, indicating 51 groups will be sent. The 01 may be the recipient number. This format is much more rare than the first.

Atencion stations, generally, have poor technical quality. It is not uncommon for there to be hum or other audio problems, or for transmissions to stop and start again. These transmissions are believed to come from Cuba.

* Russian Man (E6)
This station is believed to originate in Russia, although like other numbers stations, various transmitter sites may be used. This station repeats a three digit identifier, believed to be the recipient number. Then another three digit number (of unknown purpose) is said twice, followed by the message length, also said twice. The message is then sent, in five digit blocks, with each block repeated. After the message is sent, the three digit number (of unknown purpose) and the message length are each said twice, and then five zeros are said. It is common for Russian number stations to close with five zeros.

Many langauges are used by this station, including Russian, English, and Spanish. Signal strengths are often quite good. This station is unusual in that it does not maintain a fixed freq. schedule, but picks different frequencies every week. Often, however, a broadcast is repeated the following night on the same frequency.

* Two Letter (E16 and G15)
This used to be an extremely active station. Then, the number of transmissions and active callsigns started to diminish, almost to the point where the station seemed ready to completely fade away. Now, it seems to possibly be on the rebound.

This station plays a short melody of electronic notes, and then a female voice announces the callsign, which is two phonetic letters, such as Mike Delta. This process repeats for around five minutes. The voice then announces who the message is for, and the number of groups, and then sends the message, as five digit numbers with a pause after the third digit (3/2 format). Each group is repeated. The voice then says "End" to conclude the transmission.

* Swedish Rhapsody (G2)
A rather bizzare European operation, this station plays the tune of the same name on a music box, along with a female voice announcing the identifier in German. This is repeated for a few minutes, until the voice says "Achtung" and reads out the message in five digit groups, repeating each group. She then closes with "Ende". The female voice is extremely high pitched, almost to the point of being difficult to understand. This station has been heard since the 1950's, and may be the longest running numbers station in operation.

That concludes this introduction to some of the more often heard voice numbers stations. Next, we'll try to start focusing in on individual stations, and briefly cover some of the less common stations. If you have any suggestions, comments, additions, or corrections, please don't hesitate to email me at: cps@access.digex.net

E5 & V5 - COUNTING STATION 'CYNTHIA'

This lengthy piece was written by P.S. in Saffron Walden with additional material from ENIGMA readers. Many thanks to Simon Mason and the ENIGMA group for this article and Bob Roehrig for maintaining the schedules.

INTRODUCTION

The newcomer to the numbers scene soon comes to recognise certain voice stations which are heard on a regular basis. One of the most distinctive of these is the English language counting station, which has a female voice with a distinct American accent speaking five figure groups. She has been around certainly since the 197O's at least; she can he heard on any day of the week; she has been noted in the early morning, around midday, at various times in the afternoon, and during the evening

I first became aware of this particular lady towards the end of 1990; I was not all that interested in numbers stations then, being more a fan of the radioteletype transmissions from the various news agencies which were still using HF RTTY. As I tuned around looking for the characteristic frequency shift carrier of teletype in full flow I would often come across this American lady who seemed to speak only groups of numbers The transmissions were usually very strong, often almost as strong as and in a few cases stronger than many AM stations in the shortwave broadcast bands. Since she seemed to be on the air every time I tuned around in the evenings, and it was clear there was a definite schedule with regard to the day of the week and the time of day, so I decided to keep a log of her activities. I have continued to take an interest in her ever since and my observations form the basis of this article.

FORMAT

For those not familiar with the lady in question, a description of the format might he useful. Transmissions begin on the hour, her time-keeping is usually pretty good, starting within a second or two of the hour indicated by a watch set up against the Greenwich "pips", although in the past she has been noted on a few rare occasions starting up to half a minute or so early or late. She speaks a three figure call which is repeated three times followed by "1234567890"; this continues for ten minutes. At ten minutes past the hour ten one-second bursts of audio tone are sent and she says "count" followed by a two or three digit number; this is then spoken again as is the number of five figure groups containing the encoded message which will follow. The message is then spoken, and there is a distinct pause between the third and fourth figure 50 the groups might more correctly be described as "three plus two" figure groups rather than five figure. This done, she says "repeat", followed by 'count" and its number, again spoken twice, and the message is spoken a second time, finally finishing up with "end".
(* nearly always - Ed)

MODES

The mode of transmission is a little unusual; it is upper sideband with carrier, or to put it another way AM but with the lower sideband suppressed whichever way you want to look at it, it can be copied quite well on an AM receiver, provided the signal is reasonably strong, but sounds much better with the receiver in USB mode especially if the signal is weak or if there is co-channel interference as is often the case these days.

Once the transmission has ended, the carrier usually stays on for a few minutes at least; this has a characteristic background noise which is difficult to describe but is very distinctive and Soon comes to be associated with the American accented lady. The engine noise does not seem to be quite as common as was the case a few years ago hut carriers are still noisy. The use of USB is becoming more common.

Voices are not the only sounds emitted by Cynthia's transmitters, A number of monitors have noted the presence of data signals close to, or borne on the same carrier as that transmitted by the Counting Stations. The two data signals heard thus far are as follows:

* 2400 bps PSK (Phase Shift Keyed) System
* 109.8 bd synchronous FSK System

Neither of these systems can be decoded with even high-grade amateur telegraphy analysis equipment. In general, the signals can be heard as follows. The Counting Station appears on frequency (often up to an hour before the voice transmission time) and sends carrier plus the usual noise associated with the station when idle. At about 20 or 40 minutes before the voice transmission, the noise will stop to be replaced by the fast P5K signal, which has a very harsh, wideband, rushing "white noise" sound. The P5K signal is only present for a few minutes and is offset from the Counting Station's carrier by about 2kHz.

About five minutes before voice transmission time, the PSK signal stops, to be replaced by a plain carrier. The voice transmission then follows. Often, at the conclusion of the voice transmission, the 109.8 bd FSK signal will appear, again only on-air for a few minutes.

What can we infer from this behaviour? Almost certainly, the Counting Stations transmit messages (perhaps even the same message) to different grades of users. Those with the highest security risk resorting to pen and paper using the voice transmissions. The middle grade users have the decoder for the 109.8 bd signal and the lowest grade using the P8K signal -such as embassies who need to monitor messages to certain agents.

FREQUENCIES

A variety of frequencies used by this lady over the years ranges from 4007 kHz at the lower end of the HF part of the spectrum to 29790 kHz almost VHF - noted in use on Sunday afternoons during the winter of 1992. At times the choice of some of the frequencies used is rather strange; for example at the time of writing a couple of her favourite channels are inside internationally agreed broadcast bands with consequent QRM from strong broadcast stations making copy extremely difficult for the numbers enthusiast, the use of such frequencies perhaps suggests that the intended recipient may be outside the European target area.

Perhaps the strangest choice of frequencies was also during late 1991 and early 1992 when she was noted using a couple of frequencies in the 27MHz band resulting in mutual ORM with the Spanish and Italian kilowatt CBers which infest that part of the dial when conditions are right. In order to ensure the message gets through, usually two - and on a few rare occasions three or even four - frequencies running in parallel are employed, which are typically two or three MHz apart, and even where we are only aware of one there is no doubt another one somewhere which we have not been clever enough to find! A compilation of all the frequencies used by this lady gives the last seven years gives a total not far off 100.

AGENCY

So perhaps at this point we might take a few moments to consider on whose behalf this transatlantic temptress works so hard. Perhaps there is clue to the answer to this riddle in the nickname by which she is affectionately known to her followers; whereas she is referred to in the ENIGMA Newsletter as "English language Counting Station E5, she is known to her followers by the much more romantic sounding name of CYNTHIA. Why? Well, perhaps because her voice is sampled or synthesised by computer techniques, but if we take the first letter of her name together with the last two we have the initials of the intelligence organisation who arc her employers, and who have their head office in Langley, Virginia, U.S.A this is not to say that when we hear her she comes to us directly from a site up the Potomac River from Washington D.C.; to be heard as

strongly as she is on this side of the Atlantic she must be relayed from transmitters in Europe located in countries friendly to the United States.

LOCATIONS
The whole subject of transmitter locations is made more difficult with this particular station due to its world-wide coverage and reliance on host countries. We will start with the mainland United States and work towards Europe.

UNITED STATES	- Warrenton, Virginia
CENTRAL AMERICA	- Panama
FAR EAST	- Guam, Japan, Australia, Diego Garcia
AFRICA	- Morocco, Ascension, South Africa (ENIGMA has learned that the CIA have now established facilities in South Africa which are classed as their African HQ following the demise of the Liberian operations centre)
EUROPE	- England (Barford St John, Oxfordshire), Spain, Germany (Frankfurt area), Portugal, Greece (Tatoi and Nea Makri near Marathon), Turkey

OTHER FORMATS ('CONTROL' TRANSMISSIONS)
As well as the frequently heard 5 figure transmissions, our Cynthia has also appeared on the air in another form (E14). At one time she could be heard daily with transmissions of ten minutes duration in which she spoke a short message of four figure groups, usually two or three 4 figure groups, occasionally four or five - even six or seven have been noted. These 4 Figure transmissions went out several times a day, unlike standard messages these particular transmissions always started on the half hour. The first one of which I became aware was in late 1992 which used to start at 17.30 UTC on two frequencies in parallel, 5205 and 8560 kHz. These were usually very strong signals, especially the 5215 outlet; the typically noisy carrier would be on some time before the start of the voice - I recall one Saturday afternoon when the carrier appeared on 5205 kHz a good two hours before transmission time.
At exactly 17.30 UTC ten short audio tones would be sent and Cynthia would go straight into her 4 figure groups; these would be repeated over and over for ten minutes and then she would stop. By the middle of 1994, a third frequency had been added to run in parallel with the existing two, 12285 kHz so we can assume these short 4 future messages must have had some particular importance to be given so much in the way of transmitting resources. Also at about this time there were 4 figure transmissions at 07.30 UTC and two separate 4 figures, each using two freqs in parallel, at 13.30 UTC, with farther 4 figures at 00.30 01.30, 06.30 & 07.30 UTC. Response from the United States indicated that the same format was also running in Spanish at 00.30 02.30, 10.30 & 18.30 UTC. however, both the English and Spanish language transmissions are no longer in existence having left the airwaves towards the end of 1995 -by which time the 17.30 UTC had moved to 11072//13465 kHz- no doubt having served their purpose, whatever that may have been.

GERMAN LANGUAGE
It is worth recalling that at one time there was also a German language (G5) counting station which used the Cynthia format, and all the evidence was that this was operated by the same organisation. This was a rarer find than the American English version, and the German language version was regularly noted from the mid-1980's. The style was exactly the same, a three digit call spoken three times followed by 'eins zwo drei vier funf sechs seben acht neun null the German for '5" was pronounced "funf' in contrast to the 'funef' of number stations whose origins are more to the east, after ten minutes of this, ten audio tones and the word "gruppen' followed by the number of 5 figure groups to follow, this repeated and then into the message. In the ENIGMA sound archives we have tapes of a very short-lived version which used the word 'zwei' instead of 'zwo' and ended 'zero' instead of 'null'.
The German language version of this station seemed to cease operations during 1995, another 'victim of the redundancies brought about by the end of the Cold War; my own last logging was in March of 1995 on 6780/

9219 kHz, two frequencies which interestingly, are still used by Cynthia. Before leaving the subject of the German version it is worth recalling an event from early in 1995; on Sunday afternoons there 'was a well established slot for the German language version on 9070 kHz at 16.00 UTC; I checked it out on a couple of Sundays during January, however when I tuned in again on 19 February, the German YL had been replced by Cynthia, and she turned up on Sundays at 16:00 ever since.

SPANISH LANGUAGE
The CIA have not restricted themselves to just American English and German, a well established Spanish language network also exists, and is still active, (V5), although primarily these transmissions are not well received in Europe and are most likely sent over transmitters situated in North America for agents in the Central and South American region, an area in which the USA maintains considerable interest. We are primarily looking at European operations in this feature so I will not expand on the Spanish language activities at this time.

ENGLISH ACCENT
You 'will have also noted that we have used the term American English so far puzzled? Well, there is also an English accent version of Cynthia, a recording of which exists in the ENIGMA sound archives. The station used the standard (E5) format but the voice used had a distinct English accent. She was very rare catch indeed and was last heard calling '250' with a 102 group message on March 1995.

JAMMING
If there are those amongst us who like to take an interest in Cynthia's activities, then there have been times when others have put a lot of effort into trying to prevent her from being heard at all, by which I mean the
situation which existed a few years ago when many of the transmissions were subjected to very effective jamming. This was a regular occurrence when I first became an enthusiast during the early nineties. It took the form of a carrier which was swept slightly either side of the channel which produced a characteristic kind of interference which usually made copy pretty well impossible - something similar can still be heard on some of the "Lincolnshire Poacher (E3) transmissions. Sometimes those controlling the jammers would allow the ten-minute "call-up" to progress and then switch the jammers on just before the 5 figures were due to start. Often during a long transmission, it was quite common to hear the jammers go oft after around 25 minutes or so and then come back on again, no doubt the oerators having taken time out to listen to see if Cynthia was still there and on finding that she was, turning the jammer back on again.
The jammers never quite got the hang of call-up '383'. This was a most peculiar call which had the standard 10 minute preamble, but as the last tone sounded, abruptly went off air and never sent any messages. Jamming would commence during the call-up and continue until the Cynthia was checked and found to be absent. The (E14) 4 figure 'control' messages also attracted the attention of the jammers who did seem to realise that these particular transmissions were indeed only 10 minutes in length.

The occasions on which lamming was observed gradually became less frequent and had ceased entirely by the middle of 1994. However, after having been absent for some time the jammers returned briefly during the late summer of 1996. On Saturday 3rd August at 20.00 UTC. on 7746/ 19160 kHz a jammer came on just after the ten minute warm up had finished, and again on Monday 5th August at 20.00 on the same frequencies. This 20.00 Saturday and Monday slot was subjected to the jammers a couple more times during August 1996 since when. happily nothing further has been heard of them. As far as I am aware, no other Cynthia transmissions were given the jammer treatment at that time. Who was spending so much time and transmitter power in operating the jammers? It must be a country at odds with the foreign policy aims of the USA: with the demise of the Soviet Union, that leaves a small number of Middle Eastern countries, and in particular Iraq. Perhaps Saddam Hussein's merry men had a sneaking suspicion that the messages were directed at CIA agents

operating inside Iraq and decided to try and block the route by which they received their instructions.

MISTAKES
Cynthia is noted for her reliability: mistakes and failures during a transmission are few and far between, but they do rarely occur. When something goes wrong with the audio content-with the transmitter still putting out RF - the voice is replaced by an audio pulsed tone to give a "rapid-dash" effect at the rate of about three per second: this remains on until the voice returns, the problem no doubt having been fixed. Such an occurrence was noted on Saturday 22nd June 1096 at 20.00 UTC on 7746/19160 kHz; the transmission failed during the tar minute call-up while Cynthia was calling "514" with about a minute to go before the 5 figures were due. The tones came on and remained on for about three minutes, the voice returning at 20.12 with "count 212 and the transmission proceeding as normal. On Saturday 9th November, a transmission at 16.00 UTC on 10529 kHz went off at 16.04: again tones came on with the voice returning at 16.06. Here the procedure used was "Go back to the beginning and start again" because te call-up continued until 16.16 UTC. Strangest of all was the transmission observed on Wednesday 24th April 1996 at 13.03 UTC on 8116 kHz where there was a Cynthia transmission already into her 5 figures - when she would be expected to be still in the call-up until 13.10. The "repeat' followed by count 196" came at 13.05 UTC, with "end" at 13.23 which means that if the transmissions followed the usual format it must have started at about 12.47. This timing has only been noted very occasionally.

TEST TRANSMISSIONS
On rare occasions transmitter tests have been noted on up to 13 frequencies in parallel, these consist of a test tone sent for several hours on a wide spread of Cynthia frequencies. The purpose of these tests is unknown, but certainly gives an indication of the resources available.

SCHEDULES
As mentioned earlier, Cynthia works to a definite schedule, that is to say she turns up at the same time on the same day of the weak on the same freq. these schedules change from time to time. Some of them such as the Sunday 16.00 UTC on 9070 kHz have been around for years while others will only exist for a few weeks. One of the shortest observed schedules was on Saturday and Sundays at 0900 UTO which is a somewhat unusual time of day for Cynthia put in an appearance- in the summer of 1996 on 9070/16790 kHz. This was first noted On Saturday 20th July and last heard on Sunday 18th August, so lasted a month.
On May 1995 it was noticed that there was a 5 figure transmission at the same time of day on every day of the week, at 19.00 UTC on 5153 kHz; this is the only time a Cynthia 5 figure has been observed turning up at the same time and the same place every day. This daily airing took place all through the summer of 1995 until the end of August. Other patterns have included transmissions which ar heard to repeat on the same day and on the same frequencies one hour after the test airing.

MESSAGE LENGTH
The length of a message i.e. the number of 5F groups-can vary from a figure in the low 40's to 215 which is the maximum number, although this was not always the case; until the end of 1004 the maximum length of a message was 225 groups. Any Cynthia transmission which takes place around the middle of the day, UK time, i.e. 11.00, 12.00 or 13.00 UTC, always has a count of 215. Why this should be so can only be guessed at but perhaps certain opaque' filters are used to take the messages up to 215, or perhaps the messages are for training and practice purposes only rather than serious communications for agents in the field.

SUMMARY
So what is Cynthia getting up to at the present time? Well, she still turns up on every day of the week. Activity remains close to an all time high: up to 50 transmissions noted in one week. Saturday is probably the best day on which to find her, signal strengths are in general weaker than those of 5 or 6 years ago - at least they are for the UK listener.

Reception of several of the transmissions is made difficult by strong utility stations close to the operating frequency, but matters can often be resolved by switching the receiver to CW and tuning for zero beat with the carrier and switch to a narrower IF selectivity. The persistent use of 5850 kHz is strange: it is inside the 49 Metre BC hand with consequent QRM from broadcasters. An American religious station gave up trying to compete on this frequency and moved elsewhere: recently Swiss Radio International and radio Sofia, Bulgaria have taken up residence on 5850 kHz. On the plus side at least the jammers have not paid a visit for a while. There has not been the general shift to USB as I thought there might be; the majority of E5s are still in lop-sided AM.

That's about it: I suppose Cynthia's distinctive voice must have begun with a real live American lady speaking the numbers to be stored in the memory of a computer for the purpose of message synthesis: I sometimes wonder who she is and if she is aware how often she is listened to by some of us number stations enthusiasts. She is the other Voice of America.

COUNTING STATIONS (E5 & V5) LIST #8 OF 5 MAY 1998
(Mode is USB with or without carrier)

UTC	KHZ	M	T	W	T	F	S	S	LANG	NOTES
0000	6780.0			?		?			EE	//9219
0000	9219.0			X		X			EE	//6780 ?
0100	15478.0			X		X			??	
0300	6802.0		X				X		SS	//8418
0300	8418.0		X				X		SS	//6802
1100	13555.0	X					X		EE	//14406
1100	14406.0	X					X		EE	//13555
1200	10223.0			X	X		X		EE	
1200	10597.0							?	EE	
1200	12221.0						X		??	
1200	13905.0						X		??	
1200	15822.0						?		EE	//18240
1200	18240.0						?		EE	//15822
1300	7547.0		X			X	X		EE	//10529
1300	10529.0		X			X	X		EE	//7547
1500	4470.0		X		X				EE	//5046
1500	4670.0					X			EE	//5046
1500	5046.0					X			EE	//4670
1500	5046.0		X		X				EE	//4470
1500	7600.0		X			X			EE	//10597
1500	8014.0			X				X	EE	//9274
1500	9274.0			X				X	EE	//8014
1500	10247.0		X			X			EE	
1500	10597.0		X			X			EE	//7600
1500	12197.0				X			X	EE	
1600	11470.0						X		EE	
1700	6840.0					X			EE	
1700	6891.0		X						EE	//8085 ?
1700	7430.0					X			EE	
1700	8085.0	X		X					EE	//6891 ?
1800	6969.0	X							EE	
1800	8143.0	X							EE	
1900	5790.0		?	?					EE	
1900	13375.0					X			??	
2000	4470.0	?		?					EE	//5046
2000	5046.0	?		?					EE	//4470
2000	6780.0			?					EE	
2000	6891.0							?	EE	
2100	9090.0			X				X	EE	

RUSSIAN MAN - S25

The Russian Man Control transmissions on 14890 kHz at 08.00 UTC

and on 11270 kHz at 08.20 UTC, always to 615, have been reduced. The station transmitted on daily basis for years, but since mid-April (maybe even 1 April), the station only transmits on Monday mornings, same frequencies and times.

****
Numbers + Oddities Logs column # 02, May 1998
Jascha Ruesseler
Ruessele@pc0401.psychologie.uni-marburg.de
****

Hi, again and welcome to the logs. Our log format is as follows:

FREQ c/s Station (Enigma Code) Time (date) Mode (baud) Remarks (Initials)

Example:
10426 Lincolnshire Poacher (E3) 1540 (13-4-98) USB ongoing msg (JR)

Please, use this format whenever posting logs to the list. If I had included all logs in this column, I had to spent a lot of hours reformatting. As I did not have the time to do this a lot of the posted logs will not appear in this issue. I'll try to do it better next time. Using the format would also enable me to put the logs into a database which opens the possibility to do a little bit of statistics (yes, as a psychologist I love doing this :-)). The logs used in this column have been posted to the spooks mailing list. I also included some interesting logs from the WUN-list which have not been posted to spooks, so you might find something really new. If you want to remain anonymous you can send logs to my email address or to Ary, you will then remain anonymous in the column.

2565 ? M51 numbers station, ? 20.20 (23-04-98) CW 5FG, separated by msg nr, month, time, year and BT (AB)
2626 ?: Mossad, ISR 23.00 (08-05-98) AM FTJ // 4460 kHz (AB)
2953 SYN: Mossad, ISR 21.50 AM SYN2 broadcast (AB)
3150 PCD: Mossad, ISR 23.00 (01-05-98) CW PCD txm (AB)
3150 ?: Mossad, ISR 23.00 (08-05-98) AM PCD (AB)
3213 ?: M10 numbers station, ? 21.00 (13-4-98) CW 555 783 14 961 35 == 5FG etc (AB)
3292 Atencion stn V2 0200 (12-05-98) USB (BR)
3698 Atencion spook 1200 (12-04-98) 5FGs already in progress. (ANUS)
3840 ?: Mossad, ISR 23.00 (08-05-98) AM YHF (AB) 3927 v2 0100 utc usb 5ngs 1ol in ss.(CT) 4027 CW cut no's stn M8 0300 (12-05-98) CW (BR)
4038 ?: M51 numbers station, ? 20.09 (23-04-98) CW 5FG, separated by msg nr, month, time, year and BT (AB)
4041.5 ?: Unid, ISR 18.03 (30-04-98) ? clicking sound. 24h per day same signal strength (AB)
4120 //4450 REVERBERATOR, AM 1026 ss3//3. (SD)
4376 BACKWARDS MUSIC STATION XM USB 1034, s1. (SD)
4460 ?: Mossad, ISR 22.00 (09-05-98) AM FTJ (AB)
4460 ?: Mossad, ISR 23.00 (08-05-98) AM FTJ // 2626 kHz (AB)
4479 Atencion stn 0400 (15-05-98) USB (BR)
4479 Atencion/V2 AM 0400 (15-05-98) YL/SS rptg "Atencion 52012 83903 25335". At 0403, into 5FG. (JM4)
4479 Atencion stn V2 0300 (13-05-98) USB (BR)
4506 CW cut no's stn M8 0300 (13-05-98) CW (BR)
4690.5 ?: Unid, ISR 11.37 (30-04-98) ? clicking sound (AB)
4770 CUBA/SPOOK Atencion 1134 "962 03" old callup, fair. (08-05-98) (ANUS)
4869.5 SPOOK P7X CW 1508 (28-04-98) 11wpm usual format, good. (ANUS)
4880 ?: Mossad, ISR 23.01 (08-05-98) AM ULX 2 (AB)
4880 ?: Mossad, ISR 22.03 (03-05-98) USB ULX 2 (AB)
5017 ?: M1 numbers station, ? 20.00 (30-04-98) CW id 463. End of the month txm (AB)
5017 ?: M1 numbers station, ? 20.00 (23-04-98) CW 463 372 40 + 5FG (AB)

5072 ?: Russian counting station, RUS 6.00 (22-04-98) USB various callsigns + 10-digit messages (AB)
5170 ?: Mossad, ISR 19.47 (09-05-98) AM CIO 2 (AB)
5170 CIO: Mossad, ISR 19.47 (01-05-98) AM CIO 2 txm. Also at 23.45 UTC (AB)
5205 SNJ30: Unid, ? 19.48 (01-05-98) CW 5FG 'de SNJ30' (AB)
5230 MIW: Mossad, ISR 0.17 (02-05-98) AM MIW 2 txm (AB)
5256 ?: Unid, ? 20.19 (30-04-98) CW 5LG in Cyrillic. Later also 5FG; cut '0' (AB)
5256 ?: FAPSI, RUS 19.42 (30-04-98) BAUDOT 75bd Callup in CW. Msg to NOB 11166 70004 01820 30167 07119 (AB)
5289 ?: Russian Lady, RUS 19.50 (30-04-98) AM in progress. Ended with 027 027 43 43 000 (AB)
5341.5UC/RF CUBA/SPOOK Babbler 1215-1315ish*, idle/hum, no tfc, xlnt. (06-05-98) Also appeared 5/11 1200 on 5341.0UC, still no tfc. (ANUS)
5414UC CUBA UNID 1333 SP M longcounts, babbler maybe, good. (07-05-98) (ANUS)
5416 CW cut no's stn M8 0300 (13-05-98) CW (BR)
5419 CW cut no's 0300 (14-05-98) CW with GNUDT TAUTN WMAMN msgs (BR)
5431.5 SPOOK P7X 1922 (23-04-98) 11 wpm CW usual format. Not here earlier in day. (ANUS)
5435 MOSSAD/E10 AM 0300 (17-05-98)YL/EE rptg "ART" w/QRM from RTTY station. (JM4)
5474 ?: M1 numbers station, ? 18.00 (30-04-98) CW id 463. End of the month txm (AB)
5520 CUBA/SPOOK "Tired Hand" 1303 manual keyboard sent CW, 0=T, "540 08" callup rptdly, 1306 tfc "122 30" and 5FGs, 1311 callup again & "122 30", 1317 ended w/ "0000". Fair. First log of this one in a while; tfc is always for 540. At least the poor sap doesn't have to send his tfc with a hand-key now. (07-05-98) (ANUS)
5688D CUBA/SPOOK Babbler 1322 SP W test counts, DSB no carrier, poor audio, tfc 1420. (07-05-98) (ANUS)
5709 ?: M29 numbers station, ? 19.00 (30-04-98) CW VVV DE VDE + 5FG (AB)
5709 VDE: M29 numbers station, ? 19.00 (23-04-98) CW VVV VDE etc (AB)
5709 VDE: M29 numbers station, ? 19.00 (15-04-98) CW VVV VDE + 5FG (AB)
5745 ?: Lincolnshire Poacher, CYP 21.00 (30-04-98) USB id 09828 // 6959 kHz (AB) 5758 CW cut no's stn M8 0200 (13-05-98) CW (BR) 6485 ?: Lincolnshire Poacher, CYP 22.00 (03-05-98) USB id 27922 // 5422 kHz (AB)
6575 E10 2051-2056 USB "HOTEL NOVEMBER CHARLIE-ZULU" (SM)
6625.5 UNID Usual evening spook here 0345-0413 (29-04-98) running lots of RTTY 50/500R tonite, all old Soviet ZZZ crypto system with no plaintext headers evident. Some of the usual sloppy FSK morse between RTTY sessions. Weak, usually excellent signal here. Has been on 2-3 random nights per week lately. (ANUS)
6658 MOSSAD E10 USB 1846 id VLB2, s1. (SD)
6782 Atencion/V2 AM 0300 (15-05-98) YL/SS rptg "Atencion 80529 58402 13961". At 0303, into 5FG. (JM4) 6782 Atencion/V2 AM 0300 (15-05-98) YL/SS rptg "Atencion 80529 58402 13961". At 0303, into 5FG. (JM4) 6797 SPANISH LADY V2 AM 0547 in progress, s7 (3 x Finale). (SD) 6825 CW cut no's 1200 (14-05-98) CW (BR) 6825 CW cut no's stn M8 0200 (12-05-98) CW (BR)
6826 Atencion stn V2 0300 (13-05-98) USB (BR) 6840 ?: Mossad, ISR 22.00 (08-05-98) AM EZI 2 (AB)
6868 Bored Man/V20 USB 1400 (17-05-98) OM/SS (live) rptg "Atencion; Atencion; Atencion; Ere Dos Noventa" w/count (JM4)
6868UC CUBA/SPOOK Bored Man 1405-1420 (03-05-98)"R290" msg by SP W, //4106 (ANUS)
6868.5 CUBA Bored Man tx 1426-1432*(14-04-98) UNID mode 292.5/500, good. 292.5 is a baud rate supposedly used for IRA-ARQ, but this didn't have the repetitive ARQ cycle like IRA-ARQ I've heard on Bulgarian diplo links. I suspect this was async mode. IRA-ARQ is supposedly 11-bit characters, which would explain why the SFH can't decode it. (ANUS)
6868UC CUBA Bored Man 1405 (19-04-98) SP W tfc "X648" repeated, no

music today, xlnt but tinny audio. 1416 M took over w/ same. (ANUS)
6840 ?: Mossad, ISR 20.00 (09-05-98) AM EZI (AB)
6866 CUBA SVR "Fast CW" testing 1435 carrier on/off, 1450 into 30 wpm "989", 1454 some 5FGs. Xlnt. (4/26) (ANUS)
6868UC CUBA Bored Man 1405 (26-04-98) SP W w/ "X279" msg, xlnt // weak 4106U. (ANUS)
6868.1 CUBA Bored Man tx 1610 (10-04-98) open carrier w/ hum, good. (ANUS)
6900 ?: Russian Man, RUS 20.00 (28-04-98) AM Id 122 + 5FG (AB)
6959 //5746 Lincolnshire Poacher e3 USB 2100 (15-05-98) 5lg (PD)
6959 ?: Lincolnshire Poacher, CYP 20.00 (29-04-98) USB id 84928 (AB)
6959 ?: Lincolnshire Poacher, CYP 21.00 (30-04-98) USB id 38287. Jammed // 9251 kHz jammed // 5746 kHz clear (AB)
6959 ?: Lincolnshire Poacher, CYP 22.00 (09-05-98) USB Id 09918 (AB)
6959 ?: Lincolnshire Poacher, CYP 19.00 (23-04-98) USB Id 84928 (AB)
6971 ?: Counting station (E5), ? 20.00 (21-04-98) USB Id 013, 10-count, dashes + 5FG (AB)
6983 Atencion stn 0200 (15-05-98) USB (BR)
6983 Atencion/V2 AM 0200 (15-05-98) YL/SS rptg "Atencion 80529 58402 13961". At 0303, into 5FG. (JM4)
6983 Atencion/V2 AM 0200 (15-05-98) YL/SS rptg "Atencion 80529 58402 13961". At 0303, into 5FG. (JM4)
6983.5 ANDUWRIGMT cut-numbers/M8 CW 1300 (17-05-98) 5F/L/G (JM4)
7484 //11570//13866 Cherry Ripe/E4 USB 1300 (13-05-98) YL/EE rptg "64457" w/tune. At 1310, into 5FGx2. (JM4)
7484 //11570//13866 Cherry Ripe/E4 USB 1300 Tuesday 5/19/98 YL/EE rptg "97205" w/tune. At 1310, into 5FGx2(JM4)
7547 //10529 The Counting Station/E5 AM 1300 (15-05-98) YL/EE rptg "117" w/1-0 count. At 1310, "Count 215" and into 3/2FG. (JM4)
7547 //10529 The Counting Station/E5 AM 1300 (16-05-98) YL/EE rptg "117" w/1-0 count. At 1310, "Count 215" and into 3/2FG. (JM4)
7547 //10529 The Counting Station/E5 AM 1300 Tuesday 5/19/98 YL/EE rptg "117" w/1-0 count. At 1310, "Count 215" and into 3/2FG (JM4)
7555 Atencion/V2 AM 0300 (17-05-98) YL/SS rptg "Atencion 80529 30162 59962". At 0303, into 5FG (JM4) 7555 Atencion/V2 AM 0300 (24-05-98) YL/SS 5FG in progress. (JM4)
7583 Atencion stn V2 0200 (13-05-98) USB (BR)
7618 RUSSIAN MAN S7 AM 0528 in progress (end 000 000), s7. (SD)
7725 CW cut no's 0300 (14-05-98) CW with MTDWA NIIGA DIIMD msgs (BR)
7726 SPANISH LADY V2 USB 0545 in progress, s1. (SD) 7734 Atencion/V2 (old version) AM (note new time/frequency) 0400 (15-05-98) YL/SS 5FG in progress. At :09 "Atencion 584 05", then "05 66" and into 66 5FG. Down at :15 w/two final. (JM4)
7846 CUBA Atencion spook 1400 (12-04-98) old style "963 01" callup, very strong. (ANUS)
7887 Atencion/V2 AM 0200 (17-05-98) YL/SS 5FG starting abruptly at :07 w/o benefit of call-up (JM4)
7918 MOSSAD/E10 AM 0200 (17-05-98) YL/EE rptg "YHF" and into 5LG (JM4)
7918 MOSSAD/E10 AM 0200 (15-05-98) YL/EE rptg "YHF" - extremely weak (JM4) 8110 ?: Numbers station M14, ? 19.10 (09-05-98) CW 351 834 834 25 25 = = 5FG = = 834 834 25 25 00000 (AB)
8123 BACKWARDS MUSIC STATION XM, USB 2338 s1. (SD)
8123 BACKWARDS MUSIC STATION XM, USB 0559 s3. (SD)
8157 CUBA SVR (26-04-98) testing 1355+ test tones up to 1400 into EG M voice (not usual woman) "989" repeated, some crackling on audio. Some 5FG tfc also including callup for 567 19 at 1406. Gone soonafter. (ANUS)
8173 1930 YL/GG 2-Letter station "GOLF KILO" (SM)
8231 ?: Numbers station M53, ? 20.00 (09-05-98) CW VVV CQ 747.771 + 5FG (AB)
8231 ?: M53 numbers station, ? 20.00 (21-04-98) CW VVV CQ 747.31 + 5FG (AB)
8231 ?: M53 numbers station, ? 19.00 (15-4-98) CW VVV CQ 747.259 (VVV testrun at 18.51) Repeat of 14-4-98 (AB)
8231 ?: M53 numbers station, ? 20.00 (24-04-98) CW VVV CQ 747.105 (or 747.304, very weak and noisy) (AB)

8231 ?: M53 numbers station, ? 20.00 (01-05-98) CW VVV CQ 747.419 (AB)
8320 // 12056 e4 Cherry Ripe 1200utc 86631 5ngs.(CT)
8320 // 12056 1200 utc USB 97205 5ngs. (CT)
8320 // 11570 // 13866 TCS e4 1200 usb 91538 5ngs.(CT)
8320 // 12056 e4 Cherry Ripe 64457 1200 utc usb 5ngs 28456 74961.(CT)
8900U/RF CUBA/SPOOK Babbler 1257 SP M "uno uno" repeatedly, xlnt. (07-05-98) (ANUS)
8992 SPANISH LADY AM 0813 V2 in progress, s9 (SD)
9130 MOSSAD E10 USB 2200 id EZI2, s1. (SD)
9130 MOSSAD E10 USB 2100 id EZI1, s5. (SD)
9143 GMN FAPSI 1205 (15-05-98) RTTY 75/500 w/ GMN GMN GMN 2/501 11166 00119 47416 15077 02739 5LGs 11177 00119 85904 15076 02289 5LGs (ML)
9219 Counting stn E5 0000 (13-05-98) USB with msg 930 count 154 (BR)
9219 TCS E5 ?? not sure 0000 USB 930 for 5154 3ng / 2ng.(CT)
9238 SPANISH LADY V2 USB 0635 in progress, s1. (SD)
9238 SPANISH LADY V2 USB 0616 in progress, s1. (SD)
9251 LINCOLNSHIRE POACHER E3 USB 2103 id 48157, s5. (SD)
9251 ?: Lincolnshire Poacher, CYP 22.00 (08-05-98) USB is 27032. Freq jammed (AB)
9260 ss number station 0200 usb attn attn 5ngs on going at this time 0210 utc.(CT)
9263 //12056//15624CHERRY RIPE E4 USB 2201 id 40005, ss1//3//5. (SD)
9263 //13866//14469 TCS e4 1100 usb 32252 5ngs.(CT) 9263 // 12056 //15624 e3 2225 utc missed call up 5ngs signal rates very low but audible.(CT).
9263 //13866//14469 CHERRY RIPE E4 USB 1100 id 40585, ss1//1//1. (SD)
9263 e4 1100 utc USB 87987 5ngs. (CT) 9337 CUBA/SPOOK SVR "Fast CW" 1302 "335 00000", 0=T, xlnt. (07-05-98) (ANUS)
10426 //11545 Lincolnshire Poacher e3 2000 (16-05-98) 5lg; same at 1800 (PD)
10452 //15624//17499 CHERRY RIPE E4 USB 1000 id 62977, ss2//2//1. (SD)
10452 //15624 CHERRY RIPE E4 USB 1003 id 93006, ss1//1 (no sign of 17499). (SD)
10452 //15624 CHERRY RIPE E4 USB 1013 in progress, ss9//1 (still no 17499) (SD)
10567.5 ANDUWRIGMT cut-numbers/M8 CW 1300 (17-05-98) 5F/L/G (JM4)
10711 Spanish Man v7 0600 usb ID: 725, 63 group msg. (GD2)
10711 Spanish Man v7 AM 0600(14-05-98) ss/om/id-725-000/no further traffic/off at 0605Z SINPO54545 (Abe)
10711 Spanish Man v7 AM 0603Z (12-05-98) ss/om/id-725-000/no further traffic/off at 0605Z SINPO55545 (Abe)
10740 Two-Letter German/G16 USB (note new time/broadcast) 0400 (17-05-98) YL/GG
rptg "Whiskey Lima" w/electronic tune. At 0405, "____ 71 gruppen... Achtung!" and into 3/2FGx2. Down at :14 w/"ende". (JM4) 10740 Two-Letter German/G16 USB 0400 (24-05-98) YL/GG 3/2FGx2 (Whiskey Lima ?) in progress. Down at 0414 w/ "ende". (JM4)
10858 CW cut no's 1200 (14-05-98) CW (BR)
11545 //14487//15682 Lincolnshire Poacher/E3 USB 1400 (17-05-98) YL/EE rptg "18647" w/tune. At 1310, into 5FGx2. (JM4)
11545 ?: Lincolnshire Poacher, CYP 19.00 (30-04-98) USB id 84928 (AB)
11545 ?: Lincolnshire Poacher, CYP 15.00 (01-05-98) USB id 72483 (AB)
11545 Lincolnshire Poacher 2100 utc USB 09582 5ngs.(CT)
11545 ?: Lincolnshire Poacher, CYP 17.00 (01-05-98) USB id 38287 (AB)
11570 //13866 Cherry Ripe/E4 USB 1300 (15-05-98)YL/EE rptg "35642" w/tune. At 1310, into 5FGx2. (JM4)
11637 GMN FAPSI 0045 (16-05-98) RTTY stn with 2/501 msgs: 11166 00119 47416 15077 02739 (ltrs) 11177 00119 85904 15076 02289 (ltrs) at 0057 on 9216 kHz rpt of above (BR) 11637 GMN FAPSI 0045 (13-05-98) RTTY stn with msgs 2/56: 11177 00119 74590 12074 00539 (ltrs)11177 00119 00000 10073 00031 (figs) at 0053Z on 9216 kHz GMN with rpt of above (BR)
12056 ?: Cherry Ripe, ? 12.00 (01-05-98) USB too weak to copy id (AB)

12056 e4 1200 utc USB 86631 5ngs.(CT)
12211 Spanish Man v7 0620 usb ID: 725, 63 group msg. (GD2) 12300.5// 14421 The Counting Station/V5 AM 0300 (16-05-98) YL/SS 3/2FG in progress (JM4)
13375 ?: Lincolnshire Poacher, CYP 15.00 (17-05-98) USB id 06805. //12603 //11545 kHz (AB)
13375 ?: Lincolnshire Poacher, CYP 16.00 (08-05-98) USB id 48428 (AB)
13375 ?: Lincolnshire Poacher, CYP 17.00 (08-05-98) USB id 38287 (AB)
13375 ?: Lincolnshire Poacher, CYP 15.00 (09-05-98) USB id 46911 (AB)
13375 //11545//15682 Linc. Poacher 1945 (15-05-98) USB 5Nx2 EE/YL (BR)
13511 Spanish Man v7 0640 usb ID: 725, 63 group msg. (GD2)
13564 Atencion/V2 AM (note new time/frequency) 0300 (15-05-98) YL/SS 5FG in progress. (JM4)
13750 NEW STAR V13. AM 1002 (SD)
13750 New Star Broadcasting/V13 AM 1400 (25-05-98) YL/CC 4FGx2 - completely covered by broadcast station never heard here before. (JM4)
13750 TAIWAN New Star 1200 usual signon routine w/ CH W and flute/orch mx. Sounds like machine-generated signon announcement (numbers "spliced" in between "generic" parts of opening annt), into 4FG 2x tfc. Weak but on clear freq. (08-05-98) (ANUS)
13905 e5 1200 utc AM 222 1234567890 count 215.(CT).
14000 ?: Numbers station E15, ? 16.57 (09-05-98) USB FRANK YOUNG PETER QRU. Started 3 minutes early (AB)
14000 ?: Numbers station E15, ? 14.00 (09-05-98) USB Frank Young Peter QRU (AB)
14487 //15682//16084 Lincolnshire Poacher/E3 USB 1300 (16-05-98)YL/EE rptg "09582" w/tune. At 1310, into 5FGx2. (JM4)
14487 ?: Lincolnshire Poacher, CYP 12.00 (30-04-98) USB id 29811 (AB)
14487 e3 1300 utc USB 86847 5ngs.(CT)
14487 ?: Lincolnshire Poacher, CYP 16.00 (30-04-98) USB id 71231 (AB)
14487 //16084 Lincolnshire Poacher/E3 USB 1300 (25-05-98) Extremely weak - only tune was heard. (JM4)
14487 ?: Lincolnshire Poacher, CYP 18.00 (30-04-98) USB id 01548 (AB)
14487 ?: Lincolnshire Poacher, CYP 11.00 (18-4-98) USB id 82928. Heavily jammed. //16083 kHz (AB)
14487 ?: Lincolnshire Poacher, CYP 14.00 (09-05-98) USB id 27032 (AB)
14487 //15682//16084 Lincolnshire Poacher/E3 USB 1400 (15-05-98) Extremely weak - only tune was heard. (JM4)
14487 //15682//16084 Lincolnshire Poacher/E3 USB 1300 (15-05-98) YL/EE rptg "09582" w/tune. At 1310, into 5FGx2. (JM4)
14487 ?: Lincolnshire Poacher, CYP 14.00 (10-05-98) USB Id 53400 (AB)
14487 ?: Lincolnshire Poacher, CYP 12.00 (17-05-98) USB id 88847. //16084 //15682 kHz (AB)
14487 ?: Lincolnshire Poacher, CYP 14.00 (17-05-98) USB id 18647. //15682 kHz (AB)
14487 Lincolnshire Paocher/E3 USB 1300 (13-05-98) YL/EE 5FGx2 in progress. Barely audible. (JM4)
14487 Lincolnshire Poacher/E3 USB 1300 Tuesday 5/19/98 Extremely weak - only tune was heard (JM4)
14731 BPA FAPSI 1515 (16-05-98) RTTY stn with 1/326 msg: 11177 00116 00000 15128 03261 (figs) 1525Z 10328 kHz rpt of above (BR)
14753 SPOOK "Boris Badanov" 1236 (12-04-98) EG M 5FGs, fair sig but low audio, fluttery. (ANUS)
14823 ?: FAPSI, RUS 14.30 (25-04-98) BAUDOT 75bd calling POU. 11177 00190 00000 25232 01091 + 5FG's (AB)
14843 JMS FAPSI 2230 (12-05-98) RTTY stn M42 with 2/167 msgs: 11177 00127 00000 10130 00031 (figs) 11177 00127 32973 08129 01649 (ltrs) 2240Z 13452 kHz JMS with rpt of above (BR)
14843 JMS FAPSI 2230 (13-05-98) RTTY stn with 2/203 msgs: 11177 00127 60800 13131 02009 (ltrs) 11177 00127 00000 10130 00031 (figs) at 2240Z 13452 kHz rpt of above (BR)
14890 RUSSIAN MAN S25 AM 0815 msg 615 615 615 26359, s1. (SD)
14920 ?: Russian Man numbers station, RUS 14.00 (25-04-98) AM Id 683 + 5FG (AB)
14941 WNY FAPSI 1811 (15-05-98) RTTY stn with 2/409 msgs: 11177 00139 80740 15068 00839 (ltrs) 11177 00139 00000 15069

03261 (figs) (BR)
15478 Counting stn 0100 (15-05-98)USB in SS with msg 443(BR)
15478 //16050 The Counting Station/V5 AM (note new parallel) 0100 (15-05-98) YL/SS 3/2FG in progress. (JM4)
15478 Counting stn V5 0100 (13-05-98) USB with msg 446 (BR)
15478 // 16050 e5 0115 utc USB & AM missed start up 3 / 2 ngs both freqs s10dB and better.(CT)
15624 //19884//21866 CHERRY RIPE E4 USB 0100 id 82335, ss3//1//1. (SD)
15624 ?: Cherry Ripe, ? 10.00 (01-05-98) USB too weak to copy id (AB)
15624 // 12056 // 9263 e4 Cherry Ripe 2200 (14-05-98) usb 35910 5ngs. Good signal on all three freqs.(CT)
15624 //19884//21866 CHERRY RIPE E4 USB 0109 id 68368, ss6//8//9. (SD)
15624 //19884//22108 CHERRY RIPE E4 USB 0001 id 64457, ss5//7//9. (SD)
15478 Counting Station e5 0110 usb 3ng / 2ng in ss (CT)
15624 //19884 Cherry Ripe e4 USB 0000 Tuesday 19-5-98 YL/EE 5FGx2 in progress (JM4)
15624 //19884//22108 CHERRY RIPE E4 USB 0001 id 40005, ss9//7//5. (SD)
15624 //19884//22108 CHERRY RIPE E4 USB 0005 id 80775, ss9//7//1. (SD)
15624 //19884//21866 CHERRY RIPE E4 USB 0100 id 47717, ss5//3//3. (SD)
15624 //19884//22108 CHERRY RIPE E4 USB 0001 id 03331, ss9//9//5. (SD)
16174 UNID CW SPOOK 2035 (19-04-98)15 wpm 5CGs w/ character set AMGINDRWUT, ended 2036 w/ AR AR AR VA VA VA. (ANUS)
16216 YBU FAPSI 1400 (16-05-98) RTTY stn with 1/173 msg: 11177 00148 45673 16142 01739 (ltrs) 1410Z 18703 kHz rpt of above (BR)
17499 //20474//23461 CHERRY RIPE USB 2304 E4 id 06195, ss2//1//2 (SD)
17499 //20474//23461 CHERRY RIPE E4 USB 2308 id 82335, ss9//7//5 (SD)
17499 //20474//23461 CHERRY RIPE E4 USB 2326 in progress, ss7//8//5. (SD)
17499 //20474//23461 CHERRY RIPE E4 USB 2300 id 77163, ss9//3//5. (SD)
17499 //20474//23461 CHERRY RIPE E4 USB 2320 in progress, ss8//7//3. (SD)
19884 Cherry Ripe e4 0100 usb tune only very weak.(CT)
19884 Cherry Ripe/E4 USB 0100 (15-05-98)YL/EE 5FGx2 in progress (JM4)
20117 YBU FAPSI 2200 (15-05-98) RTTY stn with ID and 46's - no tfc (BR)

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ML Murray Lehman, Perth, Australia
PD Paul Dorrnbusch, The Netherlands
SD Simon Deneen, Gold Coast, Queensland, Australia
++
XTRA logs:
from the WUN mailing list:
Well its been awhile since I logged this local numbers stn. Yes I said LOCAL. It has to be local seeing as ho the needle was burried on my PCR-1000 and was till 40 over with the attenuatuor on! I have been hearing numbers from this Stn since October of 95 and uuntil now they have always been in SS YL voice, the usal computer generated type. Well now I have alo on occasion been getting spuriuos CUW siug's on my various recievers forever and always thought uiut was a local HAM. NOT! The first time I logged this Numbers stn was 10-95 on 5.420am at 10:00. The old log book also shows 11-95 on 6.825u at 8:00 Now:

5-23-98 6.826 CW 10:15 Unid 5 figure Numbers over at 10:40 with SK's.

I don't do morse as I am dyslexic so I just happen to be at the hamfest this weekend and got the local ARRL section chief dude to have a listen and he thought it was code practice :) "weird" he said as he wrote down the five figure groups :) I just started to smile real wide

and said thanks :) Now I know where all that CW has been coming from! Gunna make a copper tubiung loop, random length, and keep it in the car. Next time this stn fires up I'm gunna do some DFing and try to locate her. Could be Keesler AFB or the CB base or one of those oil rigs that don't pump oil out in the Gulf I saw in MT last year :) All I know is she is close by cause she bleeds over everywhere on all my rx and I'm gunna find out where. I'll report my finding sometime in the fuutre. My luck they are reading this and will never TX again :) Anyone hear this stn? I'd love to get signal levels on it from other QTH's.

Eric KC5WCP P.O. Box 896 Biloxi, MS 39533-0896

YL/SS with 2F/3F groups on 14421 kHz (AM) at 0327 UTC, 5-22-98. It has been many years since I have heard this format. Anyone else catch this? 73s, Brad Low, N5ZIS (Advanced class) QTH: Jacksonville, Texas;

<looks like V5 to me, Brad -Ary->

Don't know who posted this one:

7555 AM starting at roughly 2:59 UTC and still continuing as I type. It is very noisy where I am so all I can make out is that it is for sure in spanish and alpha-numeric, starting with alpha, bravo, etc... etc.. this was the first one I've heard on my receiver...interesting..

Just confirming report from Andy of V7 station.
Was on this morning (Tuesday) at 0600 on 10711. Same ID 725 but with 63 Group message. Was repeated at 0620 on 12211 and 0640 on 13511. Note all frequencies end in 11. Was a very strong S9 Signal

That's characteristic for V06/V07/G07 stns:

GG Lady "000 000 Ende" ending (G07)	sat	0800	10227
		0820	9427
		0840	8127

Hans-Friedrich (Trier, Germany).

All loggings from Phoenix, AZ by Paul F. Reah. Sorry, I had no time for reformatting them but wanted to include them because they are quite new (ed.).

19884	Cherry Ripe e4 0100 usb tune only very weak.(CT)
7680	0400z M8 Cut-numbers Morse - AAWWA GTMWD AMMIA (12-5-98)
4329	0400z V2 Spanish 'Atencion' station - 45022 27336 91371 (12-5-98)
7726	0507z V2 (late start???) 04802 18743 96023 (12-5-98)
6797	0505z V2 starting - 66393 57643 74021 - fairly weak, with QRM - numbers may not have been logged correctly (14-5-98)
4479	0145z V2 in progress (15-5-98)
13375	1600z E3 Lincolnshire Poacher tune barely audible - numbers audible but too faint to make out E3 not audible on other frequencies (16-5-98)
6825	1200z M8 UININ WUDI? DAARN - faint (21-5-98)
17499	2300z E4 03221 possibly; very faint (22-5-98)
5116	0225z M8 in progress - caught start of second group to GMGRN (23/05/98)
6768	0101z Started late w/ second group in header; then headers as normal 'Atencion' 07161 41211 40803 (23-05-98)
7726	0503z V2 in progress - 'fast 5' ('uno dos-cinco ... siete uno') (24-5-98)

000 000 ZNN de JR

-o-o-o-o-o-o-o-o-o- That's all folks. CU next month! -o-o-o-o-o-o-o-o-o-o-

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THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens
106 Anita Drive
Madison, AL 35757-8419, U.S.A.

E-Mail: jdstephens@geocities.com

Let me start of this month's column by extending apologies to John Svendsen of Oslo, Norway. I mistakenly listed his location as Sweden in a previous column. And, a welcome to first time reporter (at least since I started doing the column) Ary Boender, who provides us with a QSL that's definitely unusual for a WUN column, but certainly a treasure and of interest to our readers nonetheless.

Glad to have the WUN list back up and functioning after the lenghty hardware problems at Ameritel. Many thanks to Stan Scalsky for his efforts in getting us back online.

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ESTONIA: Tallinn Rescue. 5680/4125 letter, QSL letter, and ham card in 19 ds. V/s Anton Maiblum (Officer on Duty).
Address: Estonian MRCC, Susta 15, EE0017 Tallinn, Estonia. (JS)

FRANCE: Cross Corsen Coast Guard Radio. 2182 letter in 20 ds. V/s V. Denamur. (JS)

SPAIN: EHY - Madrid Radio. 8728 f/d logo/ship/antenna cd. in 54 ds. for a Spanish report and 1 IRC. Illegible V/s.
NOTE: Station has new address of: Telefonica, Servicio Maritimo, C/ Beatriz de Bobadilla, 3, plta -1, 28040 Madrid, Spain. (JDS)

UKRAINE: USU - Mariupol Radio. 8422.5 f/d QSL card and pocket calendar in 34 ds. for 2 IRCs, which were returned. V/s: V. Borovik - Manager of Broadcast Department.
Address: Azov Shipping Company, 89 Prospekt Admirala Lunina, Mariupol 341010, Ukraine. (JDS)

UNITED STATES: U.S. Navy MARS Station NNN0VNO, Massillon, OH. 14441.5 f/d MARS card in 13 ds. V/s: Perry D. Ballinger. (JDS)

UNITED STATES: U.S. Navy MARS Station NNN0SYN, Virginia Beach, VA. 14441.5 f/d PFC in 9 ds. V/s: Gary Cosendine. (JDS)

UNITED STATES: U.S. Navy MARS Station NNN0UTO, Republic, WA. 14441.5 f/d PFC in 14 ds. V/s: Sean C. Malone. (JDS)

AIRCRAFT:

Air Canada: AC 023 (Boeing 767), C-FBEG, Selcal HP-DM. 6673.0 USB PFC in 23 ds. (PI)

Air Charter France: ACF 4112 (A320), F-GLGN, Selcal EL-FK. 6577.0 USB PFC in 12 ds. (PI)

British Airways: BA 216 (Boeing 747), G-AWNE, Selcal BD-EF. 4675.0 USB

PFC in 31 ds. (PI)

British Airways: BA 66 (Boeing 747), G-AWNF, Selcal BE-GH. 3476.0 USB PFC in 31 ds. (PI)

British Airways: BA 175 (Boeing 747), G-BDPV, Selcal BD-CL. 8879.0 USB PFC in 11 ds. (PI)

Hawaiian Airlines: HA 26 (DC-10), N148AA, Selcal FJ-GH. 5547.0 USB PFC in 41 ds. (PI)

Hawaiian Airlines: HA 9 (DC-10), N162AA, Selcal EJ-HK. 8843.0 USB PFC in 25 ds. (PI)

LTE International Airways: LTE 135 (Boeing 757), EC-EGH, Selcal CM-FH. 8879.0 USB PFC in 28 ds. (PI)

Northwest Airlines: NW 936 (DC-10), N154US, Selcal CE-BH. 6673.0 USB PFC in 32 ds. (PI)

Royal Australian Air Force: RAAF 083 (C-130), A97-005. 8989.0 USB PFC in 26 ds. (PI)

SHIPS, CUTTERS & OTHER SEA VESSELS:

USCG Cutter Venturous (WMEC-625). MARS Station NNN0CTB 14441.5 f/d PFC w/ cutter stamp and picture postcard in 11 ds. V/s: TC1 Alexander J. (?). Note: Last name of V/s was illegible. (JDS)

USS Sirocco (PC-6). MARS Station NNN0COB 14441.5 f/d PFC w/ ship's stamp in 36 ds. V/s: RM1 Mayo. (JDS)

MISCELLANEOUS

OUTER SPACE: Sputnik 40 (RS17). 145.822 QSL card in 112 ds. for report including 2 IRCs and a postcard. Note: The satellite was a mini remake of the original Sputnik that was launched as the first-ever satellite in 1957. It was put in orbit by the MIR crew during a space walk in November 1997. The Sputnik transmitted the same signal as 40 years ago. Beeps, nothing but beeps. Power: 250mW. (AB)

OTHERNESS

Esteemed editor David Wright forwards addresses and/or verie signers for 10 United States Coast Guard Group Offices. (DW)

USCG Group Charleston
196 Tradd Street
Charleston, SC 29401, U.S.A.
ATTN: TCIC (The name associated with the position is TC1 Kevin Miller.)

USCG Group St. Petersburg
600 8th Avenue S. E.
St. Petersburg, FL 33701-5099, U.S.A.
ATTN: Communications
(Name: TCC Larry Beck)

USCG Group Galveston
V/s is TC1 Dave Guyer

USCG Group New Orleans
V/s is TCC Powers

CG Group Southwest Harbor
P.O. Box 5000
Southwest Harbor, ME 04679-5000
ATTN: Telecommunications Specialist In Charge (TCIC)

USCG Group Astoria
2185 SE 12th Place
Warrenton, OR 97146-9693
ATTN: TCIC

Name: TC1 Marla Mayer

U.S. Coast Guard MSO/Group Los Angeles
165 North Pico Ave
Long Beach, CA. 90802-1096
ATTN: COMMCEN
Name: TC1 Clay Sharp

U.S. Coast Guard Group Cape Hatteras
P.O. Box 604
Buxton, NC 27920-0604
ATTN: TCIC

U.S. Coast Guard Group Long Island Sound
120 Woodward Ave
New Haven, CT 06512
Name: TC1 Jim Gust

U.S. Coast Guard Group Woods Hole
1 Little Harbor Road
Woods Hole, MA 02543-1099
ATTN: TCIC
Name: TC1 Laddie D. Novak

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That's a wrap for this month. Why haven't we heard from YOU? Send your QSL information to the E-mail address above, or via snail mail. Help make The WUN QSL Center the best that it can be! See you in a month.

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Abbreviations used:

f/d = Full data p/d = partial data n/d = no data
PFC = Prepared Form Card V/s = Verification Signer
ds = ds SASE = self addressed stamped envelope

A hearty thank you to this month's contributors:

John Svendsen - Oslo, Norway (JS)
David Wright - San Angelo, Texas, U.S.A. (DW)
Peter Ivakitsch - Toronto, Ontario, Canada (PI)
Ary Boender - Spijkenisse, The Netherlands (AB)
Your Editor - Madison, Alabama, U.S.A. (JDS)

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

Howdy folks! This month's features are about the South African Navy, a LW special, the Italian Coast Guard and the 5th part of the TSS series.

Features in upcoming columns: New Zealand special, propagation, and the DF-Circle. Check for an article about the Netherlands' Defence Forces next month's column. A long promised in depth article about Tactical Datalink Systems is on it's way. Look for it in newsletter #6.

I hope that you like it and will also send me your findings and/or articles. Research and looking for new items is very time consuming, and it would be nice if I also could find time to tune in myself. YOU can provide that time by sending me your contributions. Thanks! -Ary-

#MONITOR

The #monitor sound page has moved. The new url is:
http://www.frankfurt.netsurf.de/~mike/usr/wun_wav/index.html

SOUTH AFRICAN NAVY

The SAN Radio facilities at Silvermine were reactivated and upgraded in early 1998 and have extended their transmissions on CW and RTTY. It seems that Silvermine may soon take over the command and control

operations presently exercised by SAN Durban.

The comcen provides a multichannel HF and LF broadcast service, with HF modems for FEC, using 1kW Racal 1860 and 10 kW Racal 3510 and 1810 transmitters. Other services are ship-to-shore links using HF-modem, RATT and CW.; PTP comms; HF voice command rear link comms, maritime rear link comms with ships in Antarctic waters and elsewhere; local command nets; and operations and datalinks for the submarine flotilla. Comcen has also HF links with other SANDF HQ and a stand-alone INMARSAT comm system. The centre is augmented by HF tactical systems at both Silvermine and Durban that can be remotely controlled from Naval HQ in Pretoria. The SAAF has its own maritime operations comcen (interfaced with the SAN system) in the Silvermine complex.

Up to now Silvermine has been concerned mainly with SAR co-ordination, AMVER traffic and watchkeeping, and Navarea VII warnings and wx. ZSO Durban had exercised fleet command and control. It is possible that this will change in the near future.

ZRH is the official callsign for "NAVCOM CENCAPE, SILVERMINE"; it has nothing to do with SAN Simonstown which has only VHF equipment. ZRH sends out occasional test tapes on 75/170 which are often logged with "INT ZBZ" etc.

ZRH is sending a one second burst every two minutes which reads "NAWS 12S087". Transmissions now include 5LG's (this is new for the SAN), Navarea VII warnings and weather, news in English and Afrikaans, SAR and Maritime Rescue Co-ordination, and continuous one second ID/tuning bursts every two minutes. NAVAREA VII is controlled from Silvermine although regular transmissions go out via ZSC Capetown Radio and Globe Wireless, Capetown.

The reason ZRH/ZRQ send VVV's and QSX's like a civilian station is that the SAN regard themselves as having civilian responsibilities. They are, in fact, the Rescue Co-Ordination Centre for SA waters and certainly they always seem to come on the air during marine disasters.

o QSL addresses
  for Silvermine:
     NAVCOMCEN CAPE, SILVERMINE, attention Communications Office
     Private Bag X1, Simonstown 7995, Rep. of South Africa

  or unofficial:
     South African Navy, NAVCOMCEN Cape, attention Communications
     Office, Private Bag X1, Tokai 7966, Rep. of South Africa

  for Durban:
     Officer Commanding, NAVCOMCEN Durban, SAS SCORPION,
     Fleet Mail Office, Fynnland 4020, Rep. of South Africa

  for Pretoria:
  Although SAN Pretoria are not on air and have no callsign, they
  are most probably fully equipped and they have reportedly the
  same extensive antenna farm as Silvermine and Durban.

     HQ South African Navy, Private Bag X104, Pretoria 001,
     Rep. of South Africa

o Transmission modes
  USB
  CW
  RTTY (RATT) 75bd 170Hz
  RTTY (RATT) 75bd 850Hz

o Callsigns
  ZRH   - Silvermine (RTTY transmissions)
  ZRQ   - Silvermine (CW transmissions)
  ZSJ   - Silvermine (CW hailing transmissions)

ZSJxx - Silvermine (CW and AMVER transmissions)
ZRX - Durban
ZSO - Durban and general Navy HQ traffic

o Broadcast designators
S12S and S42D

o Frequencies
Silvermine: ZRH (callsign used for RTTY transmissions)
4247.0 4248.0 4352.2 6495.0 6505.2
8469.2 8470.93 8605.0 12692.2 12849.0
12946.2 12948.0 16964.2 16965.0 17004.2
17005.0 18023.2

Silvermine: ZRQ (callsign used for CW transmissions)
4353.93 6507.0 8470.93 12693.93 16965.93
16866.0 17005.93

Silvermine: ZSJ (callsign used for CW hailing transmissions)
4283.0 6386.5 8566.0 12849.0 17132.0
22522.0 22533.0

Silvermine: ZSJxx (callsigns used for CW and AMVER transmissions)
ZSJ2 4184.5 - 4186.5
ZSJ3 6276.5 - 6280.5
ZSJ4 8290.0 - 8370.5
ZSJ5 12553.5 - 12554.0
ZSJ6 16738.0 - 16738.5
ZSJ7 22281.0 - 22284.0

Durban: ZRX
8488.0 12076.0

Durban and general Navy HQ: ZSO
4032.0 6408.0 8630.0 12204.0

o Typical messages and headers
CQ DE ZSJ QSX AMVER CH3/4/9/10
DE ZRH 6 8 12
DE ZRH QSX 4 6 8 12 16 X X
NAWS S12S623
NAWS S42D/
VVV ZRQ 2/3/4/5/
VVV ZRQ2/3/4/5/
INT ZBZ + 5FG's

Sources: Day Watson, Bob Hall, John Doe, and various anonymous sources -you know who you are- Thanks!

GUARDIA COSTIERA

The Italian Coast Guard, the Guardia Costiera, consists of a number of organizations as mentioned hereafter. The Capitanerie di Porto (COMPAMARE) co-ordinates all coast guard activities.

COMANDO GENERALE = General Command
13 Direzioni Marittime (DIREZIOMARE) = Maritime Directions (M.R.S.C.)
47 Capitanerie di Porto (COMPAMARE) = Harbour Offices
45 Uffici Circondariali Marittimi (CIRCOMARE) = Maritime District Offices
140 Uffici Locali Marittimi (LOCAMARE) = Local Maritime Offices
131 Delegazioni di Spiaggia (DELEMARE) = Beach Offices
3 Nuclei Aerei = Air Groups
1 Sezione Elicotteri = Helicopter Section
2 Stazioni Loran C = Loran C Stations
1 Stazione COSPAS/SARSAT = Cospas/Sarsat Station
1 Nucleo operatori subacquei Guardia Costiera = Coast Guard scuba-divers Group

o Search and Rescue Organization
  In accordance with the GMDSS regulations, the Italian MRCC in Rome listens to the Cospas-Sarsat satellites for ships in distress and is responsible for the co-ordination of the SAR operations within Italian waters and liasing with RCCs in other countries. The actual co-ordination however, is one of the tasks of the Capitanerie di Porto. The 13 DIREZIOMARE are the actual MRCS's. IMRCC, MRSC's and UCG's can, in case of need, request the help of any aircraft or ship, either private or belonging to the State.

o IMRCC Italian Maritime Rescue Coordination Centre. The branches of the MRSC's (COMPAMARE) are between brackets.

 1 MRSC Genova (Imperia, Savona, La Spezia)
 2 MRSC Livorno (Marina Carrara, Viareggio, Portoferraio)
 3 MRSC Roma Fiumicino (Civitavecchia, Gaeta)
 4 MRSC Napoli (Torre del Greco, Castellammare Stabia, Salerno)
 5 MRSC Reggio Calabria (Vibo Valentia, Crotone)
 6 MRSC Bari (Taranto, Gallipoli, Brindisi Molfetta, Manfredonia)
 7 MRSC Ancona (Termoli, Pescara, S.Benedetto, Pesaro, Rimini)
 8 MRSC Ravenna
 9 MRSC Venezia (Chioggia)
10 MRSC Trieste (Monfalcone)
11 MRSC Catania (Milazzo, Messina, Augusta Siracusa)
12 MRSC Palermo (Trapani, Mazara del Vallo Porto, Empedocle)
13 MRSC Cagliari (Porto Torres, Olbia)

o Frequency: 6815 kHz USB

o Callsigns

ICI	IMRCC Rome
ICI 01	MRSC/DIREZIOMARE Genova
ICI 02	MRSC/DIREZIOMARE Livorno
ICI 03	MRSC/DIREZIOMARE RM Fiumicino
ICI 04	MRSC/DIREZIOMARE Napoli
ICI 05	MRSC/DIREZIOMARE Reggio Calabria
ICI 06	MRSC/DIREZIOMARE Bari
ICI 07	MRSC/DIREZIOMARE Ancona
ICI 08	MRSC/DIREZIOMARE Ravenna
ICI 09	MRSC/DIREZIOMARE Venezia
ICI 10	MRSC/DIREZIOMARE Trieste
ICI 11	MRSC/DIREZIOMARE Catania
ICI 12	MRSC/DIREZIOMARE Palermo
ICI 13	MRSC/DIREZIOMARE Cagliari

NA1	1. Nucleo Aereo Capitanerie, Catania-Fontanarossa
NA2	2. Nucleo Aereo Capitanerie, Luni-Sarzana
NA3	3. Nucleo Aereo Capotanerie, Pescara

  Orca.. callsigns belong to aircraft
  Koala... callsigns belong to SH-3D helicopters aboard ships

  LOCAMARE Pantelleria, is so far the only local office that has been reported to WUN/EUNL.

o Vessels of the COMPAMARE

  Fast patrol vessels

CP 239	CP 240	CP 241	CP 242
CP 243	CP 244	CP 245	CP 254
CP 255	CP 256	CP 246	CP 247
CP 248 - IHTB	CP 249	CP 250	CP 251
CP 252 - IHUG	CP 253	CP 226	CP 227
CP 228	CP 229	CP 230	CP 231
CP 232	CP 233	CP 234	CP 235
CP 236	CP 237	CP 238	CP 257

CP 258

Coastal patrol vessels

CP 207	CP 501	CP 502	CP 503
CP 504	CP 505		
CP 601	CP 602	CP 603	CP 604
CP 605	CP 1001	CP 1002	CP 1003
CP 1004	CP 1005	CP 1006	CP 2001
CP 2002	CP 2003	CP 2004	CP 2005
CP 2010	CP 2011	CP 2012	CP 2013
CP 2014	CP 2015	CP 2016	CP 2017
CP 2026 - IHYH	CP 2033	CP 2034	CP 2035
CP 2037 - IHYV	CP 2039 - IHYX	CP 2043	CP 2044
CP 2045	CP 2046	CP 2047	CP 2049
CP 2050	CP 2051	CP 2053	CP 2054
CP 2055	CP 2056	CP 2057	CP 2058
CP 2060	CP 2061	CP 2062	CP 2063
CP 2064	CP 2065	CP 2066	CP 2067
CP 2068	CP 2069	CP 2070	CP 2071
CP 2072	CP 2073	CP 2074	CP 2075
CP 2076	CP 2077	CP 2078	CP 2079
CP 2080	CP 2081		

Further: 5 patrol vessels, type CP 100
12 patrol vessels, type CP 6000
50 patrol vessels, type CP 5000

Search & Rescue vessels

CP 301	CP 302
CP 303	CP 304
CP 305	CP 306
CP 307 Michelle Fiorillo	CP 308
CP 309	CP 310
CP 311	CP 312 Bruno Gregoretti
CP 313 Dante Novaro	CP 314
CP 315	CP 400
CP 401	CP 402
CP 403	CP 404
CP 405	CP 406 Antonio Scialoja - IHDG
CP 407	CP 408
CP 409 Giulio Ingianni - IHMV	CP 451 Bannock - IGUT
CP ???? - IHWG	6 Inflatable rafts

Aircraft

Augusta-Sikorsky SH-3D helicopters
Augusta-Bell AB.412 helicopters
Piaggio P166 DL3 maritime patrol aircraft

Vessels per COMPAMARE (confirmed)

COMPAMARE Trieste operates:
CP 409 Giullio Ingianni - IHMV

COMPAMARE Reggio Calabria operates:
CP 451 Bannock - IGUT
CP 601

COMPAMARE Genova operates:
CP 248 - IHTB
CP 252 - IHUG
CP 406 - Antonio Scialoja - IHDG
CP 806
CP 813
CP 2026 - IHYH

CP 2037 - IHYV
CP 2039 - IHYX
CP 5023
CP 5024

Sources: Capitanerie di Porto, Alf Rosenstock, European Utility Newsletter (EUNL), Rosario Orlando via SW-ITA, Jane's Fighting Ships, European Air Arms, and a special thanks to Fabrizio Magrone for his translations.

Standard frequency and time signal stations on LF and HF, pt.5

Welcome to the 5th part of the TSS series. This month we focus on: VNG, HBG, HD2IOA, YVTO, HLA, JJY, JG2AS and IAM. Next month the final part.

MSF NEWS

Day Watson reports that the National Pyhsical Lab at Teddington are in their annual maintenance period lasting 18 June 1300BST (1200 UTC) to 1 June 1300 BST.

The transmitter is off during the day but is returned overnight. This is because the majority of work is on the aerial during daylight hours and with men working aloft it is turned off. In general it should be there between 1900 BST and 0800 BST.

It appears there is a short break every month whilst the deionised water coolant for the single tetrode transmitting valve is changed. Hopefully they will be changing the transmitter to a solid state variety round the end of the year.

It looks as if the service will be continuing until 2007.

VNG - Australia's Standard Frequency and Time Signal Service

VNG is Australia's standard frequency and time signal service. For many years people and organisations throughout Australia have made use of the timing signals broadcast by VNG. For approximately 23 years, VNG was broadcast from Lyndhurst, Victoria. It was funded by Telstra (formerly Telecom Australia) and the monitoring and research were conducted by their research laboratories at Clayton, Victoria.

In late 1986 the Precise Time Working Group (now the National Time Committee), under the auspices of the Commission, learned of the impending closure of VNG and conducted a survey to ascertain the usage of the service and the scientific and economic impact of its closure. The survey results showed that there was extensive and diverse usage of the service throughout the community; usage which, by the very nature of its application, was difficult to quantify economically.

Following the closure of VNG in October 1987, the Commission convened a seminar to investigate what provisions needed to be made for an intermediate accuracy time service and to consider the extent to which the provisions for high accuracy time comparisons were meeting Australia's needs.

Several alternatives to VNG were discussed but each was found to have significant disadvantages in terms of accessibility and cost compared with VNG's time service. It was recommended by the many participants at the meeting that VNG be reinstated; that the service be recognised as part of Australia's technological infrastructure and be funded by the Federal Government. At this time no single department or authority was identified to fund the operation of VNG.

The VNG Users Consortium was formed to re-establish VNG and to collect donations from former users to dismantle, pack and transfer the transmitting equipment to a new location. More than $10 000 was raised and

the equipment was relocated to AirServices Australia's (formerly the Civil Aviation Authority) International Transmitting Station in Llandilo, NSW. The Australian Surveying and Land Information Group (AUSLIG), agreed to finance the operation of VNG on a partial cost recovery basis from users. Initially, there were both technical and licensing problems, all of which have since been resolved.

As part of its responsibility of coordinating the national measurement system, the Commission took over the funding of VNG from AUSLIG in November 1992 and on 12 January 1993 became the owner of the transmitting licence. The Commission also administers the National Measurement Act 1960 and the Regulations empowered under it. These Regulations define the units of measurement used for legal purposes in Australia, including the units of measurement for time interval.

VNG Technical Details

o Location
  VNG is broadcast from the AirServices Australia, International Transmitting Station, located at Llandilo, NSW, position 33.42.52S, 150.47.33E.

o Transmitters
  The service employs STC double sideband, full carrier AM, HF broadcast transmitters. The 2.5 MHz service uses a STC 4SU55A/S transmitter whilst the 5 MHz, 8.638 MHz, 12.984 MHz and 16 MHz services employ STC 4SU48B transmitters.

o Frequencies, Power and Emission Mode
  The transmitter frequencies, powers and transmission modes are:
  2.5 MHz 1 kW, emission mode to be advised
  5 MHz 10 kW, emission mode 6K00B9W
  8.638 MHz 10 kW, emission mode 3K00A1A
  12.984 MHz 10 kW, emission mode 3K00A1A
  16 MHz: 5 kW, emission mode 6K00B9W
  Note: 8.638 MHz and 12.984 MHz are frequencies on loan from the Royal Australian Navy.

o Antennae
  2.5 MHz monopole (vertical antenna).
  5 MHz Wells quadrant antenna.
  8.638 MHz delta-matched quadrant antenna with a single wire per arm.
  12.984 MHz delta-matched quadrant antenna with a single wire per arm.
  16 MHz: delta-matched quadrant antenna with a single wire per arm.

o Transmission Schedule
  2.5 MHz continuous
  5 MHz continuous
  8.638 MHz continuous
  12.984 MHz continuous
  16 MHz: 2200-1000 UTC

o Voice Station Identification Announcement
  This is provided on the 2.5 MHz, 5 MHz and 16 MHz services only using an AWA digital voice recorder. It is given during the 15th, 30th, 45th and 60th minutes without interruption to the time signal. The speech is "notched" to allow seconds markers to continue and has spectral components around 1000 Hz removed to avoid erroneous operation of tuned relay time circuits.

o Morse Station Identification
  This is provided on the 8.638 MHz and 12.984 MHz frequencies only. It is given during the 15th, 30th, 45th and 60th minutes without interruption to the time signals. VNG is transmitted in slow morse at a frequency of approximately 400 Hz up to six times per minute. Broken idents may occur at the beginning and end of the minute.

o Reception Reports
  All correspondence including reception report and requests for reception

reports (QSLs) should be addressed to:
VNG, National Standards Commission, PO Box 282, NORTH RYDE NSW 2113, Australia.

The reports should be sufficiently detailed to permit verification. Return postage, preferably in the form of an International Reply Coupon (or US$1) would be appreciated from other than VNG Users Consortium members.

o Talking Clock
This gives Coordinated Universal Time as UTC(ATC) each minute, immediately after the minute marker. It operates on 2.5 MHz, 5 MHz and 16 MHz services only.

o Time Delay Through Transmitters
The timing of VNG time signal pips is done prior to transmission. Users who wish to obtain the greatest accuracy could benefit by taking into account the delays introduced by the transmitters. The time delay for the 5 MHz, 8.638 MHz, 12.984 MHz and 16 MHz services is 190 æs. The delay associated with the 2.5 MHz is to be advised.

o Accuracy and Traceability
The time and frequency information broadcast by VNG is traceable to the standards maintained by the Telstra Research Laboratories at Clayton, Victoria. The carrier frequencies and 1 kHz tone broadcast by VNG are within 1 part in 1011 of Telstra's frequency standard (24 hour average value).

The time interval information has the same accuracy as the carrier frequencies except for intervals which are subject to routine step adjustments.

The time of day information is maintained within 100 æs of UTC(ATC) and is typically within 10 æs of UTC(ATC). In turn UTC(ATC) is within approximately 50 æs of UTC.

Unfortunately due to effects such as ionospheric jitter the accuracy of the frequency information received from the VNG broadcasts may be degraded to around 1 part in 107. The time signal accuracy is typically of the order of 1 millisecond.

Japan: JJY and JG2AS

The CRL (Communications Research Laboratory) is responsible for determining and disseminating frequency and time standards including Japan standard time (JST).

The Japanese standard time service is transimittted on 5, 8 and 10 MHz with the callsign JJY. There is also an experimental service on 40 kHz longwave with call sign JG2AS.

A recent e-mail from CRL Japan revealed that CRL is constructing a new LF station that will start transmitting early 1999. This station will replace experimental station JG2AS in Nazaki. The new station will also have a center freq of 40 kHz and a power of 10 kW.

The Japanese Ministry of Posts and Telecommunication announced last year its decision to close down the standard time and frequency station JJY and replace it with the new longwave station in 1999. It is however still uncertain whether all HF transmissions will be silenced or just the 5 and 10 kHz transmissions. JJY is on 5 and 10 kHz often inaudible in western Japan due to severe interference from WWV, WWVH, and other time stations in Russia, South Korea, China, and Taiwan.

Italy: IAM Roma

IAM Rome has been silent for a while, but now the new optical fibre landline is ready, they are back on 5000 kHz. The transmission times

are 0730-0830 and 1030-1130 UTC (one hour later during summer time) on weekdays. Their address is: Ministero delle Comunicazioni, Istituto Superiore CTI, Laboratorio Frequenze Campioni, Ufficio 8 Reparto 2, viale America 201, IT-00144 Rome, Italy.

IBF Turin ceased its transmissions several years ago.

South Korea: HLA Taejon

HLA transmits on 5000 kHz, on Monday-Friday, 0100-0800 UTC. There is a voice announcement each minute between 53-58s . A binary time code is transmitted continuously on a 100 kHz subcarrier.

Switzerland: HBG Prangins

HBG tranmits continuously on 75 kHz. System: second pulses 100ms duration; minute marker: two 100ms interruptions at 00s; hour marker: three 100ms interruptions at 00m 00s; 12h marker: four 100ms interruptions at 00h 00m 00s and 12h 00m 00s. HBG transmits no id.

Ecuador: HD2IOA Guayaquil

HD2IOA transmits on 3810, 5000 and 7600 kHz. The latter two freqs haven't been logged since late 1996. Not sure if they still exist.
Schedule: 3810 kHz, 0000-1200 UTC
5000 kHz, 1200-1300 UTC
7600 kHz, 1300-2400 UTC

There is a voice time announcement in Spanish between 52s-58s and a station id at 59m, on 3810 and 7600 kHz only.

Venezuela: YVTO Caracas

The time signals from the Observatorio Naval Caracas (YVTO) can be heard on 5000 kHz, 24h. There is staion id in Spanish at 40s, each minute, and a time announcement at 52s.

Sources: CRL Communications Research Laboratory, Japan
VNG Users Consortium
Fabrizio Magrone
Klaus Betke
Alex Wellner
Eddy Waters
Graeme Bartlett
Simon Denneen
Admiralty List of Radio Signals, vol.2
IEN Istituto Elettrotecnico Nazionale

UTILITY ROUND-UP
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o SUPER DX
After traveling through space for more than two decades, the Voyager 1 spacecraft is now the most distant human-made object. On February 17th, Voyager 1 surpassed the distance of long-time record holder Pioneer 10. Since being launched in 1977, Voyager has journeyed 10.4 billion km from the Sun. It is racing out of the solar system at 17.4 km per second (39,000 mph). Despite its age and distance, the spacecraft is still functioning and sending back data.
According to NASA, Voyager's 20-watt(!!!) signal is now "so faint that the amount of power reaching our antennas is 20 billion times smaller than the power of a digital watch battery."

o TURKISH MILITARY STATIONS
Alf and Costas reported posible Turkish military stations on SW. Check them out folks, and let us know who they really are!

5690 22.00 UTC tent Turkish Air Force
no NATO spelling, but military ops style using Turkish callwords. Coord. for data on 5691.5 kHz.

5702 17.07 UTC unid Turkish: sounds military
no NATO spelling, but using phrase 'RADIO CONTROL'

5763 18.52 UTC unid Turkish: sounds military
using Turkish callwords, no NATO spelling

3554 17.30 UTC same as 5702??? Frequent calls and references to "____ control". This frequency is in the middle of the 80m CW band.

o THE AMATEUR RADIO INTRUDER WATCH reports Korean traffic on
21391 kHz Mode: USB Date: daily Time: from 17 utc
Most likely ship traffic from the South-Atlantic. Signals are quite strong in Western Europe.

o RAMSTEIN AFB
Markus Buttinger sent a very useful URL. It is the home page of USAF Ramstein and it lists the daily arrivals and departures for Ramstein Air Base. Very useful for the military aero listeners.

http://mobility.ramstein.af.mil/spacea.html

LONGWAVE; LOST AND FOUND

Longwave dxing is a very underestimated part of the hobby. Although we have covered the topic here before, I think that LW-dx really needs a boost. That is the reason for this lengthy article, that crosses the utility borders many times :-) I hope that it will make you see that it is still fun to listen to LW radio!

'LW is dead as a doornail' someone said to me recently. It is of course a fact that more and more stations disappear, but companies as ERF and Datatrak have just discovered LW. So, there is still hope.

Another positive move is the allocation of several HAM bands in the LW spectrum. Although they don't belong in a WUN newsletter, I think I should include them as for many of you, they provide an unique chance to hear a LW station, other than a beacon or LORAN.

In the past we published a very interested article written by Stephen McGreevy about Natural VLF dx, or listening to the aurora. A recap of this article is included here.

o Utility dx on LW
In the past 2 years I published articles about ERF Berlin, Datatrak, navigational systems, Kootwijk Radio, and timesignal stations in this newsletter. So, if you're new to this club -or want to read it again-, check the old newsletters for more info about these subjects.

GWEN, the Groundwave Emergency Network, will be covered in the Digital Review soon. Unfortunately, this network will disappear later this year.

Radio Station Grimeton - SAQ

On 28 May ''CQ CQ de SAQ SAQ'' was transmitted on 17.2 kHz. The reason is that the building with its transmitter and huge antenna array has been awarded the prize of Industrial Monument of 1997. The prize is being awarded today May 28th by Karin Starrin the Governor of Halland County. I found the facts of this historic station on the Grimeton home page.

* Grimeton - the link to America
The experiences from World War I showed that the communication across the

Atlantic did not function well and the interest to establish an increased telegram traffic to America was great. The Riksdag (the Parliament) therefore decided in 1920 that a Swedish long wave transmitting station and a receiving station should be built by the then Telegrafverket.

The circumstance that decided the location of the establishment was that the entire wave propagation path to the receiving station in New York would run across open waters - south of Norway, north of Denmark and Scotland. Grimeton, a village about 10 kilometres east of Varberg, was therefore considered a suitable choice. The open landscapes around the place left the way free for the radio waves out towards the Western Sea and, besides, the name of Grimeton was easy to pronounce for Americans. The "great radio station", as it was called, was then built during the years 1922-24.

The transmitter, the heart of which is an alternating-current generator (alternator), was developed by the Swedish-born engineer Ernst Alexanderson (1878-1975) who was a pioneer in radio engineering, educated in Europe, employed at General Electric in Schenectady outside New York and later on chief engineer at Radio Corporation of America (RCA).

In the autumn of 1923 the establishment, except the six antenna masts, was ready. The construction of the masts was delayed by a general strike at the Swedish ironworks. They were therefore built in 1924 as the last part of the installation. The six 127 meter high masts are still there. The masts were placed at intervals of 380 meters and in their tops 46 meter long cross-arms were attached in order to carry the 12 wires feeding energy into the six vertical radiating elements.

For certain employees a little village with dwelling-houses for seven families was built.

On December 1, 1924, the traffic of the great radio station Grimeton started on 16.7 kHz (wavelength 18,000 meters) with the call signal SAQ.

In the summer of 1925 the formal inauguration of our Swedish transmitter station for wireless telegraphy to America, Grimeton, took place. King Gustav V then arrived by car from the Varberg railway station in company with among others the constructor Ernst Alexanderson.

The Swedish receiving station for transatlantic wireless telegraphy was built in Kungsbacka. Both the transmitting station in Grimeton and the receiving station were connected to the G”teborg Telegraph Station where arriving and outgoing telegrams were dispatched.

Especially during the years of war 1939-45 the Grimeton station was Sweden's possibility to communicate with other countries because telegraph cables were cut off.

Of the some twenty 200-kilowatt Alexanderson transmitters which were built in USA by General Electric and were installed all over the world only this one at Grimeton is left. The unique of Grimeton is the entirety, almost everything that was built in the 1920s is still there. Besides the transmitter, still possible to run, the visitor can find the well preserved buildings, the world unique antenna and the little "radio village". Even the old station truck, a Chevrolet from 1931, is still there in a well-polished state as is also the petrol pump from "Gulf" which can be seen in the station yard.

US Navy's ELF System
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o Extremely Low Frequencies (ELF) and Band Designators.
The acronym ELF is one of a number of band designators defined by the Institute of Electrical and Electronics Engineers (IEEE) to name bands or ranges of the electromagnetic frequency spectrum. Some of the other designators, along with services or applications that use that frequency range are given in the following summary: In some references, the entire frequency range between 3 Hz and 3 kHz is called ELF, with ULF applying

to all frequencies below 3 Hz.

o The Navy's ELF Communication System.
The ELF frequency range is critically important to the Navy because of its value in providing a way to communicate with submerged submarines. As a result of the high electrical conductivity of sea water, signals are attenuated rapidly as they propagate downward through it. In effect, the sea water "hides" the submarine from detection while simultaneously preventing it from communicating with the outside world through normal radio transmissions.

The degree to which a signal is attenuated depends on its frequency, however. The lower the frequency, the more deeply a signal can be received in sea water. In order to receive conventional radio transmissions a submarine must travel at slow speeds and be near the surface of the water. Both of these situations make a submarine more susceptible to enemy detection. Frequencies in the ELF range, however, can be received considerably deeper, and broadcasts using this mode provide a primary link between the nation's commander-in-chief and the submarine force.

One of the great difficulties associated with the use of ELF for communication purposes, is the problem of generating a useful signal. The physical size of an antenna that can produce a useable signal with reasonable efficiency is inversely proportional to the frequency. For example, an antenna useful for cellular telephone frequencies, need only be several inches long to be completely effective. At ELF, on the other hand, a reasonably efficient antenna must be quite large.

The ELF system, which became operational in 1989, uses two transmitting antennas, one in Wisconsin and one in Michigan. The two sites must operate simultaneously to meet worldwide coverage requirements. Each antenna looks like a power line, mounted on wooden poles. The Wisconsin antenna consists of two lines, each about 14 miles long. The Michigan antenna uses three lines, two about 14 miles long and one about 28 miles long. Each site has a transmitter building near the antenna. The transmitter facility in Michigan uses about six acres of land and the o ne in Wisconsin about two acres. The operating frequency is 76 Hz.

The construction required no relocation of people or buildings. The antenna location in State and National forests avoided buildings, historic sites, villages, and towns. Construction contractors coordinated extensively with the Michigan Department of Natural Resources and the U.S. Forest Service to avoid rare vegetation and to repopulate the easement with local flora.

WHAT MORE CAN I HEAR?

Except for beacons, you really can hear a lot more. Here is a summary:

kHz	Call	Station	Mode
16.0	GBR	Ny Rugby (G)	RTTY 75 Bd
16.4		Unid	RTTY
16.8		Unid	RTTY
18.1	RDL	Ny (RUS)	RTTY 100 Bd, CW
18.2	VTX3	Ny Vijayanarayanam (IND)	CW
18.3		Unid (F Ny Le Blanc?)	RTTY 200 Bd
19.0	GBZ	Ny Criggion (G) ?	RTTY 100 Bd
19.6		Unid	RTTY
20.3		Unid	RTTY 100 Bd
20.9		Unid	RTTY 200 Bd
21.1	RDL	Ny (RUS)	RTTY 100 Bd, CW
21.4		Unid	RTTY
21.7		Unid	RTTY 200 Bd
23.4	DHO38	Ny Saterland-Ramsloh (D)	RTTY 50 Bd, 200 Bd
24.0	NAA	Ny Cutler (ME, USA)	RTTY 200 Bd
25.0	RJH63	Krasnodar TS (RUS)	CW

25.0	RJH66	Bishkek TS (KGZ)	CW
25.0	RJH69	Molodecno TS (BLR)	CW
25.0	RJH77	Arkhangelsk TS (RUS)	CW
25.0	RJH99	Nizhny Novgorod TS (RUS)	CW
25.0	RAB99	Khabarovsk TS (RUS)	CW
26.4		Unid (US Navy?)	RTTY 200 Bd
28.5		Unid (US Navy?)	RTTY
37.5		Unid	RTTY 200 Bd
38.0	SHR	Ny Ruda (S)	CW, RTTY 50 Bd
40.4	SAS ?	Ny Varberg (S) ?	CW, RTTY 50 Bd
40.8		Unid (NAM, USNy Norfolk?)	RTTY 200 Bd
45.9		Unid (USNy Catania, I?)	RTTY 200 Bd
49.0		Unid	RTTY 50 Bd
51.9		Unid	RTTY 100 Bd
53.0	DHJ59	Ny Wilhelmshaven	RTTY 75 Bd
53.4		Unid	RTTY 100 Bd
57.4		Unid	RTTY 75 Bd
57.7		Unid (NOR ?)	RTTY 75 Bd
60.0	WWVB	Ft. Collins TS (CO, USA)	CW
60.0	MSF	Rugby TS (G)	CW
61.8		Unid	RTTY 100 Bd
62.6		Unid (French Navy?)	RTTY 200 Bd
63.8		Unid	RTTY 200 Bd
64.6		Unid	RTTY 75 Bd
66.7	RBU	Moskva TS (RUS)	AM, CW
68.0		Unid	RTTY 100 Bd
68.9		Unid (D Ny ?)	RTTY 75 Bd
73.2		Unid; Royal Navy?	RTTY 75 Bd
75.0	HBG	Nyon (Prangins) TS (SUI)	CW
77.5	DCF77	Mainflingen TS (D)	CW, PSK
78.2		Unid (Royal Navy?)	RTTY 75 Bd
81.0		Unid	RTTY 50 Bd
82.8	MKL	RAF Pitreavie Castle (G)	RTTY 75 Bd, CW
87.0		Unid	RTTY 75 Bd
87.8		Unid	RTTY 75 Bd
100.0		LORAN worldwide	
111.3	SOA211	Warszawa Meteo (POL)	RTTY 50 Bd
111.8		Unid	Unid Mo-Fr during daytime
118.8		Unid	RTTY 100 Bd
120.9		Unid	RTTY 75 Bd
122.3	OUA	Ny Aarhus (DNK)	CW, RTTY 75 Bd
123.7	DCF42	Telekom Mainflingen (D)	SSB-2-PSK DGPS Service
125.8		Unid	RTTY
129.1	DCF49	EFR Mainflingen (D)	ASCII 200 Bd teleswitching data
129.5	SOA212	Warszawa Meteo (POL)	RTTY 50 Bd
130.0		Unid	RTTY 75 Bd
135.0		Unid	RTTY
139.0	DCF39	EFR Mainflingen (D)	ASCII 200 Bd // 129.1
141.4		Unid	RTTY
145.0		Unid	RTTY
147.3		DDH47 Hamburg Meteo (D)	RTTY 50 Bd
147.8		Unid (Italian Navy?)	RTTY 75 Bd, 100 Bd

GWEN operates on VLF frequencies between 150 and 175 kHz. The mode used is encrypted FSK. The packet-like bursts are only a few seconds long. There is a sound sample available on our sound page.

DATATRAK transmissions have been noted on the following LF freqs in pairs of 2 stations: 131.75, 132.25, 132.85, 133.25, 144.65 and 146.45 kHz. Transmission speed is 49.75 baud.

DECCA frequency list

Purple	Master	Red	Green	Name and number of the chain
71.138	85.365	113.820	128.048	Danish chain (7B)
70.833	85.000	113.333	127.500	English chain (5B)
71.213	85.455	113.940	128.183	Finnmark chain (7E)

71.433	85.720	114.293	128.580	Frisian chain (9B)
71.058	85.270	113.693	127.905	Gulf of Finland chain (6E)
71.363	85.635	114.180	128.453	Hebridian chain (8E)
71.508	85.810	114.413	128.715	Helgeland chain (9E)
71.438	85.725	114.300	128.588	Hokkaido chain (9C)
70.458	84.550	112.733	126.825	Holland chain (2E)
71.208	85.450	113.933	128.175	Irish chain (7D)
71.142	85.370	113.827	128.055	Kyoshu chain (7C)
70.613	84.735	112.980	127.103	Lofoten chain (3E)
70.688	84.825	113.100	127.238	North Baltic chain (4B)
70.913	85.095	113.460	127.643	North Bothnian chain (5F)
70.538	84.645	112.860	126.968	North British chain (3B)
70.988	85.185	113.580	127.778	North Scottish chain (6C)
70.379	84.455	112.607	126.683	Northumbrian chain (2A)
70.463	84.555	112.740	126.833	Salaya chain (2F)
71.583	85.900	114.533	128.850	Skagerak chain (10B)
70.083	84.100	112.133	126.150	South Baltic chain (0A)
71.292	85.550	114.067	128.325	South Bothnian chain (8C)
70.238	84.285	112.380	126.428	South Persian Gulf chain (1C)
71.437	85.725	114.300	128.588	SW Africa chain (9C)
70.233	84.280	112.373	126.420	SW British chain (1B)
70.763	84.915	113.220	127.373	Trondelag chain (4E)
70.163	84.195	112.260	126.293	Vestlandet chain (0E)

Note that the Norwegian stations in the above chains are not operational anymore.

AMATEUR RADIO / CAVE EXPLORATION

o The British 73 kHz band and CREG

The British Cave Research Association is charity whose object is to promote the study of caves and associated phenomena. The CREG (Cave Radio & Electronics Group) is a Special Interest Group of the BCRA. The Group exists to "encourage the development and use of radio communication and other electronic and computer equipment to caving and related activities". The frequency used for through-rock communication is 75 kHz.

In the spring of 1996, the UK Radiocomm. Authority allocated 71.6 to 76.4 kHz to holders of Class A amateur licenses in the British Isles. This happened after pressure from the cave rescue people for a band low enough to work well underground. Operation is initially on an experimental basis. Activity is not limited to caving, however. Basically, operating specifications are:

Frequency: 71.6 kHz to 74.4 kHz
Non Interference Basis
ERP: 0dBW (1 Watt)
Modes: All that fit the bandwidth.
No mobile or maritime mobile.

CREG members even succedeed to get a SSTV signal through from underground on 75 kHz. Wouldn't that be a super catch? British amateurs have been experimenting on 73 kHz for over a year and several are now achieving distances in excess of 200 kilometres on that band.

The Radio Society of Great Britain, suggests that 73 kHz operators should listened daily at 11:00 - 11:15 and 23:00 - 23:15, especially Saturdays and Sundays. Listeners are also invited to send their reports promptly to encourage 73 kHz experimenters.

o 136 kHz band in the UK and on the Continent

Allocated band: 135.7 to 137.8 kHz. On January 30, 1998, the United Kingdom opened the band within its borders, soon followed by other countries. At the moment stations from the UK, Ireland, Germany, Finland, Belgium, Switzerland and France have been copied in about every mode available to radio amateurs.

o Australia, New Zealand, Papua New Guinea

Amateurs in this region have been looking to longwave frequencies for some time. Hams in Papua New Guinea and New Zealand have had operating privileges on 160-190 kHz and 165-190 kHz, respectively, for several years. Australians have been able to operate by special permit. Contacts over distances of more than 150 miles have been made between ZL hams and experimental licensees in VK. One-way reception of ZL stations at 1100 km has also been reported in Australia.

There is now movement toward permanent status of a longwave ham band "down under." The Australian Communications Agency is working on a proposal for a ham band from 100 to 200 kHz.

o North America

Lowfers, Low Frequency Experimental Radio Stations, can be found in the 160-190 kHz band, in the USA and Canada. The LWCA supplied a list of these stations:

WESTERN LOW FREQUENCY BEACONS REPORTED

FREQ	ID	LOCATION	GRID	OPERATOR/SKED
178.500	X	Wheatland, WY	DN72	Max Carter; back on
180.000	G	Palo Alto, CA	CM97	Herb Vanderbeek WY6G
181.167	IZJ	San Gabriel, CA	DM04	Ed Phillips W6IZJ, 1000-0600 UTC
182.518	NR	Riverside, CA	DM13	Bill Gates N6WHP 9a-9p Sat., Sun.
183.160	PRK	Saratoga, CA	CM97	Dan Smith K6PRK
183.500	PLI	Burbank, CA	DM04	Dave Curry WD4PLI; CCW
183.500	ELU	Simi Valley, CA	DM04	R. Seden WD6ELU SSB Wkend 8A-5P
183.500	Z	Layton, UT	DN41	Pete Smith K7ZTM
183.544	MEL	San Jose, CA	CM97	Mitchell Lee; temp. off
184.300	SB	Santa Barbara, CA	DM04	WB6RIJ; CCW, BPSK; Wkend 8a-12p
187.088	M	Westmorland, CA	DM22	Mark Monte AB6ZQ; back on
187.370	HM	Prescott, AZ	DM34	Howard Myers W7ILW; except rain
187.500	TAL	Tacoma, WA	CN87	John Lyman; Fri PM - Mon AM. ??
187.650	HDO(null)	Morro Bay, CA	CM95	Cliff Buttschardt; BPSK
188.920	DJL	Newbury Park, CA	DM04	Darwin Long IV, CCW 24h exc. rain
189.600	IDF	Idaho Falls, ID		Tod Olson; alt BPSK/CW

EASTERN/CENTRAL/CANADIAN LOW FREQUENCY BEACONS

FREQ	ID	LOCATION	GRID	OPERATOR/SKED
983 Hz!!!	R	Durant, OK	DM23	John R. Wright, by Request
174.600	8TXT	Sandusky, OH	EN81	Michael Agsten WA8TXT
175.000	D	Des Moines, IA	EN31	Tom Gruis, K0HTF; alt 164.44
175.388	KRY	Chardon, OH	EN91	Joe Saloka WB8KRY; thru March
177.900	MPK	Chittenango, NY	FN23	Donald Moth W2MPK
178.600	ZWI	Baldwinsville, NY	FN13	Howard Mortimer WB2ZWI
179.860	FL	Silver Spring, MD	FM19	Fred Larrick N3FL; by Req.
180.000	K3DI(?)	Arnold, MD	FM19	Dick Wilder K3DI; VFO; by sked.
181.50	I	Princeton, MN		Jim Strong K0PM; ID may change
181.620	RL	Herndon, VA	FM18	Robt. Laney WB7PZU; exc. storm
182.500	UD	Wakefield, QC		Don Dawson VE2UD; intmtt
182.700	TFQ	Centertown, KY	EM67	Doug Smith WB4TFQ; 24h wkend/hol.
184.320	IA	Marion, IN	EN70	Robert J Fear; ASCII/Baudot
184.320	YWK	Crossroads, GA	EM74	Will Payne N4YWK; alt 184.273
184.320	RI	Rifton, NY	FN21	Pierre Thomson
184.400	TEXAS	Haslet, TX	EM12	Bill Cantrell WD5CVG CW&BPSK
184.500	JDH	Bonaire, GA	EM82	John Hoopes; BPSK day/CW night
184.700	XJ	Peebles, OH		William Diggins
184.877	R	Durant, OK	DM23	CW, John Wright; intermtt.
185.000	RED	Wausa, FL	EM70	Cecil Wadford; BPSK
185.000	KC	Bloomfield, NY	FN12	Kevin Carey
185.700	JPH	Riverdale, MD	FM18	J. Patrick Harrington N3IZV
185.900	3SCO	Scarborough, ON	FN03	Scott Reynolds, VE3SCO
186.320	P	Cornish, NH	FN33	John T. Collins KN1H
186.375	BA	Lancaster, IL	EM68	Brice Anderson W9PNE, 24 hr
186.750	LEK	Aitkin, MN	EN36	Lyle Koehler; CCW, BPSK

186.800	MS	Scottsburg, IN	EN78	Michael Stidam
186.800	CUL	(Unidentified)		(Heard by BA in December)
186.890	VPMO	Valley Park, MO		Gary G. Herbst
186.920	RB	?		Bob Bicking, W9RB; new
186.986	BOB	Mahomet, IL	EN50	Bob Hoffswell AA9DH
187.400	ALF	St. Louis, MO	EM48	Off
187.460	BK	Shell Lake, WI		Bruce Koehler; back on
187.470	JMN	Arden, NC		Jeff Nicklaw KF4PZA; intmtt; new
187.500	WA	Andover, MA	FN42	Bill Ashlock
187.500	YD	White City, FL	EL79	Bernie Pridgeon, KQ4YD
187.500	K	Oak Ridge, TN		Michael Coffey Jr. KE4QDZ; new
187.780	MOO	Monroeville, NJ	FM29	Norm Harbison Jr K2NH, Intmt
187.800	VA	Smith Mtn Lake, VT	FM07	Bart Prater, N4ZV
188.150	YHO	Mason, OH	EM79	Bill Dawson, K8YHO
188.540	MEP	Paragould AR (5mi SW)	EM46	Larry Caldwell, N5MEP
188.780	IMG	Crystal, MN ?	EN35	Sam Eastey
188.810	R	Durant, OK	DM23	BPSK; intermitt.; see 184.877
189.050	NC	Stanfield, NC	EM95	Dexter McIntyre W4DEX; new calls
189.200	SAM	Crystal, MN	EN35	Sam Eastey W0IMG
189.200	GIR	New Eagle, PA	FN00	George M. Jacob KA3GIR
189.300	ARK	Leslie, AR	EM35	Len Engstrom W9ECH Nov 1-Apr 1
189.360	TH	Colts Neck, NJ	FN20	Carl Lundgren Jr W2AZQ
189.800	RM	Duluth, MN	EN36	Roger Magnuson K0MVJ
189.950	OK	Davenport, OK	EM15	Bill Bowers 24h/7d

NATURAL VLF

o What is Natural VLF? by Stephen McGreevy

Few people know of and even less people have been fortunate enough or had the gumption to tune into the beautiful radio "music" produced naturally by several processes of nature including lightning storms and aurora, aided by events occurring on the Sun. I have been fascinated with listening to naturally-occurring radio signals since about the middle of 1989, hearing my first whistlers almost immediately after irst trying out a rudimentary receiving apparatus I had put together for the occasion. Whistlers, one of the more frequent natural radio emissions to be heard, are just one of many natural radio sounds the Earth produces at all times in one form or another, and these signals have caught the interest and fascination of a small but growing number of hobby listeners and professional researchers for the past four decades.

"Natural Radio", a term coined in the late 1980's by California amateur listener and researcher Michael Mideke, describes naturally-occurring electromagnetic (radio) signals emanating from lightning storms, aurora (The Northern and Southern Lights), and Earth's magnetic-field (the magnetosphere). The majority of Earth's natural radio emissions occur in the extremely-low-frequency and very-low-frequency (ELF/VLF) radio spectrum specifically, at AUDIO frequencies between approximately 100 to 10,000 cycles-per second (0.110 kHz). Unlike sound waves which are vibrations of air molecules that our ears are sensitive to, natural radio waves are vibrations of electric and magnetic energy (radio waves) which though occurring at the same frequencies as sound cannot be listened to without a fairly simple radio receiver to convert the natural radio signals directly into sound.

* What are Sferics?

Sferics are the snap, crackle, and pop of lightning-stroke electromagnetic impulses from lightning storms within a couple thousand miles of the receiver; the more powerful the lightning stroke or the closer it is to the VLF receiver's location, the louder the pops and crashes of sferics will sound in the headphones. Several million lightning strokes occur daily from an estimated 2000 storms worldwide, and the Earth is struck 100 times a second by lightning. At times the receiver's output is a cacophony of crackling and popping sferics from lightning strokes originating in storms near and far.

These huge sparks of lightning strokes are powerful sources of electromagnetic (radio) emission throughout the radio frequency spectrum, from the

very lowest of radio frequencies up to the microwave frequency ranges, and the visible light spectrum. However, most of the emitted electromagnetic energy from lightning is in the very lowest part of the radio spectrum, from 0.1 to 10 kHz. The radio pulses produced by lightning strokes travel enormous distances at these very low radio frequencies, following the surface of the Earth as ground waves.
It is interesting how generally quiet and lightning sferic-free the hours are from just after sunrise to midmorning, when thunderstorms tend to be at their minimum. Later, the crackling and popping of lightning sferic activity picks up as afternoon thunderstorms build in numbers and intensity.
Weather monitoring agencies employ special receivers and directionfinding equipment in order to determine where lightning strikes are occurring and the potential for wildfire ignition, hazards, to aviation, and damage to electric power utilities from those lightning strikes.

* What are Whistlers?
Whistlers are magnificent sounding bursts of ELF/VLF radio energy initiated by lightning strikes which "fall" in pitch. A whistler, as heard in the audio output from a VLF "whistler receiver", generally falls lower in pitch,
from as high as the middle-to-upper frequency range of our hearing downward to a low pitch of a couple hundred cycles-per-second (Hz). Measured in freq terms, a whistler can begin at over 10,000 Hz and fall to less than 200 Hz, though the majority are heard from 6,000 down to 500 Hz. Whistlers can tell scientists a great deal of the space environment between the Sun and the Earth and also about Earth’s magnetosphere.

The causes of whistlers are generally well known today though not yet completely understood. What is clear is that whistlers owe their existence to lightning storms. Lightning stroke energy happens at all electromagnetic frequencies simultaneously that is, from "DC to Light". Indeed, the Earth is literally bathed in lightning-stroke radio energy from an estimated 1,500 to 2,000 lightning storms in progress at any given time, triggering over a million lightning strikes daily. The total energy output of lightning
storms far exceeds the combined power output of all man-made radio signals and electric power generated from power plants. Whistlers also owe their existence to Earth’s magnetic field (magnetosphere), which surrounds the planet like an enormous glove, and also to the Sun. Streaming from the Sun is the Solar Wind, which consists of energy and charged particles, called ions. And so, the combination of the Sun’s Solar Wind, the Earth's magnetic field surrounding the entire Planet (magnetosphere), and lightning storms all interact to create the intriguing sounds of whistlers.

* What is Auroral Chorus?
Occasionally, shortly after sunrise and even extending into the midmorning, a phenomenon called "Dawn Chorus" may occur. Dawn chorus can resemble the sound of a flock of birds singing and squawking, dogs barking, or sound like whistlers raining down by the hundreds per minute (called a "whistler storm"). Dawn Chorus results from hundreds of overlapping, rapidly upward rising tones that can be continuous or appear in bursts, called chorus trains. Chorus trains sound fascinating--the bursts of chirps and squawks (risers) seem to suddenly commence, and over the course of two to five seconds, weaken and fade away, then repeat over again, often in different pitches. Bursts of chorus trains happening at different octaves can overlap in a beautiful cacophony.

Dawn chorus occurred several times a month during years of high sunspot activity after solar flares and/or coronal mass ejections on the Sun send a barrage of charged particles into the Earth's magnetic field, causing a geomagnetic storm and also producing Aurora. In years of low-sunspot counts and few solar flares, coronal mass ejections from the Sun can still cause magnetic storms once or twice a month. Chorus doesn't always only occur at dawn, especially for listeners located at higher latitudes, particularly in southern and central Canada, Alaska, and in northern Europe. This auroral zone is source to a vast amount of natural VLF phenomena. During auroral displays, chorus is often heard, as well as "hiss" of various pitches,

"sliding-tone emission" which eerily and weirdly rise in pitch slowly over one to several seconds duration. The chorus which occurs during displays of Aurora is called "Auroral Chorus".

BROADCASTING STATIONS
There are still a number of broadcasting stations active on LW. Here is the list. Note that the transmitter sites of most of the ex-Soviet stations are located in various countries. I listed only one country per station.

153 kHz:	Radio Alger, ALG	DLF Koeln, D
	Radio Romania, ROU	Radio Vostok, RUS
	Radio Rossii, RUS	Radio Yunost, RUS
	Radio Orbita, RUS	Radio Mayak, TKM
162 kHz:	France Inter, F	Radio Rossii, RUS
	TRT 2, TUR	Radio Uzbek, UZB
164 kHz:	Radio Ulaanbaatar, MNG	
171 kHz:	Radio Odin, BLR	Medi 1, MRC
	Radio Rossii, RUS	Radio Ukraine Intl, UKR
177 kHz:	DLR Berlin, D	
180 kHz:	Kazakh Radio, KAZ	Radio Mayak, RUS
	Radio Rossii, RUS	TRT 2, TUR
183 kHz:	Europe 1, D	
189 kHz:	Radio Georgia, GEO	Radio Odin, GEO
	RAI 2, I	Rikisutvarpid, ISL
	Radio Rossii, RUS	
198 kHz:	Radio Alger, ALG	BBC 4, G
	Radio Orbita, KGZ	Radio Mayak, RUS
	TRT 1, TUR	
207 kHz:	DLF Koeln, D	Rikisutvarpid, ISL
	Radio Jordan, JOR	RTM Rabat, MRC
	Radio Mayak, RUS	Ukrayinsko Radio, UKR
209 kHz:	Radio Ulaanbaatar, MNG	
216 kHz:	Azerbaizan Radio, AZE	TWR Europe, MCO
	Radio Monte Carlo, MCO	NRK, NOR
	Radio Vostok, RUS	Radio Rossii, RUS
225 kHz:	Polskie Radio, POL	Radio Rossii, RUS
	TRT 1, TUR	
227 kHz:	Radio Ulaanbaatar, MNG	
234 kHz:	Radio Odin, ARM	RTL, LUX
	Radio Rossii, RUS	Radio Tikhy Okean, RUS
243 kHz:	Danmarks Radio, DNK	Kazakh Radio, KAZ
	Radio Tikhiy Okean, RUS	TRT 1, TUR
252 kHz:	Radio Alger, ALG	Radio Algeria Intl, ALG
	Radio Armenia, ARM	Radio Odin, RUS
	Radio Liberty, RUS	Radio Tajik, TJK
254 kHz:	Atlantic 252, IRL	
261 kHz:	Radio Horizont, BUL	Radioropa Info, D
	Radio Rossii, RUS	

270 kHz: Radiozurnal, CZE
Radio Orbita, RUS
Radio Transibirskaya, RUS
Radio Rossii, RUS

279 kHz: Belaruskaje Radio, BLR
Radio Rossii, RUS
Radio Tikhiy Okean, RUS
Turkmen Radio, TKM

Acknowledgement / sources:
I'd like to thank all of you who sent me information about the subject. A very special 'THANKS!' to the Longwave Club of America (LWCA), who was very helpfull and supplied the LOWFER list and a lot of other info. The LWCA is a club that specialized in LW dxing. They have an informative home page and news service. You can find them on:

http://members.aol.com/lwcanews/index.html

Other sources: CREG, RSGB, ARRL, WRTH, BDXC, DXA, US Navy, ARLS, NELS, Grimeton Radio home page. Special thanks to Alan Gale and Klaus Betke, and Stephen McGreevy for his Natural VLF article.

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THE MILITARY NEWSREEL

---- Military Information of use to the UTE monitor ----

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Welcome to another Military Newsreel. In this edition we have a lot of good news items. First, we start out with some corrections to the RAN Focus we did last time...Robert Williams wrote:

> Can I give you some corrections to you material on the RAN from the last newsletter.
>
> 1. The RAN HQ is located in Canberra, in the Australian Capital Territory. It is not part of NSW, even though the territory is surrounded by NSW.
>
> 2. HMAS Platypus is located at Neutral Bay, Sydney Harbour, NSW, not Darwin.

Thanks, Robert for the information. Now, on to the news where we'll start out down under...

- Military News -

Courtesy - Royal Australian Navy Public Affairs
Tuesday, 5 May, 1998

Four personnel from Royal Australian Navy tanker HMAS WESTRALIA are confirmed dead after a fire onboard the ship. A fire broke out in the main machinery space near the stern of the ship at around 1100 local WA time and was extinguished at 1235 local time.

When it was detected the ships standing firefighting party attacked the fire and conducted a search for engine room personnel. After the firefighting party was driven back by the fire the Commanding Officer, Commander Stuart Dietrich, ordered the activation of the ship's fixed fire fighting system 'CO2 drench' which starved the blaze of oxygen WESTRALIA was taken in tow to safe waters by a civilian tug.

Five sailors treated for minor burns, smoke inhalation and shock onboard by Medical Officers have now been medevaced to St John of God Hospital by Royal Australian Navy helicopter for further treatment.

A RAN Critical Incident Stress Management Team have been flown out to

counsel the crew onboard the ship. A board of Inquiry will be convened to investigate the incident and to ascertain the cause of the fire.

LANGLEY AIR FORCE BASE, Va. (AFNS) -- The legendary SR-71 Blackbird, a pioneer in reconnaissance aircraft, will be permanently retired from Air Force operations.

The decision follows the secretary of defense's approval March 6 to permanently retire the aircraft following the president's line-item veto of the Defense Appropriations Act in October.

The Air Force currently owns six SR-71 reconnaissance aircraft. Two SR-71A operational models were brought back to active duty in 1995 at the direction of Congress; two, including the SR-71B trainer model, are on loan to NASA for their high-altitude testing program; and two remain in returnable storage.

The Air Force is currently planning for final disposition of the airframes and associated material. Some of the SR-71 reconnaissance systems will be transferred to the U-2 and other programs. Some equipment will be transferred to NASA to support its program. Material not transferable to other programs will be disposed.

Any airframes not required by NASA will either be transferred to Air Force bases for permanent display or sent to the Aerospace Maintenance and Regeneration Center at Davis-Monthan Air Force Base, Ariz. There the airframes would await U.S. Air Force Museum disposition.

Known as the Blackbird, the SR-71's existence was first announced by former President Lyndon Johnson in 1964. Although operationally assigned to the 9th Reconnaissance Wing at Beale AFB, Calif., the program was operating at Edwards AFB, Calif.

While in the Air Force inventory, the SR-71 set numerous world high-altitude and speed records. On July 28, 1976, an SR-71 flew 2,194 mph to set both the world absolute and class speed records over a 15- to 25-kilometer straight course. That same day, another SR-71 flew to 85,069 feet setting the record for sustained horizontal height.

CRESTVIEW, Fla. (AFNS) - The Air Force received the first production-modified MH-53J Pave Low III helicopter from Lockheed Martin Federal Systems at a ceremony here April 17.

The modification, called the Interactive Defensive Avionics System/Multi-Mission Advanced Tactical Terminal, or IDAS/MATT, provides aircrews with a new level of readiness and efficiency said Brig. Gen. Michael Wooley, Air Force Special Operations Command vice commander.

The helicopter's of the 20th Special Operations Squadron, Hurlburt Field, Fla., will be the first to receive the new capability. Two prototype IDAS/MATT modified MH-53Js, are already in use by the 20th SOS.

A color, multifunctional, night-vision compatible digital map screen is the most visible hardware in the system. Located on the helicopter's instrument panel, the display gives an MH-53 crew a clearer picture of the battlefield. Crews have instant access to real time events, including the aircrew's flight route, man-made hazards such as power lines and even enemy threats that are "over-the-horizon."

Beamed from a satellite to the helicopter's computer and then decoded, the data from the screen provides a 3-D perspective of surrounding terrain, including contour lines and colorized elevation bands.

According to AFSOC officials, this gives crews near real-time intelligence data and reduces their workload.

"I can now see threats right in front of me, from towers and power lines to a surface-to-air-missile," said Lt. Col. Scott Schafer, an MH-53J Pave Low III pilot and chief of the aircraft acquisitions branch at AFSOC headquarters.

Besides the map display a navigational display provides digital course and bearing information with the push of a button.

The heart of the system, advanced software, includes an integrated electronic warfare system. Infrared countermeasure controls, including missile warning, radar warning and jammer inputs as well as chaff and

flare countermeasures, are on one display. Crews will receive instant cautions and advisories on threats with immediate recommendations, including when to dispense countermeasures.

"With IDAS/MATT, if the computer senses a threat, it will anticipate the threat with a direct action the crew can take," said Maj. Jeff Zak, MH-53J pilot and chief of AFSOC's rotary wing program. "It will read, `missile launch, break left now!'"

The entire system was designed with the crew member as a priority in consolidating a variety of functions, say Pave Low crews. Special attention was made to display visible instrument panel functions with easy console access while increasing the efficient flow of information.

"Everything is in the right place and easy to get to," said Zak.

In a battlefield situation, concise and near real-time information is perhaps an air crew's most reliable asset. With IDAS/MATT the probability of being detected by the enemy is greatly reduced.

"Harnessing instant access to the total battlefield picture, air crews will be more situationally aware and they'll be able to avoid enemy forces and detection," Wooley said. "This will increase overall mission success and the return of our nation's most valuable resource, the valiant folks who fly this aircraft."

AFSOC intends to eventually put the IDAS/MATT type of technology on all of its aircraft. The system can be readily transferred to other SOF platforms and is included in the basic design of the CV-22 Osprey, AFSOC's next generation of aircraft, said Zak.

The tilt-rotor CV-22 is expected to eventually replace the MH-53J, the MH-60G Pave Hawk as well as the MC-130 Combat Talon I.

"You don't want to go back to the other models after you've flown with the IDAS/MATT," said Staff Sgt. Jeff Franco, a 20th flight engineer who worked the initial integration of the system for the 20th's operational use.

SAN DIEGO (NNS) -- Pearl Harbor survivors and their families from throughout the United States will gather May 30 at Naval Air Station North Island, San Diego, to attend the commissioning of dock landing ship Pearl Harbor (LSD 52).

The ship will be homeported in San Diego. It will carry combat ready Marines and air-cushioned landing craft to transport troops and equipment ashore. It will also contain a permanent display of artifacts from the attack on Pearl Harbor.

"May 30, 1998, has taken many years of vigilance," Gordon Jones of Chula Vista, Calif., said. "The Pearl Harbor Survivors have waited more than 50 years for this day to happen. This is a Navy ceremony and will honor those who served at Pearl Harbor."

Jones is a retired chief petty officer who survived the attack at Kaneohe Bay Naval Air Station as a member of Patrol Squadron 14.

"The Pearl Harbor (LSD 52) is a proud ship defending the honor and integrity of America and the Pearl Harbor Survivors Association," according to Arthur A. Kowalski, a San Diego resident. "She'll become a visible memorial to those that will be remembered for generations to come." Kowalski dodged bullets and machine gun fire as a young enlisted Sailor aboard battleship USS Pennsylvania (BB 38).

SAN DIEGO (NNS) -- Sailors aboard USS Harry W. Hill (DD 986) decommissioned the ship at Naval Station San Diego May 29.

During 18 and-a-half years of service, Harry W. Hill completed nine Western Pacific/Arabian Gulf deployments, including participation in Operations Desert Shield and Desert Storm.

RADM James C. Dawson Jr., Commander Cruiser Destroyer Group 12 and the ship's fourth commanding officer, was the guest of honor.

Retired CAPT John C. Hill II, son of the ship's namesake, ADM Harry W. Hill, also spoke. ADM Hill's leadership was key to United States' victory in the Pacific theater during World War II.

OTTAWA, April 24 (UPI) -- Canada has signed an agreement to buy 15 Cormorant search and rescue helicopters from the Anglo-Italian consortium E.H. Industries for $404 million ($580 million Canadian).

Defense Minister Art Eggleton made the announcement today, saying "as a result of vigorous and cooperative negotiations with the consortium," the cost of the helicopters has been reduced from the original asking price of $413 million ($593 million Canadian).

Delivery of the first Cormorant is set for January 2001, with the final aircraft due in Canada by October 2002.

Canada is buying the choppers to replace its aging fleet of search and rescue aircraft.

The bulk of the reductions in the cost come from the Canadian government agreeing to take delivery of the helicopters from the manufacturers in Italy rather than having them delivered to Canada.

The following two articles were posted by Bob Margolis----

HMS ALBION AND RFA WAVE KNIGHT - KEEL LAYING

Two new ships reached another milestone in their construction today - on time and to budget - as HMS ALBION and RFA WAVE KNIGHT underwent Keel Laying in a ceremony held at the VSEL Shipyard, Barrow-in-Furness.

HMS ALBION will be the first of two amphibious assault vessels entering service with the Royal Navy early in the next century. With her sister ship HMS BULWARK, she will form a key element of the UK's rapid reaction forces' capability to deploy and sustain amphibious operations anywhere in the world.

RFA WAVE KNIGHT, the first of two fast front-line tanker ships, will enter service with the Royal Fleet Auxiliary at the turn of the century. Along with her sister vessel RFA WAVE RULER, she will play a lead role in supporting Naval operations around the globe.

Performing the ceremony, Admiral of the Fleet, Sir Henry Leach said: "I am pleased to see the rapid progress made by these vessels, which will take UK maritime power into the next millennium. The speed and flexibility that they will provide is clearly matched by the speed and flexibility of their radical building process."

Both ships are being designed and built on revolutionary new principles and themes at the forefront of the Ministry of Defence's drive towards 'Smart Procurement.'

The MoD's Procurement Executive together with VSEL has developed a three-dimensional Computer Aided Design system - CAD/EDM - allowing much of the ships' design to be performed in a virtual space; increasing flexibility, exploring options and resolving any design issues before construction.

The system has saved significant amounts of time and money during the design and build processes. It has also eradicated the requirement for large amounts of paper documents and designs, allowing customer and supplier immediate access to the most up-to-date information available.

Such interaction between MoD and the shipbuilders has built an increasingly productive and cooperative relationship, allowing ships to be built better, faster and more cost-effectively.

HMS KENT LAUNCHED TODAY

HMS KENT was launched today by Her Royal Highness Princess Alexandra in a ceremony held at GEC-Marine's Yarrow shipyard, Scotstoun, Glasgow. She is the fourteenth of sixteen Type 23 Duke Class frigates to enter service with the Royal Navy.

HMS KENT's primary roles will be to provide an anti-submarine warfare capability and as a general purpose frigate. She is designed to carry a complement of 200 and will be armed with Harpoon surface-to-surface missiles and a 4.5" gun, together with the vertical launch Sea Wolf point defence missile system.

First Sea Lord Admiral Sir Jock Slater, a former Captain of the previous HMS KENT, attended today's launch. He said:

"I am delighted that Her Royal Highness has been able to perform today's launching ceremony and to see the progress being made in the build of HMS KENT.

"When she enters service HMS KENT will provide the Royal Navy with another first-class ship, enhancing the UK's anti-submarine warfare capability and ready to undertake a wide range of national and international tasks.

"She will be the fourteenth in a class built to time, specification and budget, and is a tribute to the hard work and dedication of the builders and MoD's Procurement Executive."

--NOTES TO EDITORS

A total of 16 Type 23 frigates have been ordered for the Royal Navy, of which 13 have been accepted from the shipbuilders. A further three, including HMS KENT, are currently in build at Yarrow Shipbuilders.

This final batch of three Type 23s was ordered in February 1996 for acceptance around the turn of the century.

HMS KENT is the twelfth ship to bear the name which has seen distinguished service with the Royal Navy since 1652.

--TYPE 23 FACT FILE

The Type 23 frigate was conceived in the late 1970s as a replacement for the Leander and Type 21 Class frigates to serve as the backbone of the Royal Navy's surface anti-submarine force.

Following the Falklands Conflict the design was improved in many respects including the incorporation of a more effective general purpose capability. With the end of the Cold War and changing nature of threat, this general purpose capability has assumed a greater importance, but the Type 23 remains principally a very effective anti-submarine warfare frigate, deployable to the highest threat environments.

The Type 23 is exceptionally quiet and carries Lynx anti-submarine helicopters. They are armed with Harpoon surface-to-surface missiles, a 4.5" gun and the vertical launch Sea Wolf point defence missile system. The Type 23s are fully air conditioned and powered by Spey gas turbines and electric motors. Their overall length reaches 133m with a beam of 16.2m and a standard displacement of 3500 tonnes. The Type 23 has a complement of 200 RN personnel.

The following listing of Italian Navy vessels and callsigns was provided by Annino Vitale and was posted on the group apx. 2 months ago. Originally posted in Italian, I have taken the liberty to translate the ship types into English. I hope that you find the list to be of use. Thanks, Annino!

I???	ITALIAN NAVY SHIP CHIOGGIA MINESWEEPER M5560
I???	ITALIAN NAVY SHIP RIMINI MINESWEEPER M5561
IABJ	ITALIAN NAVY SHIP VESPUCCI TRAINING VESSEL A5312
IACF	ITALIAN NAVY SHIP ALPINO FRIGATE F580
IACO	ITALIAN NAVY SHIP CONDOR HYDROFOIL PATROL BOAT P426
IADC	ITALIAN NAVY SHIP CORSARO II TRAINING VESSEL A5316
IADP	ITALIAN NAVY SHIP LUIGI DURAND DE LA PENNE DESTROYER D560
IADV	ITALIAN NAVY SHIP CARABINIERE FRIGATE F581
IAEF	ITALIAN NAVY SHIP ZEFFIRO FRIGATE F577
IAEN	ITALIAN NAVY SHIP PROTEO AUXILIARY A5310
IAEO	ITALIAN NAVY SHIP BERSAGLIERE PATROL BOAT F584
IAEP	ITALIAN NAVY SHIP ARTIGLIERE PATROL BOAT F582
IAER	ITALIAN NAVY SHIP GRANATIERE PATROL BOAT F582
IAES	ITALIAN NAVY SHIP ESPERO FRIGATE F576
IAEU	ITALIAN NAVY SHIP EURO FRIGATE F575
IAFC	ITALIAN NAVY SHIP FECIA DI COSSATO SUBMARINE S519
IAFL	ITALIAN NAVY SHIP FALCONE HYDROFOIL PATROL BOAT P422
IAFM	ITALIAN NAVY SHIP FRANCESCO MIMBEL LI DESTROYER D561
IAGF	ITALIAN NAVY SHIP GRIFONE HYDROFOIL PATROL BOAT P424
IAGH	ITALIAN NAVY SHIP GHEPPIO HYDROFOIL PATROL BOAT P425

IAGM	ITALIAN NAVY SHIP GUGLIELMO MARCONI SUBMARINE S521
IAGR	ITALIAN NAVY SHIP GRECALE FRIGATE F571
IAIQ	ITALIAN NAVY SHIP GIUSEPPE GARIBALDI AIRCRAFT CARRIER 551
IAJD	ITALIAN NAVY SHIP DANDOLO SUBMARINE S513
IAJV	ITALIAN NAVY SHIP VITTORIO VENETO CRUISER 550
IAKC	ITALIAN NAVY SHIP STORIONE PATROL BOAT P5431
IAKE	ITALIAN NAVY SHIP SQUALO PATROL BOAT P5433
IALI	ITALIAN NAVY SHIP LIBECCIO FRIGATE F572
IALS	ITALIAN NAVY SHIP ALISEO FRIGATE F574
IALU	ITALIAN NAVY SHIP LUPO FRIGATE F564
IALV	ITALIAN NAVY SHIP LEONARDO DA VINCI SUBMARINE S520
IAME	ITALIAN NAVY SHIP MAESTRALE FRIGATE F570
IAMT	ITALIAN NAVY SHIP MURENA AUXILIARY A5305
IANI	ITALIAN NAVY SHIP NIBBIO HYDROFOIL PATROL BOAT P421
IANS	ITALIAN NAVY SHIP NAZARIO SAURO SUBMARINE S518
IAOA	ITALIAN NAVY SHIP MINERVA CORVETTE F551
IAOB	ITALIAN NAVY SHIP URANIA CORVETTE F552
IAOC	ITALIAN NAVY SHIP DANAIDE CORVETTE F553
IAOD	ITALIAN NAVY SHIP SFINGE CORVETTE F554
IAOE	ITALIAN NAVY SHIP DRIADE CORVETTE F555
IAOF	ITALIAN NAVY SHIP CHIMERA CORVETTE F556
IAOG	ITALIAN NAVY SHIP FENICE CORVETTE F557
IAOH	ITALIAN NAVY SHIP SIBILLA CORVETTE F558
IAOR	ITALIAN NAVY SHIP ORSA FRIGATE F567
IAPC	ITALIAN NAVY SHIP CAVEZZALE AUXILIARY
IAPE	ITALIAN NAVY SHIP PERSEO FRIGATE F566
IARD	ITALIAN NAVY SHIP ARDITO DESTROYER D550
IARG	ITALIAN NAVY SHIP SAN GIORGIO AMPHIBOUS WARFARE VESSEL L9892
IARM	ITALIAN NAVY SHIP SAN MARCO AMPHIBOUS WARFARE VESSEL L9893
IARO	ITALIAN NAVY SHIP ROSSETTI AUXILIARY A5315
IARU	ITALIAN NAVY SHIP AUDACE DESTROYER D551
IASA	ITALIAN NAVY SHIP SAGITTARIO FRIGATE F565
IASC	ITALIAN NAVY SHIP SCIROCCO FRIGATE F573
IASG	ITALIAN NAVY SHIP SAN GIUSTO AMPHIBOUS WARFARE VESSEL L9894
IASP	ITALIAN NAVY SHIP STELLA POLARE TRAINING VESSEL A5313
IAST	ITALIAN NAVY SHIP TODARO CORVETTE
IATA	ITALIAN NAVY SHIP CASSIOPEA PATROL BOAT P401
IATB	ITALIAN NAVY SHIP LIBRA PATROL BOAT P402
IATC	ITALIAN NAVY SHIP SPICA PATROL BOAT P403
IATD	ITALIAN NAVY SHIP VEGA PATROL BOAT P40
IATR	ITALIAN NAVY SHIP ASTORE HYDROFOIL PATROL BOAT P423
IAUG	ITALIAN NAVY SHIP GROSSO CORVETTE
IAVJ	ITALIAN NAVY SHIP MARINO AUXILIARY
IAVK	ITALIAN NAVY SHIP PEDRETTI AUXILIARY
IGAR	ITALIAN NAVY SHIP RIVA TRIGOSO AUXILIARY Y443
IGAS	ITALIAN NAVY SHIP ARTICA II TRAINING VESSEL
IGAT	ITALIAN NAVY SHIP SCORPIONE TRAINING VESSEL
IGAU	ITALIAN NAVY SHIP PELLICANO TRAINING VESSEL
IGAV	ITALIAN NAVY SHIP MCN 1569 AUXILIARY
IGAW	ITALIAN NAVY SHIP BARRACUDA TRAINING VESSEL
IGAX	ITALIAN NAVY SHIP GABBIANO TRAINING VESSEL
IGAY	ITALIAN NAVY SHIP GEMINI AUXILIARY
IGBP	ITALIAN NAVY SHIP PORTO D'ISCHIA AUXILIARY Y436
IGBR	ITALIAN NAVY SHIP BARBARA COASTAL PATROL BOAT P492
IGCA	ITALIAN NAVY SHIP CALYPSO TRAINING VESSEL
IGCP	ITALIAN NAVY SHIP MTC 1001 AUXILIARY
IGCU	ITALIAN NAVY SHIP MTC 1006 AUXILIARY
IGDD	ITALIAN NAVY SHIP GORGONA AUXILIARY A5347
IGDE	ITALIAN NAVY SHIP TREMITI AUXILIARY A5348
IGDF	ITALIAN NAVY SHIP CAPRERA AUXILIARY A5349
IGDG	ITALIAN NAVY SHIP PANTELLERIA AUXILIARY A5351
IGDH	ITALIAN NAVY SHIP LIPARI AUXILIARY A5352
IGDI	ITALIAN NAVY SHIP CAPRI AUXILIARY A5353
IGDR	ITALIAN NAVY SHIP MOC 1201 AUXILIARY A5331
IGDU	ITALIAN NAVY SHIP MOC 1202 AUXILIARY A5332
IGDV	ITALIAN NAVY SHIP MOC 1203 AUXILIARY A5333
IGDW	ITALIAN NAVY SHIP MOC 1204 AUXILIARY A5334
IGDX	ITALIAN NAVY SHIP MOC 1205 AUXILIARY A5335

IGED	ITALIAN NAVY SHIP PONZA AUXILIARY A5364
IGEE	ITALIAN NAVY SHIP LEVANZO AUXILIARY A5366
IGEF	ITALIAN NAVY SHIP TAVOLARA AUXILIARY A5367
IGEG	ITALIAN NAVY SHIP PALMARIA AUXILIARY A5368
IGEN	ITALIAN NAVY SHIP MCC 1101 AUXILIARY A5370
IGEO	ITALIAN NAVY SHIP MCC 1102 AUXILIARY A5371
IGEP	ITALIAN NAVY SHIP MCC 1103 AUXILIARY A5372
IGEQ	ITALIAN NAVY SHIP MCC 1104 AUXILIARY A5373
IGFA	ITALIAN NAVY SHIP FALCUCCIO TRAINING VESSEL
IGGA	ITALIAN NAVY SHIP AQUILANTE TRAINING VESSEL
IGGB	ITALIAN NAVY SHIP GRIFONE BIANCO TRAINING VESSEL
IGGD	ITALIAN NAVY SHIP DRAGONE TRAINING VESSEL
IGGL	ITALIAN NAVY SHIP GALATEA TRAINING VESSEL
IGGP	ITALIAN NAVY SHIP G. PRIAROGGIA SUBMARINE S525
IGGP	ITALIAN NAVY SHIP QUADRANTE TRAINING VESSEL
IGGS	ITALIAN NAVY SHIP SESTANTE TRAINING VESSEL
IGGU	ITALIAN NAVY SHIP USSARO TRAINING VESSEL
IGHA	ITALIAN NAVY SHIP ATLANTE AUXILIARY A5317
IGHP	ITALIAN NAVY SHIP PROMETEO AUXILIARY A5318
IGJB	ITALIAN NAVY SHIP BORMIDA AUXILIARY A5359
IGLN	ITALIAN NAVY SHIP NAUSICAA TRAINING VESSEL
IGLO	ITALIAN NAVY SHIP LONGOBARDO SUBMARINE S524
IGMA	ITALIAN NAVY SHIP MAGNAGHI HYDROGRAPHIC VESSEL A5303
IGMV	ITALIAN NAVY SHIP MEN 209 AUXILIARY
IGMX	ITALIAN NAVY SHIP PALINURO TRAINING VESSEL A5311
IGNL	ITALIAN NAVY SHIP STROMBOLI AUXILIARY A5327
IGPA	ITALIAN NAVY SHIP PAOLUCCI AUXILIARY
IGPE	ITALIAN NAVY SHIP PENELOPE AUXILIARY
IGPI	ITALIAN NAVY SHIP PIAVE AUXILIARY A5354
IGPL	ITALIAN NAVY SHIP PELOSI SUBMARINE S522
IGPR	ITALIAN NAVY SHIP PRINI SUBMARINE S523
IGRO	ITALIAN NAVY SHIP PROCIDA AUXILIARY A5383
IGSA	ITALIAN NAVY SHIP SAGITTARIO TRAINING VESSEL
IGSB	ITALIAN NAVY SHIP ALBATROS TRAINING VESSEL
IGSM	ITALIAN NAVY SHIP CAROLY TRAINING VESSEL A5302
IGTC	ITALIAN NAVY SHIP TICINO AUXILIARY A5376
IGTO	ITALIAN NAVY SHIP TOTI SUBMARINE S513
IGTS	ITALIAN NAVY SHIP TIRSO AUXILIARY A5377
IGZC	ITALIAN NAVY SHIP CHERADI FERRY
IGZF	ITALIAN NAVY SHIP TARANTOLA FERRY
IHAN	ITALIAN NAVY SHIP ANTEO AUXILIARY A5309
IHBA	ITALIAN NAVY SHIP BASENTO AUXILIARY A5356
IHBB	ITALIAN NAVY SHIP SIMETO AUXILIARY A5375
IHBC	ITALIAN NAVY SHIP VESUVIO AUXILIARY A5329
IHBD	ITALIAN NAVY SHIP BRADANO AUXILIARY A5357
IHBO	ITALIAN NAVY SHIP PORTO CORSINI AUXILIARY Y417
IHBP	ITALIAN NAVY SHIP PORTO FOSSONE AUXILIARY Y415
IHBQ	ITALIAN NAVY SHIP PORTO TORRES AUXILIARY Y416
IHBR	ITALIAN NAVY SHIP BRENTA AUXILIARY A5358
IHFA	ITALIAN NAVY SHIP CICLOPE AUXILIARY A5319
IHFB	ITALIAN NAVY SHIP TITANO AUXILIARY A5324
IHFC	ITALIAN NAVY SHIP POLIFEMO AUXILIARY A5325
IHFD	ITALIAN NAVY SHIP GIGANTE AUXILIARY A5328
IHFE	ITALIAN NAVY SHIP SATURNO AUXILIARY A5330
IHFF	ITALIAN NAVY SHIP TENACE AUXILIARY A5365
IHFG	ITALIAN NAVY SHIP PORTO EMPEDOCLE AUXILIARY Y421
IHFH	ITALIAN NAVY SHIP PORTO PISANO AUXILIARY
IHFI	ITALIAN NAVY SHIP PORTO CONTE AUXILIARY Y423
IHFJ	ITALIAN NAVY SHIP PORTOFERRAIO AUXILIARY Y425
IHFK	ITALIAN NAVY SHIP PORTOVENERE AUXILIARY Y426
IHFL	ITALIAN NAVY SHIP PORTO SALVO AUXILIARY Y422
IHKA	ITALIAN NAVY SHIP ARAGOSTA TRAINING VESSEL A5378
IHKC	ITALIAN NAVY SHIP ASTICE TRAINING VESSEL A5399
IHKJ	ITALIAN NAVY SHIP MITILO TRAINING VESSEL A5380
IHKN	ITALIAN NAVY SHIP POLIPO TRAINING VESSEL A5381
IHKO	ITALIAN NAVY SHIP PORPORA TRAINING VESSEL A5382
IHLD	ITALIAN NAVY SHIP CASTAGNO MINESWEEPER M5504
IHLE	ITALIAN NAVY SHIP CEDRO MINESWEEPER

IHLI	ITALIAN NAVY SHIP GELSO MINESWEEPER M5509
IHLO	ITALIAN NAVY SHIP PIOPPO HYDROGRAPHIC VESSEL A5307
IHLP	ITALIAN NAVY SHIP PLATANO MINESWEEPER M5516
IHLS	ITALIAN NAVY SHIP BAMBU' COASTAL PATROL BOAT P495
IHLV	ITALIAN NAVY SHIP MOGANO COASTAL PATROL BOAT P497
IHLW	ITALIAN NAVY SHIP PALMA COASTAL PATROL BOAT P498
IHLZ	ITALIAN NAVY SHIP MANDORLO MINESWEEPER
IHMA	ITALIAN NAVY SHIP MARTELLOTTA AUXILIARY
IHMC	ITALIAN NAVY SHIP CROTONE MINESWEEPER M5558
IHMG	ITALIAN NAVY SHIP GAETA MINESWEEPER M5554
IHML	ITALIAN NAVY SHIP LERICI MINESWEEPER M5550
IHMM	ITALIAN NAVY SHIP MILAZZO MINESWEEPER M5552
IHMN	ITALIAN NAVY SHIP NUMANA MINESWEEPER M5557
IHMO	ITALIAN NAVY SHIP ALGHERO MINESWEEPER M5556
IHMS	ITALIAN NAVY SHIP SAPRI MINESWEEPER M5551
IHMT	ITALIAN NAVY SHIP TERMOLI MINESWEEPER M5555
IHMV	ITALIAN NAVY SHIP VIESTE MINESWEEPER M5553
IHMW	ITALIAN NAVY SHIP VIAREGGIO MINESWEEPER M5559
IHNY	ITALIAN NAVY SHIP MIRTO HYDROGRAPHIC VESSEL A5306
IHPL	ITALIAN NAVY SHIP AIRONE CORVETTE F545
IHPN	ITALIAN NAVY SHIP ALCIONE CORVETTE F544

HYDROFOIL PATROL BOAT= Aliscafo
AUXILIARY= Ausiliaria
TRAINING VESSEL= Barca da crociera a vela
CORVETTE= Corvetta
HYDROGRAPHIC VESSEL= Idrografica
MINESWEEPER= Dragamine
FRIGATE= Fregata
CRUISER= Incrociatore
SUBMARINE= Sommergibile
PATROL BOAT= Pattugliatore d'altura
TRAINING VESSEL = Nave scuola a vela
FERRY= Traghetto
DESTROYER= Cacciatorpediniere
PATROL BOAT= Pattugliatori di squadra
COASTAL PATROL BOAT= Pattigliatori costieri
TRAINING VESSEL= Nave ausiliaria d'addestramento
AMPHIBOUS WARFARE VESSEL= Unità da trasposto e sbarco

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That's all for this month, folks. 73 de Dave

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\\\\\ WORLDWIDE UTE NEWS Club ////
\\\ An Electronic Club Dealing Exclusively in Utility Stations ///
\\\\ WUNNEWS Vol. 4, No.5 Jun., 1998 /////

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Scalsky at: sscalsk@mail.ameritel.net

If you are reading this newsletter from another source, such as a BBS, please let us know!

Check out the WUN web site at: http://www.gem.net/~berri/wun

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From your Electronic Editor:

* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.

* I would like to take a moment to thank Geoff Halligey for all of his contributions to the UTE radio hobby. As most of you already know, Geoff was the editor of the Confidential Frequency Listing and has been a long-time member of WUN. Starting with CFL-10, Geoff used many of WUN's logs in the compilation of his book, and this continues with his next edition.

Geoff, you will be missed! We look forward to more "recreational" logs from you. Take a break, you've earned it.

* Look for the return of the Logs Column in July's newsletter. Our new Logs Editor, Klaus D. Buschmeier-Stein has stepped up and taken over the column. Along with a new Team Logs, Klaus will be resurrecting the Logs Column. Thanks go out to Klaus and to the new Team Logs for their efforts in bringing back the column.

WHAT'S INSIDE:

o Membership News by Mike Wolfson
o Digital Review by Day Watson
o Military Channel Designator List by Graham Tanner
o Military Callsigns & Abbreviations List by Keith Elgin
o Nautical News by Day Watson
o Numbers and Oddities by Ary Boender, Chris Smolinski, Guy Denman, and Jascha Ruesseler
o The QSL Report by J.D. Stephens
o Utility Round-up by Ary Boender
o The Military Newsreel by David C. Wright
o The WUN Logs Column by TEAM LOGS
o 5MHz Bandscan Compilation by Alf Rosenstock

==========

MEMBERSHIP NEWS

Mike Wolfson, editor
mwolfson@bright.net

Welcome to the WUNNEWS membership column for this month. Its been several months since I've updated everyone on the status of the membership and I have a lot to report this time around.

For the first time in quite awhile the total membership is down somewhat from the last update. The figures are located in the table below.

	7/98	3/98
WUN	792	801
WUN-DIGEST	216	228
Totals	1008	1029

I don't have any membership figures from one year ago, however, the total membership has not changed substantially for the last couple of years. Of major importance to me is the fact that we have members in 37 (38 if you count the UK and Great Britian as 2 countries) countries this month. The complete list (in no particular order) is: Hungary, Pakistan, Poland, Iceland Czech Republic, Russia, Bulgaria, Sri Lanka, Luxembourg, Mauritius, United States, Taiwan, United Kingdom, Germany, Netherlands, Canada, Japan, Australia, Ireland, Italy, New Zealand, France, Sweden, Brazil, Portugal,

Greece, Switzerland, Indonesia, Suriname, Norway, Austria, Spain, South Africa, Croatia, Belgium, Denmark and Finland.

The final bit of news is that I now have 251 members listed in the database. Thanks to everyone who submitted information to me over the last couple of months. If you would like to be added to the total please e-mail me at: mwolfson@bright.net

E-Mail Address
Name
Where you're located (State/Province, Country)
Main receiver(s)
Main decoding equipment (HOKA, JVFAX, etc)
Monitoring interests (aero, marine, etc)

The information will not be shared or used by anyone except club officers for club purposes. The database management program I'm using can accept ASCII text. I am requesting that you answer each question on a separate line followed by a carriage return. Please do not include the question itself in the answer; just the information requested. For example:

mwolfson@bright.net
Mike Wolfson
Ashland, Ohio USA
NRD535, R5000
None
milair, civilian aeronautical, USCG SAR

If you're sending me a revision please indicate that in your response.

I don't know about you, but listening conditions are picking up for me. In spite of local summer and more than the usual number of thunderstorms, I'm hearing more stations when I have a chance to spend some time at the radio. Hope everyone else is experiencing the same level of improvement. Until next time good listening. Mike

==========

DIGITAL REVIEW

- Editor: Day Watson E-mail: jdwatson@cableinet.co.uk

- Nickname on IRC channels #wun & #monitor DayW

Hi digiWUNners

The menu

	Aero	Shannon Aeradio
	dgps	Differential gps - overview
		SC104 format
		Extracting basic dgps data
	Military	Combined Endeavor 98
		French Forces circuit ID table
	Press	Who's IN, who's OUT
	TechiTips	Measuring shift
	Unid	36/50bd

>>....Aero.....>

::: Shannon Aeradio

As indicated last month and before Shannon rtt finally disappears Roger Caird sent along some interesting background to its history.

"Some Historical note:
The Ballygirreen station made its first experimental transmission on 28/10/1936. In May 1939 one of the frequencies in use was 5692 [used to communicate with an Irish Army a/c en route Baldonnel-Bere Is-Baldonnel.]

The Radio Station at Urlanmore was rebuilt during 1938. It was re-equipped

with a 3KW Canadian Marconi transmitter with 6 spot frequencies. This station was used to contact other land stations initially via CW [to the Vatican (!) Mackay Radio, USA; and then later to Botwood, (Newfoundland) Poole, Dorset,UK; to the USN station at Derry and Fort Lyautey, in North Africa.

In the early days both Shannon and Prestwick controlled their own sector of the NAT.

RTTY equipment was installed at Shannon (Ballygireen) sometime in the late 1940's. It was obtained from the U.S. Navy base at Derry. Initially there were circuits to Santa Maria, Paris and London (the Paris circuit is referred to as "WMXY Morse"

In 1961 the first trans-atlantic cable system "Channel 1", was introduced, this linked Ballygireen to the U.K. station at Birdlip, Reykjavik, Prins Christiansund (Greenland), and Gander. Very soon after this development the HF RTTY circuits between Ballygireen and Gander, and Ballygireen and Paris were closed down.

In 1964 three direct 50 baud telegraph landline channels were installed between Ballygireen and Prestwick, along with two direct telephone channels. In mid January 1966, Prestwick took over the "controlling" while Shannon took over the TX/RX responsibilities for the NAT.

The manual or "torn-tape" teletype system remained in use until 1967 when it was replaced by a computer controlled message-switching system installed by STC Ltd. This linked all the consoles directly to the AFTN network. It utilised the Scot-Ice Cable (a simplex circuit linking Shannon, Prestwick, Reykjavik and Gander) and also used the International circuits to London and Prestwick. This was the first computerised automatic message switching system in the worldwide AFTN. This was so successful that the "Channel 1" cable link was closed down. This system was replaced in 1985 with a Phillips AEROPP system. I'm not sure what their current system is!

In 1982/3 the Ballygireen (RX site) and Urlanmore (Tx site) were completely re-equipped at a cost of IRP2.5m. The Transmitting site at Urlanmore with 24 transmitters: 12 dedicated to Ground/Air; 6 for Volmet, 2 for 500kHz, 2 for Search & Rescue and 2 for the RTTY link to Santa Maria.

In 1969/1970 Shannon Aeradio carried out tests for the General Electric Company, New York, using an Application Technologe Satellite (ATS-3). This satellite was in a geostationary orbit at 47?W at an altitude of 22,751 miles. Phase modulation (Bandwidth 14kHz, Deviation Acceptance +/- 5kHz) Shanwick's output power was 350W into an eight turn left-hand polarized Helical antenna with a gain of 13db. During testing communications were established with a US Coast Guard Cutter in Honolulu Harbour, a mobile station in a car in Los Angeles, and also stations in Buenos Aires, Galveston, Houston, Reykjavik and New York.

The frequencies listed were: Uplink from Shannon Aeradio 149.195
Downlink to Shannon Aeradio: 135.575 [both probably nfm]

I recollect seeing the aerial on the side of the building at Ballygireen, Co.Clare fairly recently. The satellites current position of 105W might put it out of range of Shannon?

A visit to the home-page for this satellite provides the following:

The VHF Communications Experiment was installed on the satellite to demonstrate communications between over-ocean aircraft and air traffic controllers. Today some of the primary users of the satellite include the South Pole Oceanographic Research Ships, and island nations in the Pacific.

The coverage area of ATS-3 is nearly one half of the Earth, as seen

from a point in space 22,300 miles above the equator at 105? West longitude. It includes all of North America and South America and much of the Atlantic and Pacific Oceans.

The satellite remains in operation today as the world's oldest communications satellite in active use. Telemetry from the satellite indicates that it is in fine health and that we should expect many more years of service from it.

I suppose a lot of this info is not what you were looking for, but as I had it to hand and it gives a bit of "background" I'm passing it on!"

Thanks Roger - Glad you did - it gives us an insight to the service evolution and shows how HF links (generally slow) are being moved off to more efficient means of communication.

>>....dgps.....>

::: Differential GPS - overview

Global Positioning System (GPS) developed by the US Government is a coarse/fine system. The coarse system (C/A code) is used for acquisition and data. The fine system (P code) is used for high accuracy navigation and positioning by the military. The current policy is to provide a standard positioning service at a 100 metre accuracy level without any restrictions to the international civilian community. This service is provided using the C/A code section of gps signals.

Currently, to minimise this limitation, differential operation can give accuracies of 1 to 10 metres. How is this done?

A reference receiver is located at a geographical position which has been very accurately surveyed in. This position and that produced by the gps are compared and corrections calculated. In turn these corrections are broadcast via the MF modem to users usually within 75-150 nm so that they may be integrated with the user's normal measurement process to achieve a much higher accuracy than can be achieved by use of the c/a code alone.

Where can these dgps signals be found? Those to mariners involves utilising MF radiobeacons where the dgps modem modulates an existing installation. The modem is normally 500 hz above or below the parent beacon frequency. Installation is fairly straightforward, inexpensive, and no new frequency allocations are required. Over-the-horizon propagation is possible without reverting to high power.

::: SC104 format

The format which evolved and has now been taken onboard as the worldwide standard is that documented by the US Radio Technical Commission for Maritime Services (RTCM) and known as SC104 (SC - Special Committee).

Basically the transmission is a continuous bitstream in the form of messages. Each message or frame is made up of 30 bit words with a minimum of two words. If more than two words this length is given in the appropriate field in Word 2.

Each word is composed of several fields - arrangement depending on the word but all words use the last 6 bits as its parity field. This is documented elsewhere, identical to that of the gps parity algorithm and not necessary for our understanding or simple decoding.

Given the data will appear on screen or in the file written left to right note that the most significant data will be transmitted first with the least significant last. Therefore when decoding individual fields and considering left-->right we are assessing MSB-->LSB. For those who may not be familiar with converting binary to decimal where there is a "1" in the field one adds its decimal weight to a running total eg

```
                    3   1
                    2   6   8   4   2  1
                    --------------------
            msb     0   0   1   0   0  1     lsb
```

So in this example the binary value "001001" in this field converts to 9 decimal by adding 1 + 8 being the decimal weights where the "1" is set in the field.

Each message has the same Word 1 and Word 2. Depending on the message type there may be more. We will deal with these two.

```
Word 1
Bits 1-8        8 bit field   Preamble
Bits 9-14       6 bit field   Message Type
Bits 15-24     10 bit field   Station ID
Bits 25-30      6 bit field   Parity
```

The Preamble is always the pattern "01100110".

The Message Type defines the format for this message. Whilst the range is 1-64 all these are not implemented and as far as the UK is concerned the dgps will use message types

```
 3   "000011"       Reference Station Parameters (fixed)
 7   "000111"       RadioBeacon Almanac (fixed)
 9   "001001"       Partial Satellite Set Differential Corrections (fixed)
16   "010000"       Special message (fixed)
```

In a data stream Msg Type 9 will predominate with types 3/7/16 being injected every 15, 20 or 30 minutes for information updates. It has also been found that other contries use Msg Type 1 rather than Type 9 - this will be discused at a later date.

```
 1   "000001"       Differential GPS Corrections (fixed)
```

The Station ID field contains the exclusive identity of the gps reference station ie the one which is comparing the gps signals with the actual geographical location. Two ID's are provided as there is a backup reference system, each with its own ID even though (Trinity House advises) all the equipment is in the same cabinet as the MF beacon. Once again there is a further series of ID's for the beacon ID which are appearing in this field. Observed but why this is implemented by some administrations is still to be resolved.

```
Word 2
Bits 1-13      13 bit field   Modified Z-count
Bits 14-16      3 bit field   Sequence number
Bits 17-21      5 bit field   Length of Frame
Bits 22-24      3 bit field   Station health
Bits 25-30      6 bit field   Parity
```

The Modified Z-count is the start time of the next frame preamble and not being further discussed.

The Sequence number appears to assist with frame sync for non-pseudolite (I haven't worked that one out yet) transmissions. It replaces the sequencing Z-count as an incrementing parameter. It increments on each frame.

The Frame Length is two more (2+N) where N is the number of words following the header. A zero in this field would mean a frame length of 2 ie 2 words of header and zero words (of supporting data) following. This is according to Vers 2.1 (Jan/94) of SC104 but appears to be different in practise. This is still under investigation and eventual receipt of the new Vers 2.2 (Feb/98) may clarify things.

The Station Health field provides 8 possibilities. Apart from two all may

be specified by the individual Service Provider and therefore not listed in SC104. The UK has not yet allocated any of these at this time.
The "standard" two provided are

"111"	Reference Station not working
"110"	Reference station transmission not monitored.
"000"	Assumed as being "all ok status"

That is sufficient theory and format overview for this month. Next month I hope to describe the structure of those actual message frames in general use. This month we continue extracting the data from the two message header words.

::: Extracting basic dgps data.

These signals are invariably MSK (Minimum shift keying) or OQPSK (offset quadrature phase shift keying) whose theory immediately takes one into a great deal of maths - you'll be pleased to hear I'm not taking that route.
These signals can be taken as (and are also called FFSK) fast frequency shift keying. Treated as very narrow shift (circa 50hz at 100bps) FSK signals one is well on the way to decoding.

One needs a stable receiver preferably with the ability to tune in 1hz steps. For decoding one needs a decoder/software which will provide the bit stream in 1's and 0's preferably into a file. Those with HOKA Code3's (but not Code3-Gold) and Code30's can use the BIT ANALYSIS module.
Users of other commercial decoders at the higher end of the manufacturer's range are likely to have a similar module. Please advise what you have on yours with the decoder model. I also know of a WUNner who has been experimenting with a "convertor" and his own software and, given limitations in the hardware, has been able to extract the above data. In fact between us we have managed to confirm 22 transmissions between Ireland and France up through to Norway, Sweden and Poland.

Having tuned into the required station the decoding module can be set up. In the case of my BIT ANALYSIS module it would be a follows.

- Set Bits/Block to 60 [this gives 60-bit lines or 2 x 30 bits].
- Set Baud to 100 or 200 depending on the speed of one's targetted transmitter.
- Set Shift to minimum [I started with 85 hz but also find 300hz seems to do ok.].
- Set Arrangement (normal/reversed) for NORMAL. In my case [M]=1.

When set up and tuned in correctly the screen will fill with the signal bit pattern. Enable the save-to-file function and run for a couple of minutes. Now close the file, rename it if necessary, and create a copy as a working file.

I use the DOS version of EDIT to work on the data. Opening the file one finds the bit stream data in lines of 60 bits and in the case of HOKAs Code3/30 BIT ANALYSIS module a leading space every line and a double line space every ten lines. This latter space is due to there being a periodic ruler 0123456789012345678.... inserted in the display but removed in the file.

The first procedure is to delete the leading spaces, and the inter 10-line-block spaces until we are left with 60 bit lines. Second procedure is to remove the <lf> at the end of each line as much as possible. This is done to remove unwanted control characters which were not in the data stream so that one tries to avoid missing a wanted string in the forthcoming search because it is split between the end of a line and the beginning of the next line. EDIT will allow 256 characters per line so one can remove <lf/cr> after each of three 60 bit lines to form one line of 240 bits. This is a bit laborious but is necessary. Thanks to RT for pointing this out to me.

The data is now ready. Use <alt>/SEARCH and FIND. Look for the first instance of a given pattern 01100110 ie the preamble. When the first

is found delete all preceeding bits. This highlit pattern may be valid data at a random point or it may be a genuine preamble. How can one tell?

A valid preamble is followed by a valid message type. After the pattern count off the next six bits. If it is 001001 (msg type 9) or 000001 (type 1 if used) or (rarely) one of the other three types given above ie a valid message type then one has located a valid preamble and located the start of Word.1 of a new message frame.

Starting at the beginning of the preamble count off 30 bits and insert two <lf/cr>. That is Word.1. Count off another 30 bits and insert a further two <lf/cr>. That is Word.2

Go back through both of those words counting off the number of bits per field as outlined above inserting a space after each field.

Now one can work out the value inserted in each field and the icing on the cake is when one finds the ID in third field of Word.1 is that expected for that station. eg

Nash Pt Lt. Ref stn IDs 689 or 699

Word.1

```
         msg    Ref stn
preamble type 9 ID = 689   parity
01100110 001001 1010110001 110010
```

Word.2

```
              Seq Lngth Stn
 z-count      nr  frame hth parity
0110101011111 100 00101 000 110010
```

The frame length value is 5. This is N+2 so N=3 ie the following three 30-bit words contain the Msg 9 data ie the correction data.

```
000100111111101010011000110001
010010000010000101110010010011
000000000000010110000010000000110

000100010001101100000100100111
010110000110000011001001111000
```

This shows up the current problem we have since the frame length count and actual number of data words differs. This has to be resolved.

Next frame

```
01100110 001001 1010110001 110010
0110101100011 101 00101 000 100100
```

Occasionally the preamble and type fields together may still turn up as random patterns in the data. If a correct Word.1 there will be consistency over the preamble, type and ID fields. Check this is consistent over a number of frames - this makes sure the ID is valid as the parity arrangement is complex and the amateur observer is not in a position normally to check its integrity.

Next month I'll cover the format for the commonly used messages. In the meantime if you want to have a go carefully tune through the MF beacon band for the appropriate signals and/or email me direct giving your QTH AND approx lat/long so I know where you are and can determine what might be in range. It will probably be a few months yet before I can get round to putting together some frequency tables for various countries/regions.

>>....Military.....>

::: Combined Endeavor 98

Combined Endeavor was a military communications exercise which happened

at the beginning of May in Europe. As an introduction the following comes from the US European Command (to whom we give thanks) home page and summarises the exercise better than I ever could.

" In cooperation with the German Ministry of Defense, the United States European Command is sponsoring a communications and information systems interoperability exercise at Sembach Air Base, Germany, May 7-21, 1998.

The most extensive multinational interoperability testing event ever conducted, Combined Endeavor 98 provides an opportunity for 28 nations to find solutions to challenges faced on a regular basis. This exercise is conducted in a joint and combined military environment, enabling NATO and Partnership for Peace military staffs to communicate in a multi-service, multi-national environment.

Approximately 400 people will participate in the exercise, about 15 people from each of the 28 countries, with some additional U.S. support.

Combined Endeavor 98 is being planned and executed by EUCOM's Command, Control, Communications and Computer Systems Directorate (ECJ6).

Participating nations include Austria, Belarus, Bulgaria, Czech Republic, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Georgia, Germany, Hungary, Kazakstan, Kyrgyzstan, Latvia, Lithuania, the Netherlands, Norway, Poland, Romania, Russia, the Slovak Republic, Slovenia, Sweden, Switzerland, Ukraine, United Kingdom, Uzbekistan and the United States.

Members of various U.S. units will participate in this exercise, with the largest involvement coming from U.S. Air Forces in Europe, Ramstein Air Base, Germany; along with personnel from 5th Signal Command, Heidelberg, Germany, and 86th Airlift Wing, Ramstein Air Base.

Additionally, three NATO organizations (Supreme Headquarters Allied Powers Europe Communications and Information Systems Directorate; NATO Consultation, Command and Control Agency; and Allied Land Forces Central Europe) will have forces participating".

The webpage www.eucom.mil/exercises/ce98/index.htm was still giving information end-June as I wrote this piece.

Thanks to Ary and to other European monitors (who wish to remain anonymous) for consolidating the following information slowly built through patient monitoring during the period.

Logged frequencies:

6837.2	6903.2	6913.2	6931.3
6934.7	6935.3	7495.3	7498.2
7501.3	7856	10867	10868.4
13491.2	13491.4	14850	14850.5
14852.7	14853.3	14853.4	14855

Modes used:
Sitor-A+B, Pactor-II, Gtor, FEC-A, Ascii, Packet AX-25, A1A, J3E

Unit callsigns/nationalities logged:

AU01 = Austria	BU04 = Bulgaria
co0004 = Command ?	CZ05 = Czech rep.
D006 = Germany	FN09 = Finland
GE11 = Georgia	HN12 = Hungary
KA14 = Kazachstan	LT16 = Lithuania
MK18 = Macedonia	PO21 = Poland
RO22 = Roumania	RU23 = Russia
SN26 = Slovenia	UK28 = Ukraine
USN2 = USA	UZ30 = Uzbekistan

Sample messages:

A few snippets from some examples sent to me to show languages in use

Ex.1:

```
BU04>BEACON ctl UI pid F0
ce98-bu04
BU04>RO22 ctl I37^ pid F0
DE BU04 0027 210652MAY98
FM BU04/BUL
TO RO22/ROU
BT
WTM13
BUL COLLDY+12C
BU04>RO22 ctl I30^ pid F0
BT
INT QSL K
BU04>RO22 ctl RR4v
BU04-4>RO22 ctl I22^ pid F0
MSG#39 05/16/98 05:38:00 FROM GE11 TO RO22
SUBJECT: TKS
PATH: BU
BU04>GE11 ctl SABM+
BU04-4>RO22 ctl I23^ pid F0
04
GOOD DAY MY FRIENDS. I RECIVE YOUR MESSAGE. ALSO WE ARE TIRE
BU04-4>RO22 ctl I24^ pid F0
D.
TNK'S FOR PARTNIORSHIP FOR PEACE!
BY BY
ENTER COMMAND:  B,J,
BU04-4>RO22 ctl I25^ pid F0
K,L,R,S, or Help >
BU04-4>RO22 ctl RR3v
```

Ex.2:

```
dOO6 dOO6 dOO6 de usn2 de usn2 had linked indication had linked
indication, status would not change status would not change ifrom
a~iiirs th aw~aamtol is however and could not receive anything from
you could not receive antyhing form you k k k k

de usn2 de usn2 going to gtor going to gtor  k k k

de usn2 usn2 gtor signal good g tor signal good have indication on my
screen
```

Ex.3:

```
ge11 de bu04
echo raz izvinite paprobuem ascii sp50 k


bu04 de ge11
u menia est esho soobshenie
zbk1


ge11 de bu04
qsl no ia ne imeet  kontakt
 s etim korespondenti ok?

bu04 de ge11
vi ne mojete perdavat etu informaciu ruminii? i ani budut perdavat
cherez
pfp
int qsl k
```

ge11 de bu04
ok het
problema as 30 min. k

Ex.4:

ZBK1 ZBK1 K KAL U VAS DELA K KAK
BILA RIBA I KURICA K VE PLOXOI KAKIE CIGARETE KURITE
MY PILI UZO I KURIM RTYM..... ROTTHMANS UZO ETA MASTIKA -GRECEK NASH
NAROD PIET VINOGRADNOE RAKIIA KK KNET IA
NE PIU TOLKA SAMO JENHNI IA NE IU TOA SAMO JENSHCHIUBLIUHI HI
HI A MOJ I IA PRIIDU ? IA POIDU K AEROPORTE NEDLINNA OA BCHEREZ
5 MIN V DBILISI XA XA XA OK IZNI MENIA . U NAS IMEET MALINKII PROBLEM
-DO DBILISI MNOGA STOIT(DENGI) K DA DA DAAA U NAS ESCHO ADIN SEANS
SRO22

Ex.5:

godine ne mozete radi~sti sve fte ztalhtevne rade ~a modemom i da
necete sudjelovati ako ne diobijete nesto novo..pa mislim da ce to
paliti i kod vas i kod
nas..

yste potpu~ui~zioko toga imas potpuno podrsku osd mene

nisam primio ali nema veze..stby na frq, ja cu sad da odradim ovog
glupana

pa se cujemo as soon as possible~
73 i cujemo se..

7ekm~b i cujemo se direkno na packet

and to end appropriately a capture from the final session:

fn09 de lt16
i mean all training days

fn 09
ok ok ok... what do you think is it time to finish ce98 now...? k

fn09 de lt16
we will do i sveikata to your health (sveikata= a toast)

de fn09
it was very nice to work with all you lithuanian friends. i will miss
you all. thanks, and jurga remember to write e-mail, maybe we will see
next years rehearsal..... i sveikata you to, bye, best regards k k k k k

fn09 de lt06
how about photo??????

de fn09
if i find it in that camera i will send it to you by e-mail ok ??
or maybe next year hehehehehe..k

fn09 de lt06
you are bad bad ......

de fn09
yes they usually say so.....paso the bad.... ok bye arararar

fn09 de lt06
see you on e-mail. bye ar

International cooperation! Thanks again to all concerned.

::: French Forces circuit table

Continuing on from the MAY newsletter the following tables show circuit IDs
1. in the pairs which form the operating link between two stations, and
2. in an alphabetical list.

This has been done by researching frequency lists - Brannolte/Siebel Spezial-Frequenzliste 98/99, CFL/10, Klingenfuss Utility 98, Universal Radio RTTY Listener, WUN log columns from Sept/97, and a number of strategically located WUNners (wishing mainly to remain anonymous)/websites - and looking for consistency across the entries.

Thanks to each and everyone involved.

Cct	From.....	To.....	Rtn
Linked pairs			
BFL	Ft de France	Paris/Provence	LFB
LFB	Paris/Provence	Ft de France	BFL
AFL	Dakar	Paris/Provence	LFA
LFA	Paris/Provence	Dakar	AFL
IRE	Paris	Le Port	REI
REI	Le Port	Paris	IRE
IAH	Paris	Libreville	HAI
HAI	Libreville	Paris	IAH
FDXA	Paris	Sarejevo	FKWA
FKWA	Sarejevo	Paris	FDXA
FDXB	Paris	Sarejevo	FKWB
FKWB	Sarejevo	Paris	FDXB
QPB	Djibouti	Paris	PQB
PQB	Paris	Djibouti	QPB
QPC	Djibouti	Paris	PQC
PQC	Paris	Djibouti	QPC
QPF	Djibouti	Paris	RQF
RQF	Paris	Djibouti	QPF
QRG	Djibouti	Paris	RQG
RQG	Paris	Djibouti	QRG
JDJ	Libreville	Dakar	TJD
TJD	Dakar	Libreville	JDJ
DJK	Djibouti	Dakar	DKJ
DKJ	Dakar	Djibouti	DJK
DJI	Djibouti	Le Port	RUN
RUN	Le Port	Djibouti	DJI
VII	Le Port	Noumea	HII
HII	Noumea	Le Port	VII
HIJ	Noumea	Papeete	HJI
HJI	Papeete	Noumea	HIJ
HJL	Papeete	Ft de France	LIH
LIH	Ft de France	Papeete	HJL
LIJ	Ft de France	Dakar	TJI
TJI	Dakar	Ft de France	LIJ

ITT	Le Port	Dzaoudzi	TTT
TTT	Dzaoudzi	Le Port	ITT
TJF	Dakar	Port Bouet	JFJ
JFJ	Port Bouet	Dakar	TJF
IGU	Paris	Cayenne	UGI
UGI	Cayenne	Paris	IGU
RTI	Cayenne	Ft de France	IRT
IRT	Ft de France	Cayenne	RTI
IGA	Cayenne	Kourou	GAG
GAG	Kourou	Cayenne	IGA
IGE	Cayenne	St.Jean du Maroni	GEG
GEG	St.Jean du Maroni	Cayenne	IGE
IRA	Ft de France	Pt. a Pitre	ARI
ARI	Pt. a Pitre	Ft de France	IRA
JFD	Port Bouet	Libreville	JDF
JDF	Libreville	Port Bouet	JFD
XXL	Paris	Naqoura	XZL
XZL	Naqoura	Paris	XXL
FDX	Paris	Dhahran	DET
DET	Dhahran	Paris	FDX
FDX	Paris	Alysse	ESK
ESK	Alysse	Paris	FDX
FDX	Paris	N'djamena	FDZ2A
FDZ2A	N'djamena	Paris	FDX

Alphabetic circuit list==========

AFL	Dakar	Paris/Provence	LFA
ARI	Pt. a Pitre	Ft de France	IRA
BFL	Ft de France	Paris/Provence	LFB
DET	Dhahran	Paris	FDX
DJI	Djibouti	Le Port	RUN
DJK	Djibouti	Dakar	DKJ
DKJ	Dakar	Djibouti	DJK
ESK	Alysse	Paris	FDX
FDX	Paris	Alysse	ESK
FDX	Paris	Dhahran	DET
FDX	Paris	N'djamena	FDZ2A
FDXA	Paris	Sarejevo	FKWA
FDXB	Paris	Sarejevo	FKWB
FDZ2A	N'djamena	Paris	FDX
FKWA	Sarejevo	Paris	FDXA
FKWB	Sarejevo	Paris	FDXB
GAG	Kourou	Cayenne	IGA
GEG	St.Jean du Maroni	Cayenne	IGE
LFA	Paris/Provence	Dakar	AFL
LFB	Paris/Provence	Ft de France	BFL
HAI	Libreville	Paris	IAH
HII	Noumea	Le Port	VII
HIJ	Noumea	Papeete	HJI
HJI	Papeete	Noumea	HIJ
HJL	Papeete	Ft de France	LIH
IAH	Paris	Libreville	HAI
IGA	Cayenne	Kourou	GAG
IGE	Cayenne	St.Jean du Maroni	GEG

IGU	Paris	Cayenne	UGI
IRA	Ft de France	Pt. a Pitre	ARI
IRE	Paris	Le Port	REI
IRT	Ft de France	Cayenne	RTI
ITT	Le Port	Dzaoudzi	TTT
JDF	Libreville	Port Bouet	JFD
JDJ	Libreville	Dakar	TJD
JFD	Port Bouet	Libreville	JDF
JFJ	Port Bouet	Dakar	TJF
LIH	Ft de France	Papeete	HJL
LIJ	Ft de France	Dakar	TJI
PQB	Paris	Djibouti	QPB
PQC	Paris	Djibouti	QPC
QPB	Djibouti	Paris	PQB
QPC	Djibouti	Paris	PQC
QPF	Djibouti	Paris	RQF
QRG	Djibouti	Paris	RQG
REI	Le Port	Paris	IRE
RQF	Paris	Djibouti	QPF
RQG	Paris	Djibouti	QRG
RTI	Cayenne	Ft de France	IRT
RUN	Le Port	Djibouti	DJI
TJD	Dakar	Libreville	JDJ
TJF	Dakar	Port Bouet	JFJ
TJI	Dakar	Ft de France	LIJ
TTT	Dzaoudzi	Le Port	ITT
UGI	Cayenne	Paris	IGU
VII	Le Port	Noumea	HII
XXL	Paris	Naqoura	XZL
XZL	Naqoura	Paris	XXL

Station locations and primary routing indicators.

Alysse,	Saudi Arabia ?	RFFVAEA
Cayenne,	French Guyana	RFLIG
Dakar,	Senegal	RFTJ
Dhahran,	Saudi Arabia	RFFVAE
Djibouti,	Djibouti	RFQP
Dzaoudzi,	Mayotte	RFVITT
Fort de France,	Martinique	RFLI
Incirlik,	Turkey	RFFVAT
Kourou,	French Guyana	RFLIGA
Le Port,	Reunion	RFVI
Libreville,	Gabon	RFTJD
Naqoura,	Lebanon	RFFXL
Ndjamena,	Chad	RFTPA/C
Noumea,	New Caledonia	RFHI
Papeete,	Tahiti	RFHJ
Port Bouet,	Ivory Coast	RFTJF
Pt. a Pitre,	Guadeloupe	RFLID
Sarejevo,	Bosnia	RFFVAY
St Jean de Maroni,	French Guyana	RFLIGE

The following are primary routing nodes and indicators within continental France and are given for information.

Paris	RFFA	RFFB	RFFC	RFFI	RFFJ
	RFFP	RFFP	RFFT	RFFV	RFFW
	RFFX				
Bordeaux	RFFE	RFFU			
Brest	RFFK				
Lyon	RFFF				
Marseille	RFFH				
Metz	RFFG				
Nice	RFFQ				
Rennes	RFFD				
Toulon	RFFL				

Toulouse RFFM

Do NOT use these primary routing indicators or their offspring to categorically state one is monitoring a specific station. Eg "de RFFKABC" does not mean one is listening to Brest. It means the message was originated by a unit whose routing indicator is an offspring of RFFK and may have to go on a combination of landline and radio circuits before reaching its destination part of which (not the beginning) you are monitoring.

The originator's unit may be in the Brest region, but there are cases where units abroad may have allocations as offspring of a continental French primary address eg Naqoura, Lebanon RFFXL is an offspring of Paris RFFX.

The station one is monitoring will be revealed by checking the Circuit Indicator after the zczc start signal at the beginning of each message against the above table.

Another point of note, although Paris is indicated above the supporting HF transmitters and receivers are more than likely located at various sites throughout France and connected to central comcen(s) in the Paris area to cover various French Defense Ministry offices/units (Army, Navy, Air etc) by means of landline/microwave links.

I appreciate there are a number of IDs not mentioned above (French domestic IDs are another kettle of fish and will be reviewed later). These may be due to
a. No longer in use, or
b. are only used very rarely, or
c. were reported by a monitor when the data was corrupted.

There are some circuits above which raise queries. Why is circuit FDX from Paris used on a numbers of different links? There are a number of variants been given on the circuit (FDZ) from N'djamena - I have used FDZ2A. And the DET/ESK Dhahran/Alysse mystery - where or what is Alysse and why have a second circuit if one is part of the other. Monitor and pick up the jigsaw pieces.

If you find a "new" one copy as much traffic as possible and look for consistency in the ID. Send this to me with details of frequency, mode and times (start/end of the monitor period).

Sometimes this means long periods of patient monitoring, maybe even losing the signal before traffic appears. I think I can state without fear of contradiction that this HF network is not the French military's primary means of communication - satcom links will provide this. On HF there is relatively little traffic on most circuits hence long periods between messages. I see this network as backup for satcom link failures and the level of traffic is sufficient to keep staff and equipment "on the ball".

Finally DO use the above table to identify the station and ALWAYS log the circuit ID and, if a service (svc) message (ie relating to message handling), log its addressing/text. This latter input will help in assessing another aspect I'm currently investigating. More on that next month.

Should you wish to contest any of the above information I'll be happy to communicate with you but you are the ones who have to supply the supporting evidence. This I need to discuss with my experts who generally wish to remain anonymous but to whom a big thanks for all their input. I should also add that my experts wish me to guarantee those who don't add circuit indicators to their logs the delights of all manner of gory tortures but I prefer (initially at least) to try persuade you to get into the habit of doing so.

>>....Press.....>

::: Who's IN, who's OUT

Further to the request in the MAY newsletter I've had no feedback so far (26/Jun) on this subject. I've been scanning some 54 frequencies reported by various lists and my own notes to see who is still about.

Still operating are

Agency.....	Using.....
INA Baghdad	10162.5
KCNA PyongYang	13580 15633
JANA Libya	14573 15462
MAP Morocco	10213.1 18496
ROMPRES Romania	9797
SANA Syria	11080

each with possibly more frequencies.

Not heard, and can anyWUN give me any more information as to whether the following are still radiating on HF?

GNA Bahrain
PETRA Jordan
YONHAP S Korea
KPL Laos
SUNA Sudan
AA Turkey
VNA Vietnam.

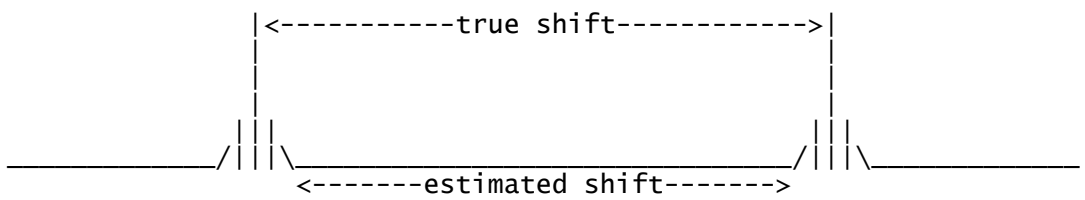
>>....TechiTips.....>

::: Measuring shift.

One often sees some rather odd values of shift (usually undervalued) in logs and wonders how they were measured since most shifts are fairly standard with

85 170 200 250 340 400 425 500 850 and 1000 hz

being the common ones. Variations of these will be down to state of maintenance of transmitting equipment or lack of understanding by the monitor on his decoder, or both.



This figure shows a simple F1b rtt signal against frequency. If one looked at the decoded tones on a audio spectrum module one would see a thickening of the base of each tone. This is because each tone occupies a small amount of bandwidth. Once the power in these sidebands has reach a sufficient level the software will start calculating a shift value which will be less than the true value between the tone centres. Measured by software the value will be an approximation of shift between the nearest points of sufficent power. I trust the above diagram clarifies this. And this is with a relatively clean signal with the error being greater under noisy conditions.

On HOKA kit this has been my experience. On the Code30 there is an Audio Spectrum module and it has been found better to measure visually the centre of each of the two tones against the module scale. In either case it is fairly obvious as to what shift is intended and should be logged.

But if one doesn't have an Audio Spectrum module - and one wants to be pedantic - what then?

Treat the two, or more legs if twinplex or a vft signal, as individual CW signals.

Set the mode to CW, select a narrow filter and set the BFO to centre or "0" position. Tune each signal leg for zerobeat and note the displayed frequency. Having obtained two figures subtract one from the other and you have the shift.

However WUNner JDoe says the zerobeat is quite broad (+/-25 hz). In his case he has an R5000 with no BFO control to centre and passes on his method.

"The shift is, of course, the distance between the "Mark" and "Space" tones of the signal. However, it is not easy to measure the precise zero-beat frequencies of these tones; shortcomings in receivers, and in the human ear (inability to hear tones of less than about 25 Hz, for example), mean that the apparent width of "zero beat" can be fifty or more Hertz. Rather than zero, it is much easier to identify a fairly low audio frequency of three to five hundred Hertz.

All you need is a source of constant audio-frequency tone, and your receiver. The simplest constant-frequency tone is obtained by setting your receiver to about 400 or 500 Hz away from a known, reliably steady transmitting station; a standard frequency station like MSF or WWVB on 60kHz Hz is ideal, but any medium- or long-wave broadcast station in a reasonably civilised country will suffice. Put this frequency, say 59.6 kHz, in a spare memory of your receiver. [in JDoe's case he uses VFO.B on the R5000]

If your receiver has a variable BFO, DON'T TOUCH IT!

Now tune the receiver to the signal that you want to measure. Tune first to the Mark (lower) tone, adjusting the receiver frequency until the audio tone exactly equals the tone in the receiver memory, switching back and forth between the two tones and adjusting the receiver frequency by the smallest possible amount - probably either one Hertz or ten Hertz depending on how much you paid for your receiver. When the two tones are identical, write down the frequency displayed on the receiver. Repeat this process for the Space (higher) tone. Subtract the one frequency from the other. It is as simple as that.

Note, it does not matter whether your receiver is set to USB, LSB, CW, or RTTY mode, nor where any variable BFO is set, so long as they are the same for both Mark and Space; and you do not even have to know the exact frequency of the audio tone, all you are interested in is the difference between the two figures. It is helpful to use the narrowest selectivity of which your receiver is capable, but extreme selectivity is only necessary if you are measuring closely-spaced channels in a VFT signal.

All this may sound complicated, but when you have done it a few times, you will find that it takes less time to do than to read this."

And JDoe is a stickler for accuracy! Thanks for the input.

I can think of another couple of variants on the above - maybe you'd like to share your method.

>>....Unid.....>

Not yet got off the ground with this section. (Dear diary) must make a concerted try for next month with another delve through the overloaded INTRAY which has had little clearance all year. In the meantime to keep things ticking over -

::: 36/50 baud.

This rtt signal is reported to be the Russian Navy. It idles at 36bd using reciprocals (1:1 M:S reversals) switching to an online encrypted mode running at 50bd for traffic. Typical shifts are 200 and 250 hz. Occasionally one may hear cw in F1a mode on the same frequency. The following 21 frequencies have been logged by me this year alone. Give them a try. 3196 4582 6769 6877 6948 6973 8136 10475 11468 12684 14410 14411 14581 14664 14693 16207 18764 19256 19688 19936 20268.

>>....Signoff.....>

and remember the info you want to share is just an email away leaving the other 23 hours 55 mins of the day for collecting new stuff. Support your favourite-column editor. In between - happy monitoring. Day.

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Military Channel Designators List

This month there are a number of 'scattered updates' for you. Only a single Mystic Star 'confirmation' this month, but there are some more 'possibles' in the STRATCOM 'Zulu' list (courtesy of Hugh Stegman, Arie Noort and Jeff Jones - thanks guys), and a few updates for the French Air Force list.

As I type these notes, Bill Clinton is off to China, so perhaps you 'Pacific rim' listeners can search for 'Mystic Star' activity and confirm some more tie-ups. Thanks.

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 24th June 98)

USAF MYSTIC STAR:

F003 8036 (6)	F365 11059 (7)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123 (8)	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)
F054 8058 (7)	F404 7690	F703 9991.5 (6)
F058 4742 (6)	F405 6972	F706 8057 (5)
F061 23265	F406 18393 (6)	F707 10589
F063 14870	F417 4992	F708 23377
F064 11214 (7)	F419 11407 (5)	F709 9317 (7)
F066 15036	F420 7933 (7)	F713 16246 (5)
F077 ?	F432 6731 (6)	F717 10883
F078 18532	F433 20972	F722 12270
F080 15677	F435 3821	F723 18323 (6)
F084 13205.5	F437 5684 (6)	F728 11236 (5)
F085 MF 6,8,11 MHz	F441 17440	F731 6683 (8)
F086 9461	F444 19267	F732 15011 (7)
F089 13204 (6)	F448 16-18 MHz	F734 4757 (7)
F090 6716	F451 13248 (7)	F736 11494
F094 9017 (6)	F452 5026	F741 7873
F098 14585	F453 19063	F748 6756(5)
F099 13247 (7)	F461 13211 (8)	F749 15-16 MHz?

F101	12106 (6)	F463	4610 (7)	F752	8047 (8)
F102	11118 (6)	F464	16157	F754	11627
F103	11488 (6)	F465	8040 (6)	F777	3113 (6)
F108	7316	F466	14864.5 (7)	F778	18023 (8)
F114	6986 (6)	F467	9023 (7)	F784	9043 (6)
F117	6993 (8)	F476	4-6 MHz?	F785	15687 (6)
F124	11217 (6)	F481	7605	F790	16323
F128	23242	F483	18626	F803	5078?
F134	4942.5	F486	5152 (7)	F807	12103?
F136	5429.5 (7)	F487	24483	F809	5700 (5)
F146	9027 (7)	F489	5437 (7)	F814	6989 (7)
F153	8063 (6)	F496	11059.5 (6)	F821	?
F173	14420.5	F497	5411 (7)	F823	11229 (8)
F182	3078 (6)	F498	8032 (8)	F825	19047?
F184	10648 (8)	F499	4442 (7)	F832	18267
F186	3046	F500	8989 (6)	F843	MF 6 MHz
F194	13825 (5)	F505	9006 (6)	F845	6-7 MHz?
F195	20631	F516	4645 (6)	F846	13822 (5)
F197	4982 (6)	F517	9270 (6)	F853	12 MHz?
F202	16014 (5)	F521	11484 (5)	F864	16008
F204	12057	F522	11232	F867	6830 (7)
F211	11056 (7)	F523	9215	F868	9218 (6)
F213	?	F529	8077 (7)	F869	16090
F226	5435.5 (6)	F530	23325	F873	13248 (7)
F228	7735 (5)	F533	18675 (6)	F874	13246?
F236	15041 (7)	F538	?	F875	6717 (8)
F243	18590	F540	5404.5	F877	4721 (7)
F248	5398 (5)	F542	5431 (6)	F885	13207 (5)
F249	4731	F545	10580	F895	5710 (7)
F250	15091	F551	18331 (6)	F904	10202 (7)
F251	13217 (8)	F555	4894 (6)	F906	4524
F262	10717	F561	11052 (6)	F909	7687 (8)
F264	7693 (6)	F567	13565 (6)	F910	19671
F265	15733 (6)	F569	18387	F912	7330
F266	7997 (6)	F574	11413 (6)	F917	10205 (6)
F267	6730 (8)	F575	10427	F918	13482
F268	7325 (8)	F576	11153.5 (7)	F919	11159 (6)
F271	18320	F577	10544 (7)	F920	7927 (7)
F277	11153	F579	MF 11 MHz	F924	16317
F287	11226 (8)	F595	10877	F933	?
F290	8026 (8)	F600	13878 (6)	F935	9 MHz?
F291	13960 (7)	F611	14863	F937	?
F292	9414.5	F614	8026 (7)	F940	11445
F295	11460 (8)	F616	9320 (7)	F943	19002 (6)
F300	15707 (6)	F622	5817	F948	15038 (6)
F301	7500.5	F623	18317	F952	Night
F302	?	F624	13241 (8)	F957	6761 (8)
F310	?	F626	19343	F965	11466 (6)
F311	11220 (8)	F627	7910 (5)	F974	10586 (6)
F322	?	F631	18755 (5)	F975	MF 11 MHz night
F326	14864	F633	18290 (7)	F980	15724
F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (8)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (7)	F997	15667
F360	7919.5 (8)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

..and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1
CA 6691 (7)
CB 11187 (7)
CC ?
CD ?
also check 11267 & 13240. References have been made to designators CF, CG, CK and CL.

*USAF STRATCOM 'Zulu':

Z100 3068 (8)	Z105 3116 (7)	Z110 3134?(8)
Z115 3143 (8)	Z120 3295 (8)	Z124 ?
Z125 4495 (8)	Z130 4472 (8)	Z135 4745 (8)
Z140 5026 (8)	Z145 5705 (8)	Z150 5800 (8)
Z155 5875 (8)	Z160 6715 (8)	Z165 6757 (8)
Z170 7831 (8)	Z174 ?	Z175 9016 (8)
Z180 9057 (8)	Z185 9809 (8)	Z190 10204 (8)
Z195 11104 (possibly?)	Z200 11181 (8)	Z205 11494 (8)
Z210 11229 (8)	Z211 12070 (8)	Z215 13242 (7)
Z220 13245 (7)	Z225 13907 (8)	Z230 15046 (7)
Z235 15094 (8)	Z240 15097 (7)	Z250 15962 (7)
Z255 17973 (7)	Z270 18027	Z275 18046 (possibly?)
Z280 ?	Z285 ?	Z290 19665 (possibly?)
Z295 ?	Z300 ?	Z305 ?
Z310 ? (was mentioned by NW01 in 6.98)		Z315 23872
Z320 ?	Z325 ?	Z330 ?

We had no positive confirmation during 1997 that Z110 was 3134, but that frequency was active with 'Nightwatch' traffic during January 1998 so it is still one of 'their' frequencies.

*USAF AFSOC

FOX 1 13207	FOX 2 5732	FOX 4 9017	
FOX 8 23271	FOX 9 18027	?	9018

*US Customs/DEA/JTF

3428	Yankee Alpha	5277	Alpha (Night DEA Pri)
5571	Yankee Bravo	5841	Bravo
8912	Yankee Charlie	7300	Charlie
11288	Yankee Delta	9497	Delta
13312	Yankee Echo	11076	Echo (Day DEA ops)
17972	Yankee Foxtrot	7657	Foxtrot
		14690	Golf
27870	Victor Alpha	18666	Hotel (DEA Active)
20631	Victor Bravo	23675	India
18594	Victor Charlie	14350	Lima
15964	Victor Delta	14686	Papa (DEA day pri)
11494	Victor Foxtrot	23402.5	Romeo
3369	Victor Kilo		
		17171	Sierra Hotel
4500	Zulu Alpha	18171	Sierra India
7527	Zulu Bravo	19131	Sierra Hotel
9802	Zulu Charlie		
12222	Zulu Delta	7527	COTHEN Scan 1
15867	Zulu Echo	8912	COTHEN Scan 2
		10242	COTHEN Scan 3
10242	Tango Alpha (also VE)	11494	COTHEN Scan 4
13907	Tango Bravo (also VG)	13907	COTHEN Scan 5
20890	Tango Charlie (also YG)	15867	COTHEN Scan 6
23214	Tango Delta (also YH)	18594	COTHEN Scan 7
25350	Tango Echo (also YI)	20890	COTHEN Scan 8
		23214	COTHEN Scan 9
2808.5	Xray Alpha	25350	COTHEN Scan 10
4991	Xray Bravo		
5058.5	Xray Charlie		
7778.5	Xray Delta		
9238.5	Xray Echo		
11073.5	Xray Foxtrot		
15953.5	Xray Golf		
17601	Xray Hotel		
19131	Xray India		
5912	Whiskey Charlie		
12138.5	Whiskey Delta		
13658.5	Whiskey Echo		

15964 Whiskey Foxtrot

*USCG "SECURE"
==========

3A3	5422.5	3A4	4448	3A5	?
3A8	7773.5	3A9	7421	3A30	?
3E4	6234.5	3E5	10608.1?	3E6	5272
3E7	?	3E9	?	3E10	7626
3E11	7783	3E12	7845	3E13	7884
3E14	7909	3E19	10675	3E20	10759
3E21	10788	3E24	11157.5	3E25	13413

Another two frequencies may be 13809.0 and 13950.0.
For a full listing of USCG aircraft and helicopters, please 'surf' to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers
==========

CH-1	3345	
CH-2	5015	
CH-3	5327.5	
CH-4	5400	
CH-5	5437.5	
CH-6	6020	
CH-7	6785	
CH-8	9122.5	Pri
CH-9	11693.5	
CH-10	12070	Sec
CH-11	12122	
CH-12	16077	
CH-13	16326	Ter
CH-14	16358	
CH-15	20659	

The USACE hold a weekly Net each Friday on Ch.8 where many USACE stations check-in

*U.S. ARMY TRANS CORPS
==========

CH.1	4146
CH 2	6224
CH 3	6227
CH 4	8294
CH 5	8297
CH 6	12353
CH 7	12359
CH 8	12365

*FEMA
=====
FEMA uses "Foxtrot" designations for their frequencies. There are quite a few frequencies.

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008
09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*SFOR BOSNIA
==========

I2	6723	I8	6721.5 (5)
I9	2839.5 (5)	?	2841.5 (5)
PUSH	81 5788	PUSH	81A 6865
PUSH	81B 5346	PUSH	82 4450

PUSH 85 3178 PUSH 89 6932.5
PUSH 103 5110 PUSH 150 8046
PUSH 151 9118.5 PUSH 155 11161
PUSH 153 6717 PUSH 154 8083
PUSH 157 5312

The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.

*Update: 6865 was heard carrying ‘Bookshelf’ traffic in 6.98.

*'Habitat' net
==========

Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:

 4704.4 (replaced 4721.0)
 5700.4 WY02B
 6719.4 WY02A (replaced 6736.0)
 8978.4
 9005.4
 9011.4
11212.4 (replaced 11214.0)
15095.4

(the two designators listed above, WY02A and WY02B, are not yet confirmed.)

*Canadian Forces
==========

A6A 4560.0
A6G 6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators

C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

CanForces CFARS

CFARS is the Canadian Forces Affiliated Radio System. CFARS stations are located at various United Nations peace-keeping operations around the world and operate amateur radio equipment that provides phonepatches for service personnel to their families.

Hotel	(unid 10-meter frequency)
Lima	20976.0
Fox	20970.0
Golf	20962.0
Delta	14461.5
Charlie	14458.5
Juliet	14452.5
Kilo	14448.0
Echo	14445.0
Bravo	14385.0

Alpha   6977.0 (ex- 13971)

*Belgian Air Force Designators
==============================
from Danny Peters via Gerard Bos and Gerbrand Diebels/SC-MAC.
4745.0   YD
8989.0   YG (used to be Y8)
11268.0   YJ (used to be Y11)
15010.0   ?? (new freq)
15015.0   YM (new freq. + desig.)
18006.0   YO (new desig.)
20050.0   YQ (new freq. + desig.)
20620.0   YP
23332.0   YS (used to be Y23)

*French Air Force 'Circus' Net
==============================
Marjolaine 2   6712
Racontar 1   8972 (not heard for years, is it still active?)
Vinaigrette 3 8992
Reconfort 3   13236
Citadelle 1   18012
Citadelle 3   ?
Verite 3   23254
Capitole/RS902   6688
143.8 AM Canasta in VHF, relayed all over France

*German Navy
============
The following list comes from the WUN Newsletter, vol.4 of 1997. I have
cut it down to just those frequencies listed as 'USB' (those deleted were
all RTTY).

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
=================
From a listener in Europe comes an extensive update to the German
Air Force frequency list. This information comes from a very good
source, and he wishes to remain anonymous.

3107 - Alpha   13203 - Oscar
3143 - Bravo   13233 - Papa
3903 - Charlie   15073 - Quebec
4721 - Delta   17973 - Romeo
5687 - Echo   17991 - Sierra

5717 - Foxtrot	18012 - Tango
6700 - Golf	23201 - Uniform
6715 - Hotel	23215 - Victor
6730 - India	23255 - Whisky
6751 - Juliet	23318 - X-ray
8965 - Kilo	23341 - Yankee
9025 - Lima	23345 - Zulu
11217 - Mike	29724 - Alpha-bravo
11265 - November	

These frequencies are used by DHM91, which is the HQ Station of the German Air Force Air Transport Command. The other ground stations in this net are DHO23 (61st Air Transport Wing at Landsberg AB, southern Germany), DHO32 (62nd ATW at Wunstorf AB, north-central Germany) and DHO60 (63rd ATW at Hohn AB in northern Germany).

Other callsigns heard are DHO32, DHO75 (a collective callsign for all the three ATW's) and DHM81. Callsigns 'O5IP' (Oscar-5-India-Papa) and NI81 (November-India-81) seem to be other 'regular/daily' callsigns. The Primary frequency appears to be 'E'/5687.

*NATO E-3 AWACS
==========

Ch.AA	6700.0	Ch.AB	11228.0	Ch.AC	8971.0
Ch.A4	10315.0	Ch.A5	?	Ch.KD	6760.0
Ch.KF	6695.0	Ch.NB	3081.0	Ch.NC	3225.0
Ch.ND	?	Ch.NE	4542.0	Ch.NF	4720.0
Ch.NG	?	Ch.NH	4758.0	Ch.NI	6762.5
Ch.NJ	8986.5	Ch.NK	11270.5	Ch.NL	15050.0
Ch.NM	17996.5	Ch.XC	6754.0	Ch.XD	8980.0
Ch.XE	10315.0	Ch.??	12165.0	Ch.??	5691.0
Ch.??	6728.0	Ch.??	23241.2		

The X-net is replacing N-net altough the N-freqs are still sometimes used. (Thanks to Gerbrand Diebels/SC-MAC)

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)

Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247

'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.

'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's (actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active. Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above). If the UKADGE circuits are active, there will be an announcement after the weather broadcast with the code-letters for the active frequencies.
For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.
The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5

The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0

DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz	Golf 08	4572.00 Khz
Hotel05	9010.00 Khz	Kilo 01	HF?
Kilo 04	HF?	Kilo 05	4520.00 Khz
Kilo 08	4020.00 Khz#	Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#	Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz	Kilo 14	(uhf)
Kilo 15	7860.00 Khz#	Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz	Kilo 19	(uhf)
Kilo 22	4785.00 Khz#	Kilo 26	(uhf)
Kilo 27	(uhf)#	Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz	Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz	Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz	Kilo 55	(uhf)
Kilo 56	(uhf)#	KJ 02	3357.0
KJ 04	3805.0	KJ 28	(uhf)
KJ 37	5910.0 (poss.)	TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========
(also known as 'Coastal Control')

Controlled from Whitehall ('GYA') with standby location at Forest Moor ('GXQ').
Transmitters:- Milltown and St. Eval
Receivers:- Kinloss and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

Coastal/Ship		Coastal/Ship	

1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly use their ships name.

UKMACCS info Compliments of Graham Tanner

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========

Utility Monitoring in the Maritime Bands
Editor: Day Watson (jdwatson@cableinet.co.uk)
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CLEVEDON, North Somerset
BS21 7QG United Kingdom

Hi MariWUNners

Another assortment of maritime frequencies.

QTC list:
Canadian SAR frequencies
European pilot frequencies
Spanish fishing stations
Scheduled HF CW MIBs - Indian Ocean, Indonesia, Australia
Station overview
Novorossiysk/UFN

++++++ Canadian SAR frequencies

Trying to reduce the overaccumulation of emails in my INTRAY I came across a post by Craig MacKinnon way back in January of a couple of HF RT frequencies which were recommended for monitoring during SAR to supplement the list given in last month's column.

5717 for SAR
6694 for Halifax Military.

Again these are not designated international SAR channnels but internal Canadian Military allocations. Thanks Craig.

++++++ European pilot frequencies.

Ary Boender has assembled and passed on an interesting collection of frequencies used by European pilots (I assume pilot vessels and stations)

Belgian pilots:	1708
French pilots:	2157, 2506
Russian pilots (Black Sea):	2535
British pilots:	2241, 2246, 2301
Greek pilots:	2320, 2361, 2949
Finnish pilots:	2418, 2747
Portuguese pilots:	2484, 2657
Danube shipping freqs:	2583, 2645
Donaufunk Wien:	4068, 6206, 8204

++++++ Spanish fishing stations.

Also from Ary an second set of frequencies to listen to on your portable as you lie on the Spanish beaches soaking up sun and Sangria.

All on 2182

Lequeitio Cofradia:	2580
Bermeo Cofradia:	1754
Santona Cofradia:	1840
Cillero Cofradia:	1691.5
Burela Cofradia:	1810
Cedeira Cofradia:	1800
Sada Cofradia:	1707
Ayamonte Cofradia:	1800
Isla Cristina Cofradia:	1904
Aguina Cofradia:	1866

Thanks Ary for both those items.

++++++ Scheduled HF CW MIBs - Indian Ocean, Indonesia, Australia

Final article in the series. Several stations particularly E Africa and Madagascar have been reported irregular or inoperative and have not been included. This is offset by there being many islands in Indonesia and in consequence many stations. My thanks to ALRS (Vol.3) as the basis of my researches for this series.

Time	Station	c/s	Freq.	Item
0000	Jayapura	PNK	8694	Navs
0000	Surabaya	PKD	12704.5	Navs
0018	Darwin	VID	8487	Wx/Navs
0100	Port Moresby	P2M	6351.5 13042	Wx/Navs
0100	Jayapura	PNK	12682.5	Navs
0100	Palembang	PKC	8705.5	Navs
0100	Dumai	PKP	8457	Navs
0120	Kuching	9WW20	4249	Wx
0130	Mauritius	3BM	4282 8554 12831 16978.4 22587	Navs
0100	Bitung	PKM	8694	Navs
0148	Pinang	9MG	6353.9 8698	Wx/Navs
0148	Perth	VIP	4323 8521 12952.5 17161.3	Wx/Navs
0200	Karachi	AQP	6390 8490 13011 17093.6 22425	Wx/Navs
0200	Bitung	PKM	12704.5	Navs
0200	Amboina	PKE	8473	Navs
0200	Jayapura	PNK	17074.4	Navs
0200	Jakarta	PKX	8542 12970.5	Navs
0200	Surabaya	PKD	8461	Navs

0200	Ujungpandang	PKF	8686	Navs
0200	Belawan	PKB	8686	Navs
0220	Kota Kinabalu	9WH20	8454.8	Wx
0230	Dumai	PKP	12682.5	Navs
0230	Belawan	PKB	12970.5	Navs
0300	Jayapura	PNK	8694	Navs
0400	Karachi	AQP	6390 8490 13011 17093.6 22425	Wx/Navs
0430	Mauritius	3BM	4282 8554 12831 16978.4 22587	Navs
0430	Djibouti	J2A	8682	Wx/Navs [Fr + Eng]
0430	RasTannurah	HZY	4308.5 8480	Wx/Navs
0500	Yangon	XYR	8710	Navs
0500	Bitung	PKM	8694	Navs
0500	Jayapura	PNK	12682.5	Navs
0500	Palembang	PKC	8705.5	Navs
0500	Dumai	PKP	17184.8	Navs
0520	Kuching	9WW20	4249	Wx
0530	Bandar Abbas	EQI	8469	Wx/Navs
0530	Colombo	4PB	8473	Wx
0548	Calcutta	VWC	8526	Navs
0548	Pinang	9MG	6353.9 8698	Wx/Navs
0600	Karachi	AQP	6390 8490 13011 17093.6 22425	Wx/Navs
0600	Colombo	4PB	8473	Wx/Navs
0600	Bitung	PKM	6428.5	Navs
0600	Belawan	PKB	8686 16861.7	Navs
0618	Mumbai	VWB	8630 12710	Wx
0630	Dumai	PKP	12682.5	Navs
0630	Belawan	PKB	12970.5	Navs
0648	Mumbai	VWB	8630 12710	Navs
0700	Jayapura	PNK	17074.4	Navs
0730	Surabaya	PKD	8461	Navs
0800	RasTannurah	HZY	8480 12811.3	Wx
0800	Ujungpandang	PKF	8686	Navs
0830	Mauritius	3BM	8554 12831 22587	Wx
0830	Karachi	ASK	13024.5	Wx
0830	Jakarta-Kamayoran	8BB	11500 16200	Wx [Indon. + Eng]
0845	Karachi	ASK	13024.5	Navs
0848	Mumbai	VWB	8620 12710	Wx
0848	Calcutta	VWCVWC	12745	Wx
0848	Melbourne	VIM	8607 4228.5	Wx/Navs
0848	Sydney	VIS	6464 8481	Wx/Navs
0850	Chittagong	S3D	8694 13056	Wx
0900	Capetown	ZSC	4317 8688.5 12698 17164.7	Navs
0900	Mauritius	3BM	4282 8554 12831 16978.4 22587	Navs
0900	Djibouti	J2A	12728	Wx/Navs [Fr + Eng]
0900	Mumbai	VTG	4268 8634 12808.5 16938 22628.5	Wx/Navs
0900	Colombo	4PB	8473	Navs
0900	Yangon	XYR	8710	Wx/Navs
0900	Bitung	PKM	8694	Navs
0900	Amboina	PKE	8473	Navs
0900	Palembang	PKC	8705.5	Navs
0900	Port Moresby	P2M	6351.5 13042	Wx/Nav
0918	Calcutta	VWC	12745	Wx
0918	Townsville	VIT	4318	Wx/Navs
0920	Kuching	9WW20	4249	Wx
0930	Capetown	ZSC	4317 8688.5 12698 17164.7	Wx
0948	Pinang	9MG	6353.9 8698	Wx/Navs
1000	Karachi	AQP	6390 8490 13011 17093.6 22425	Wx/Navs
1000	Bitung	PKM	12704.5	Navs
1000	Jakarta	PKX	8542 12970.5	Navs
1018	Ile Amsterdam	FJY4	8690	Wx [Fr. + Eng]
1018	Darwin	VID	4272.5	Wx/Navs
1100	Bitung	PKM	6428.5	Navs
1100	Jakarta	PKX	8542 12970.5	Wx
1100	Surabaya	PKD	12704.5	Navs
1100	Ujungpandang	PKF	8686	Navs
1100	Belawan	PKB	8686	Navs
1130	Palembang	PKC	8705.5	Navs

1148	Ile Amsterdam	FJY4	8690	Wx [Fr. + Eng]
1148	Perth	VIP	4323 6407.5	Wx/Navs
1200	Nairobi	5YE	9043 17365	Wx
1200	Karachi	AQP	6390 8490 13011 17093.6 22425	Wx/Navs
1230	Bandar Abbas	EQI	8469	Wx/Navs
1300	Colombo	4PB	8473	Wx
1300	Bitung	PKM	8694	Navs
1300	Dumai	PKP	8457	Navs
1300	Belawan	PKB	8686	Navs
1320	Kuching	9WW20	4249	Wx
1330	Colombo	4PB	8473	Wx/Navs
1348	Capetown	ZSC	4317 8688.5 12698 17164.7	Wx
1348	Pinang	9MG	6353.9 8698	Wx/Navs
1400	Karachi	AQP	6390 8490 13011 17093.6 22425	Wx/Navs
1400	Bitung	PKM	12704.5	Navs
1400	Belawan	PKB	16861.7	Navs
1418	Calcutta	VWC	8526	Wx
1420	Kota Kinabalu	9WH20	8454.8	Wx
1500	Mumbai	VTG	2072 4268 6467 8634 12808.5	Wx/Navs
1518	Mumbai	VWB	8630 12710	Wx
1548	Mumbai	VWB	8630 12710	Navs
1548	Calcutta	VWC	4286	Navs
1630	Mauritius	3BM	8554 12831 16978.4	Wx
1630	Mauritius	3BM	4282 8554 12831 16978.4 22587	Navs
1630	RasTannurah	HZY	4308.5 12811.3	Wx/Navs
1630	Karachi	ASK	8694 13024.5	Wx
1645	Karachi	ASK	8694 13024.5	Navs
1648	Mumbai	VWB	8630 12710	Navs
1650	Chittagong	S3D	8694 13056	Wx
1700	Capetown	ZSC	4317 8688.5 12698 17164.7	Navs
1700	Djibouti	J2A	8682	Wx/Navs [Fr + Eng]
1700	Yangon	XYR	8710	Wx/Navs
1720	Kuching	9WW20	4249	Wx
1730	Capetown	ZSC	4317 8688.5 12698 17164.7	Wx
1748	Pinang	9MG	6353.9 8698	Wx/Navs
1800	Karachi	AQP	6390 8490 13011 17093.6 22425	Wx/Navs
1800	Jakarta	PKX	8542 12970.5	Navs
1818	Calcutta	VWC	4286	Wx
2120	Kuching	9WW20	4249	Wx
2148	Pinang	9MG	6353.9 8698 17171.4	Wx/Navs
2200	Karachi	AQP	6390 8490 13011 17093.6 22425	Wx/Navs
2248	Melbourne	VIM	8607 12979.5	Wx/Navs
2248	Sydney	VIS	6464 8481	Wx/Navs
2318	Townsville	VIT	8452	Wx/Navs

++++++ Station overview

++++++ Novorossiysk/UFN
Location: Russia (Black Sea) at 44.41N 37.77E

HF WT Service
Marker: "de UFN x" - call tape where x is band incrementing every few passes. Run for a few minutes after tfc lists.
Tfc lists: Every H+00 on 4245 8571 12891 17141 22501 if in use.
Blind tfc: 1330z on frequencies as given in Russian svc msg before tfc. Tfc may be in either rtty or cw.
Note: Often heard with (Third-shift Cyrillic) rtty 50bd/Rev/170hz as well as CW.

	qsx	
4245	4196	(ship working)
4275		
8485	8369.5	(ship calling chan.8)
8571	8351	(ship cw working)
8663	8369.5	(ship calling chan.8
12891	12431	(ship cw working)
12919		
13040	12553	(ship calling chan.8)

16890.5	16737	(ship calling chan.8)
17141	16628	(ship cw working)
22501		
22596.5		

HF Telex service

Station nr 3711 ---> selcall KYXX
Marker "UFN"

UFN	Ship	ITU Chan
4211	4173	[402]
4213.5	4175.5	[407]
6316	6264.5	[604]
8418	8378	[804]
8423	8383	[814]
8432.5	8392.5	[833]
12597.5	12495	[1237]
12692	12499.5	[1246]
16828	16705	[1644]
16839.5	16716.5	[1667]
19693.5	18883	[1826]
19699	18888.5	[1837]
22386	22294	[2220]
22397.5	22305.5	[2243]
22404	22312	[2256]
26114.5	25186	[2527]

HF RT service.

Calls are established by prior arrangement on WT.

UFN	Ship	ITU Chan
4369	4077	[405]
8761	8237	[815]
13101	12254	[1209]
13191	12344	[1239]
17242	16360	[1601]
17389	16507	[1650]

Address:

Novorossiysk Shipping Co. (Morflot),
1, ul. Svobody,
353900 [SEEFUNK] or 253900 [Klingenfuss]
Novorossiysk
Russia.

Research/acknowledgements:
ALRS Vol1. (97/98).
Brannolte/Siebel SEEFUNK
CFL/10
Klingenfuss Utility 98.

++++++ Signoff

And remember the editorship of this column is still open.

Have a good month of monitoring Regards Day

==========

NUMBERS & ODDITIES

- Editor: Ary Boender ***** e-mail: ary@luna.nl -
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

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\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ /////////////////////////////

Hello again! This month the first part of a series of crypto articles. Further the promised article about jamming and more station profiles.

PLEASE READ: Guy Denman told me that he is very disappointed because he gets no input from you at all. Unless more interest is shown, this might be his last contribution. I have the same experience; is it so hard to share your info and experience with your fellow dxers? Why don't YOU send us your logs, info, schedules, and questions? Especially info and logs regarding the Morse numbers stations are most welcome. The Morse scene is very much alive, but only few dxers seem to report them. Most of the logs so far, are voice station logs, which are of course also very welcome!

We like to extend our gratitude to those people who DID send their contributions. Thanks gang!

Oh, before I forget, please, mention your location (city, state and/or country) if you send us your logs.

Thanks for your co-operation and take care!   -Ary-

CIPHERS AND SECURITY CHECKS

During the early days of WW2, routine and random security checks were inserted into all allied messages to verify that the sender was who he said he was, and to check whether or not he was transmitting under duress. Routine checks often comprised 'errors', such as the 3rd and 17th letter of a message misplaced by four places in the alphabet. Because the enemy quickly learned that these checks were inserted, the agents carried two codes, one to mislead the foe and one for messages to friends.

Because these checks weren't very safe, random checks were inserted into the messages. A three-letter code like 'wun', would be inserted at the begin and end of each message in normal situations. If the sender was transmitting under duress, he would not insert the codes so that the receiver would know that he was in trouble. The code word at the beginning of the message would be disguised by advancing its letters by an agreed number of letters in the alphabet, while the same code placed at the end of the message, would be substituted by letters four places ahead in the alphabet. Example: code word = WUN, substituted by letters three places ahead in the alphabet. Result: 'ZXQ' (W=Z, U=X, N=Q) and substituted by letters four places ahead 'AYR'(W=A, U=Y, N=R). Two extra letters were added to camouflage the words as normal five-letter code words, e.g. ZXQ becomes AZXQW and AYR becomes BAYRP.

Only too often the security codes were forgotten by the field agent, or the home office thought that the agent had forgotten to add it, while in fact the agent did not add the code because he transmitted under duress. In short, this was not very safe and the allies phased this check out in 1942.

Other security checks included the use of phrases. These phrases were also used for short information exchanges. They often look funny, like 'the car needs a new engine', meaning that something was wrong, while 'there is no need for more coffee' could mean that everything was ok. Another one, noted on a British Army net: 'Zeppelins in the night sky' Reply: 'Pop them with a drawing pin'

The subject was discussed on Spooks a while ago. One of the comments

came from Simon who says ''I read in one particular publication on the history of modern espionage that Radio Swan, the mysterious anti-Castro station sent "strange" messages on the day of the Bay of Pigs invasion in the form of coded sentences that made little sense, similar to the ones discussed in other postings.''

The other postings that Simon mentions include phrases like "Les sanglots longs des violons de l'automne percent mon coeur d'une langueur monotone" and "The water in the Seine is dirty". You can often hear sentences like these in WWII movies or TV-series. Some may be real, others a phantasy of the writer.

PLAYFAIR CODE: the Playfair code system had its origin in the UK. It was based on a phrase from a poem or song. The agent had to learn this line which was then transposed into blocks of five letters. The rest of the alphabet was used to fill the 5x5 letter square in an agreed order, the letters 'i' and 'j' counted as one. Double letters were omitted. Example: the phrase 'the numbers and oddities newsletter' would appear as:

T H E N U	The actual message was sent in bigrams
M B R S A	(= groups of two letters). The bigrams
D O I W L	were encoded by taking the two opposite
P F K G C	corners of the rectangle it formed in
X Y Q V Z	the square, eg DA becomes ML.

If both letters of the bigram are in the same line, then the next letters below are used; if both are in the same column, the next letters to the right are used, eg IW becomes KG and RI becomes SW.

The message 'spooks newsletter' in bigrams: SP OO KS NE WS LE TT ER and encoded: MG FF GR SR AL IU MM NS. After that the bigrams are grouped in five letter groups: MGFFG RSRAL IUMMN SZUQX. If the final group is too short, which is the case here, it is filled with dummy letters to complete it.

Because the system was too easy to break, it was replaced by other, more sophisticated systems in the early years of WWII.

ONE-TIME PADS: Many other systems, a.o. Delastelle -based on Fairplay- were used until the one-time pad was introduced. The one-time pad is one of the most successfull inventions of the spy-world. The system is unbreakable. It is easy to use and is in fact a very simple way of encryption, and very effective at the same time.

A one-time pad is a list of code groups, mostly five figure groups -but also other codes are used- printed on paper, silk handkerchiefs, or supplied on microfilm. Each group represents a certain phrase.

Example:
Guns and backup required - GB; Out of toiletpaper - OP. The two-letter codes should be repeated to avoid errors, eg GBGB and OPOP.

A more common way is the use of code groups, being a vocabulary of several hundreds words. The first five-digit group gives the index code; eg an incoming message starting with group 81114 would tell the agent that the decoding begins at page 81 line 114 of the code list. The next five-digit blocks are made up of three-letter codes, representing the various phrases.

When an agent wants to send a message, he must use the codes for the relevant phrases. Example: the message 'I will cross the border tonight' has three relevant words, each with its own three-digit code.

cross = 321	The encrypted text would now read:
border = 551	321 551 873, or using five-digit groups:
tonight = 873	32155 18730 (the '0' is a filler here).

Next is the transposition cycle. The agent would pick a page and line of the code list to encrypt the message itself, eg page 23 line 4. The code line could look like this: 67554 23075 33687 18873 33109 99841

He now has to transpose the numbers of his message as follows. Subtract the lower number from the higher number without carrying across.

```
   67554 23075               The first group of the message would
   32155 18730               indicate the page and line: 23004
   ----- -----               followed by the encrypted message
   35499 15345               35499 15345
```

That's it for now. Next time we'll focus on other encryption techniques.

CW NUMBERS STATIONS by Guy Denman

Hi All,
For this month I will carry on with descriptions of some more of the families and what has been happening just lately.

* M8

Mode ICW. Uses Cut Numbers
T 0, A 1, N 2, D 3, U 4, W 5, R 6, I 7, G 8, M 9,
UAAMD MDUUA UAIAU R3   UAAMDx5 = = = 150f Cut
After first message sends AR AR AR MDUUAx5 = = = 150f Cut same after second message
Ends AR AR AR SK SK SK

This is now the usual format, at least 2 others exist.

The station is usually active in the mornings up to 1100. I have heard it at 0600, but as I do not get up early nowadays, not sure how much earlier it is on. I have seen reports from the USA of it being on from 0000 onwards. I am still not sure if the ones we can hear in the UK are being transmitted from Cuba. They are quite often S9 signals, which sound too strong for that distance. Logged an unusual one recently with the last figure of the ID being 4. They are normally 1, 2 or 3.

Some frequencies in use are: 6287 6787 6797 6825 6933 7580

-o-o-o-o-o-o-o-o-o-o-

* M10

Always uses ICW. This station uses a slightly different format of 2 figure decode key. The call up usually starts with 555 but they have been known to use other triplets, 111 222 333 444 777 and 888. These are used on special broadcasts. They have also be known to use up to a 4/5 figure random ID, but only very rarely. Transmission times and frequencies are changed quite often, although they use a set of frequencies to choose from. Sometimes they use 2 frequencies but not always. Regular schedules all use 2 parallel frequencies.

The speed the message is sent is variable, usually the later message is sent at a faster speed. Call and first message 17 WPM later messages up to 25 WPM.

```
     Call                Preamble            Message       Ending
555x3 571x3 46 (R5)   571x3 75 75 46 46 = =   46x5F  = = 75 75 46 46 000
```

They can have up to 4 IDs in the call, in this case the call would be

555x3 571x3 46 275x3 25 049x3 16 435x3 41 (R5)

Then the preamble would be the same, message the same but the ending

misses off the 000 and carries on to the next call which would be 275.

There is a regular sked with these 4 IDs on Saturday, Sunday, Monday and Wednesday at 1645. frequency 4485//5028. Same messages repeated for 4 days.

The message can also sometimes be split into 2 parts with a different decode key for each part, but in this case the call gives the total amount of groups in the message.

Frequencies that have been used are:

3385	3834	4029	4305	4485	4541	4573	4775
4834	4882	5007	5025	5040	5060	5085	5155
5276	5290	5301	5295	4525	5471	5503	5521
5554	5702	5737	5760	5860	6204	6758	6780
6801	6835	6943	7380	7404	7475	7845	8111
8175	8190	9164	9369	9386	9455	9971	10582
10922	11415	121??	125??	13405	14977	14650	14562

Some skeds active at present as of 9 January 1998

Sunday	1645 3385//	1810 4029//	1920 5471//
Monday	0820 8190//9164	1645 3385//	1920 5471//
Wednesday	1645 3385//4485		
Thursday	1810 4029//		
Saturday	1645 3385//		

Schedules are Monthly, twice Monthly, or weekly. always repeated within the same week. Special schedules (irregular) may be daily. Another slightly different format has been logged recently, the station comes on at 2000 on 3824. It is not regular so may be heard any day of the week.

Format is:
Call 111x3 55013x3 30x3 for 5 minutes
55013x3 02 02 30 30 = = 30x5F {Always 30 groups} = = 02 02 30 30
does not end with 3 zeros as the normal M10

It is sometimes hand sent, when all the rest of M10 are always auto sent. Was on Friday 12 June to ID 12127

-o-o-o-o-o-o-o-o-o-o-

* M12

Mode Usually ICW but has been known to use MCW. The call is sent fairly slowly at about 15 WPM but the preamble and messages are usually sent at 30 WPM, single 5 figure groups, although slower and faster speeds have been used. They are constantly changing frequencies and transmission times so it is not worth listing them.This is another station that has been noted using the same frequencies and IDs as in 1997. The message is sometimes repeated on a further two frequencies. If the message is sent on the hour then there will be the same message sent at Hour+20 Hour+40, Hour+25 Hour+45, or Hour+30 Hour+50, this depends on length of message and speed sent. Can be found on at any time.

Call	Preamble	Message	Ending
749 749 749 000 R5		No Message	
749 749 749 1 R5	1573 143 1573 143	143x5f	Pause 000 000

The figure 1 after 749 indicates number of messages,2 messages are very rare. There is one message that keeps on being sent, that has been sent for some considerable time. I first logged it in October 1996 but I know it has been logged before this, usually sent to an ID starting with the figure 3. At present being sent to 314.

The preamble is 792 66 792 66 and the message is always the same. They are still coming on the same frequency as used last year with some

variations. Last year on a Friday there was one on at 1600 on 12132 which repeated at 1700 on the same frequency. It is on again this year at 1600 on 12132 but now is the usual format, coming on at 1620 on 13544 and 1640 on 14728. ID was the same 963.

-o-o-o-o-o-o-o-o-o-o-

Activity is still high this last month. M29 had a particularly busy day on Thursday 11 June. I heard it six times sending messages, also G4 was on at the same time.

M3 is still coming on the same frequencies as last year, and in some cases sending the same messages. It was on Friday 12 June at
    0800 on 5365 041/00
    0830 on 5624 017/00
    0900 on 5050 012/00
and 0930 on 6430 552/00 an exact repeat of 1997.

M53 came on friday 5 June at 2000 with one of its very rare double messages, call was 747.750.016 Message to 750 was 30 groups, followed by a message of 33 groups to 016.

Thats all for this Month, if anyone finds the morse station information useful I would appreciate an e-mail. If anyone requires further information the same applies.

73, Guy

WORLDWIDE JAM SESSION

Here is the promised jamming article. The article gives some info about jamming in general and the various types of jammers. In next month's column I will publish the frequencies and findings of the few readers who were so kind to send me their jammer-logs and comments.

-o-o-o-o-o-o-o-o-o-o-

Everyone must have heard them, those odd sounding signals. Pulse jammers,
and bubble jammers with their typical 'woo woo woo' sound, are the most common types of jammers on SW. The amount of jammers is amazing in the 4, 5 and 6 MHz bands, especially in the evening between 1900-2100 UTC and at night between 0200-0400 UTC, equalling the late evening and early morning in the Middle and Far East, where most of the jamming nowadays originates.
Top of the list of suspects are Iran, Iraq and Cuba. The USA may be responsible for the jamming of Iraqi and Iran based stations. Possibly using jammers in EW-aircraft or vessels. Cuba jams Radio Miami, Radio Marti, WRMI, and stations which relay La Voz de la Fundacion (WHRI, maybe some others). Radio Free Asia reported jamming of its Vietnamese and Chinese services by possibly China, North Korea or Vietnam.

Aeronautical, maritime and SAR stations suffer from these activities. Tony Orr, WUN's aeronautical editor wrote in his column: ''Many of you have by now either heard or heard about the troubles with jammers in the 5 MHz range of frequencies lately. These jammers, targeting a certain clandestine station broadcasting from the Middle East, are literally all over the band, causing the aeronautical ground stations operating there to scramble for new frequencies to use in lieu of their regular 5 MHz homes. Especially hard hit was Gander Radio on 5649 kHz, which has seen fit to move down to 4675 kHz for it's operations on NAT-C.''

Tony is right, I heard it myself. Recently Dutch Coast Guard aircraft had to change frequency because of this problem. SAR frequency 5680 kHz is also a victim. SAR monitor Alan Gale from the UK sent me the following comments:
''The interefrence on 5680 kHz first appeared around the 2 August 1997.

It fades in here in the UK around 1600 UTC every evening. The AM station comes on air, and quickly gets jumped on by a 'Bubble Jammer'. After a while the station stops broadcasting and the jammer also stops, but then seconds after the broadcast restarts again the jammer also returns.

The clandestine station which was heard on 5680 kHz in the clear before the jammer caught up with it had a YL presenter. Shortly afterwards what sounded to be the same presenter was heard on 5670, 5660 and 5630 kHz. The pattern seemed to be transmit on one channel until the jammer commenced, and then QSY to another channel on steps a multiple of 10 kHz away. As soon as the jammer caught up with them they stopped transmitting, though in many cases a blank carrier remained on channel and the jamming continued. The jammer only ceased when the carrier appeared to be switched off.

No Station IDs were heard, but the words 'Iran' and 'Rafsanjani' were heard on the station on 5680 with the YL presenter. On another occasion the name 'Khomeni' was heard several times, and if as seems likely, this is 'The Voice of the Mohajed' operating from the Iraqi border into Iran this would make sense. There may well be a set pattern as to which channel the station changes to when the jamming commences, it would be difficult for listeners if there wasn't. A regular pattern would make life easier for the jammers though, so a further study of this might well prove interesting.''

* How it all started

Jamming was first used by the Germans during World War 1. In the early 1920s, competing broadcasters in the United States jammed rival radio programs. During the 1930s, jamming became a political weapon. World War II demonstrated that a jamming network operating against military circuits, was a potent wartime weapon.

"Knickebein" was an early guided weapon system. The Germans invented this system and used it in WWII. It used two beams; one transmitted from Kleve for guidance, and a second cross-beam from Bredstedt. The bombers followed the first beam until it intersected the second, directly over the target, and dropped their bombs.

Documents retrieved from downed German bombers showed that the beams operated on a frequency of 30 MHz. In those days the only receiver that was capable of detecting the beams was the Hallicrafters S-27. Fitted to a search aircraft, the beam was detected. The Germans made this work easier by testing their system over England instead of Germany.

Knickebein was called "headache" by the British, and jammers dubbed "aspirins" were developed. Soon German bombing accuracy diminished due to the interference of the British jammers.

The War's end saw jamming continued but on an even larger scale, especially with the advent of the Cold War. Stalin decided in 1948 to launch massive jamming campaigns against the West. At first, the commitment was made using a dozen jammers operating against Russian-language broadcasts of the Voice of America. By 1956 about 3,000 Soviet block jammers were operating against Western broadcasts in all languages. Their jamming system was administered by a secret department in the Ministry of Communications, privately known as the Krestyaninova Section. It was named after Natalia Krestyanoniva who ran the department for more than twenty-five years.

* Introduction to Jamming

The purpose of all jamming is to interfere with the enemy's effective use of the electromagnetic spectrum. Use of the spectrum involves the transmission of information from one point to another. This information can take the form of voice or non-voice (e.g., video or digital format) communications, command signals to control remotely located assets, data returned from remotely located equipment or the location and motion of

friendly or enemy assets (land, sea or air).

Type of Jamming	Purpose
Communications Jamming	Interferes with enemy ability to pass information over a communications link.
Radar Jamming	Causes radar to fail to acquire target, to stop tracking target or to output false information.
Cover Jamming	Reduces the quality of the desired signal so it cannot be properly processed or so that the information it carries cannot be recovered.
Deceptive Jamming	Causes a radar to improperly process its return signal to indicate an incorrect range or angle to the target.
Decoy	Looks more like a target than the target does. Causes a guided weapon to attack the decoy rather than its intended target.

For many years, jamming has been called electromagnetic countermeasures (ECM), but it is now referred to in most literature as electronic attack (EA). EA also includes the use of high levels of radiated power or directed energy to physically damage enemy assets. Jamming is sometimes called "soft kill" because it temporarily makes an enemy asset ineffective but does not destroy it.

The basic technique of jamming is to place an interfering signal into an enemy receiver along with the desired signal. Jamming becomes effective when the interfering signal in the receiver is strong enough to prevent the enemy from recovering the required information from the desired signal, either because the information content in the desired signal is overwhelmed by the power of the jamming signal or because the combined signals (desired and jamming) have characteristics that prevent a processor from properly extracting or using the desired information.

Communications jamming (COMJAM) is the jamming of communications signals. This is normally considered the jamming of tactical HF, VHF and UHF signals using noise-modulated cover jamming, but it can also mean the jamming of point-to-point microwave communications links or command and data links to and from remote assets.

The effectiveness of a jammer is calculable only in the context of the enemy receiver that it jams. The most common way to describe that effectiveness is in terms of the ratio of the effective jammer power (i.e. the jamming signal power that gets into the heart and soul of the receiver) to the signal power (that the receiver really wants to receive). This is called the "jamming to signal ratio," or the "J-to-S ratio," or simply the "J/S."

Jamming signals are, by their nature, one-way transmissions. In general, the performance of the jamming signal is the same whether its target is a communications receiver or a radar receiver. Its acceptance by the receiver differs from that of the desired signal in two ways.

- First, unless the receiver has an omnidirectional antenna, the antenna gain will vary as a function of the azimuth or elevation from which the antenna receives signals. Thus, the jamming and the desired signal will experience different receiving antenna gains unless they arrive from the same direction.
- Second, jamming signals must often be much wider in frequency than the signals they are jamming because the desired signal's exact frequency cannot be measured or predicted. In predicting the J/S, it is important to count only the part of the jamming signal power that falls within the receiver's operating bandwidth.

Every type of receiver must have an adequate signal-to-noise ratio (SNR) in order to properly process the signals it is designed to receive. The SNR is the power ratio of the desired signal to the noise power in the receiver's bandwidth. The received desired-signal power is a function of the transmitter power, the length of the transmission path, the operating frequency and (for radars) the radar cross section (RCS) of the target. Cover jamming injects additional noise into the receiver, which has the same effect as increasing the transmission-path length or decreasing the RCS of a radar's target.

When the jamming noise is significantly higher than the receiver's thermal noise, we speak of the jamming-to-signal (J/S) ratio rather than the SNR, but the effect on signal reception and processing is the same. If cover jamming is increased gradually, the operator or the automatic processing circuitry following the receiver may never become aware that jamming is present - only that the "SNR" is becoming extremely low.

The required RCS depends on the nature of the received signal and the way it is processed to extract its information. For voice communications, the SNR will depend on the skill of the speaker and the listener and the nature of the messages being passed. Effective communication ceases when the SNR rises to the point at which no information can be received. For digital signals, inadequate SNR causes bit errors and communication ceases when the bit error rate is too high to pass messages.

If frequency hopping is employed in either radar or communications applications, the frequency band accepted by the receiver is a "moving target" When other types of spread-spectrum techniques are used, the signal is spread over a wide frequency range that the receiver can reverse to achieve the sensitivity appropriate to the signal before it was spread. The problem for the jammer is that to be effective, it must spread its available power over the entire frequency that the receiver might be receiving - over all the angular space that might contain the receiving antenna - during all of the time that the receiver might be accepting signal energy. Still, it is only the amount of power that gets through all of the receiver's defenses, that contributes to J/S. Since a jammer's transmitter power is directly related to its size, weight, prime power availability and cost, the answer is seldom just to increase the jammer output power until there is enough effective jammer power.
The more the jammer knows about the operation of the receiver, the more narrowly it can focus its jamming power to what the receiver will notice. Jammer energy-focusing is called "power management," and it can only be as good as the information available about the jammed receiver. The bottom line is that the jammer can concentrate its power where it will do the most good.

* The great carriers hunt

Many dxers -especially the 'spook hunters-, often report carriers on many frequencies between 4 and 6 MHz. Sometimes a station pops up after a while, but most of the times nothing happens. At least that's what you think. Although I have no solid proof, I am pretty sure that these carriers have a purpose, namely to attract jammers. When the jammers are busy jamming the carriers, the station itself can broadcast without being jammed.

A few examples:
The 'chase': 5721 17.03 jammer, stopped at 17.03; jumped to 5680 at 17.05 because there was an carrier. Both carrier and jammer stopped at 17.06. The jammer jumped from 5680 to 5729 and stopped after one minute. Then to 5768 at 17.07 and stayed there also for one minute. Back again to 5729 where it was active for quite a while.

Another one: 5660 17.45 UTC a Clandestine? stn with a marching song and a male voice in unid language came on. Its signal was good. About 30-40 seconds later, the jammer on 5658 jumped to 5660 kHz. 10 seconds later two other jammers joined in, all power houses. Very loud. The station often changed frequency, hopping up and down the dial with no obvious

"strategy" in 10, 20 or 30 kHz steps. It was chased by 3 jammers. It took the jammers not much time to catch up with the station.

''Is someone listening to all these frequencies so that he can switch on the jamming device at the right moment?'', you may ask. No, not really. But it's close..... This is how it works:

o HF JAMMING SYSTEMS
often have automatic frequency control tracking capabilities for signal analysis, so that you can select a mode that has to be jammed (eg CW or voice). A look-through feature suspends jamming when a target's transmission has stopped, immediately directing the system to other freqs selected for jamming. This automatically means that the jamming of SAR frequency 5680 kHz is either intentionally or they just don't care, as virtually all modern systems work with databases filled with target frequencies. You can include or exclude frequencies very easily, so they probably just don't care who they are jamming.

o VHF JAMMING
works in slightly different way: a computer allows the Jam-System to constantly monitor the frequency range and to respond instantly to changes in the electro-magnetic environment. Then it starts its jamming activities.

* Field Manual 24-33

The various types of jamming signals are described in the US Army Field Manual 24-33 chapter 3. This is an exact quote of the relevant parts of the text, hence the 'we', 'us' and 'our' expressions :-)

o Types of Jamming Signals
Jamming is an effective way for the enemy to disrupt our command, control, and communications on the battlefield. All the enemy needs to jam us is a transmitter tuned to our frequency with enough power to override friendly signals at our receivers. Jammers operate against receivers--not transmitters. There are two modes of jamming: spot and barrage. Spot jamming is concentrated power directed toward one channel or frequency.
Barrage jamming is power spread over several frequencies or channels at the same time. Jamming can be difficult, if not impossible to detect. For this reason, we must always be aware of the possibility of jamming and be able to recognize it. The two types of jamming most commonly encountered are obvious and subtle jamming.

A) Obvious jamming
This is normally very simple to detect. The more commonly used jamming signals of this type are described below. Do not try to memorize them; just be aware that these and others exist. When experiencing a jamming incident, it is more important to recognize and overcome the incident than to identify it formally.

* Random noise
This is synthetic radio noise. It is random in amplitude and frequency. It is similar to normal background noise and can be used to degrade all types of signals. Operators often mistake it for receiver or atmospheric noise and fail to take appropriate ECCM actions.

(note: this one sounds like a sudden increase in athmospheric noise. A variation of this type transmits noise bursts. -Ary-)

* Stepped tones
These are tones transmitted in increasing and decreasing pitch. They resemble the sound of bagpipes. Stepped tones are normally used against single-channel AM or FM voice circuits.

* Spark
The spark signal is easily produced and is one of the most effective for jamming. Bursts are of short duration and high intensity. They are

repeated at a rapid rate. This signal is effective in disrupting all types of radio communications.

* Gulls
The gull signal is generated by a quick rise and slow fall of a variable radio frequency and is similar to the cry of a sea gull. It produces a nuisance effect and is very effective against voice radio communications.

* Random pulse
In this type of interference, pulses of varying amplitude, duration, and rate are generated and transmitted. They are used to disrupt tele-typewriter, radar, and all types of data transmission systems.

(note: this pulse-keyed CW signal sounds like a power drill. -Ary-)

* Wobbler
The wobbler signal is a single frequency which is modulated by a low and slowly varying tone. The result is a howling sound that causes a nuisance effect on voice radio communications.

(note: this type is also known as 'warble' or 'bubble' jammer. It sounds like 'woo woo woo woo' -Ary-)

* Recorded sounds
Any audible sound, especially of a variable nature, can be used to distract radio operators and disrupt communications. Music, screams, applause, whistles, machinery noise, and laughter are examples.

(note: the 'backwards music station' (XM) and 'the workshop' (XW) are good examples, also the one that Simon calls the "Reverberator" which, as the name suggests, sounds like endless reverberation - similar to the sound of a crowded room. -Ary-)

* Preamble jamming
This type of jamming occurs when a tone resembling the synchronization preamble of the speech security equipment is broadcast over the operating frequency of secure radio sets. Preamble jamming results in all radios being locked in the receive mode. It is especially effective when employed against radio nets using speech security devices.

(Additional jamming signals, not mentioned in FM24-33 are:
* Carrier-sweep
This one sounds like an automobile engine at high-speed.

* Grunting
Produced by modulating an AM transmitter with a very low audio frequency varying at a random rate. Sounds exactly like it is named)

B) Subtle jamming
Subtle jamming is not obvious; no sound is heard from our receivers. They cannot receive an incoming friendly signal, even though everything appears normal to the radio operator. Subtle jamming takes advantage of design features of the AN/PRC-77 and AN/VRC-12 series radios. In order to activate the receiver of an AN/PRC-77 in the SQUELCH mode or an AN/VRC-12 series radio in the NEW SQUELCH ON mode, a 150-hertz tone must be transmitted to them along with the carrier signal. In addition to this squelch feature, the AN/PRC-77 and AN/VRC-12 series radio receivers lock onto the strongest carrier signal received and eliminate the reception of all other signals. For example, if we have an AN/PRC-77 in the SQUELCH mode and an AN/VRC-12 series radio in the NEW SQUELCH ON mode and they receive a jamming signal without the 150-hertz tone, the receivers of these radios will not be activated by any signal as long as the jamming signal is stronger than any other signal being received. In effect, the threat jammers block out these radios' ability to receive a friendly transmission without the operator being aware it is happening. This is called squelch capture and is a subtle jamming technique. The radio operator can readily detect jamming in all other function control modes

and the other modes must be checked. Often, we assume that our radios are malfunctioning instead of recognizing subtle jamming for what it is.

o Recognizing Jamming
Radio operators must be able to recognize jamming. Again, this is not always an easy task. Threat jammers may employ obvious or subtle jamming techniques. Also, interference may be caused by sources having nothing to do with enemy jamming. Interference may be caused by the following:

Unintentionally by other radios (friendly and enemy).
Other electronic or electric/electromechanical equipment.
Atmospheric conditions.
Malfunction of the radio.
A combination of any of the above.

Internal or external interference.
The two sources of interference are internal and external. If the interference or suspected jamming can be eliminated or substantially reduced by grounding the radio equipment or disconnecting the receiver antenna, the source of the disturbance is most likely external to the radio. If the interference or suspected jamming remains after grounding or disconnecting the antenna, the disturbance is most likely internal and is caused by a malfunction of the radio. Maintenance personnel should be contacted to repair it. External interference must be checked further for enemy jamming or unintentional interference.

Jamming or unintentional interference.
Unintentional interference may be caused by other radios, some other type of electronic or electric/electromechanical equipment, or atmospheric conditions. The battlefield is so crowded with radios and other electronic equipment that some unintentional interference is virtually unavoidable. Also, the static electricity produced by atmospheric conditions can negatively affect radio communications. Unintentional interference normally travels only a short distance, and a search of the immediate area may reveal the source of this type of interference. Moving the receiving antenna for short distances may cause noticeable variations in the strength of the interfering signal. These variations normally indicate unintentional interference. Conversely, little or no variation normally indicates enemy jamming.

The enemy can use two types of jamming signals: powerful unmodulated or noise-modulated signals. Unmodulated jamming signals are characterized by a lack of noise. Noise-modulated jamming signals are characterized by obvious interference noises.

o Overcome jamming
Adjust the receiver. When jamming is experienced, we should always check to ensure the receiver is tuned as precisely as possible to the desired incoming signal. A slight readjustment of the receiver may provide an improved signal-to-jamming ratio. Depending on the radio being used, some of these methods are:

Adjust the beat frequency oscillator (BFO).
Adjust the bandwidth.
Adjust the gain or volume control.
Fine tune the frequency.

Adjust or change the antenna. Antenna adjustments can appreciably improve the signal-to-jamming ratio. When jamming is experienced, the radio operator should ensure the antenna is optimally adjusted to receive the desired incoming signal. Depending on the antenna being used, some of these methods are:

Reorient the antenna.
Change the antenna polarization. (Must be done by all stations)
Install an antenna with a longer range.

Relocate the antenna. Frequently, the signal-to-jamming ratio may be

improved by relocating the antenna and associated radio set affected by the jamming or unidentified interference. This may mean moving a few meters or several hundred meters. It is best to relocate the antenna and associated radio set so that there is a terrain feature between them and any suspected enemy jamming location.

-o-o-o-o-o-o-o-o-o-o-

Sources:
Anthony Uminn, Paige Chia, William Kangas ('Jamming Radio Signals', 1997)
'Codebreaking and Secret Weapons in World War II' by Bill Momsen
JED - Journal of Electric Defense
US Army Field Manual 24-33 chapter 3
US Army Field Manual 34

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Tony Orr, Alan Gale, Iron Eagle, Markus Buttinger, Day Watson, Alec Muffett, Clarence Thompson, John Maky, Roger Preston, Simon Denneen, and various anonymous dxers.

****
Numbers + Oddities Logs column
Jascha Ruesseler
Ruessele@pc0401.psychologie.uni-marburg.de
****
Hi, folks, her we go again..
Our log format is as follows:

FREQ c/s Station (Enigma Code) Time (date) Mode (baud) Remarks (Initials)

Example:
10426 Lincolnshire Poacher (E3) 1540 (April 13) USB ongoing msg (JR)

The logs in this column are taken from the spooks mailing list. I also include some logs from the wun-list which are not cross-posted to spooks. If you want to remain anonymous, you can sent your logs to me or Ary.

2626 Mossad (E10) 1731 (June 7) USB unable to make out id but passed 2 msgs (SD)
3927 atencion stn (V2) 0100 (May 31) (BR)
4016 cut no's CW (M8) 0300 (June 1) (BR)
4028 ?? cut no's (M8) 0300 (June 9) CW ANRMA MMGNA NNGTA (BR)
4029 Spanish Lady 0530 (June 5) AM YL/SS 5F groups. Off at 0545 UTC with "FINAL"x3.(JM)
4120 //4450 Reverberator 1004 (May 27) AM in progress (SD)
4165 ?: Mossad, ISR 22.18 (May 21) USB MIW2 transmission (AB)
4174 Spanish Lady (V2) 1002 (May 27) USB in progress (SD)
4479 Atencion stn (V2) 0300 (May 26) (BR)
4479 atencion stn (V2) 0300 (June 2) (BR)
4479 atencion stn (V2) 0300 (June 10) AM (BR)
4506 cut no's CW (M8) 0100 (May 28) (BR)
4506 cut no's CW (M8) 0300 (June 2) (BR)
4625 The Buzzer (S28) 1453 (June 11) USB idle mode (SD)
4665 ?: Mossad, ISR 22.20 (May 21) USB KPA2 transmission (AB)
4506 cut no's stn (M8) 0300 (June 10) CW (BR)
4506 cut no's stn (M8) 0100 (June 11) CW very weak & noisy condx (BR)
4973 RR/F (S21) 1742 (May 28) AM 973R4 798 798 41 41 (GD2)
5116 cut no's stn (M8) 0200 (June 12) CW (BR)
5180 Cherta (S12) 2100 (June 3) 671/00 Not sure of first figure of ID (GD2)
5230 Mossad (E10) 1815 (June 7) USB id MIW2 (SD)
5340 English (G2) 0757 (May 28) AM 58955 01331 71226 (GD2)
5419 cut no's CW (M8) 0200 (June 1) (BR) 5416 cut no's CW (M8) 0300 (June 2) (BR)
5416 cut no's stn (M8) 0300 (June 10) CW (BR)

5435 Mossad (E10) 1802 (June 7) USB id ART with 2 msg grps 14 & 93 (SD)
5435 Mossad (E10) 1502 (June 14) USB id ART2 (SD)
5629 Mossad (E10) 1816 (June 7) USB id KPA2 (SD)
5630 Three Note Oddity (sorry, i deleted the time-ed.) (June 7) USB msg. (HFD)
5688 Babbler 1325 (May 24) USB SP W test counts. (ANUS)
5637 Babbler 2242 (May 23) USB idle (ANUS)
5730 Three Note Oddity 2005 (June 7) USB Msg.: 32147 65458 21002 95458 32125 45214 05658 78547 66655 22147 32125 45214 84547 05458 32125 44520 33321 85457 33258 65452 45214 55547 32125 00087 32125 Note the "32147" on 1 and "32125" 5, 11, 15, and 25 (HFD)
5758 cut no's CW (M8) 0300 (June 4) (BR)
5758 cut no's stn (M8) 0200 (June 10) CW with MTWTN GDGAN ATUGN (BR)
5800 atencion stn (V2) 0300 (June 1) (BR)
6797 atencion stn (V2) 0200 (June 1) (BR)
6825 cut no's CW (M8) 1200 (May 28) (BR)
6825 ?? cut no's (M8) 0200 (June 9) CW (BR)
6825 cut no's stn (M8) 1200 (June 11) CW (BR)
6826 atencion stn (V2) 0300 (June 1) (BR)
6826 atencion stn (V2) 0300 (June 2) (BR)
6826 atencion stn (V2) 0300 (June 10) AM (BR) 6855 atencion stn (V2) 0300 (June 1) (BR)
6867 Russian man (?) 0200 (June 10) msg 538 then 5fig x 2 (BR)
6868 Bored Man 1406 (May 24) USB "R290" msg // 4106. (ANUS)
6982 ?? cut no's (M8) 1200 (June 8) CW (BR) 6982 cut no's stn (M8) 1200 (June 15) CW (BR)
6983 atencion stn (V2) 0200 (May 29) strong carrier, weak audio (BR)
6983 atencion stn (V2) 0200 (June 12) AM (BR)
6985 Spanish Lady 0204 (June 11) AM SS/YL/5FG Ended with three "hello?"s (JL)
7250 English (G2) 0957 (May 28) AM Repeat of above /GD2)
7337 ?: Lincolnshire Poacher, CYP 22.00 (May 21) USB Id 28065. //9251 //12603 kHz (AB)
7540 Mossad (E10) 1532 (June 14) USB id JSR2
7583 atencion stn (V2) 0200 (June 10) AM (BR)
7726 Spanish Lady (V2) 0538 (June 3) AM in progress (SD)
7888 ?? cut no's (M8) 0100 (June 9) CW RIRTA RWMWD GDGAA (BR)
8188 English (G2) 0957 (May 28) AM Repeat of above (GD2)
8320 // 12056 // 13866 E4 1200 USB 78640 (7) beeps 42200 5ngs. All frqs were good today.(CT)
8320 // 12056 (E4) 1200 (June 3) usb 03191 5ngs.(CT) noticed parkhall voice scrambling on 8320 usb today (June 3) (CT)
8320 s7dB // 12056 s1dB // 13866 s1dB Cherry Ripe (E4) 1200 (June 8) usb 94275 5ngs 86273 86273.(CT)
8320 // 12056 // 13866 e4 Cherry Ripe 1200 (June 12) usb 33437 5ngs good signals this am local.(CT)
8320 s7dB // 13866 s2dB // 12056 s3dB cherry ripe (E4) 1200 (June 17) usb 58820 5ngs 05104.(CT)
8983 Backwards Music Station (XM) 1738 (June 7) USB in progress (SD)
9130 Mossad (E10) 0525 (June 3) USB id EZI2 (SD)
9218 X6 Polytone Station (tent) 0606 (May 27) (SD)
9218 High Pitched Polytone (XPH) 0605 (May 27) AM in progress (SD)
9238 Spanish Lady (V2) 0604 (May 27) AM in progress (SD)
9238 Spanish Lady (V2) 0600 (June 3) AM unable to make out id (SD)
9260 atencion stn (V2) 0200 (June 10) AM (BR)
9263 Cherry Ripe (E4) 1115 (June 3) usb 5 ngs missed callup.(CT)
9263 // 13688 // 14469 Cherry Ripe (E4) 1100 (June 15) usb 94349 5ngs(CT)
9326 Russian Man (S6) 0528 (June 4) USB in progress (SD)
9394 XPH - High Pitch Polytone Station 0602 (June 5) AM SINPO55545 Off at 0604z (ABe)
10223 count stn (E5) 1200 (June 10) USB msg 869 count 215 (BR)
10223 count stn (E5) 1200 (May 26) with msg 829 count 215 (BR)
10223 count stn (E5) 1200 (June 2) with msg 869 count 215 (BR)
10328 BPA FAPSI (M42) 1530 (June 6) rpt of above (BR)
10529 count stn (E5) 1300 (June 5) with msg 117 count 215 (BR)
10529 TCS 1300 (May 16) AM "CIA" station (JL)

10566 cut no's CW (M8) 1300 (June 5) (BR)
10597 Count stn (E5) 1500 (June 5) USB msg 194 count 126 (BR)
10711 Spanish Man (V7) 0600 (May 28) AM 725x3 000 Null message
Repeats same message as sent by M45 at 1702 on 5474 (GD2)
10858 cut no's CW (M8) 1200 (May26) with RGRND UWMID DDWGD (BR)
10858 cut no's CW (M8) 1200 (May 28) (BR)
10858 ?? cut no's (M8) 1200 (June 9) CW (BR)
10858 cut no's stn (M8) 1200 (June 11) CW (BR)
11149 V7 - Spanish Man 0600 (June 9) AM ss/om/frequency
id-118/message-1/id
key-1723/gc-50/5fg SINPO 55545 off at 0610z with 000 000. Tx
moved imediately to 12149 kHz. (ABe)
11149 Spanish Man (V7) 0600 (June 11) ss/om/frequency id-118/
call-'000'/no traffic SINPO 55555 off at 0605z.
Tx moved after one minute to 12149. (ABe)
11149 Spanish Man (V7) 0600 (June 16) AM
ss/om/frequency id-118/message-1/id key-810/gc-37/5fg
SINPO 55444 off at 0609z with 000 000. Tx moved to 12149 kHz
within 1 minute. Tx went off momentarily during first few 5fg.
(ABe)
11149 Spanish Man 0600 (June 18) AM
ss/om/frequency id-118/message-1/id key-810/gc-37/5fg
SINPO 55555 off at 0609z with 000 000. Tx moved to 12149 kHz at
0611z. Heavy Buzz on Tx. (ABe)
11461 cut no's CW (M8) 0200 (June 1) (BR)
11494 XPH - High Pitch Polytone Station 0621 (June 5) AM SINPO55545
Off at 0624z (ABe)
11570 // 13866 // 7484(qrn digi) Cherry Ripe (E4) 1300 (June 12) 63696
5ngs.(CT)
11637 GMN FAPSI (M42) 0045 (June 11) RTTY (75/425) with
46's - no tfc (BR) 12056 ?: Cherry Ripe, ? 22.00 (May 21) USB
Id 35624. //9263 //15624 kHz (AB)
12149 V7 - Spanish Man 0620 (June 9) ss/om/frequency id-118/
message-1/id key-1723/gc-50/5fg SINPO 55444 off at 0630z with
000 000. Tx moved imediately to 13849 kHz. (ABe)
12149 Spanish Man (V7) 0610 (June 11) ss/om/frequency id-118/
call-'000'/no traffic SINPO 55545
off at 0616z. Tx off imediately. (ABe)
12149 Spanish Man (V7) 0620 (June 16) AM
ss/om/frequency id-118/message-1/id key-810/gc-37/5fg
SINPO 55555 off at 0629z with 000 000. Tx moved to 13849 kHz at
0630z. (ABe)
12200 Spanish Lady 0208 (June 8) AM SS/YL/5FG (JL)
12215 ?? cut no's (M8) 0100 (June 9) CW TWRTA TATDA TGNMA (BR)
13452 JMS FAPSI RTTY (M42) 2245 (May 25) with 4/671 msgs (BR)
13452 JMS FAPSI RTTY (M42) 2230 (June 2) with 2/180 msgs (BR)
13452 JMS FAPSI (M42) 2239Z (June 12) RTTY (75/425) rpt of above (BR)
13380 UMK:FAPSI 0010z (June 2) RTTY 75/1000 w/UMK QTC 46s w/one msg :
11144 00155 24018 01064 01659 w/5LGs, unusual shift
for this net (ML)
13849 Spanish Man (V7) 0640 (June 16)
ss/om/frequency id-118/message-1/id key-810/gc-37/5fg
SINPO 55545 off at 0649z with 000 000. (ABe)
13906 count stn (E5) 1200 (June 10) USB msg 222 count 215 (BR)
13394 XPH - High Pitch Polytone Station 0640 (June 5) AM SINPO55555
Off at 0644 (ABe)
13556 HZW FAPSI RTTY (M42) 2012 (May 30) with 2/492 msgs (BR)
13849 V7 - Spanish Man 0640 (June 9) ss/om/frequency id-118/
message-1/id key-1723/gc-50/5fg
SINPO 55444 off at 0650z with 000 000. (ABe)
13906 count stn (E5)1200 (June 2) with msg 222 count 215 (BR)
14000 ?: Numbers station E15, ? 17.00 (May 20) USB id Frank Young
Peter (AB)
14434 KRN FAPSI (M42) 1744 (June 5) rpt of above (BR)
14487 ?: Lincolnshire Poacher, CYP 17.00 (May 20) USB id 18647 (AB)
14731 BPA FAPSI (M42) 1515 (June 6) RTTY/75 msgs 2/747 (BR)
14843 JMS FAPSI RTTY (M42) 2230 (May 25) with 4/671 msgs (BR)
14843 JMS FAPSI RTTY (M42) 2230 (June 2) with 2/180 msgs (BR)

14843 JMS FAPSI (M42) 2230 (June 8) RTTY/75 msgs 4/1039 (BR)
14843 JMS FAPSI (M42) 2230 (June 9) RTTY/75 msgs 5/989 (BR)
14843 JMS FAPSI (M42) 2230 (June 12) RTTY (75/425) with 1/207 msg (BR)
14843 JMS FAPSI (M42) 2230 (June 15) RTTY (75/425) with 2/210 msgs (BR)
14930 Spanish Lady 0109 (June 6) AM SS/YL/5FG (JL)
15478 // 16050 count stn (V5) 0100 (May 29) with msg 902 (BR)
15478 //16050 count stn (V5) 0100 (June 10) USB msg 902 (BR)
15624 //19884//21866 Cherry Ripe (E4) 0103Z (June 11) USB id 94275 (SD)
15682 Linconshire Poacher E4 1408 (June 5) 321-24 very weak here. (EB)
16218 HZW FAPSI RTTY (M42) 2000 (May 30) with 2/492 msgs (BR)
16218 YBU FAPSI RTTY (M42) 1400 (June 4) with 1/75 msg (BR)
16218 YBU FAPSI RTTY (M42) 1400 (June 5) with 46's - no tfc (BR)
16218 KRN FAPSI (M42) 1735 (June 6) RTTY/75 msgs 2/1229   (BR)
17464 YBU FAPSI RTTY (M42) 2209 (May 25) with 1/168 msg (BR)
17464 YBU FAPSI (M42) 2207 (June 12)   RTTY (75/425) with "TIKAS" msg:
       "QSL NR 182, NR 183, NR 184" (BR)
17499 //20474 Cherry Ripe E4 2305 (May 24) Sunday Tune barely
       audible; numbers not audible (PFR)
17464 YBU FAPSI (M42) 2207 (June 15)   RTTY (75/425) with "TIKAS" msg
       freq sked for 1400 xmsn. (BR)
18703 YBU FAPSI RTTY (M42) 1408 (June 4) with 1/75 msg (BR)
19889 Cherry Ripe E4 0000 (June 3) usb 03068(CT)
20117 YBU FAPSI RTTY (M42) 2200 (May 25) with 1/168 msg (BR)
20117 YBU FAPSI (M42) 2200 (June 9) RTTY/75 msg 1/123 (BR)
23461 // 17499 // 20474 jammed   Cherry Ripe E4 2300 (June 3) usb
       63696 5ngs.(CT).

++
                      xtra
++
Guy Denman remarks:

Hi All,
I have noticed particularly with Morse Stations, that they are coming
up on the same frequency as 1 year ago in 1997. It does not apply to
all families, but so far I have seen it with M1B, M3,M12, and M13. M3
is even sending the same message as it sent a year ago. It might be
worth checking your logs of voice stations to see if they are doing
the same. I have not heard anything at all of G2 this week. It is one
of those funny weeks, week 5 of May. I will have another listen next
week as that will be week 1 of June.

from Tom Sevart:

Hey gang,
The mystery station P7X is back, this time on 5879.5 with its usual
120 grp 5L msgs interspersed with data xmissions. I logged P7X on
4439.5 a couple weeks ago. I think it may possibly be working
parallel on both freqs, but I don't hear it on 4439.5 at the moment.

++
Contributors:
AB: Ary Boender, Spijkenisse, the Netherlands
Abe: Andrew Bell, Merseyside, UK
ANUS: Anonymous Eastern USA
BR: Bob Roehrig, Aurora, IL
CT: Clarence Thompson, Texas, USA
EB: Eric KC5WCP P.O. Box 896 Biloxi, MS
GD2   Guy Denman, England
HFD: Hans-Friedrich Dumrese, Trier, Germany
JL: Jason Lillie
JM: John Mondary, Annmore, WV, USA
ML: Murray Lehman, Perth, Australia
PFR: Paul F. Reah, Phoenix, AZ
SD: Simon Deneen,Gold Coast, Queensland, Australia.

tnx for all contributions !

000 000 znn de jascha

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THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens
106 Anita Drive
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E-Mail: jdstephens@geocities.com

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Hello, everyone.

I'm sorry to report that there will be no column this month; because, as of deadline time, there weren't enough items to justify preparing a column. Only 2 DXers had contributed QSL items for the column as of press time - one of them being your trusty QSL Center Editor.

I pledge to the WUN membership that I will always strive to prepare a regular column on time, but without your input, there can be no column. Hopefully, next month we'll have a better turn-out, as with roughly 1,000 WUNners, certainly there are QSLs being received out there. One only has to look at the bulletins of other organizations which include utility DX items to realize that there are plenty of utility QSLs arriving in mailboxes worldwide.

The WUN QSL Center needs YOU! Let's all help make it the best that it can be.

See you next month and 73,

J.D.

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UTILITY ROUND-UP
- Editor: Ary Boender ***** E-mail: ary@luna.nl -
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

* Via Costas we received a note that a commerical point-to-point FM link, possibly Croatian, operates on 28065 kHz.

* Ian Julian sent us the following interesting log:
Here's a chance to log the University of the South Pacific (USP) in Suva Fiji. Came up on 12140 USB this morning around 2115 UTC. With YL calling Solomon Islands & Tonga. Talked about E-mail Messages, setting up log book, courses for the economics & science classes, students, academic meetings & exam results etc. Said they would come up at 0200 UTC with their next sked. (Usually all the USP comms is satellite linked these days, with HF used for backup purposes. Looks like their satellite systems having a few problems.)

Thanks Ian. I always envy your logs :-)

* John Morrison reports that Stornoway airport's long wave beacon 'SAY' has moved to 431 kHz. Stornoway is located on Isle of Lewis in Scotland.

-o-o-o-o-o-o-o-o-o-o-

Several members asked for an updated list of Dutch military stations. I compiled a list for you, plus some background about our Defence Forces.

ROYAL NETHERLANDS FORCES

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o Ministry of Defence, the Hague
  Nowadays seldom heard on HF. Was a daily guest on HF in the 80's when they contacted the Dutch UNIFIL deployment in Lebanon. MoD/MFA in the Hague, and MFO El Gorah used the same frequencies.

  Freq: 3891, 4490, 18590 kHz
  Modes: USB, CW, RTTY

o Royal Netherlands Army

  Army units:
  * German/Dutch army corps
  * 1 Division "7 December"
  * 11 Airmobile Brigade
  * 13 Mechanised Brigade
  * 41 Light Brigade
  * National Command
  * Training Command
  * Royal Military Academy

  * German/Dutch army corps.
  The reduction in the size of the Royal Netherlands Army and the German Army, together with the desire for international cooperation, resulted in the foundation of the German-Dutch Army Corps. This Corps comprises the Dutch First Division "7 December", a German division and a combined logistic and support unit.

  * 1 Division "7 december"
  In the organisational line, the First Division stands between the army corps and the brigades. The staff of the division, based in Apeldoorn, is responsible for the management of two active (13th & 41st) and two mobilisable (43rd & 52nd) brigades. The Division Commander also bears direct responsibility for the Division Troops, with units for combat and logistic support. The following units belong to the Division Troops:

  * 101 Division Field Artillery Group
  * 101 Division Engineer Group
  * 25 Air Defence Artillery Battalion
  * 200 Supply and Transport Company
  * 300 Equipment Service Battalion

  * 11 Airmobile Brigade.
  The Airmobile Brigade is formed by well-trained military personnel who possess such characteristics as mobility and flexibility. Helicopters guarantee the Airmobile Brigade a rapid deployment of troops and also provide transport for weapons, equipment, provisions and supplies. The brigade can also deploy armed helicopters which can provide protection and fire support to troops on the ground. Light terrain vehicles, portable anti-tank weapons and state-of-the-art communication equipment complete the striking power of the brigade. Personnel of the Airmobile Brigade can be recognised by their red berets.

  * 13 Mechanised Brigade.
  13 Mechanised Brigade provides the heavy combat power of the Royal Netherlands Army. The brigade comprises - in addition to the staff - three combat units (17 Armoured Infantry Battalion, 11 Tank Battalion and 101 Tank Battalion), three support units (11 Mobile Artillery Battalion, 13 Brigade Armoured Engineer Company, 13 Armoured Air Defence Artillery Battery) and three logistic units (13 Maintenance Company, 13 Medical Company, 13 Supply Company). There is also 13 School Battalion, which is the training unit. The units of 13 Brigade are stationed at locations in Oirschot, Ede, Soesterberg and Arnhem.

  * 41 Light Brigade.
  The task of 41 Light Brigade is to carry out (combat) actions in respect of crisis management and to operate in an allied context. Most of the brigade is based in Seedorf in Germany. There are also units stationed in Steenwijk, Havelte and Ede. Besides a staff, the brigade consists of three combat units (103 Reconnaissance Battalion, 42 Armoured Infantry Battalion and 42 Tank Battalion), three support units

(41 Field Artillery Battalion, 41 Armoured Engineer Company and 11 Armoured Air Defence Artillery) and three logistic units (41 Medical Company, 41 Maintenance Company and 41 Supply Company). There is also a training unit: 41 School Battalion.

* National Command.
The National Command (NATCO) is the "service" part of the army. It enables other sections of the army to devote their full attention to their most important tasks.
The activities range from guarding military objects, such as barracks and air bases, to making all arrangements in connection with eating, sleeping, living and working. Medical care, transport, post and tele-communications also feature among the tasks of the National Command. NATCO also provides support from the Netherlands for units deployed in the context of crisis management operations.

* Training Command.
The RNLA Training Command (COKL) is responsible for most of the training within the army. Training courses are given in specialised training centres equipped with modern training resources, such as computers and simulators.

* Royal Military Academy.
The Royal Military Academy (KMA) is the training institute for all army and air force officers.

* Crisis management and humanitarian operations *
As well as ensuring the defence of NATO territory, the Dutch armed forces also make an active contribution in terms of safeguarding international stability, peace and security. Of paramount importance in this respect is the prevention of a conflict. Over the past years, the army has participated or is still taking part in the following peace missions:

Lebanon	UNIFIL	1979-1985
Middle-east (Sina‹)	MFO	1982-1995
Angola	UNAVEM	since 1991
Turkey/Iraq	Provide comfort	since 1991
Bosnia-Herzegovina	UNPROFOR, IFOR, SFOR	since 1992
Former Yugoslavia	UNPF/ECMM	since 1992
Cambodia	UNTAC	1992-1993

Individuals or small groups of military personnel have also been deployed in a variety of peace missions in, for example, Georgia and Namibia.

* Arms and Branches *
From time immemorial, the army has always been divided into arms and branches. The Infantry, Cavalry, Artillery, Engineer Corps and Signal Corps are known as arms. Their personnel carry out or directly support the actual combat. Then there are the branches: the Transportation Corps, Ordnance Corps, Quartermaster Corps, Medical Service, Military Administration Corps, Military Psychological and Sociological Service and Military Legal

* Communications *
The army has no fixed HF links, but during exercises you may pick up some Dutch army comms. Mostly unsecure talks and some with voice scrambling. RTTY is always on-line encrypted 50bd/170Hz Baudot.

The callsigns used are 3-letter calls, sometimes shortened to 1-letter, e.g. TYX or Tango. The latter call is being used when two stations are in very frequent contact. The language is Dutch, but the callsign spelling is standard NATO.

The frequencies change daily at local midnight (22.00 UTC) and do not follow a fixed pattern. New freqs pop up regularly. The following freqs were all logged during 1997.

2274.0	Dutch Army	(USB)	2275.5	Dutch Army	(RTTY)
2954.0	Dutch Army	(USB)	2955.5	Dutch Amry	(RTTY)
3305.5	Dutch Army	(USB)	3306.5	Dutch Army	(RTTY)
3813.5	Dutch Army	(USB)	3815.0	Dutch Army	(RTTY)
4762.0	Dutch Army	(USB)	4763.5	Dutch Army	(RTTY)
4766.0	Dutch Army	(USB)	4777.5	Dutch Amry	(RTTY)
5032.5	Dutch Army	(USB)	5034.0	Dutch Army	(RTTY)
5052.5	Dutch Army	(USB)	5054.0	Dutch Army	(RTTY)
5115.0	Dutch Army	(USB)	5116.5	Dutch Army	(RTTY)
5133.5	Dutch Army	(USB)	5135.0	Dutch Army	(RTTY)
5144.5	Dutch Army	(USB)	5146.0	Dutch Army	(RTTY)
5323.5	Dutch Army	(USB)	5325.0	Dutch Army	(RTTY)
5388.5	Dutch Army	(USB)	5390.0	Dutch Army	(RTTY)
5768.5	Dutch Army	(USB)	5770.0	Dutch Army	(RTTY)

* SFOR deployment

Mode: USB
Freqs: 2552.5 and 4522.5 kHz

o Royal Marechaussee

The Royal Marechaussee is a police organisation with military status which, on the basis of legislative and administrative regulations, carries out its task for the benefit of society. As an independent service, the Royal Marechaussee forms part of the Ministry of Defence. The authority over and management of the Royal Marechaussee are responsibilities shared by several Ministries.

* UN peace operations *
The Netherlands provides, a contribution to peace operations by the United Nations (UN). These operations are intended to prevent war and to guarantee international peace and security. The Marechaussee's contribution in a UN context, for which all personnel are available in principle, could include the execution of civil police tasks (CIVPOL), the provision of police support as military police (MP) for Dutch troops deployed abroad or the implementation of the United Nations Military Police Task (UNMP).

The Royal Marechaussee has taken part in ten UN missions since 1950. Recent examples of UN peace missions involving Marechaussee personnel are the assignment of a detachment to the United Nations Transition Assistance Group (UNTAG) in Namibia and to the United Nations Transitional Authority in Cambodia (UNTAC).

The Marechaussee is currently contributing to the civil police task in Angola (United Nations Angola Verification Mission III) and to various UN tasks in the former Yugoslavia with the United Nations International Police Force (UNIPTF) as CIVPOL and to the UNMP as MP for the Dutch units.

From 1982 until May 1995, the Marechaussee supplied the Force Military Police Unit for the Multinational Force & Observers in the Sinai.

The Marechaussee currently forms part of a WEU police force which is operating in Mostar in order to establish a neutral police force in this town in the former Yugoslavia. Under the same flag, Marechaussee personnel have been carrying out police controls on shipping on the River Danube since mid-1993 in order to enforce the UN trade embargo imposed on Serbia and Montenegro.

o Royal Netherlands Airforce

The RNLAF Headquarters in The Hague is the administrative heart of the RNLAF organisation. The Air Force operating bases are directed from these Headquarters.

* Airbases *
Eindhoven AB
Eindhoven Air Base is home to 334 Transport Squadron of the Royal Netherlands Air Force.

Gilze-Rijen AB
Together with Soesterberg AB, Gilze-Rijen AB makes up the Tactical Helicopter Group of the RNLAF. Two armed Helicopter Squadrons are stationed here: 301 and 302 Squadron. Gilze-Rijen is also the home base of the Light Utility Helicopter '299' Squadron, the Explosives Clearance Unit, the RNLAF Selection Unit, the First RNLAF Communications Group (1LVG) and the RNLAF Flight Safety and Test Centre.

Soesterberg AB
Soesterberg is the oldest air base in the Netherlands, which also makes it the cradle of the Royal Netherlands Air Force. Soesterberg AB and Gilze-Rijen AB together make up the Tactical Helicopter Group of the RNLAF. There are two transport helicopter squadrons stationed at Soesterberg: the 298 Squadron and the 300 Squadron. The 298 Squadron is equipped with medium-weight Chinook transport helicopters. The 300 Squadron is equipped with Cougar helicopters. The air base is also home to the 2nd RNLAF Communications Group, the Band of the Royal Netherlands Air Force, the Medical Services Cluster and the Military Aviation Museum.

Leeuwarden AB
Leeuwarden AB is the home base of two squadrons, namely 322 and 323 Squadron, as well as the Search and Rescue Flight. Both squadrons are currently flying the Lockheed Martin F-16A/B Fighting Falcon. The SAR Flight operates the Augusta Bell AB-412 SP helicopter which was purchased recently.

Twenthe AB
The current flying squadrons at Twenthe AB, i.e. 313 Squadron and 315 Squadron, are both composed of F-16s.

Volkel AB
Volkel AB is one of the three 'Main Operating Bases' (MOBs) of the RNLAF. These MOBs are the home bases of the F-16. Volkel has three squadrons, i.e. the 311, 312 and 306 Squadron. 306 Squadron is also used for photo reconnaissance in addition to its air defence task.

*** CRC Nieuw Milligen - BANDBOX ***
BANDBOX is the 710 Squadron CRC NM, Control and Reporting Centre (CRC) Nieuw Milligen and is part of the Royal Dutch Air Force Base AOCS NM (Air Operations Control Station Nieuw Milligen).

Address: 710 Squadron CRC NM, Postbus 52, 3866 ZH Garderen, the Netherlands.

BANDBOX freqs: 3334.5 designator NM-4
               4448.5 designator SA
               4491.5 designator NN
               5086.0 designator NM-1
               5406.5 designator NM-3

The CRC, an Airforce Base situated on the Veluwe (close to Nieuw Milligen), has two main tasks. One of these tasks is operational: taking direct action on the strike force of our Royal Netherlands Air Force. The second one is educational.

The first operational task is FighterControl, which contributes by constantly guarding and securing the national and NATO airspace. This will take place in peacetime and in times of tension or war. This task will be carried out on a 24 hour / 7 days a week basis.

Because of the specific character of the operational task the specific training of the personnel will take place on the base itself. The second

task is education, training and evaluation of the base personnel in order to carry out the tasks which are given to the base. The training-centre is situated on the base itself.

Task CRC Squadron:
* To build, keep up-to-date and exchange the identified airpicture;
* "Minute-to-minute" command over the assigned weapon systems;
* Command over Fighter-planes and Guided Weapons;
* Give support to F16 and Guided Weapon training programs;
* To support and co-ordinate with the naval-units which are working in the area of responsibility of the CRC NM (NM Area of Operational Responsibility)
* Supply base- and advanced technical education for the personnel of the FighterControl and Guided Weapon Systems.

Air Defence: (see logs at the end of this paragraph)
Air defence of the NATO European airspace is provided by a complex system which enables aircraft and tactical missiles to be detected, tracked and intercepted either by ground-based weapons systems or by interceptor aircraft. The command and control structure which facilitates air defence, the NATO Air Defence Ground Environment (NADGE), includes a number of sites stretching from Northern Norway to Eastern Turkey equipped with modern radars and data processing and display systems, and linked by modern communications. Much of this integrated air defence system has been commonly financed through the NATO Infrastructure programme and a significant part of its successor, the Air Command and Control System, is expected to be similarly funded. During the late 1980's, the early warning capability was enhanced through the acquisition of a fleet of NATO E-3A Airborne Early Warning and Control aircraft (AWACS). These NATO-owned and operated aircraft, together with the United Kingdom E3-D aircraft, comprise the NATO Airborne Early Warning Force, which is available to the Major NATO Commanders. The French and United States Air Forces operate E-3 aircraft, which can also interoperate with the NADGE.

As a consequence of the new security environment, Alliance air defences are adapting to a more flexible force concept, which can contribute effectively to crisis management. To realise this concept, in-place systems, sensors and weapons will need to be reinforced in times of crisis by readily transportable elements so that air defence forces can react as the occasion demands. Tactical ballistic missiles are now part of the weapons inventory of many countries, and the Alliance is therefore examining possible improvements in defence against such systems.

The NATO Air Defence Committee (NADC) advises the North Atlantic Council and Defence Planning Committee on all aspects of air defence, and enables member countries to harmonise their national efforts with international planning related to air command and control and air defence weapons. The air defence of Canada and the United States is coordinated in the North American Aerospace Command (NORAD).

CRC Mission Statement:
CRC Nieuw Milligen (callsign BANDBOX) guards and defends the Dutch and NATO airspace and if necessary CRC takes part of humanitarian- and crisiscontrol operations. They supply Command & Control to give support to operational units and offer educational programma's to come to an effective input of AIR POWER. BANDBOX constantly strives to keep up the quality of personnel and material to keep up with the latest developments in Command & Control. The personnel of CRC Nieuw Milligen, guarantees a professional execution of their tasks, whereby professional knowledge, team-spirit and flexibility are self-evident.

BANDBOX's equipment:

System: Hughes 5118ME Computer
Radars: 2 x Medium Power Radar (3D)
Communication: HF/UHF radio's with anti-JAM possibilities (HAVE QUICK)

AWACS voice/data connection (ERCS/HIT)
Secure voice (SPENDEX/IVSN)
Telephone (LTN/LOTEX)
Flightplan information (ATSAL)
Meteo-information (METAR)
Local data-distribution (TDS)
Data-links: Link 1 (NADGE locations)
Link 11B (Guided Weapons)
IJMS (AWACS)
Education: Radar Simulation Program (ADBMS, RPT)

BANDBOX HF logs:
4448.5 1CS wkg BANDBOX w/track reporting.
4448.5 6BM wkg BANDBOX w/track reporting.
4448.5 D1A (navy vessel) wkg BANDBOX w/track reporting.
4448.5 K8Q (navy vessel) wkg BANDBOX w/track reporting.
5086.0 2VQ (navy vessel) wkg BANDBOX w/track reporting.
5086.0 5ZK (navy vessel) wkg BANDBOX w/track reporting.
5086.0 7IG (navy vessel) wkg BANDBOX w/track reporting.
5086.0 A0Y (navy vessel) wkg BANDBOX w/track reporting.
5086.0 1SH (navy vessel) BANDBOX Alligator voice control.
5086.0 G1S / 2GM (navy vessels) BANDBOX Cross-tell and Autocat coord also on 5406.5
5086.0 G8Q: (navy vessel) BANDBOX coord for control of F-16's in Dutch TRA's 7 and 8.
5086.0 J3I: (navy vessel) BANDBOX Cross-tell.
5406.5 BANDBOX wkg G1S and 2GM

o Royal Netherlands Navy

* Belgian-Dutch cooperation *
The Belgian-Dutch military agreement was signed on 10 May 1948. This called for a concentration of effort to bring about standardisation of arms, equipment, organisation and tactical methods. The Grand Duchy of Luxembourg joined this cooperation in 1987. In the context of the BENESAM agreements (Belgian-Dutch cooperation), numerous forms of joint activities have sprung up since 1948 in the fields of supplies, system maintenance, training, finance and legal affairs. In addition, the two navies are linked in the joint NATO command structure (COMBENENORTHWEST).

On 28 March 1995, the Belgian and Dutch Ministers of Defence signed the "Cooperation Agreement between the Belgian Navy and the Royal Netherlands Navy". This treaty aims to bring about more intensive cooperation between the two navies. The idea of activating a combined coastal command in wartime dates back as far as 1948. The new treaty states that the operational fleets of both countries will also operate jointly in peacetime, under the command of the Admiral Benelux. The operational staffs will be merged to form a single integrated operational staff in Den Helder in the Netherlands.

* Naval units *

* The Escort Group
The current operational concept is based on operating in task groups. The available assets can be deployed in two large and one smaller task group. The task groups are composed according to requirements. They usually operate with (their own) aircraft and submarines for the purposes of anti-submarine warfare. One such task group is permanently operational in peacetime. This group of ships is known as the squadron. Every year, the squadron makes a number of training voyages and participates in NATO exercises.

* Royal Netherlands Marine Corps
The First Marine Battalion (1MARNSBAT), Amphibious Section (frogmen), Boat Company (landing craft) and a 120 mm Mortar Company are integrated in the Third Commando Brigade of the British Marine Corps. Together they form the UK/NL Amphibious Landing Force, which can be deployed in mountainous territory in arctic (weather) conditions. In preparation,

the units complete a programme each year with tough mountain training in Scotland and cold-weather training in the north of Norway. The Second Marine Battalion (2MARNSBAT) forms part of the Allied Command Europe Mobile Force (Land), the first unit to be deployed in the event of a crisis in Europe. The Third Marine Battalion (3MARNSBAT) is mobilisable and is only formed if required. The Fourth Marine Battalion (4MARNSBAT) is stationed in the Netherlands Antilles and Aruba.

* Submarine Service
The Submarine Service comprises some 400 personnel and has four submarines and an auxiliary vessel, the torpedo work ship. The home port of the submarines is Den Helder, but because of the close cooperation with the British navy they often operate from British ports.

* Mine Countermeasures Service
Keeping the sea, coastal waters, harbours and maritime approach channels free of mines is the primary responsibility of the Mine Countermeasures Service. To be able to do so, the Service has 15 Alkmaar class minehunters, 2 Dokkum class minesweepers and 4 diving vessels. The minehunters and minesweepers are divided into an operational flotilla and a work-up flotilla. The home port is Den Helder. Royal Netherlands Navy mine countermeasures vessels form a permanent part of the international mine countermeasures group, the Standing Naval Force Channel (STANAVFORCHAN), which falls under the command of NATO. This fleet is responsible for monitoring and providing protection against mines for the benefit of all merchant shipping in northwestern European waters.

* Naval Air Arm
The success of following fleet movements, searching, locating and - in wartime - eliminating enemy units is largely determined by the Naval Air Arm. The Air Arm has two types of aircraft: long-range maritime patrol aircraft (MPAs) of the Lockheed Orion P-3C-II type (13 in all) and Westland Lynx UH14 helicopters.

The Air Arm plays an important role in Search and Rescue operations (SAR). The SAR operational area comprises the Dutch part of the North Sea, the Wadden Sea, the IJsselmeer and the Zuidholland and Zeeland waterways. The coastguard organisation is responsible for the coordination of SAR operations.

* Hydrographic Service
In the Royal Netherlands Navy, charting the sea is the task of the Hydrographic Service. For gathering information, the service operates two North Sea research ships, HNLMS Buyskes (A904) and HNLMS Blommendal (A905). The Hydrographic Service also conducts oceanographic research with HNLMS Tydeman (A906).

The Royal Netherlands Navy's meteorological service also forms part of the Hydrographic Service. The meteorological service is based at the naval air bases of Valkenburg and De Kooy, with the squadron staffs at sea and on board ships of the Hydrographic Service.

* Frequencies *

- Amsterdam radar (civil) also used by Naval Air Station de Kooij
  Freqs: 2753, 5568
- NAS Valkenburg (90% RATT, 10% voice)
  Freqs: 3128, 5705, 8970
- Navy den Helder
  Freq: 2207
- NAS Valkenburg, 'Radio Noordwijk'
  Freqs: 2204, 8240
- Suffisant, Curacao, ATN
  Freq: 11178
- Ship to ship comms
  Freqs: 3850, 4785, 5385, 5447.5
- Royal Marine Corps Doorn (copied while wkg vessels)

Freq: 5685.5
- Zee Kadetten Korps (Sea Cadets Corps)
Freqs: 3650 kHz, 145.250 MHz

- CARB transmissions; Navy den Helder
Freqs: 2845 PBB 850/75 CARB; 7.5-bit Baudot
3764.5 PBB 850/75 CARB; 7.5-bit Baudot
6483 PBB 850/75 CARB; 7.5-bit Baudot
8150.5 PBB 850/75 CARB; 7.5-bit Baudot

- CARB transmissions; Navy Goeree
Freqs: 2474 PBC32 850/75 CARB; 7.5-bit Baudot
4280 PBC34 850/75 CARB; 7.5-bit Baudot
6358.5 PBC36 850/75 CARB; 7.5-bit Baudot
8439 PBC38 850/75 CARB; 7.5-bit Baudot
12840 PBC312 850/75 CARB; 7.5-bit Baudot
17117.5 PBC317 850/75 CARB; 7.5-bit Baudot

- Working freqs:
2121 Channel 02A for ships working PBC
4155 Channel 04A for ships working PBB
4161 Channel 04B for ships working PBC
4171.5 Channel 04C for ships working PBC
6237.5 Channel 06A for ships working PBC
6242 Channel 06B for ships working PBC
8324 Channel 08B for ships working PBC
8337.5 Channel 08C for ships working PBC
12375.5 Channel 12B for ships working PBC
16576 Channel 17B for ships working PBC

o Netherlands Coastguard

The new Coastguard Agreement came into force on 1 June 1995. As from this date, the operational control of the Coastguard became the responsibility of the Royal Netherlands Navy. Since then, the Director for the Coastguard has been in full command of all Coastguard operations on and above the sea, in the Coastguard's area of operation. In these duties, the Coastguard Centre acts as the operational command centre.

The Coastguard's tasks are as follows:
* monitoring, handling and coordinating national and international distress, emergency and safety radio traffic;
* coordinating and implementing relief and search and rescue operations;
* limiting and tackling the consequences of disasters and incidents;
* wherever necessary, implementing shipping guidance measures;
* maintaining law and order and providing assistance;
* monitoring measures aimed at limiting catches, and other technical measures applicable to sea fishing;
* monitoring compliance with shipping regulations;
* supervising ships' equipment;
* enforcing environmental regulations;
* monitoring the import, export and transit of goods;
* preventing entry by undesirable aliens.

The Coastguard monitors the following international emergency channels:

1627.5 Intl Emergency SAR ch.02
1642.5 Intl Emergency SAR ch.03
1657.5 Intl Emergency SAR ch.04
2182.0 Intl Emergency SAR ch.01
2786.0 Intl Emergency SAR ch.12
3010.0 Intl Emergency SAR ch.05
3023.0 Intl Emergency SAR ch.06
3357.0 Intl Emergency SAR ch.07
3458.0 Intl Emergency SAR ch.08
3673.0 Intl Emergency SAR ch.13
4050.5 Intl Emergency SAR ch.09
5680.0 Intl Emergency SAR ch.10

The primary day freq is 6550 kHz and its primary night freq 3023 kHz. Other freqs logged: 1627.5, 1657.5, 3458, 3673, 4429, and 5680 kHz.

The main players are Netherlands Coast Guard Center; 'Savanne' a tactical callsign for a so far unid vessel; 'Pluto...' (naval P-C3's); 'Coast Guard 3' (navy Nimrod); and a bunch of coast guard vessels.

o Netherlands Sea Cadet Corps (NSCC)

* Organisation
The crew of the ships are divided in officers, petty officers and Cadets. The officers are responsible for the training, maintance and the activities of the cadets. The petty officers supervise the cadets in their weekly activities.

The cadets are divided in Divisions:
  * Division D - Junior cadets (age: 11)
  * Division C - Sea cadet 3rd class (age: 12-13) - Ordinary Cadet
  * Division B - Sea cadet 2nd class (age: 13-14) - Able Cadet
  * Division A - Sea cadet 1st class (age: 14-18) - Leading Cadet

The officers and petty officers are divided in:
  * Cadet Petty Officer
  * Petty Officer
  * Chief Petty Officer
  * Sea Cadet Officer 3rd class (Sub-Lt)
  * Sea Cadet Officer 2nd class (Lt)
  * Sea Cadet Officer 1st class (Lt-Commander)

* Activities
The cadets meet every Saterday. The meetings start at 11.00 or 12.30 hrs. The cadets are divided into 'bakken' (cadets with the same ranks). One bak (division) is going to sail or row, while other baks have to clean the ship, will be on guard duty, or are busy with the maintaince of the ship and material. Most theory lessons are given during the winter months. During the summer camps all theory must be put into practice; the cadets have to cook their own meal, engineers must keep the engines going and the nautical cadets must sail the ship.

There is an exchange program for sea cadets and it is possible for them to participate in activities in Canada, USA, UK, Belgium and Sweden.

* Communication
Cadets in this branch are busy with the wonders of electronics. They learn the basics of electronics, morse, vhf and the international signal flags. After that they can graduate as a "Telegraphist".

Several units have an amateur A-licence. Each unit with such a station has a station manager. He supervises all of the traffic of the station.

During the Saterday meetings, starting at 14.00 UTC, the cadets can communicate with HAMs all over the world on 145.250 MHz and/or in the 80 meter band on 3650 kHz LSB.

o Callsigns
BANDBOX - Air force, CRC Nieuw Milligen
PAA.. - MOD the Hague
PAA21 - MOD the Hague
PBA.. - Navy Amsterdam
PBB.. - Navy Den Helder
PBC.. - Navy Goeree
PBD3 - Navy Vlissingen
PBE3 - Navy IJmuiden
PBF3 - Navy Rotterdam
PBH - Navy Den Helder

PBI - Navy Den Helder
PBK - Netherlands Coast Guard
PBU3 - Navy Hoek van Holland
PBV.. - NAS Valkenburg ('Noordwijk Radio')
PCI - IJmuiden Coast Guard
PEF2 - Air force Volkel
PEL2 - Air force Leeuwarden
PES - Air force Soesterberg
PET - Air force Twente
PFC - NAS de Kooij
PFD - Marine Corps Doorn
PFD5 - Marine Corps Doorn
PFD74 - Marine Corps Doorn
PJB - Navy Bonaire (ANT)
PJK - Navy Suffisant (Curacao, ANT)
PI9SZM - Sea Cadet Corps Maassluis
PI9SZR - Sea Cadet Corps Rotterdam
PI9ZKA - Sea Cadet Corps Amsterdam
PI9ZKD - Sea Cadet Corps Den Helder
PI9ZKG - Sea Cadet Corps Gouda
PI9ZKS - Sea Cadet Corps Schiedam
PI9ZWR - Sea Cadet Corps Arnhem

o Equipment
Note that this info comes from unofficial sources and the list may be incomplete or partly obsolete.

* Ground-based Communications
MZ-300 Series HF Transmitters and Receivers
MZ-301, MZ-341 and MZ-311
Transmitting modes: A1A, J2A, H2A, R3E, J3E, H3E (all SSB modes can be USB and LSB)
With external modem: F1B, J3C, F3C, B9W (data), B8E (link 11)
Frequency range: 1.5-30 MHz in 10 Hz steps.
Manufacturer: Signaal Communications, Huizen

* Line and Transmission Systems
Line Terminating Unit/Optical Line Terminating Unit (LTU/OLTU).
The LTU and OLTUs are designed to set up tactical transmission and switching systems. The LTU uses Spiral-4 (S-4 or quad) field cable for transmission, while the OLTU uses optical fibre. LTU and OLTU automatically adjust to bit rates of 256, 512, 1024 and 2048 kbits/s. LTU and OLTU are interoperable with all current transmission and switching equipments that compy with EUROCOM transmission standards.
Manufacturer: Signaal Communications, Huizen

MTX Military Tactical Exchange
The MTX is a field-usable switch, especially designed for use under harsh environmental conditions. It accommodates 64 duplex voice or data channels, 32 of which can be connected locally. The MTX can be used as a stand-alone switch or for creating networks. The MTX is used in the radio access points of the Single Channel Radio Access system (SCRA) of the Royal Netherlands Army and is suitable for unit level switch application within larger switching systems.
Manufacturer: Signaal Communications, Huizen

Multitel Multiplexed Automatic Field Telephone System
The Multitel is a Dutch Army multiplexed automatic field telephone system. It provides fully automatic telephone facilities, similar to public telephone systems. Connections are available to other communication systems such as satellites and are networks, conventional telephone systems and combat net radio. Multitel is fully compatible with Racal's Matel system which is used by 17 countries around the world, including several NATO members. In addition, Matel was used by the United Nations' Protection Force in the Bosnia-Herzegovina conflict.
Manufacturer: Racal Acoustics Ltd.

* Systems

DELTACS Army Corps Tactical Area Communications System
DELTACS is a mobile tactical area comms system providing secure, digital comms for army corps size military units. It handles voice, teleprinter, fax and data traffic. Trunk nodes and access nodes (MILTEX), multiplexer access points (DELTAMUX) and radio access points are connected to the network by multi-channel secure radio links. Prime contractor: Signaal Communications, Huizen

ZODIAC Mobile Telecommunications System
ZOADIAC is the mobile telecommunications system for the Netherlands First Army Corps. It is the Netherlands Army version of the Signaal DELTACS system.
Prime contractor: Signaal Communications, Huizen

Netherlands Armed Forces Integrated Network (NAFIN)
Under a $276 million programme, the Netherlands Armed Forces Integrated Network (NAFIN) is designed to replace all existing fixed military communication systems with a single integrated network by 1995. NAFIN will hand all military voice and data communication from the Ministry of Defence, the three national armed services and the Royal Military Police. It will also support all NATO communications from, to and via the Netherlands. NAFIN will replace the MDTN military telephone net, the ASCON automatic switched communications networks, the AMSS automated message switching system (transmission part), the army communications network, and operational emergency and telegraph nets. The new integrated network, planned to be built around eight nodes, will provide enhanced survivability, better security and increased capacity, using fibre optic cabling. Communication link-switch were previously routed through civil networks will also be incorporated in the military system. Equipment wull be commercially procured on the basis of competitive tendering.

Royal Netherlands Air Force Local Telecommunications Network (LTN)
In its first phase the LTN will consist of 26 ISDN PABXs at six air bases with options for expansion. They will integrate and, where necessary, replace existing telecommunications infrastructure on the bases. The PABXs are militarised versions of the ISDX knowns as the Military Switched Digital Exchange (MSDX).
Prime contractor: GPT Ltd. Strategic Communication Systems, Coventry.

* Naval Systems

Signaal HF ECCM Equipment Range (SHEER)
The SHEER family of radios are designed for use in shipboard electronic warfare environments. Providing communications for ground forces as well as naval units, they are link 11 compatible.
The basic elements of the system are the MZ-3O1, MZ-341, and MZ-311 transmitters, the MO-32O VLF/LF/MF/HF receiver operating in the 10 kHz to 30 MHz band, the MY-323 tunable RF preselector/noise supression filter and a wideband antenna system. All components have ECCM facilities based on a range of hopping speeds up to 25OObps.
Manufacturer: Signaal Communications, Huizen

Signaal Integrated Communications System (SINCOS)
SINCOS is designed for installation in all vessel sizes for: high internal and external traffic capacity; short reaction time in signal distribution and processing, and the establishing of networks and circuits. External comms comprises HF, VHF and UHF transmission and VLF to UHF reception, using telephony, telegraphy, RATT and data. It can also be extended with SATCOM facilities. Overall features are fast synthesisers, silent tuning and add-on provisions for ECCM operation.
Manufacturer: Signaal Communications, Huizen

* Encryption systems

ECOLEX-10 is an on-line encryption system for telex/fsk signals, using 16 code-wheels and baudot-tapes. Before switching from voice to RTTY you will hear the word 'telex' or 'telex uit'. This indicates that the transmitter will be switched from 'voice' to telex, this has to be

done manually. After 'telex uit' you can hear the start of the telex and a bunch of random characters to synchronize both sides. After this the transmitter goes off the air for 3 secs after which the scrambled telex will be transmitted. When the synchronization went wrong, you will hear a signal from the other side during these 3 secs (transmitting space characters).

MUCOLEX Link Encryption Equipment
The Mucolex is used on full-duplex data links, radio relay and cable, for on-line automatic and synchronous encryption abd decryption of digital bit streams such as occur in TDM systems. It operates at 256, 512, 1024 and 2048 Kbits/s.
Manufacturer: Philips Crypto BV

PFDX 2035 Fax Data Crypto Unit
This unit provides cryptographic protection for fax messages carried over automatic switched telephone networks.
Manufacturer: Philips Crypto BV

PKMS 2000 Key Management System
A smart card based off-line key cube system with an additional key-storage-reduction scheme.
Manufacturer: Philips Crypto BV

PPSX 2060 Series Packet Switched Data Crypto Equipment
This equipment provides on-line, full-duplex, end-to-end cryptographic protection in automatic packet-switched public data networks.
Manufacturer: Philips Crypto BV

SPENDEX 40 Digital Narrowband Secure Terminal
A stand-alone terminal providing high-grade end-to-end cryptographic protection for voice and data traffic over narrowband transmission paths. The 2400bps digital bitstream from the terminal's LCP10 vocoder or data port is automatically enciphered and passed to the line as a virtually stream of difital data in analogue form.
Manufacturer: Philips Crypto BV

SPENDEX 50 Digital Narrowband Secure Terminal
A stand-alone tactical wideband secure voice terminal designed for secure communication of speech and either digital or analogue data. It operates at 16 or 32 Kbits/s and is intended for use in tactical communication nets conforming EUROCOM standards.
Manufacturer: Philips Crypto BV

Sources / acknowledgment: Arie Noort, Bert van Rij, Jan Janssen, Bob Margolis, John, Rene, Michiel Schaay, CRC Nieuw Milligen, Zee Kadetten Korps, Ministry of Defense, Jane's Military Communications.

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In addition to last month's LW article, I have another one for you. It is however mainly directed to European listeners, but it may be also interesting for the rest of you.

This article originally appeared in the February 1998 issue of 'Medium Wave News' the bulletin of the Medium Wave Circle.

LW BEACON DX STARTS AT 1,500 MILES
by Arthur Owen awo@compuserve.com

In the UK, you soon get tired of hearing only European beacons night after night. A reasonably good antenna and receiver will add hundreds of them to your log. 'DX' means 'long distance', but it also suggests a challenge - so, when you feel like a change from 'local' beacons, why not strive for the real DX? Hunt out the LW beacons that are over 1,500 miles (2,400 km) away - in Canada, the USA, the West Indies and beyond, and also in Greenland, and on various Atlantic islands.

Consider the facts:

* In the seven months between 1 September 1996 and 31 March 1997 (my last complete transatlantic LW DX season), and listening every night only from 2230 until midnight GMT, I had 821 trans-atlantic beacon loggings. (The current season is also going well).

* During those 242 consecutive nights, only 59 nights produced no transatlantic (T/A) beacon at all (and even those poor nights were nearly all at the beginning, or the end, of the seven-month DX season. During Nov/Dec/Jan, there were only 2 nights without T/A beacons).

* Some nights produced up to 18 Canadian NDBs before midnight GMT.

* The two most regularly heard T/As were:

    QX 280 kHz, Gander, Newfoundland - heard on 129 nights.
    YHR 276 kHz, Chevery, Quebec - heard on 103 nights.

ESSENTIAL: the whole of the signal path between you and the distant beacon must be in darkness. When used as navigational aids, LW beacons are short-range transmitters, and their ground wave in daylight may not extend farther than 50 to 100 miles. Night-time propagation is quite different, of course, and, under good conditions, a LW beacon can sometimes be heard several thousand miles away (but don't try to use it for navigation!).

Newfoundland is the nearest bit of North America, and, as the clocks there are 3 hours behind the UK in Winter, it will be late evening here in the UK before any transatlantic beacons can be received on this side of the Atlantic. Later, as the dusk rolls westwards and moves inland from the Canadian Maritimes, other provinces, and the USA, gradually come within our reach.

So, the first rule is: listen in Winter, preferably after 2230 GMT. In Summer, the entire T/A signal path will not be in darkness until the small hours of the night in the UK (but, even then, it's an uphill struggle because of the high level of static crashes, and the different Summer propagation, so night-birds may find it rather disappointing).

For T/A DXing, forget about the familiar Mercator projection seen in most atlases, and think in terms of Azimuthal Equidistant projection (Great Circle). Canada is closer to us than any part of the USA, so the first beacons to come through, when LW propagation conditions are reasonably good, are likely to be from Newfoundland (e.g. QX 280, Gander) or in Quebec Province (e.g., YHR 276, Chevery).

DIFFERENCES: Learn to recognise a Canadian NDB. Our own marine NDBs send in CW mode, with ID followed by a long 47 seconds dash, while most of our aero NDBs send only an ID and no dash.

Nearly all Canadian NDBs send one ID followed by a 6 seconds dash. The transmission is modulated by a 400 Hz tone -so if I want to hear QX 280 at Gander, NF, I tune to 280.400 kHz, and NOT to the listed frequency of 280.000. (Most US beacons, however, send ID but no dash, and modulate with a 1000/1020 Hz tone - so, for CLB 216, Wilmington, NC, I tune to 217.012 kHz).

That 6 seconds dash is your best friend when hunting Canadian beacons. If it's a weak signal, rising and falling in the noise, that dash stands out even when you cannot read its ID. Hang on to any 6 seconds dash you hear; even if the ID is too weak just then, it may well be more readable in a few minutes time. DX beacons often fade in and out - and you may be tuning in when they're 'out'.

Some Canadian NDBs are on frequencies where there are no European NDBs -and their 6 seconds dash quickly alerts you. If it's weak, hang on for

a while (or return in a few minutes time to the same precise setting), and it may then be stronger. Use the dash as a guide to when the ID starts.

When there are one or more European NDBs already on a frequency, listen carefully for any sign of a weaker NDB underneath them sending a 6 seconds dash - it could be a Canadian. Don't be put off if the stronger Europeans blot out the T/A DX at first. As the Canadian NDB is sending a dash after its ID, and the Euro NDB will usually not be doing so, they will drift apart in time, so that the ID of the Canadian can often be read in the brief gap between repetitions of the Euro NDB's IDs. Here, too, the dash is invaluable since it warns you when the ID is about to start. (Happily, it's not always like this. On good nights, T/A propagation sometimes results in some of the Canadian NDBs dominating the frequency, and the usual Euro NDBs there will be much weaker than usual, or even inaudible).

A number of Canadian NDBs live inside our European LW BC band. Our megawatt BC stations will usually wipe out any chances of hearing any DX NDBs that are close to their frequencies - but the extent of this may depend on your antenna and receiver performance, and on whether that night's T/A conditions are exceptionally good or not.
BBC Radio 4 (Droitwich, Burghead & Westerglen) on 198 kHz, and Atlantic 252, annihilate several nearby Canadian and US NDB channels. Some LW BC stations, fortunately, close down around 2300 but, alas, not many. One small mercy is that there are very few Euro NDBs within the LW BC band.

ANTENNAS: Canadian NDBs are at least 2,000 miles away from the UK, and some of them use very low power to simple wire antennas, so you will stand a better chance with an outdoor LW active antenna. The better your antenna and receiver perform with weak signals on LW, the more often you will hear T/A beacons. Normally, I expect to hear Canadian NDBs on most nights of the week in Winter - and before midnight. My back garden, a few miles SW of Manchester, lacks the space for effective long antennas, and, for some years now, I have used Graham Maynard's ALN-1 outdoor 15 x 15 ft (5 x 5 m) 2-turn active vertical loop. I also have the L-400B LW active antenna from LF Engineering Inc. (a 0-500 kHz vertical mounted on a 9-ft wooden pole in the garden). I keep switching between the two to find the best signal.

RECEIVERS: Use your receiver's narrowest IF filter bandwidth. Most of the time, I use the 56 Hz IF filter bandwidth on a Watkins-Johnson HF-1000, but many of the DX signals I hear are still quite readable at the more usual 250 or 500 Hz 'CW' IF filter settings. When DX conditions are rather poor, an outboard audio filter (e.g., Datong FL2/3, or MFJ & Timewave DSP) may resolve a weak ID for you. Headphones always bring you 'nearer' to the DX.

Canadian NDB channels are spaced at 1 kHz intervals - but don't forget to add the 400 Hz offset to the listed frequency when you tune. Try for the Canadian NDBs listed below - they are the ones most often heard in the UK. You may not hear any of them for some nights - it will depend on your equipment, and on T/A propagation conditions - but once you hear that very first T/A NDB, you'll be hooked. And finding the next one will seem much easier.

YOUR 'BEST BETS' IN CANADA (September to March)

kHz	ID	Name / Province
220	BX	Blanc Sablon, Quebec
263	QY	Sydney, Nova Scotia
276	YHR	Chevery, Quebec
280	QX	Gander, Newfoundland
281	CA	Cartwright, Labrador, Nfld
323	YWP	Argentia, Newfoundland
340	YY	Mont Joli, Quebec
347	YG	Charlottetown, Prince Edward Island
356	AY	St Anthony, Newfoundland
360	PN	Port Menier, Anticosti I., Quebec

374	SA	Sable Island, Nova Scotia
378	HO	Hopedale, Labrador, Nfld
379	CM	Channel Head. Newfoundland
385	NA	Natashquan, Quebec
390	JT	Stephenville, Newfoundland
396	JC	Rigolet, Labrador, Nfld
404	YSL	St Leonard, New Brunswick
414	BC	Baie Comeau, Quebec

For some years, my 'Transatlantic LW DX Season' has run from September 1 to March 31, and during these seven months I listen for T/A NDB DX every night between 2230 and midnight local time (and sometimes a bit later). As well as looking for new beacons, every previously-received T/A NDB frequency is checked at least once every night. On this regular nightly basis, the 'sound and feel' of each NDB channel becomes very familiar, and it gives me some idea of what to expect that night.

Check the solar data, propagation reports and forecasts from WWV, or from DK0WCY on 10144 & 3579 kHz (every five minutes on CW), or on the Internet; such as Jan Alvestad's excellent site at:

http://dxlc.com/solar/

Treat them as useful guides to conditions - but remember that T/A DX is sometimes heard even on supposedly bad nights. Occasionally, when conditions seem hopeless, and no T/A at all has been logged during my Dxing session, I have suddenly heard a rarer NDB like LT 305, at Alert, up at the top of Ellesmere Island in the Canadian Arctic (Lat. 82 32 North - the nearest Canadian NDB to the North Pole). So... don't give up too soon.

WHERE ELSE? As well as the North Americans, there are NDBs in Greenland, on various island groups in the Atlantic, in Africa and the Middle East, that can be heard in the UK. The first 'over 1,500 miles' beacons that I check every night are:

SAL 274 Sal Island, Cape Verde (off the West African coast).
No tuning offset. Sends dash. 2762 miles / 4445 km away. Although SAL is further away from me than many Canadians, it is amazingly consistent. During the whole of 1997, there were only 7 nights when I didn't hear it - and on 4 of those nights it was due to ear-splitting noise from a faulty lamp in the road outside.

OZN 372 Prins Christians Sund (near southern tip of Greenland).
400 Hz offset. No dash, and sends one ID only every 30 secs. Often louder than Euro locals BV and ODR. 1593 miles / 2564 km away.

SMA 323 Santa Maria, Azores.
1020 Hz offset. No dash. 1575 miles /2535 km away.

SAL 274 and SMA 323 are heard almost every night round the year (propagation conditions are VERY bad indeed if neither is heard - which is very rare).

OZN 372 is heard before midnight on most nights from September to April -
and, being three-quarters of the way across the Atlantic, is a good indicator of each night's possibilities. If the 'Big Doughnut' of polar absorption is stretching as far South as OZN that night, and I don't hear it, Canadian DX may also not get through.

To further whet your appetite for Canadian DX, amongst those I heard during December 1997 were: YCO 372, Coppermine, NW Territories at 67 49 North, 115 49 West (on 4 nights). LT 305, Alert, NWT (on 15 nights). YZS 362, Coral Harbour, NWT (on 7 nights). UX 378, Hall Beach, NWT (on 2 nights). YQ 305, Churchill, Manitoba (on 3 nights). Up in the frozen North, JAN 362, Jan Mayen (on 10 nights). Down in the USA, CLB 216, Wilmington, North Carolina, was heard on Christmas Day. Almost

all of these were heard before midnight GMT, so you don't have to stay up half the night - but you might hear even more DX if you do...

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THE MILITARY NEWSREEL

---- Military Information of use to the UTE monitor ----

David C. Wright, Editor

email: dcwright@gte.net or dcwright@usa.net
#monitor id: DaveWUN ----- AIM ID: DCWUN ----- IChat ID: Davewun
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In the March/April edition of The Military Newsreel I provided a listing of USAF B-2A SPIRIT Serial Numbers and Names compiled from various sources. There was one mistake that I discovered recently. Aircraft # 82-1067 (FORMER DEVELOPMENT AIR VEHICLE 2) is known as the Spirit of Arizona, vice #82-1071 listed in the listing. There is also one additional Development Air Vehicle named Spirit of Mississippi. Can anyone provide me with the serial number for this aircraft?

- Military News -

WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFNS) -- U.S. Air Force pilots no longer will need to use a makeshift system of fasteners, green filters and glow sticks in the F-16 cockpit to fly at night with night-vision goggles, or NVGs.
Retrofit modification, in response to a combat-mission-need statement, has made cockpits and external lighting of 43 Block 40 F-16s at Aviano Air Base, Italy, compatible with NVGs. The modification is called the night-vision imaging system, or NVIS.
The NVIS program, managed by Aeronautical Systems Center's F-16 System Program Office here, was accelerated because of unique missions being flown from Aviano over Bosnia. "Air Combat Command has a long-standing requirement for aircraft to fly and fight at night," said Rick McClelland, NVIS program manager at the F-16 SPO here. "In the U.S., it is easier to fly at night because you can turn your lights on. In countries like Bosnia or in similar places, though, where aircraft are susceptible to ground fire, the pilot does not want the enemy to know visually where he is."

A contract for the NVIS modification for the remainder of the F-16 fleet was awarded April 30 to Luminescent Systems Inc., Buffalo, N.Y. The retrofit should begin in 1999 with more than 1,000 F-16s receiving the NVIS modification over the next five years. (Courtesy of Air Force Materiel Command News Service)

KIRTLAND AIR FORCE BASE, N.M. (AFNS) -- An industry team operated a high-energy laser module for the first time during a test of the Air Force's airborne laser program. The test of a TRW-designed flight-weighted laser module, a multihundred-kilowatt-class chemical oxygen-iodine laser, was conducted June 3 at the company's Capistrano Test Site near San Clemente, Calif. The flight-weighted laser module is the fundamental "building block" for the high-energy laser that will be used on the 747-based airborne laser system -- also known as the YAL-1A Attack Laser -- to defend against attack by theater ballistic missiles.
"This 'first light' test is the latest in a series of successful risk reduction activities by Team ABL (Boeing, TRW and Lockheed Martin) that has kept the ABL (airborne laser) program on cost and on schedule without encountering any technical show stoppers," said Col. Mike Booen, director of the Air Force's airborne laser program. "This first lasing test of the flight-weighted laser module represents the fulfillment of a promise that TRW and Team ABL made to the Air Force in November 1996," said Joanne Maguire, vice president and general manager of TRW's Space and Laser Programs Division in Redondo Beach, Calif.

Maguire termed the successful event "an excellent first test. It proved that the flight-weighted laser module hardware and operating procedures work," she said. "Now we can begin the process of optimizing the laser operating conditions to achieve the required performance and laser characteristics." "The flight-weighted laser module first-light test is the beginning of a series of laser performance tests dedicated to reducing the technical risk of the ABL program," said Paul Shennum, Boeing vice president and director of Team ABL. "The test data will provide valuable information for the Air Force's first 'authority-to-proceed' milestone for the ABL program." The tests were performed as part of a $1.1 billion program definition and risk reduction contract awarded to Team ABL in November 1996 by the Air Force.
Team ABL's current contract with the Air Force calls for the team to produce, integrate and flight-test a prototype airborne laser demonstration system. The contract is scheduled to culminate in 2002 with a boost-phase shoot-down of a theater ballistic missile. An airborne laser engineering, manufacturing and development program could begin as early as 2003. The prototype aircraft could provide the Air Force with a residual operational capability. Team ABL is led by Boeing, which has overall program management management and systems integration responsibilities. The company is also developing the ABL battle management system and modifying the 747-400 aircraft. Those efforts will be done at Boeing facilities in Wichita, Kan., and Seattle. TRW, Redondo Beach, Calif., is developing the ABL target acquisition and beam control systems. (Courtesy of Air Force Research Laboratory Public Affairs)

On March 12th, 1998 the USS Kidd (DDG-993), originally constructed for the Iranian Navy as the Iranian Kouroosh, was decommissioned in a ceremony held at Norfolk, VA. The USS Kidd was in service with the US Navy for 16 years. In addition, the USS Callaghan (DDG-994), originally constructed for the Iranian Navy as the Iranian Daryush, was also decommissioned in early March after 16 years of service. The remaining two Kidd-class DDGs, the USS Scott (DDG-995) (ex-Iranian Nader) and the USS Chandler (DDG-996) (ex-Iranian Anoushirvan)are due to be decommissioned in September of this year. Rumors concerning the disposition of these vessels have been rampant since the announcement of their retirement. Early unconfirmed rumors had the ships going to the Royal Australian Navy to replace the RANs Perth-class DDGs. However, at the end of June, the US Navy announced that these four vessels would be sold to the Hellenic Navy.

The US Navy has begun the decommissioning of seven Spruance-class destroyers. These seven vessels are the only Spruance-class DDs without the Vertical Launch System installed. On March 26th, 1998 the USS Merrill (DD-976) was retired; on March 27th the USS Leftwich (DD-984) was retired; on May 29th, the USS Harry W. Hill (DD-986) was retired; while on June 5th, the USS Comte de Grasse (DD-974) was retired. The USS Ingersoll (DD-990) is due to retire in July 1998 while the USS Conolly (DD-979) and the USS John Rodgers (DD-983) are both scheduled for decommissioning in September 1998. All seven of these ships are scheduled to be scrapped and will not be made available for foreign sales.

On September 30 1998 the USS Independence (CV-62) will be decomissioned in Bremerton, Washington. Having been in service with the US Navy for over 39 years, the USS Independence was, for the past four years, the US Navy's only permanently forward-deployed carrier. The USS Independence will be replaced in Yokosuka, Japan by the USS Kitty Hawk (CV-63) which is due to leave its homeport of San Diego in July 1998 and will arrive in its new homeport in August.

The USCG's newest Air Station began operations on May 18, 1998. Located in Atlantic City, N.J., CGAS Atlantic City will serve to replace the now closed CGAS Brooklyn and CGAS Cape May. The CGAS operates seven HH-65A DOLPHIN helicopters, one of which will be detached to Long Island; operating out of Air Facility Long Island, N.Y., at the Frances S. Gabreski

Airport, from June 8 to October 15.

The Spruance-class destroyer USS Cushing (DD-985) has changed homeport. Formerly stationed in Pearl Harbor, HI, the USS Cushing has moved to Yokosuka, Japan to replace the USS Fife (DD-991) which is now based out of Everett, WA. In addition, the USS Cheyenne (SSN-773) has transferred from it former homeport of San Diego to Pearl Harbor, HI. Currently there are 22 SSNs based out of Pearl Harbor Submarine Base.

The US Navy has redesignated its 16 electronic warfare squadrons (VAQ) as Electronic Attack Squadrons. These squadrons will still bear the designation VAQ, but have been renamed to better reflect their capabilities. The VAQ squadrons operate EA-6B PROWLER aircraft and are the only dedicated tactical electronic attack squadrons in the US military. As an interesting sidenote, the VAQ squadrons are not shifting to the "joint" environment with US Navy, US Air Force and US Marine Corps aviators training and flying these aircraft. While the USMC and USN have long flown the EA-6B, this airframe is new to the USAF pilots. The USAF conversion to this aircraft was mandated by Congress and was followed by the retirement of all of the USAF's EF-111 RAVEN aircraft.

Worldwide commissionings:

    USS Decatur (DDG-73) is due to commission in August 1998
    USS Higgins (DDG-76) is due to commission in April 1999
    USS O'Kane (DDG-77) is due for commissioning in 1999
    USS Porter (DDG-78) is due for commissioning in 1999
    USS Oscar Austin (DDG 79) is due for commissioning in 2000
    USS Roosevelt (DDG-80) is due for commissioning in 2000
    USS Winston Churchill (DDG-81) is due for commissioning in 2000
    JDS Sugashima (MSC-?) is due to commission in March 1999
    JDS Notojima (MSC-?) is due to commission in March 1999

Peter Thompson copied the following list of NATO Routing Indicators off of the French "LFB" Circuit (Paris - Martinique) on 18 June 98. This list of routing indicators is a little unusual due to the large number of US Navy vessels, especially submarines, listed in the message.

Hope that you find it to be of use. Thanks Peter for the great log.

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RCEMTRA  BCST C11L
RQFZA    BELNAV
RHDLCNE  CINCUSNAVEUR LONDON UK
RFFKF    COMBOFOST
RULYVTA  COMCRUDESGRU TWO
RKQNECA  COMEDEAST ATHENS GR
RKQNCIS  COMEDEAST ATHENS GR
RKQNCIS  COMEDEAST CCIS ATHENS GR
RKQNECA  COMEDEAST CCIS ATHENS GR
RXQMNB   COMEDNOREAST
RUFNPGJ  COMNAVSURFGRU ME
RULYEGA  COMPHIBRON EIGHT
RUCOADO  COMPSRON ON
RXQMNIA  COMTURSARSOUTH
RULYVBA  COMSECONDFLT
RUFRETA  COMSUBGRU EIGHT
RHFJKGA  COMSUBGRU TEN
RUEGERW  COMSUBGRU TWO
RUEGERX  COMSUBRON TWO
RUFRDEA  COMSUBRON TWO TWO
RHFJSRA  COMSUBRON TWO ZERO
RXQMND   COMTURFLEET
RKQCSRF  CSRF ATHENS GR
RXQKNGR  CSRF ATHENS GR
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RBDEC	CTF 311
RNLNW	FONLFORCARIB CURACAO NA
RKQCGSU	HNDGS ATHENS GR
RKQNECA	HNGS ATHENS GR
RKQNCIS	HNGS ATHENS GR
RAYMHG	MHQAUST
RBDWC	MODUK NAVY
RHNVEEH	PCMT5 GMFCLERK
RHNVEEI	PCMT7 GMFCLERK
RHNVEEJ	PCMT9 GMFCLERK
RUFRJCS	USS JOHN C STENNIS
RHRAJFL	USS LABOON
RHFJSTO	USS MAINE
RUEGFRH	USS SEAWOLF
RUCOZBP	USS SHAMAL
RUEGARP	USS TOLEDO
RHPWCRR	USS TUCSON
RHCFMEE	USS WHIRLWIND
RUCORGP	USS WYOMING
RUEGFRY	SUBMARINE NR ONE
RHBCRKN	USCGC BEAR
RUCOWCA	USCGC CAMPBELL
RUCOWCD	USCGC CONFIDENCE
RUCOWCD	USCGC COURAGEOUS
RUCTFOA	USCGC DALLAS
RUCOCGA	USCGC DILIGENCE
RUCTFOA	USCGC DURABLE
RUEGABA	USCGC ESCANABA
RUCOCGA	USCGC FORWARD
RHBCJOR	USCGC GALLATIN
RHBDHNC	USCGC HARRIET LANE
RUCOCGA	USCGC LEGARE
RUCTFOA	USCGC MOHAWK
RUCOCGA	USCGC NORTHLAND
RUCOWCD	USCGC RELIANCE
RUEGABA	USCGC SENECA
RUEGABA	USCGC SPENCER
RHBCCBE	USCGC TAHOMA
RUCOCGA	USCGC TAMPA
RUCTFOA	USCGC THETIS
RUCOWCA	USCGC VIGILANT
RUCOCGG	USCGC VIGOROUS
RHFJKYA	USNS APACHE
RHRABIG	USNS BIG HORN
RHBCKSZ	USNS CAPABLE
RHRAACK	USNS CONCORD
RHBCKVY	USNS INDOMITABLE
RUCOABG	USNS KANAWHA
RUCCFLV	USNS LEROY GRUMMAN
RUAYFAL	USNS LITTLEHALES
RHFJKYM	USNS MOHAWK
RHBCKXR	USNS POWHATAN
RHFJOMT	USNS RANGE SENTINEL
RHRCSAT	USNS SATURN
RUCOABN	USNS SIRIUS
RUCBFAN	USNS STALWART
RHCFMEE	USNS ZEUS
RUCBNAB	USNS ZEUS
RUCORGP	USS ALBUQUERQUE
RUEGFRF	USS ALEXANDRIA
RUEGFRJ	USS ANNAPOLIS
RHRCAAC	USS ARDENT
RUCORGP	USS ATLANTA
RUWHIUL	USS AVENGER
RUCBLKK	USS BALTIMORE
RUCOACE	USS BARRY
RHPWCLL	USS BATFISH
RUCORGP	USS BILLFISH

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RUCBLKE  USS BOISE
RUCORGP  USS BOSTON
RHBDOKB  USS CHAMPION
RHCFMEE  USS CHIEF
RUEGFRL  USS CITY OF CORPUS CHRISTI
RUCOACM  USS CLARK
RUCOZBJ  USS CYCLONE
RUEGFRM  USS DALLAS
RHBDSDW  USS DE WERT
RUWHIUF  USS DEFENDER
RHBCDEV  USS DEVASTATOR
RHFJFYE  USS DOYLE
RHBCGLA  USS GLADIATOR
RHBBOTH  USS HALYBURTON
RUCBLKT  USS HAMPTON
RUEGARX  USS HARTFORD
RUEGJAM  USS HELENA
RUWHIUP  USS HERON
RHFJFYH  USS HUE CITY
RHBDOUD  USS INCHON
RUFRDEB  USS JAMES K POLK
RHFJJFK  USS JOHN F KENNEDY
RHFJSTG  USS KENTUCKY
RUFRLAS  USS LASALLE
RHBBLEG  USS LEYTE GULF
RUCORGP  USS MARYLAND
RUFRSSB  USS MINNEAPOLIS SAINT PAUL
RHBBHYC  USS MONONGAHELA
RHWZMCC  USS MONSOON
RUCOACT  USS MONTEREY
RUCORGP  USS MONTPELIER
RUCORGP  USS NEBRASKA
RUCORGP  USS NEWPORT NEWS
RUCORGP  USS NORFOLK
RHWISSO  USS OHIO
RUCORGP  USS OKLAHOMA CITY
RHBCIUC  USS OSPREY
RHFJSTC  USS PENNSYLVANIA
RHFJSTD  USS PENNSYLVANIA OFFCREW
RHBDKZI  USS PENSACOLA
RUEGFRR  USS PHILADELPHIA
RHFJFYR  USS PHILIPPINE SEA
RHBCPNR  USS PIONEER
RUEGFRT  USS PITTSBURGH
RUHPYBC  USS PORT ROYAL
RHRACBG  USS PORTLAND
RHPWCRR  USS PROVIDENCE
RUCORGP  USS RHODE ISLAND
RHFJSTL  USS RHODE ISLAND OFFCREW
RUCORGP  USS SAN JUAN
RHRCBTZ  USS SANTA BARBARA
RUWHIUB  USS SCOUT
RUCORGP  USS SCRANTON
RUWHIUD  USS SENTRY
RUFRBEA  USS SIMON LAKE
RHWZMCC  USS SQUALL
RHBCSWG  USS STEPHEN W GROVES
RHBBACO  USS SUPPLY
RHCFMEE  USS TEMPEST
RUCORGP  USS TENNESSEE
RHFJSTB  USS TENNESSEE OFFCREW
RUEGARF  USS TREPANG
RHCFMEE  USS TYPHOON
RHFJFZA  USS VICKSBURG
RHBCWAR  USS WARRIOR
RUCORGP  USS WEST VIRGINIA
RHFJSTF  USS WEST VIRGINIA OFFCREW
RUCTFOC  USCGC DAUNTLESS
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RHRCHHU  USNS PATUXENT
RUCOAAU  USS ARCTIC
RHFJOMH  USS ORIOLE
RUCOAAS  USS GONZALEZ
RHFJSTP  USS MAINE OFFCREW
RHFJSTS  USS LOUISIANA
RUCTFOA  USCGC VENTUROUS
RUWHIUR  USS PELICAN
RHBBLAR  USNS LARAMIE
RHBDJJI  USS THE SULLIVANS
RUWHIUS  USS ROBIN
RHBCRCS  USS CARNEY
RULYHST  PRECOMUNIT HARRY S TRUMAN
RHFJSTR  USS WYOMING OFFCREW
RHBBZOC  USS MAHAN
RUCOCGA  USCGC DEPENDABLE
RHFJKCA  COMSUBRON SIXTEEN
RUEGBRN  COMSUBRON FOUR
RHFJSTT  USS LOUISIANA OFFCREW
RUWMBUA  USNS HENSON
RNLNW    COMCOGARD NAA
RHBDOUD  COMCMRON TWO
RUCBKMC  CTF 144
RUFRETA  CTF 69
RHFJKGA  CTG 144.1
RUFRBEA  CTU 69.7.1
RHBCWAR  MCMROTCREW DELTA
RHFJSTS  USS LOUISIANA BLUE
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That's all folks....73 de Dave

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                        5-6 MHz Bandscan (part 1)
                      compiled by Alf Rosenstock

    4995 - 5003 kHz Standard Frequency and Time Signals

5000    CW      IBA Rome TS, I W97
        CW      ULA4    Tashkent TS CW id h+29/59 4/98
        CW      BPM Xi'an TS, CHN  CW id h+00 5/97
        CW      HD2IOA  Guayaquil TS, EQA W97
        CW/USB  YVTO    Caracas TS, VEN USB SS id/time ann 3/98
        CW      FDI22   FAF Narbonne, F v-mkr 2/98

    5003 - 5005 kHz Standard Frequency and Time Signals, Space Research
    5005 - 5060 kHz Broadcast, Fixed Service

5006    CW, R/  A2A unid, tent. ROU #504+1: v-mkr 5/97
5008.5  ARQ     Spanish Guardia Civil Net W98
                RETYVC  GC Castellon, E W96
5011    USB     USAF 'Space Shuttle' Net
                AFE70 USAF ETR Cape Canaveral AFS 'Cape Radio', FL, USA W96
                NBON USS OHP-Frigate Boone (FFG-28) W96
5015    USB     German Number Station   #GK: '2 Letter' [E: G16] W98
5015.5  CW      Russian Air Defence, RUS  time-mkr: UTC +3/4h (=99..8) 4/98
5018    ARQ     RFFEDFE  FF 'GROUPFORCE ALPHA' to RFFEDFM, QSX 5430 [UMF] W97
5019    USB     unid Number Station 'SEWER': YL vn 2x5 fgs 1098
5022.82 ARQ     DER MOI Bonn, D to Kiel [SHVHF] W96
5023.16 ARQ     MOI/LKA Mnchen, D  to Bonn [HFVBY] W97
5023.2  ARQ     DER MOI Bonn, D to GSP Hannover [GNVHF] W96
5024.86 ARQ     MOI/LKA Stuttgart, D to Bonn [HFFBW] W96
5023.84 ARQ     MOI Potsdam, D to Bonn [HFVBR] W96
5024.52 ARQ     DER MOI Bonn, D to Hamburg [HHVHF] W96
5026    USB     USAF STRATCOM Net   #Z140:
                'NW01'  USAF 'Nightwatch' aircraft W98
5027    USB     unid Number Station 'Czech Lady': 2x5fgs [En.:S17] 7/97
        CW      unid Number Station 2x5 fgs: T T T 1098
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5029    CW      'FAPSI'/Russian Intelligence2x5fgs/T to 531 6/97
5027.7  ARQ     MFA Cairo, EGY to Rome, s/c: XBVP W96
5036.7  ARQ     MFA Cairo, EGY to Rome, s/c: XBVP W96
5038    CW      FDI22   FAF Narbonne, F v-mkr W96
5043.5  USB     NATO Military (Eu) Net  s/1TK, BLACKADDER 2/97
5044    USB     US Military Net     s/BLACK LIST, STALLION  1 & 2  W96
5045    USB     NATO Military (Eu) Net s/1TK, BLACKADDER,4WR, etc 2/97
5046    USB     Polish Military Net s/TAMBURA 20 W96
        USB     Number Station, USA 'TCS': EE YL 3/2 fgs // 4670 W98
5049.2  FEC     Portugese State Police Net W98
                CSP38 State Police Santarem, POR to 'Postos Continentale' W96
                State Police Coimbra, POR W96
5049.8  R/75    PBB DN Den Helder, NLD  CARB 3/97
5052.5  USB     Dutch Military Net s/AQQ, CCX 4/97
        R/50    YRV Bukarest Meteo, ROU wx 1197
5053    USB     NATO Military (Eu) Net  s/ZERO, F21B 1097
5055    R/50    JYF6 PETRA Amman, JOR    EE, AA Press 4/98
        ARQ     RFFHCFA FF 'REGTRANS 28 Avant' to RFFHCFB [UFA], Exercise W97
5058    CW      FDI22 FAF Narbonne, F v-mkr 3/97
        R/50    FDG5 unid FAF W98
5059.2  R/75    AFS USAF Offut AFB, Omaha, Elkhorn, NE W98

    5060 - 5450 kHz Fixed Service, Mobile (not aeronautical mobile)

5060    R/75    MTI RN Plymouth, G to MTT W96
        R/75    ZRH SAN Cape Town, AFS  to CXR, LOL  W96
        R/50    unid Russian  RY:KRIPTOGRAMA NA PERFOLENTE 1097
        CW      'FAPSI'/Russian Intelligence mkr: 417''' 27742 7/97
5061    R/75    GYA RN London, G W96
5063    CW      French Military Net s/1U, 32 7/97
5064    CW      9MB MN Georgetown/Penang, MLA  v-mkr, nx/msg, 5 lgs 3/98
        ARQ     RFFGCC  FF 'COMFORCE BRIGTRANS', Metz  to RFFXCTA [UAF],W97
5067    CW      'FAPSI'/Russian Intel mkr: 3T4''' 1, 5 fgs [En.: M12] 1297
5067.7  ARQ     MFA Cairo, EGY W96
5070    R/      'FAPSI'/Intell. Moscow, RUS [70026] W97
        Data    OLZ88   MFA Prague, CZE W97
5071    USB     French Military Net 9/97
5075    USB     Italian Military Net s/F31I, R86P 9/97
        R/50    unid 'CEMERNIK VENECIJA', coded     1097
        ARQ     unid FF [UCF] W98
5077    CW      RBL64   unid, RUS 5 fgs to RAC32 6/97
5078    USB     USAF Net
                AJE USAF Croughton AFB, G   w/NIGHTWATCH W97
        USB     US Military Net s/E7Q, Q3Z ('Aligator') W96
5080    USB     USN PMR Net PMR: Pacific Missile Range
                PLEAD CONTROL USN Pt. Muju, CA w/HOSTILE METHOD 14+08,R1R W98
                USAF Hickam AFB, HI, USA w/PLEAD CONTROL W98
5082    USB     unid Number Station '6 Tone Repeating'-mm [En.: X6] 4/98
5082.3  ARQ     RFLI FF Fort-de-France, MRT to RFLIRT [IRT]  W97
5082.9  R/50    IEU784  ITALMIL Grisi, I aka:RIFAGF, to IEQ70 8/97
5083    R/100   DHJ51 Grengel Military Meteo, D   wx 9/97
5085    USB     NATO Military Net #K31: s/M0, M10, M30, M40, etc.   2/97
        USB     Russian Aero Coor. Net 5/97
5085.5  USB     NATO Military Net s/BF, 1QT, 6AC, M7E, L4D, etc. 3/97
5086    USB     NATO AIRCENT (Eu) Net   #NM2: (Off-Shore Coord. Net)
                BANDBOX RDAF CRC Nieuw-Milligen, NLD w/Trigraphs 9/97
                LIMELIGHT  ICAOC2 Kalkar, D w/ECHO PAPA 9/97
                ROAD WARRIOR  unid W97
        CW      Russian Air Defence, RUS time-mkr: UTC +3h (=99..) 2/97
        CW      OLZ60   unid Czech Diplomatic clg OLZ88 (MFA Prague) W96
5087    USB     NATO Military (Eu) Net  s/R, G, J, D 2/97
5087.5  CW      FDI8 FAF Aix, F v-mkr 3/97
        CW      FDI22 FAF Narbonne, F v-mkr 6/97
        USB     NATO AIRCENT (Eu) Net  #NM2: (Off-Shore Coord. Net)
                LIMELIGHT  ICAOC2 Kalkar, D c/BANDBOX W96
5089    USB     FAF Net s/CALYPSO, MAYOTTAN W96
5090.5  CW      FDG FAF Bordeaux, F v-mkr 3/97
        CW      FDI22   FAF Narbonne, F v-mkr 4/97
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5090    USB     Telecom Suva, FJI W98
5091    AM      MOSSAD, ISR Intelligence #JSR:YL EE 5lgs [En.: E10] 3/98
5095    USB     British RAF Net #PK:
                RAF Buchan, G W98
        ARQ     RFFEDFE  FF GROUPFORCE BRAVO to RFFEDFM ALPHA  [UFE] W97
5096    ARQ     RFFHCFE  FF Marseille, F to RRZEFG [UEF], Exercise W98
5096.8  R/75    CFH CF Halifax Military, CAN NAWS, wx 2/98
5099.195 VFT    GXQ RN London, G ch.: H W96
5099.365VFT:ARQ GXQ RN London, G ch.: G W96
5099.5  USB     Bundeswehr Net s/WASSERHUHN W96
5099.7  ARQ     RFTJ    FF Dakar, SEN to Paris [AFL] W96
5099.875VFT:ARQ GXQ RN London, G ch.: F W96
5100    FAX     AXM32   Melbourne Meteo, AUS wx W98
        FAX     BDF Shanghai Meteo, CHN wx W97
5100.2  ARQ     RFTJ    FF Dakar, SEN W97
5100.045VFT:ARQ GXQ RN London, G ch.: E W96
5100.555 VFT    GXQ RN London, G ch.: D, encrypt W96
5100.7  PR      ELFM7   SOEKOR Oil Rig, AFS to 9GA7L W98
5100.725 VFT    GXQ RN London, G ch.: C, encrypt W96
5101.235 VFT    GXQ RN London, G ch.: B, encrypt W96
5101.405VFT:R/50GXQ RN London, G ch.: A W96
5106.7  ARQ     MFA Cairo, EGY W96
5107    USB     USCG-HFDL Net w/ANDVP
                NMO USCG COMMSTA Honolulu W97
5107.9  R/50    KVNX    unid, tent. BUL RY-mkr, to YYYY 9/97
                Y4XZ    unid, tent. BUL RY-mkr, to YYYY 1/98
5108    USB     NATO Military (Eu) Net  s/X10 'O', I20A 3/97
5109    USB     NATO Military (Eu) Net  s/8HU, U1 9/97
5109.595VFT:ARQ GXQ RN London, G ch.: 1 W96
5109.767VFT     GXQ RN London, G ch.: 2, encrypt W96
5109.8  R/50    FDG5 unid FAF 1297
5110    CW      FDI22   FAF Narbonne, F v-mkr 3/97
        USB     VJI RFDS Mt Isa, AUS W97
        USB     US Military w/ANDVT W98
5110.275VFT     GXQ RN London, G ch.: 3 W96
5110.445VFT     GXQ RN London, G ch.: 4, encrypt W96
5110.995VFT:R/75GXQ RN London, G ch.: 5 W96
5111    CW, R/  RMP RN Kaliningrad #P: ch-mkr, 5 F/lgs //5862 7/97
5111.125VFT:ARQ GXQ RN London, G ch.: 6, encrypt W96
5112    USB     Polish Military Net s/QIB,PIY,RES,SSQ 9/97
5114    R/50    FB5W Polish Army Brest, POL  to xxxx, enc tfc // 5255
1197
5116    CW,R/   A2A unid, tent. ROU #501+1:mkr,w/V1R etc. QSX 4757 W97
        CW      Number Station, CUB 'Cut' Numbers [En.: M8] W98
5116.5  PR/300  AAA0USA USA MARS Ft. Lewis, WA  w/AAM8RC W97
5117    AM      Number Station, CUB 'Attencion': YL SS: 5 fgs [En.:V2] W97
5118    CW      Number Station, CUB 'Cut' Numbers [En.: M8] W98
5120    USB     USAF ARIA Net
                ARIA CONTROL USAF 512th Test Wing Ops Ctr, Edwards AFB W96
5121    FAX     Moscow Meteo, RUS   wx W97
        ARQ     RFFHCA  FF Ajaccio, Corsica, F to RFFHCB Bastia, QSX 5430 W96
5122.5  USB     Dutch Military Net      s/IAP, EBX  (cf: 5123.9/R)  5/97
5123    USB     NZL Dept.of Conversation Net
                ZKG21   DoC Auckland, NZL W97
        USB     unid Net, NZL s/ZKMK, ZKMK3 W97
5123.5  CW      FDG FAF Bordeaux, F v-mkr 5/97
5123.9  R/      Dutch Military Net encrypted 'Telex' (cf: 5122.5/U)  5/97
5124.5  USB     Luxor, EGY clg Cairo 3/97
5126    USB     US Military Net s/Y2L20, Y2L03 W97
5127    AM      unid German Number Station  YL 2x5 fgs GG 8/97
5129    ARQ     RFFHAD  FF DIV SIX Nimes, F to RFFXCFD [UDF], Exercise
W98
5130    AM      'FAPSI'/Russian Intelligence 'The English Man':OM EE 5fgs 3/97
        USB     French Military Net s/SATURNE 3/98
5132    USB     NATO Military (Eu) Net  s/CA, GW, JO 1097
5133.5  USB     Dutch Military Net s/LXS,TGB,GHT,HHU,NJF,etc 3/97
5134.9  R/      Dutch Military Net encrypted 'Telex' (cf: 5133.5/U)  3/97
5135    AM      Number Station, CUB 'Attencion': YL SS: 5 fgs [En.:V2]   W98
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5137    USB     Australian Military Net s/FO, RL W98
5138    USB     Australian Military Net s/2OFJ, 2EC6 W98
5138    R/50    unid 5 fgs (UTC-time) " ;50; " 3/98
5140    USB     FEMA Oklahoma Operation Secure Net c/WNBM839 W96
5141    R/81-81 Russian Army Lipetsk, RUS W97
5141.5  CW      Russian Air Defence, RUS time-mkr: UTC +4h (=99..8) 1097
5142    ARQ     RFF...  unid FF [UAF], Exercise W97
5142.6  USB     USCG Law Enforcement Net on drug interdiction/DEA missions
                NMB USCGGP Charleston, SC, USA W97
                NMV USCGGP Mayport, FL, USA W97
                NMN     USCG CAMSLANT Chesapeake, VA, USA W96
                NMA12   USCG Stn Port Canaveral, FL, USA W96
5144    PCT     ICRC Net, Balkan
                RC2ZEN  ICRC Zenica, BIH to Zagreb W97
                UCRC Tuzla, BIH W96
5144.5  USB     Dutch Military Net W96
5145    ARQ     WHU959  Maricom Sce Foley, AB, USA  #prim W97
        TwPl    EAE220  MAE Madrid, E W97
        USB     RFDS Nat'l calling & emergency Frequency
        USB     RFDS Queensland Section Net
                VJN RFDS Cairns, AUS W97
                VJL92   Outpost Station, QLD, AUS W98
                VHL99   Outpost Station, QLD, AUS W98
        USB     VNZ RFDS Port Augusta, AUS W98
5145.5  USB     USAF ARIA Net Shuttle related tfc
                ARIA CONTROL USAF 512th Test Wing Ops Ctr, Edwards AFB, W96
5149    CW      RGT77  unid, RUS x-mkr 1097
5150    FAX     RVO73 Moscow Meteo, RUS wx 8/97
        USB     US Army Net Ft. Irwin, CA   s/ADVANCE21,CHARLIE 11,etc.   W97
5151.7  ARQ     UNO Battambang, CMB W97
5152    USB     USAF 'Mystic Star' Net  #F486
                AFA USAF Andrews AFB, MD, USA  w/SAM__ W97
5153    USB     unid Number Station YL EE 5(3-2) fgs 3/98
5153.8  CW      RMP RN Kaliningrad, RUS #P: ch-mkr 4/98
5153.9  CW      RN Archangelsk, RUS #S: ch-mkr 4/98
5154    CW      RCV RN Moscow, RUS #C: ch-mkr 4/98
        PCT     USN / USMC MARS Net s/NNN0JBG,NNN0MDX, Mailbox   W98
        PCT     ICRC Zagreb, HRV W96
5155    USB     USN Tracking Net s/SWORDFISH, trigraphs, etc. W96
5156.3  PCT     RC2SAR  ICRC Sarajevo, BIH W98
5156.5  USB     US Military Net     s/19C,FOO,STALLION 16 W98
5157    FAX     NAA USN Cutler, USA     wx fm NAM W96
        USB     Capricornian School of Distance Education, Emerald, QLD, W98
5158    CW      Russian Air Defence time-mkr: UTC +5h (=99..) 2/97
5160    ARQ     5UA ASECNA Niamey Air, NGR  Ch.:A [NUA], Ch.:B W97
        PCT     USN / USMC MARS Net W98
        USB     TELSTRA Skycomm Sydney, NSW, AUS w/Quantas 69 W98
5161.5  USB     French Military Net 4/97
5163.5  CW      FDI22   FAF Narbonne, F v-mkr 4/97
5164    PCT     ICRC Net, Balkan
                ICRC Sarajevo, BIH W96
        RC2     KNI  ICRC Knin, Kraijna, HRV W97
5164.4  ARQ     French Prefecture Net W98
                Prefecture Epinal, F W97
                FIT518  Prefecture Cher, Bourges, F W96
                FIT536  Prefecture Indre, Chateauroux, F W96
                FIT537  Prefecture Indre et Loire, Tours W96
                FIT545  Prefecture Loiret, Orleans W96
5169    PCT     ICRC Net, Balkan
                RC2KNI ICRC Knin, Kraijna, HRV to RC2MBO W97
5169.3  ARQ     RFTJ FF Dakar, SEN [EIT] W98
5170    AM      MOSSAD, ISR Intelligence #EZI/SYN: YL EE 5lgs [En.: E10]
5/97
5171    USB     French Military Net s/EV, BF, PR 3/97
5173    USB     NATO Military (Eu) Net  #K10: s/V10, V20, V30 4/97
5178    USB     British RAF UKADGE Net  #RE
                RAF STICS 'Architect' Upavon, G 2/97
                RAF Buchan, G w/M8U W98
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5180    USB     USAF 'Space Shuttle' Net
                AFE70   USAF ETR Cape Canaveral AFS 'Cape Radio', FL, USA W97
        CW      French Military Net s/2H,PW,09 3/97
        USB     Russian Military Net s/ISKRA 32, SMENA 01 6/97
5182    USB     BND/German Intell.#GK: 'Two Letter': [En.: G16] W98
5182.7  R/75,ARQDOR MFA Sofia, BUL to ZDK 8/97
5184    CW      FDI8    FAF Aix, F v-mkr 3/97
5185    VFT     MKK RAF London, G to MUH W96
5187.2  ARQ     DOR MFA Sofia, BUL W96
5190    R/50    BZC75   Urumqi Meteo, CHN ry, wx 3/98
5195    USB     Italian Military Net s/AK41, DJ1H, C18W 4/97
5195.2  R/75    DOR MFA Sofia, BUL W97
5198.5  USB     Candian Forces Net #A2B
                CFH CF Halifax Military (Maritime Command), CAN W97
5203    USB     NATO Military Net s/ME1Z, 8KK5, 96NZ W97
5203.5  USB     US Military Net s/Trigraphs (lfl-format) W96
5204.5  USB     USAF (Eu) 352nd Wing, 67th Sp.Ops.Squad Net
                BLACKHAT USAF Mildenhall, G w/SHADOW __  12/97
5205    USB     Florida Nat.Guard Disaster Net #Mike W96
5205.5  USB     Brit. RN Net, Plymouth Area s/CONTROL, KD (cf: 5207.2/R) 2/98
                CONTROL unid RN NCS w/KD 9/97
        Pic12   unid British Military W97
5206    USB     French Military Net s/3L, 3F, 3Q (cf 5207/C) 4/98
        USB     Dutch Military Net s/TER, AQQ (cf 5207.4/R) 4/97
        USB     Brit. RN Net, Plymouth Area
                CONTROL unid RN NCS w/KA,KB,KD,KG,KH,KJ,,KP,KX,M6U 9/97
        MUX     unid, tent. RN Plymouth Docks, G W97
5206.5  PR/300  USA Region 3 Net
                AAT3TFC  unid USA MARS W97
                AAT3TMD  unid USA MARS W97
                AAT3TDE  unid USA MARS W97
5207    CW      French Military Net s/3L, 3F (cf 5206/U) 3/98
        PR      US Army MARS Net
                AAA3NAA  unid US Army MARS W96
                AAA4USD  unid US Army MARS W97
                AAR3CB   US Army MARS Shohola, PA, USA W96
                AAT3TFC  US Army MARS Ft. Richie, MD W96
                AAT3TPA  unid US Army MARS, PA W96
                AAT3TVA  unid US Army MARS, VA W96
5207.2  R/      Brit. RN Net, Plymouth Area s/CONTROL, KD (cf: 5205.5/R) 2/98
5207.4  R/      Dutch Military Net encrypted 'Telex'(cf 5206/U) 4/97
5211    USB     French Military Net 9/97
        USB     FEMA/NCSE SHARES Net #FOX 11
        WGY912  FEMA HQ Berryville (NCS), VA, USA W98
        AAR4GU  USA MARS Prattville, AL, USA W97
        KGE22   FBI Quanitco, VA, USA W96
        KNY57   FEMA NCS Hagerstown, MD, USA W96
        KNY72   FEMA NCS Arlington, VA, USA  W96
        KNY90   FEMA NCS Conyers, GA, USA W96
        KPS613  DMAT Team 3, Tampa, FL, USA W98
        NMN     USCG CAMSLANT Chesapeake, VA, USA W98
        WGY906  FEMA Denton, TX, USA W96
        WGY911  FEMA MERS Maynard, MA, USA W98
        WGY963 FEMA Richmond, VA, USA W97
        WGY965  FEMA Indianapolis, IN, USA  W98
        WGY982  FEMA North Trenton, NJ, USA W98
        WGY9415 unid FEMA W98
        WWJ40   FHA/ESC Washington, DC, USA W97
                'NW01'  USAF 'Nightwatch' aircraft W97
                ARROW 37   CAP National Capital Wing W96
                12C unid, tent CA W98
5213    CW      RMP RN Kaliningrad, RUS to RKZ,RKF80,RFF79,RGS57,RJI64
4/98
        CW      FDI22   FAF Narbonne, F v-mkr 2/98
5215    USB     'FAPSI'/Russian Intel 'German Lady':5fgs,end:000 000 W97
5216.7  ARQ     unid Spanish Air Force QSX 5851.7 kHz W96
5217.5          Russian Air Defence time-mkr: UTC +3/4h (=99..) 6/97
5218    AM      'FAPSI'/Russian Intel'The English Man':2x5fgs 3/97
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        USB     US Military Net s/TRACKER 01, BOOKSHOP 01 W96
5220    USB     Italian Military Net 1197
5220.5  USB     French Military Net s/TANGO TWO,T3,2M,52,MRF1 4/97
5221    USB     VLT School of Distance Education Charters Towers, QLD,
W96
        ARQ     RFFGCFA   FF 'Detecoltrans Trois Laval' W96
5221.5  ARQ     TYE41 ASECNA Cotonou Air, BEN ch.:A to Niamey [UNA] W98
5222    CW      'FAPSI'/Russian Intel 2x5 fgs/T, 579''', end: TTTTT 4/98
5223    ARQ     RFFHCFA   unid FF, F [UFA], Exercise W97
5224    USB     Stockholm Aero Radio, S W97
        ARQ     RFFEDFB FF 'Brigtrans Un', FF [UFB] to RFFEDFC, Exercise W98
5225    USB     ZME Joint Wx/DoC Stn Raoul Isl., Kermadec, NZL W98
                Russian Air Defence time-mkr: (=99..8) 1097
5227    USB     VLH School of Distance Education Charleville, QLD, AUS W98
5227.045VFT:ARQ GYU RN Gibraltar, GBR ch.: E W96
5227.5  CW      REA4 unid Russian Number Station 2/98
5227.555VFT:R75 GYU RN Gibraltar, GBR ch.: D W96
5227.725 VFT:   GYU RN Gibraltar, GBR ch.: C W96
5228.235VFT:R75 GYU RN Gibraltar, GBR ch.: B W96
5229    VFT:    GYU RN Gibraltar, GBR DCN 8 Ch. W97
5230    AM      MOSSAD, ISR Intelligence #SYN/CIO/MIW: YL EE, 5lgs 4/98
5234    R/50    SOWR    Warsaw Meteo, POL   wx fm WROC, SOPO, etc. 7/97
5235    CW      'FAPSI'/Russian Intel mkr: 571''', 2x5 fgs/T,571''' 4/98
5236    USB     FEMA/NCSE SHARES Net
        KGD34   FEMA NCC Arlington, VA, USA W97
        WGY925  FEMA Madison, WI, USA W97
        WHX20   FAA Seattle, WA, USA W97
        WPEH728 AT&T Conyers, GA,USA W97
        AAR4LL  US Army MARS Earthquake Center Memphis, TN, USA W97
        NMG   USCG Orleana, LA, USA W97
              many Penn. CAP Stations, PA, USA W97
5236.5  CW    FDI8    FAF Aix, F v-mkr 3/98
5239.5  USB     Italian Army Net s/COMETA,EBANO,LADICE 1,etc. 1097
5240    R/50    YZI213  TANJUG Beograd, YUG RY, 1700/2100z EE nx  4/97
        USB     Italian Army Net s/AA7I,4B5Q,QC26,A32D,5NTE 4/97
5240.5  CW    FDG FAF Bordeaux, F v-mkr 1/98
5243    ARQ     RFFEDFM  FF 'GROUPFORCE BRAVO' to RFFEDFE [UFM], Exercise W96
        ARQ     RFFHCFB  FF 'REGTRANS 28 Log' to RFFHCFA [UFB], Exercise W97
5244    USB     French Military Net s/K8 (cf. 5245/CW) 1/97
5245    USB     RAF Air Training Corps Net  #C1
            MRA01   RAF Cadets Controller ATC HF 'A' Net. 7/97
            MRC01   RAF Cadets Ctrlr ATC HF 'C' Net. Wellingborough, G
            MRC33   unid ATC  7/97
            MRH19   unid ATC  7/97
            MRH26   unid ATC 7/97
                MRH30   unid ATC  7/97
                MRL47   unid ATC  7/97
            MRL50   unid ATC W96
                MRO01   unid ATC  7/97
                MRO44   unid ATC  7/97
            MRO49   unid ATC W96
                MRO95   RAF Cadets Grimsby, G 7/97
        MRO98   unid ATC  7/97
        MRQ92   unid ATC  7/97
            MRS06   unid ATC W96
            MRS46   unid ATC W96
            MRS53   unid ATC W96
            MRV92   ATC 'Roy. Tournament' London, G 7/97
            MRW78   unid ATC W96
            MRW92   unid ATC W96
        USB     Italian Army Net, Udine Prov. s/LJ97,5IBI,5ZM9,IW2P,1Y7W 6/97
        CW      French Military Net  s/K8, 6P (cf. 5244/USB) 1197
        Coq13   6P  unid, tent. Belgium UN Forces   w/2S  W98
5246    USB     USAF 'Space Shuttle' Net
            AFE70   USAF ETR  'Cape Radio' w/KING__  W97
              USS Scott W97
5250    ARQ   RFF...  unid FF [UFI], Exercise W97
5251    FEC   V5G MFA Bucharest, ROU W96
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5253    FEC,CW  V5G MFA Bucharest, ROU 1097
5254.5  CW      Russian Air Defence,time-mkr: UTC +3h (=99..8) 3/98
5255    R/50    FB5W Polish Mil RY, to xxxx, encrypted //5114 1097
5255.5  ARQ   0A  Irish Navy HQ Dublin w/"fishrep" W97
        CW    FDG FAF Bordeaux, F v-mkr W96
        CW    FDG5 unid FAF v-mkr 1097
5257    USB     unid Number Station OM EE vmm:109, 2x5 fgs 1197
5257.5  CW    FDI8 FAF Aix, F v-mkr 3/97
5258    FAX   NPN USN Guam, GUM wx W96
5262    FAX   NPN USN Guam, GUM wx W96
5262.82 ARQ   DER MOI Bonn, D w/Potsdam [BRVHF] W97
5264    CW      'FAPSI'/Russian Intel 5fgs: 724''' 1, TTT TTT [En.: M12] 2/98
5264.5  ARQ   DER MOI Bonn, D w/Erfurt [THVHF] W97
5265.18 ARQ   DER MOI Bonn, D w/Mnchen [GSVHF],Berlin [GOVHF] W97
5265.5  VFT:Pic6 MKK RAF London, G coord. ch W96
5265.9  VFT:Pic6 MKK RAF London, G encrypt ch W96
5266.5  USB     US Military w/ANDVT W96
5267    USB     NATO Military (Eu) Link-coord Net s/1DO, D6I W98
5268    CW    HEP5 INTERPOL Zrich, SUI v-mkr 4/98
5269    R/100   DHN37 Grengel Military Meteo, D   wx, ry-mkr 7/97
5270    USB     Italian Navy Net
            ICT INy Taranto, I w/IAIQ, IALS (cf 5271.8/RTTY) 6/97
            ICS INy La Spezia, I W98
            IDR INy Rome, I 1/98
        USB     British RAF Net
              RAF Neatishead, G w/Trigraphs,GX,4O,MAGIC 87 W98
              RAF Buchan, G w/Trigraphs W98
              RAF STICS 'Architect' Upavon, G W97
              RCC Kinloss Rescue, G  w/Alpine 22 W97
        R/75    MKK RAF London, G RYI W97
        USB     US Military w/ANDVT W97
5271    USB     NATO Military (Eu) Net s/ZERO, E40 9/97
5271.8  R/    ICT INy Taranto, I online encrypted (cf 5270/USB) 3/97
5272    USB     NZL Army Net s/1T2, TT3 W97
5373    USB     NZL Army Net s/3F8, L8H, AM2, 59M, etc. W97
5274    CW,R/   A2A unid, tent. ROU v-mkr 8/97
5275.7  VFT:R/100 Spanish Navy Granada, E ALE sys W96
5276    CW      Russian Air Defence,time-mkr: UTC +5h (=99..)  1/98
5276.7  VFT:R/100 Spanish Navy Granada, E ALE sys W96
5277    USB     US DEA Net #ALPHA
                PANTHER DEA Reg. HQ Nassau, BHA w/ 63C, 20C, 23A 7/97
        USB     French Military Net s/LM, 5B (cf: 5278/C) 4/97
        USB     NATO Military Net #K12 W96
5277.5  USB     NATO Military Net #K11: W97
5278    CW      Russian Air Defence time-mkr: UTC +3/4h (=99?..8)3/98
        USB     Italian Military Net 5/97
        CW      French Military Net s/LM, 5B (cf: 5277/U)  4/97
        USB     NZL Red Cross Disaster Relief Net
            ZLCL NZL Red Cross Auckland to ZLCL5 W96
5281    ARQ     Pol. Embassy Prague, CZE to Warsaw W97
5281.5  USB     NATO Military (Eu) Net s/41A 9/97
5284    USB     BND/German Intelligence #WL/GK:'2 Letter':5fgs YL GG W98
        USB     German Military Net s/KAPUTZE, KLEIDERJARGON 5/97
5285    FAX   RBX71 Tashkent Meteo, UZB wx //8083, 9150 kHz 2/98
        FAX     Kiev Meteo, UKR wx //3360 kHz W96
5286.8  ARQ   RETWVS  Span. GC Salamanca, E   to RETXX, RETWVL W97
5287    USB     New Zealand Red Cross Net
            ZLCL NZRC Christchurch, NZL W98
5287.5  ARQ     Spanish Guadia Civil Net
            RETXX   MOI/GC HQ Valdemoro, E W98
            RETWVP  GC Palencia, E to RETWVL W98
            RETWVV  GC JECOR Valladolid, E s/c TWVP, to RETWVL W98
            RETWVZ  GC JECOR Zamora, E  to RETXX W98
            RETYV   GC JEZO Valencia, E W97
              GC JECOR Segovia, E to RETXX W98
              GC Leon, E W98
              GC Caceres, E s/c TWVL W98
5288.5  USB     British Military Net s/MO3O, SH962 (cf: 5290.2/R) 1/98
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5290    USB   SKE32   Stockholm Radio, S 1/98
        CW    TBO TN Izmir, TUR v-mkr W96
        USB     NATO Military Net #K12 W97
5290.2  R/      British Military Net 'RATT': s/M03O (cf: 5290.2/R) 1/98
5292.7  VFT:R/100   Spanish Navy Granada, E ALE sys W96
5293    CW    RAU85   unid, RUS clg RIR82, RGX96 3/97
        CW      'FAPSI'/Russian Intel mkr: 571''' 17155''' 4/98
5293.5  R/50    AWC Calcutta Air, IND to Dhaka W96
5293.6  R/100   CCM CN Magallanes, CHL 5 lgs to CN Vessels W96
5294.5  USB     French Army Reg. Metz 'Golf' Net
            FAG20   FA Reg. HQ Metz, F 5/97
5295    PCT     USN MARS Net
                NNN0PFX  unid USN MARS Reg. 3 to NNN0QLA W98
5296    USB     NATO Military Net s/44 3/97
5296.5  USB     NATO Military (Eu) Nets/N21B, N12A (cf: 5298.2/R)  9/97
5298.2  R/      NATO Military (Eu) Ne online encrypted (cf: 5296.5/U)
9/97
5299    ARQ   DMK MFA Bonn, D W97
        ARQ   IER20   IFG Rome, I W96
5300    USB   VJB RFDS Derby, AUS W98
        USB   VLN School of Distance Education Cairns, QLD, AUS W96
5301    CW/USB  OLX MOI/Intel Praha, CZE   h+55: v-mkr fr 5301/CW, 5fgs 7/97
        ARQ   TAD MFA Ankara, TUR W97
5302    CW    OLX MOI/Intel Praha, CZE h*55: v-mkr fr 5301/USB 7/97
        USB     US FEMA Ex Net
            KPC314  unid FEMA, USA W98
            KPC600  unid FEMA, USA W98
5303    USB     US Military Net s/GHOSTRIDER, etc. W96
        USB     unid 'Telefonim' Net, PNG  s/Kerema W97
5305    USB     US Military Net s/2Q,5H,5Y,GHOSTRIDER W97
5308.5  USB     French Army 'Charly' Net
            FAC20 unid FA Reg. HQ id: C20 1097
            FAC30 unid FA id: C30 7/97
            FAC36 unid FA id: C36 7/97
            FAC42 unid FA id: C42 10/97
            FAC50 unid FA id: C50 7/97
            FAC52 unid FA id: C52 7/97
            FAC63 unid FA id: C63 7/97
5310    USB     Brit. RN Plymouth Area Net Exercise Ops: s/6UK, J3J, _44_2/98
5312    R/75,FEC DFZG MFA Beograde, YUG W98
        CW    VDE unid, tent. Hungarin Intel v-mkr, 2x5 fgs 8/97
5312.5  USB     French Army Net
            FAM10 FA Mont Valerien, F to FAM23, FAM24 3/97
5313    USB     IAF Net s/INDIA 4408 clg Aktio W96
5315    R/75    BJZ27 Wuhan Meteo, CHN wx 2/98
        USB     IAF Net s/INDIA 4408 W96
5315.5  CW      Russian Air Defence, time-mkr (=99..) 1/98
5316    USB     NATO Military (Eu) Net 4/97
5319.5  USB     NATO Military Net s/3-graph 6/97
5320    USB     USCG tactical Net ANDVT:
            NMG USCG COMMSTA New Orleans, USA W97
            NMK USCGGP Cape May, NJ, USA W96
            NMN37 USCGGP Fort Macon, GA, USA W97
            NMN72 USCG Station Oak Isl, USA W96
            NOQ USCGGP Mobile, AL, USA W98
            NOY USCGGP Galveston, TX, USA W97
            NOY8 USCGGP Corpus Cristi, TX, USA  W97
              USCGGP Baltimore W96
              USCGGP Macon, USA W97
        USB     US Navy/NATO JTFEX Net  s/CW, BC, KT, B W97
        AM      'FAPSI'/Russian Intel 'Russian Man': OM RR 2x5 fgs 11/97
5320.5  ARQ     Spanish Guardia Civil Net
            RETXX MOI/GC HQ Valdemoro, E  to 'Andalucian Posts' W96
            EHM5 GC JECOR Albacete, E W96
              GC Albacate, E W96
              GC Guipuzcoa, E W97
            RETYMR  GC JECOR Ciudad Real, E W96
            RETYMT  GC JECOR Toledo, E  s/c TYMT W98
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          RETYMV  GC JECOR Cuenca, E W96
5321.5  ARQ     Spanish Guardia Civil Net
            GC Cuenca, E to RETXX W97
5322    USB     unid French Net s/F5, F4 Station Toulouse 6/97
5322.5  CW    FDI8 FAF Aix, F v-mkr 2/97
        CW    FDI22 FAF Narbonne, F v-mkr 3/98
5323.5  USB     Dutch Military Net s/AWB, VWB 7/97
5325    LSB,USB Italian Army Net s/LL10, TPSE, CD97 9/97
        USB     British CCF Net s/Z58, S14B 3/98
5325.3  CW    RND79 unid Russian v-mkr to RAS2 1097
5325.5  CW    FDI8 FAF Aix, F v-mkr 6/97
5326    USB     NATO Military Net  s/GS, G8Q W98
        CW      'FAPSI'/Russian Intel 5 fgs: 326''' TTT [En.: M12]: 2/98
        USB     'FAPSI'/Russian Intel 'Russian Man': 2x5fgs end: 00000 1197
5327    PCT     HCGEOTB UNHCR Tiblisi, GEO W96
5328    USB     British CCF Net  #Orgasmic:s/H29D,R97A,Z58,D29C  3/98
5328.5  CW      Russian Air Defence time-mkr: UTC +3h (=99..) 1297
5336    USB     NATO Military Net s/33 4/98
5337.5  CW    FDG5 unid FAF, F v-mkr 1097
5338    USB     New Zealand Army Net s/69, 3435, 007 W96
5338.5  USB     US Navy/JTFEX Net  s/BW, LW USS John F Kennedy Battle Grp W97
5339    AM      MOSSAD, Isr. Intelligence #TMS W97
5340    AM      unid Number Station 'Swedish Rapsody':YL GG 2x5 fgs 5/97
        CW      unid Number Station 'LOLO': 5 fgs/0 [En.: M4] 3/98
5342    CW    FDY FAF Orleans, F v-mkr 4/98
5342.3  R/50    FDY FAF Orleans, F RY 3/97
5343    CW    RIT RN Vaygach, RUS wx to RKZ, c/RGS32, RJI64 1097
5344.3  ARQ   BMBX UK CCF Mailbox, G to 43A,29D, etc. W96
5345    R/50    RSW71 Archangelsk Meteo, RUS  wx 1097
5346    USB     US Military Net #81B:s/TRACKER 01, BOOKSHOP 01 W96
5346.9  FAX   RSW71 Archangelsk Meteo, RUS  wx W98
5348    USB     Italian Navy Net
          IALS IN Warship Aliseo w/IASM 6/97
          IALU IN Warship Lupo 6/97
          IASA IN Warship Sagittario 6/97
          IGNL IN Warship Stromboli 6/97
5350    CW    FDE14 FAF Villacoublay, F v-mkr 3/97
        USB,Data Italian Military Net s/V8V, 9UV 1/98
5353.5  USB     French Army Reg. 5 'Quebec' Net
          FAQ20 FA Reg. 5 HQ Lyon, F id: Q20 1197
          FAQ24 unid FA id: Q24 1197
          FAQ26 unid FA id: Q26 1197
          FAQ30 unid FA id: Q30 1197
        ARQ     Spanish Guardia Civil Net
          RETWBL GC JECOR Lleda, E to RETXX W97
          RETWBH GC JECOR Huesca, E W98
            RETWBG unid GC to RETXX W97
          RETWBT GC JECOR Tarragona, E W98
          RETZSE GC Melilla, E W96
            GC JECOR Barcelona, E to RETXX W98
5354    ARQ   RFF.... unid FF [UBF] W97
5355    USB     French Army Reg. 5 'Quebec' Net
          FAQ20 FA Reg. 5 HQ Lyon, F id: Q20 3/97
          FAQ26 unid FA id: Q26 3/97
          FAQ46 unid FA id: Q46 ..... 3/97
        FAX   RND77 Moscow Meteo, RUS   wx W96
        USB     USAF Net s/COFFEE TABLE, FOOT ROPE W96
        USB     Italian Army Net s/KY10, 10TT, 4SIX 8/97
5357.5  R/100   DDA02 List Meteo, Sylt Island, D  wx, Exercise 6/97
5358    USB     Italian Army Net s/NM7V, GG2C 8/97
5360    USB   VJQ RFDS Kalgoolie, WA, AUS W97
5361.7  ARQ   RFFXI FF Bangui, CAF to RFFXIC W97
          RFFXIC FF Bouar, CAF to RFFXI W96
5363    CW      French Military Net s/2U, 04 3/98
5367    R/50    UNID Russian Meteo, RUS wx 'PAGODA ZA'-style 4/97
5367.5  CW    FDI22 FAF Narbonne, F v-mkr 1197
        CW    FDY FAF Orleans, F v-mkr 9/97
5370    USB     French Military Net s/ER (cf: 5371/C)  3/98
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5371    CW      French Military Net s/ER (cf: 5370/U)  3/98
        FEC     Tunesian MOI ATU-80 W96
5373    ARQ     RFFHCFA FF 'REGTRANS 28 Avant'[UFA], Exercise W97
5374    CW    FDI22 FAF Narbonne, F v-mkr 6/97
5374.5  ARQ   FDX FF Paris, F W97
5375    USB     Irish Military Net s/EIYX, C253 clg 0A W96
5376    ARQ     RFFHCFC FF 'COMFORCE UN', F [UDF] to RFFHCFD, Exercise W98
5376.5  FEC   OST23 Oostende Radio, BEL W98
5377    USB     NZL Army Net s/LTN,20,40,41,41A,42,12B,14 W98
5379    ARQ   RFF.... unid FF [UBF] W97
5380.5  ARQ     Spanish Guardia Civil Net W98
            RETWLA GC Alava, E to RETXX W96
            RETWLG GC Guipuzcoa, E W96
            RETWLL GC Logrono, E to RETXO W96
5381.5  ARQ     Spanish Guardia Civil Net W96
5383    USB     NZL NCD Central  Reg. Net #FOXTRTT
            ZKCT NCD Central Reg. HQ, Palmerston North W98
5384    R/50    FDY FAF Orleans, F RY 3/97
5385    USB     French Military Net s/2Q, FW (cf 5386/C) 3/97
        USB     NATO Joint Marit.Course Net s/CYRANO,P4C,Z4X,C7X  W97
        USB     NATO Military Net s/MAGIC 87,9IY,U9H,4KI,1GF W98
        USB     NATO Military Net #K33 W96
        ARQ     US Navy MARS Net s/NNN0MRE, NNN0FRW W97
5385.7  R/50    RIFA Carabinieri Rome, I W97
5386    CW      French Military Net s/2Q, FW (cf 5385/U) 3/97
        USB     NZL NCD National Network #ALPHA
            ZKHQ NCD National HQ, Wellington W97
            ZKCT NCD Central Reg. HQ, Palmerston North W97
            ZKNT NCD Northern Reg. HQ, Auckland W97
            ZKST NCD Southern Reg. HQ,Christchurch W97
5387.5  USB     Italian Army Net s/3N8A, 23PG 1097
5388.5  USB     Dutch Military Net s/AMJ, UEQ, NDF, BQK, MAU 1197
5389    USB     NZL NCD Northern Reg. Net #NOVEMBER
            ZKNT NCD Northern Reg. HQ, Auckland W97
5389.9  R/      Dutch Military Net onl.encrypted 'Telex'(cf 5388.5/U) 1197
5390    USB   CGD206  Bell of Canada, Alma Radio, PQ, CAN 4/98
5391    CW      Russian Navy #V: ch-mkr 8/97
        USB     NATO Military (Eu) Net s/7WV, 7SR 10/97
5391.7  ARQ     Tunisian Navy Tunis, TUN w/XKTQ,PSTX s/c (Vessels) W97
5392    USB     NATO Military Net s/3KJ, SHARK 21 W96
5393    CW    FDY FAF Orleans, F v-mkr 8/98
5395    USB     Italian Army Net s/AY7L, 92PC 9/97
5397    USB     NATO Military Net s/J10, H08 6/97
        VFT:FDM RAN Bellconnen, ACT, AUS W98
5397.7  ARQ   RFFA MOD Paris, F to Balkan [FDX] W98
            RFFVAY  FF Sarajewo, BIH to RFFA W96
5398    R/36    unid Russian Navy encrypted W97
5400    USB     USCG Net
            NMN USCG CAMSLANT Chespeake,VA, USA W96
        R/50    YOG37   Bucharest Meteo, ROU wx 3/98
5402    ARQ   WUG USACE Vicksburg District W96
5403    USB     ECTUG Eastern Canada Towing, Halifax, NS, CAN W97
        USB     RAF Net #XA
              RAF Buchan, G w/1ST W97
5404    USB     NZL Dept.of Conservation Net
              DoC Tauranga, NZL w/mobile units W97
5405    FAX   JMJ2 Tokyo Meteo, J wx W97
5405.5  USB     US Military Link-11 Net s/Q4, Z1, P1, T1, etc. W96
5406.5  USB     NATO AIRCENT Net
        BANDBOX CRC Nieuw-Milligen, NLD w/G1S, 2GM, 5IX  W97
5407    CW      French Military Net s/V5, 8I, 0G, VO, R4, 16, CA, 45 3/97
        USB     NZL NCD Southern Reg. Net #SIERRA
            ZKST NCD Southern Reg. HQ, Christchurch W97
        USB     Number Station, USA 'TCS': EE YL 3/2 fgs //4645 W98
5408    USB     NATO AIRCENT Net
                LIMELIGHT  ICAOC2 Kalkar, D W98
5409.5  USB     NATO Military (Eu) Net  s/Zero, U12, U27  9/97
5410    USB   VJD RFDS Alice Springs, AUS W97
```

```
        USB     US Army (Eu) FAC Net s/BINARY__,JERRYMAN (BASE)  W98
5411    USB     USAF 'Mystic Star' Net  #F497
            AFA USAF Andrews AFB, MD  w/SAM201 W97
              USN 'Fox Tango' Net s/L,P,I,C,F (Link-11 coord.) 2/98
5415    R/    GO unid RN Vessel to GXQ, QSX 4833.5 USB W97
5416    CW      Number Station, CUB 'Cut' Numbers [En.: M8] W98
5417    AM      Number Station, CUB 'Attencion': YL SS: 5 fgs [En.:V2]    W98
5418    USB     British RN Net s/Zero,B44C,B44D,A40F,B30,B43,B44E 1197
5419.8  R/      British RN Net online encrypted (cf: 5418/U)  1197
5419    CW      Number Station, CUB 'Cut' Numbers [En.: M8] W98
5420    USB     British RAF UKADGE Net  #KT
            BT9P RAF Domine Ops, Cranwell, G  w/CWL83 7/97
              RAF Neatishead, G s/ RN: V1K, H7Y W98
              RAF Buchan, G W98
            K7K unid RN Vessel w/E3X W97
        ARQ     RFFWERM  unid FF to RFFW W96
        AM      Number Station, CUB 'Attencion': YL SS: 5 fgs [En.:V2]    W97
        CW      Number Station, CUB 'Cut' Numbers [En.: M8]        W98
5421    CW      British RAF Net
            BT9P RAF Domine Ops, Cranwell, G w/CWL82 W97
        AM      'FAPSI'/Russian Intel 'The Russian Man':OM EE 5 fgs
W97
5422    USB     MI6, UK Intel 'Lincolnshire Poacher':YL EE 2x5 fgs 2/98
        USB     NATO Military (Eu) Net s/GARFIELD, HAMMER W97
5423    AM      'FAPSI'/Russian Intel 'The English Man':OM EE 2x5 fgs  3/97
5423.5  USB     USN JTFEX Net s/BW, PW, V W96
5425    CW      French Military Net s/8W, 95, 9T, GK 3/97
        USB     USN JTFEX Net Theodore Roosevelt Battle Grp s/BW, FT, L W96
        R/50    PAO 'FAPSI'/Russian Intel RY: PAO 1/150, 5 fgs 1/98
5426    R/      'FAPSI'/Russian Intel W97
5427.2  R/50    unid Meteo, tent. RUS wx 7/97
5429.5  USB     USAF 'Mystic Star' Net  #F136
            AFA USAF Andrews AFB,MD,USA w/Execute-1-Foxtrot W97
5429.8  R/50    EUH20 unid 5 lgs  9/97
5430    R/50    RVM45 Tashkent Meteo, UZB wx 4/98
        ARQ   RFFHCB FF Bastia, Corsica, F to RFFHCA Ajaccio, QSX 5121 W96
        ARQ     RFFEDFM FF 'GROUPFORCE BRAVO' to RFFEDFE, QSX 5018 W97
        ARQ     FF Centrans Ajaccio, F  to Centrans Bastia W97
        USB   CGD206 Bell of Canada, Alma Radio, PQ, CAN W96
        USB     NATO Military Net s/D,G,L,S W97
5431    USB     USAF 'Mystic Star' Net  #F542 W96
5431.5  CW    P7X unid Number Station //5779.5 kHz W98
5432    ARQ   RFFE FF Bordeaux, F [UFB] W97
        CW    9YA4 'FAPSI'/Intel RUS to 3SY4, cfm-tfc (cf 5433/R) 4/97
5432.8  ARQ     MFA Cairo, EGY to QEMP W96
5433    R/75    VNB 'FAPSI'/Intel RUS to WQL[80061], 5 lgs/fgs 4/97
5434    FEC   V5G MFA Bukarest, ROU W96
5434.5  USB     British RN Net s/GQIH, Base 1 W97
5435    AM      MOSSAD, ISR Intelligence #ART: YL EE 5 lgs [En: E10] 3/98
5435.5  USB     USAF 'Mystic Star'Net   #F226
            AFA USAF Andrews AFB, MD, USA W96
5436    USB     British RAF UKADGE Net  #DA
            BT9P RAF Domine Ops, Cranwell, G w/CWL50, CWL51  4/97
5437    AM      MOSSAD, ISR Intelligence  #ART: YL EE 5 lgs [En.: E10] 2/97
        CW    FDI8 FAF Aix, F v-mkr 1297
        R/50    FDY FAF Orleans, F  W96
        USB     USAF 'Mystic Star' Net  #F489 W97
            AFA USAF Andrews AFB, MD, USA w/Executive-1-F W96
5437.5  USB     Italian Army Net s/T80M,F16C,EC96,45T2,3S6X,MK3R 4/98
5438    R/      unid Russian 'FAPSI' Stn W97
5438.5  USB     French Army Reg. Metz 'Golf' Net
            FAG20 FA Reg. HQ Metz, F  id: G20 9/97
            FAG48 unid FA id: G48 4/97
5439    R/75    MIT RN Plymouth, G clg 9DL W96
5440    FEC   DOR MFA Sofia, BUL W96
        USB     NATO Military Net s/JERRYMAN, BINARY W97
5441    CW      'FAPSI'/Russian Intel 2x5 fgs/T, end: TTT 4/98
5441.5  CW      Russian Air Defence, RUS time-mkr: UTC +3/4h (=99..) 4/97
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5442.2  FEC,CW  HEC Berne Radio, SUI cw ID W98
5443.5  USB     NATO Military (Eu) Net s/M5G, S4G, U3L 6/97
5445    USB   VMI School of Distance Education Mount Isa, QLD, AUS W96
5446    ARQ   RFFE FF Bordeaux, F W96
5446.5  CW    FDC FAF Metz, F v-mkr 3/98
        CW    FDY FAF Orleans, F v-mkr 2/98
5447    USB     British RAF Net #L
              RAF Neatishead, G to I1G, 3FY W97
              RAF Buchan, G W97
5448    CW    FDG FAF Bordeaux, F v-mkr 3/98

    5450 - 5480 kHz     Region 1,3:     Aeronautical Mobile ( [OR] ),
                        Fixed Service Landmobile
                  Region 2:   Aeronautical Mobile ( [R] )
                SelCal-Check in AM and 1 kHz higher as the USB frequency

5450    USB   MVU RAF Volmet, West Drayton, G 4/98
5451    USB     RDARA: 10F, 11B, 12F, 12H, 13I, 13J
5453    ARQ     RFFGCFC unid FF to RFFGCCS [UFC] W96
5453.5  USB     Italian Military Net s/D, N, F (cf: 5455.3/R) 5/97
5454    USB     RDARA: 10, 12E, 13F, 13J
        ARQ     RFFXCFA FF 'DIVONZE CYLUS' to RFFDCMD [UAF], Exercise W97
        CW      unid Russian Navy 5 lgs to RMP, RIW, RJD__ 5/97
5455    USB     Austr. Nat'l 4WD Radio Net  Channel 1
            VKS737 Alice Springs Base, NT, AUS W98
            VKS737 Firefly Base, NSW, AUS W98
            VKS737 Perth Base, Canning Vale, AUS W98
            VKS737 Adelaide Base, SA, AUS W98
            VKS737 St.Marys Base, Tasmania, AUS W98
5455.3  R/      Italian Military Net encrypted (cf: 5453.5/U)  5/97
5457    USB     RDARA: 10C, 13N
5459    ARQ     RFFHCFA FF 'DIRACTIONEX UNE' [UFA], QSX 5754, Exercise
W97
5460    USB     RDARA: 10B, 10E, 12C, 13D
        USB     Italian Military Net s/ALPINA 1197
5461.5  CW    FDI22 FAF Narbonne, F v-mkr 3/97
        USB     German Navy Net s/DRKM-4KM 5/97
5462.8  ARQ     MFA Cairo, EGY to QEMP W96
5463    USB     RDARA: 11B, 13H, 13K, 13M
        R/100   5SM unid Aero, MDG W97
        USB     NATO Military Net #K34 W97
5464    USB     NATO Military (Eu) Net  s/J13, F10 1/98
5466    USB     RDARA: 10B, 13I
5467    CW    FDE14 FAF Villacoublay, F v-mkr 3/97
5468    USB     NATO Military Net s/K11, N14 6/97
5469    USB     RDARA: 11B, 13G
5471    CW      unid Number Station  [En.: M10] 1297
5471.5  CW      Russian Air Defence, RUS time-mkr: UTC +3/4h (=99..) 5/97
5471.6  CW,Data LN2A Norsk Telecom Sveio, NOR Beacon, h+8/28 1/98
5472    USB     RDARA: 10A, 10D, 13H
5473.5  USB     NATO Military Net s/AW, V6A, 3ZQ, T4Y, 2IY, 1MT 3/97
5474    R/50    CSY21 Santa Maria Air, AZR ry-mkr, to EIP/Shannon 6/97
5475    USB     RDARA: 10A/D, 12E/F, 13G
        USB     NATO Military Net s/Trigraphs, TIGER 1 W96
        USB     Polish Military Net s/EOV, T53 7/97
5476    R/50    Tunisian MOI ATU-80 msg, end w/'AU KGHR' 3/97
5477.4  Data    HGX21 MFA Budapest, HNG W96
5478    USB     French Army Reg.6 'Golf' Net 4/97

----Abbreviation Key----

R/50    ,normal" RTTY with speed  50 Bd, etc.
R/      RTTY unid Speed or Data Format
s/      Stations in the Net
#       Channel ,Name"
cf:     /U..  coordination for/from... kHz in USB, etc.
[....]  Link id/name
[E:...] Enigma Indicator for ,Number/Spooks" Stn
```

aka   also known as / alias
mkr   marker/tape (calling/testing-): ry,vvv,etc.
ch-mkr Channel marker (,QRV Beacon")
CARB   Channel Avalaible Marker
pp   Phone-Patch
W96/97: Logged in 1996 or 1997
W97   Logged over 2 years (1996/1997)
3/97   Last hear in March 1997, etc.
7/97   Heard here for few/several months
7/97   Heard here for 'many' months
_AF   Air Force (e.g. FAF: French AF)
_N   Navy (e.g. RN: Russian Navy)
_F   Forces (e.g. FF: French Forces)
KURSIV no ITU conform Callsign/Ident
..Net   Net Frequency (=mni Players/Stations)
[En.: M12]   Enigma Code for a ,Number Station"
326''' 1 part of a mkr 3 times repeated: 326 326 326 1

----End of Part 1----

== END == FIN == ENDE == FINE == FIM == KONETS ==

\\\\\ WORLDWIDE UTE NEWS Club ////
\\\ An Electronic Club Dealing Exclusively in Utility Stations ///
\\\\ WUNNEWS Vol. 4, No.6 July 1998 /////

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If you have problems in this, or need further information contact Stan Scalsky at: sscalsk@mail.ameritel.net

If you are reading this newsletter from another source, such as a BBS, please let us know!

Check out the WUN web site at: http://www.gem.net/~berri/wun

>From your Electronic Editor:
    * Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.

  * FLASH FLASH FLASH FLASH FLASH - Return of WUN Logs
That's right, everyWUN, WUN Logs is back. Thanks to Klaus D. Buschmeier-Stein, WUN Logs has returned. I would like to welcome Klaus to the newsletter, and hope that you will all support him fully with your logs. In addition, Team Logs has been re-established and the individuals who make up this team are also greatly appreciated!

***** Survey Time - As always, we are always looking at ways to improve the newsletter. One idea that has been "kicked" around recently has been doing away with the text-based newsletter, and converting to one based on Adobe Acrobat. This would provide a more professional appearance

for the newsletter, as well allow the inclusion of photos, diagrams, maps and other items of interest. Since the reader program for Adobe Acrobat is available for free on the internet, this would result in no added cost to the average WUN member. So, now it is time for your input.

Would you prefer that the newsletter be released in a more "professional" format, such as Adobe Acrobat? Or, do you prefer the text-based newsletter currently available?

Send your input to myself (Dave Wright: dcwright@gte.net) and I will compile the results. There are no guarantees that the format will change; however, if the majority of the membership is against it, then we will definitely not change. So, have your say, and help lead WUN in the direction that you want it to go!

WHAT'S INSIDE:
o International Civil Aero by Tony Orr and Peter Ivakitsch
o Digital Review by Day Watson
o Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o The QSL Report by J.D. Stephens
o Utility Round-up by Ary Boender
o The Military Newsreel by David C. Wright
o Numbers and Oddities by Ary Boender, Chris Smolinski, Guy Denman, and Jascha Ruesseler
o The WUN Logs Column by Klaus D. Buschmeier-Stein and TEAM LOGS
o 5MHz Bandscan Compilation by Alf Rosenstock

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INTERNATIONAL CIVIL AERO

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Fidonet: 1:250/930

In BRITISH AIRWAYS news this month, the airline will begin service to Abidjan, Cote d'Ivoire using 777's. Flights are BA2081 LGW-ABJ on Thursdays departing 1255 arriving 1820, BA2078 ABJ-LGW departing 2355 arriving 0730+1. Sundays BA2081 heads ABJ-LGW nonstop departing 2315 and arriving 0650+1. This service also extends to Accra, Ghana: BA2081 LGW-ACC on Wed/Fri/Sun. BA2155 from LGW to Barbados has switched over to 747-400's. BA2197 LGW-CLT and BA2196 CLT-LGW are now operated by Boeing 777's. BA2157 LGW-Grenada is now a 747-400. BA has added a second LHR-SEA trip, on Wed/Fri/Sat. Flights are BA053 LHR-SEA and BA052 SEA-LHR.

Need to get a handle on all the new US Airways transatlantic services? Here you are, a complete listing of all US flights across the pond:

US2	PHL-FCO	US3	FCO-PHL	US11	MAD-PHL
US12	PHL-MAD	US14	PHL-MUC	US15	MUC-PHL
US16	PHL-CDG	US23	CDG-PHL	US26	PHL-CDG
US27	CDG-PHL	US42	PHL-AMS	US43	AMS-PHL
US98	PHL-LGW	US99	LGW-PHL	US781	FRA-PIT
US782	PIT-FRA	US893	FRA-PHL	US894	PHL-FRA

CONTINENTAL has begun 757 service from Newark to Dublin. CO22 departs EWR 2030 arriving DUB 0605+1 and the return flight, CO23 departs DUB 0935 arriving EWR 1200 on a daily basis. Effective 15 July service to Glasgow from Newark begins, also using the 757. CO16 departs EWR 1845 arriving GLA 0615+1, the return CO17 departs GLA 1225 arriving EWR 1500.

AEROFLOT has begun 777 service from Moscow to New York (JFK) on SU316/SU315. SU315 departs SVO 1045 arriving JFK 1300, and SU316 departs JFK 1500 and arrives SVO 0815+1. Service to Washington Dulles with 777's

begins October 1.

AIR PORTUGAL has begun a nonstop EWR-Porto service effective July 17.
TP3175 operates on Fridays only one way with A310 equipment.

Both AER LINGUS and EL AL have begun service across the Atlantic using
MD11's leased from WORLD AIRWAYS:

```
LY0104     JFK-TLV   dep 0250 arr 2030   Sundays
LY0105     TLV-JFK   dep 0230 arr 0725   Fridays
LY0105     TLV-ORD   dep 0130 arr 0625   Mon/Wed
LY0106     ORD-TLV   dep 2025 arr 1610+1 Mon/Wed

EI111      SNN-JFK   dep 1320 arr 1540 daily
EI112      JFK-SNN   dep 1935 arr 0705+1 daily
```

ETHIOPIAN have indeed begun Addis Ababa-Rome (FCO) - Washington Dulles
service initially with a leased Egyptair A340, but now with their own
767-300ER ET-AKW. Flights operate on Thursdays and Saturdays as follows:

```
ET0543   Thursdays  Westbound
ET0563   Saturdays  Westbound
ET0542   Thursdays  Eastbound
ET0562   Saturdays  Eastbound
```

I finally have found the flight information for the new ICELANDAIR service
to MSP from Keflavik:

```
FI653    KEF-MSP   dep 1630 arr 1745      757    x36
FI652    MSP-KEF   dep 1930 arr 0630+1    757    x36
```

I highly recommend you check out the new Santa Maria Aeronautical Radio WWW
site at: http://www.terravista.pt/aguaalto/2010

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DIGITAL REVIEW
- Editor: Day Watson   E-mail: jdwatson@cableinet.co.uk

- Nickname on IRC channels #wun & #monitor   DayW

Hi digi WUNners

```
     The menu       dgps      dgps messages
                    Met       AXM/AXI FAX survey
                              Rio de Janeiro Naval/PWZ FAX
                              RTTY met - global overview
                    Military  Routing indicators
                              French comcens
                    Press     MAP Rabat
                              KCNA, Pyongyang
                              PETRA, Amman
                              VNA, Hanoi
                              SUNA, Khartoum
                    TechiTips Arrangement
                    Unid      4-tone MFSK/195.3bd
                              11482.22 kHz
```

>>....dgps.....>

::: dgps messages

There are 64 types possible but only 26 defined either tentatively, fixed,
retired or reserved. But in the data stream one is generally looking for/at
the following:-

```
 ___Type____     Description                                  Words in
```

			data block
1	"000001"	Differential GPS corrections	5
3	"000011"	Reference station parameters	4
5	"000101"	Constellation health	1
7	"000111"	Beacon almanacs	3
9	"001001"	Partial Satellite set diff. corrections	5
16	"010000"	Special message	1

The message type is given in decimal and in the bit-pattern as would be encountered in the header message type field. Words in data block indicates the number of words carrying a set of data following the two header words. Individual messages may have a number of such blocks following the frame header ie 2 + 5 + 5 + 5 in a single message means 2 header words followed by three blocks/set of data each of 5 words.

Depending on the authority responsible for the dgps transmission the satellite correction data will be contained in either a Type 1 or a Type 9 message which forms the bulk of the data stream. A Type 1 message contains correction data for all the satellites which are in view of the reference station. Type 9 messages have the same purpose, content and format as Type 1. These do not require a full satellite set but require a more stable clock than a station using Type 1s.

The remaining messages will be injected into the datastream at much lessor periods ie anything between 5 and 30 minutes.

Type 3 contains the reference station information - the gps coordinates (in X, Y, Z) of the reference station antenna to the nearest centimetre in relation to the WGS84 (World Geodetic System 1984) datum.

Type 5 contains information on satellite health as observed by the reference station which is being passed to the dgps user for possible additional assistance.

The above messages tend to be complex and no attempt is being made here to disect the format. For those who wish to develop further skills it is suggested the next step is to obtain a copy of the current (Vers.2.2 /Feb 98) SC104 standards manual. However the remaining two messages, 7 and 16, are within the scope of the amateur monitor and expanded upon below.

Type 7 message or Beacon Almanac gives the user the location, frequency, service range, health of a number of beacons equipped with dgps transmissions. For proper implementation of this message the transmitting radiobeacon must have access to all the info relating to all the beacons listed in the almanac. The service provider must have a network to support this. Likewise neighbouring service providers either in the form of different companies or adjacent countries need to share this information such that the user is always provided with current almanac data when moving from the region of one beacon to the next.

Each beacon listed has a 3 word block

Data word 1.

1-16	16 bits	Latitude
17-14	8 bits	Longitude (Upper byte)
25-30	6 bits	parity

Data word 2.

1- 8	8 bits	Longitude (lower byte)
9-18	10 bits	Beacon range
19-24	6 bits	Frequency (upper 6 bits)
25-30	6 bits	parity

Data word 3.

1- 6	6 bits	Frequency (lower 6 bits)
7- 8	2 bits	Health

9-18	10 bits	Broadcast station ID
19-21	3 bits	Bit rate
22	1 bit	Modulation code
23	1 bit	Sync type
24	1 bit	Broadcast coding
25-30	6 bits	parity

Latitude uses a unit of 0.002747 degrees in the range +/- 90 degrees
Longitude uses a unit 04 0.005493 degrees in the range +/- 180 degrees
The values are in two's complement and a positive value indicates
North Lat or East Long.

Unit for beacon range is 1 km. The unit for frequency is 100 hz ranging between 190 (all zeroes) to 599.5 (all ones) khz.

Beacon health is given by the following table

"00"	R/beacon operation normal
"01"	No integrity monitor operating
"10"	No information available
"11"	Don't use this r/beacon.

The bit rate (bps) of the dgps transmission is indicated by the following table

"000"	25	"001"	50	"010"	100	"011"	110
"100"	150	"101"	200	"110"	250	"111"	300

Modulation code	"0"	MSK	"1"	FSK
Synch type	"0"	Asynch	"1"	Synchronous
Broadcast coding	"0"	No added coding	"1"	FEC coding

Finally Type 16. A single data word carries three characters normally coded in ASCII in 7 data bits. However each character is alloted an 8 bit field so the MSB will usually be "0". The 8-bit provisioning is for special purposes where an agency wants to use IBM graphics and requires that extra bit. The maximum message length is 90 characters ie 30 data words would be used.

Message data word

1- 8	8 bits	Character field
9-16	8 bits	Character field
17-24	8 bits	Character field
25-30	6 bits	parity.

That winds up the dgps basic format. Next month I'm handing the section over to Klaus Betke for a run down on his experiments and observations in Germany.

>>....Met.....>

::: AXM/AXI FAX survey

By means of a questionnaire the Australian Bureau of Meteorology is seeking input from users of their AXM/AXI fax service. They are trying to assess current useage and what effect termination of the service would have should this occur sometime in the future. This survey will also be used to help shape future Australian maritime weather services. Data collection ends 31/Dec.

Check out the AXM/AXI fax broadcasts at 0515/0600z, or look at website www.bom.gov.au/other/rad_sch/axmsurv.shtml.

::: Rio de Janeiro Naval/PWZ FAX

I've noted a change in frequency for this station in my weekly ALRS corrections. 12665 and 16978 are now quoted. There are two reported schedule of 45 minutes each starting 0745z and 1745z. A note indicates the broadcast includes a textual weather bulletin in both Portuguese and English. The only chance to copy these however suggests these are the

suppressed carrier frequencies when USB mode is used, making the assigned frequencies 12666.9 and 16979.9 khz. The chart on 16 mhz at 1800z is a surface analysis for S America and the Western S Atlantic. The textual bulletin is yet to be seen.

::: RTTY met - global overview

Following the demise of Bracknell's rtty service earlier in the year Klaus Betke passed me the following comments

"really bad news. If I have counted correctly, the remaining European weather broadcasts in RTTY are:

1.) Rome Meteo;
2.) Hamburg Meteo: last October they told me that there are plans to continue rtty and fax at least until the year 2003, but no one at DWD knows exactly;
3.) Arkhangelsk Meteo: transmitters are falling apart;
4.) Bucarest Meteo;
5.) Sofia Meteo;
6.) Warsaw Meteo:
129.5 kHz unusable due to EFR telecontrol on 129.1 kHz,
111.3 kHz (synops every 6 hrs) now also QRM'ed by an unid signal on 111.8, presumably a test transmission from Mainflingen, D.

Nothing heard of Grengel Meteo (D) for several months, they transmit more and more irregularly. Prague Meteo is gone as well. Thanks Klaus.

Moving down to the African continent the broadcasts from Pretoria, Dakar, and Nairobi continue. Each of these employ ISB transmitters with rtty on one side band (Pretoria usb, Dakar/Nairobi lsb) with the FAX on the other side. The fourth station is Cairo.

In the Middle-East Jeddah Met continues.

Thanks to DC for a summary on the US situation in respect of US USAF/USN outlets. He says "That will make for a short list. Off the top of my head:

USN Saddlebunch Key is 7784/9830 days, 5915/6397 nights,
75/850 KAWN feed for SE US and Caribbean.

Will have to get back to you on Elkhorn re exact frequencies but essentially 3230/5906 nights, 11119/19322 days,
KAWN for continental US.

The UNID site (prob Isabela, PR) is
3393.7 nights, 10998.7 days,
limited KAWN for Caribbean plus tropical
Atlantic a/c position reports every 5-10 minutes.

I haven't heard the Hawaii feed PHWN or whatever it was in ages".

Up to Canada

Alternate period FAX/rtty broadcasts from Halifax/CFH and Comox/CKN

Delhi Met logged earlier this month. But what of the Far East ?
and of course anywhere else I may have missed.

Let's have your logs over the next few weeks/months and I'll see about generating a list of currently running met rtty stations.

>>....Military.....>

::: Routing indicators

Thanks to Peter Thompson for posting a long list of RIs he had captured. However Peter, and WUNners, the RIs don't belong to the units named. How

can this best be explained? It's all to do with the "t" between the RI and the unit. Initially I took the list, and sorted it alphabetically using the RIs then removed single RI's from the list. This leaves blocks of RIs supporting a number of units and supporting is the operative word. "t" means relay or pass to the mentioned unit. The RIs given are more than likely those for comcens (communications centres) responsible for a number of ships and shore/dockyard facilities/organisations.

USA

```
 rhbcwar  t uss warrior
 rhbcwar  t mcmrotcrew delta

 rhbdoud  t uss inchon
 rhbdoud  t comcmron two

 rhcfmee  t uss typhoon
 rhcfmee  t uss whirlwind
 rhcfmee  t uss tempest
 rhcfmee  t usns zeus
 rhcfmee  t uss chief

 rhfjkga  t ctg 144.1
 rhfjkga  t comsubgru ten

 rhfjsts  t uss louisiana
 rhfjsts  t uss louisiana blue

 rhpwcrr  t uss providence
 rhpwcrr  t uss tucson

 rhwzmcc  t uss squall
 rhwzmcc  t uss monsoon
```

Greece

```
 rkqncis  t comedeast ccis athens gr
 rkqncis  t comedeast athens gr
 rkqncis  t hngs athens gr

 rkqneca  t comedeast ccis athens gr
 rkqneca  t comedeast athens gr
 rkqneca  t hngs athens gr
```

Netherlands

```
 rnlnw    t comcogard naa
 rnlnw    t fonlforcarib curacao na
```

USA

```
 rucocga  t uscgc dependable
 rucocga  t uscgc tampa
 rucocga  t uscgc diligence
 rucocga  t uscgc forward
 rucocga  t uscgc northland
 rucocga  t uscgc legare

 rucorgp  t uss oklahoma city
 rucorgp  t uss albuquerque
 rucorgp  t uss atlanta
 rucorgp  t uss west virginia
 rucorgp  t uss tennessee
 rucorgp  t uss billfish
 rucorgp  t uss rhode island
 rucorgp  t uss san juan
 rucorgp  t uss scranton
```

```
 rucorgp  t uss boston
 rucorgp  t uss norfolk
 rucorgp  t uss newport news
 rucorgp  t uss montpelier
 rucorgp  t uss maryland
 rucorgp  t uss nebraska
 rucorgp  t uss wyoming

 rucowca  t uscgc campbell
 rucowca  t uscgc vigilant

 rucowcd  t uscgc reliance
 rucowcd  t uscgc confidence
 rucowcd  t uscgc courageous

 ructfoa  t uscgc durable
 ructfoa  t uscgc venturous
 ructfoa  t uscgc mohawk
 ructfoa  t uscgc thetis
 ructfoa  t uscgc dallas

 ruegaba  t uscgc seneca
 ruegaba  t uscgc spencer
 ruegaba  t uscgc escanaba

 rufrbea  t ctu 69.7.1
 rufrbea  t uss simon lake
 rufrdea  t comsubron two two

 rufreta  t ctf 69
 rufreta  t comsubgru eight
```

Taking RUCORGP above as an example the originator is sending the message to the 16 listed ships with their "guard" comcen (whose RI is RUCORGP) being tasked to relay ("t") it to each of the ships. With this large number of ships being supported by a single comcen it is more than likely RUCORGP is a major dockyard. The ships themselves, being in port, will have ceased radio watches/transmissions. The method of relay will probably be by regular hand delivery between dockyard comcen and and individual ship comcens.

Taking RNLNW as another example; here a Dutch comcen is being instructed to relay the message to the Commander Netherlands CoastGuard and to fonlforcarib curacao (Flag Officer Netherlands Force Caribbean (?) in Curacao) by whatever means it has at its disposal.

::: French comcens

Running through my database for the last couple of years and noting those loggings involving service messages which are comcen-comcen I've been able to compile a list of routing indicators used by various comcens.

Alysse	RFFVAEA	
Dakar	RFTJCS	*
Ft de France	RFLI	
Libreville	RFTJD	
Naqoura	RFFXL	
Ndjamena	RFTPA	
Paris	Paris	
Paris	RFFVA	
Paris	RFFTACS/RFFTCS/RFFTCCS	*
Provence	Provence	
Sarejevo	RFFVAY	
Versailles	RFFXCCS/RFFXCS//RFFXOCS	*

Some will be seen to use the parent RI for the location. However note (*) the use of the letters "CS" particularly with the very busy Paris/Verseilles/Dakar comcens. Murray Lehman suggested recently they

could indicate "Cabine du Service" in French. Sound logical, Murray. Any other comments anyWUN. Remember to log RIs when svc msgs seen. I'd like to confirm the above and add to it over time if others in use.

>>....Press.....>

::: MAP Rabat

This is the MAP schedule given mid-June. Since then I have only been able to log 10213.1 (plus its second harmonic on 20426.2) and 18496.1 kHz.

In Arabic
09.00 - 10.30 gmt 15.30 - 17.00 gmt
For Mid-East and Africa : cnm80/x11 18496,1 khz

In French
10.00 - 11.30 gmt 15.30 - 17.00 gmt
For S Africa : cnm78 18265.0 khz
For W Africa : cnm76/x9 18220,9 khz
For E Europe : cnm29/1x 10213,0 khz
For E Europe and Asia : cnm85/x11 13585,9 khz

In English
12.00 - 14.00 gmt
For Mid East : cnm80/x11 18496,1 khz
For S Africa : cnm78 18265,0 khz
For W Africa : cnm76/x9 18220,9 khz
For E Europe : cnm29/1x 10213,0 khz
For E Europe and Asia : cnm85/x11 13585,9 khz

::: KCNA Pyongyang

Some recent (18/Jun) comments posted by Wade Taylor in California seems to fit in here nicely.

"Last December I reported getting a great wirephoto from this sta on 11476 at 0200 UTC. Since then I have been trying to do that again with better FAX software but I haven't been successful. Tonite at 0357 UTC I got the following text in 50/245 RTTY -
QRA DE HMF42/HMF52 FREQ 11476/12175 KHZ K.C.N.A. PYONGYANG -
followed by six lines of 'ry's. Gottem on both freqs but 11 megs best. Went to traffic at 0400UTC (celebrating Kim Il Sung).

Interesting that they send fax (wirephoto) at 0200UTC (perhaps earlier?) and RTTY at 0400UTC on exact same freqs. Also, I find N.Korea usually uses 1000 Hz shift but this was at 245 Hz?"

::: PETRA, Amman

According to the Jun newsletter (5-6 mhz Bandscan by Alf Rosenstock) this agency logged on 5055 khz in April. Unfortunately no time given. Previous loggings by me have been on English press circa 1700z and as I put the finishing touches to the column (19/Jul/Sunday) I find PETRA on 6830 but not on 5055 at this time. 6830 is a new logging for me. Previously logged/reported frequencies: 5055, 6830, 9463, 13485, 14560 kHz.

::: VNA, Hanoi

Bob Hall confirms still alive and kicking with a strong signal and English press into Capetown on 9327.7 khz at 1618z on 7/Jul. Previously logged/reported frequencies: 8135.7, 9124, 9330, 10600, 11420, 13372, 13656, 15744, 16384, 18264 kHz.

::: SUNA, Khartoum

JDoe passed the word last night that he had heard SUNA around 1700z a few days previously on 19462.9 khz. An old SUNA frequency running with 50bd/200hz. Keep a check for 1 hour on either side of this time

for English broadcast.
Previously logged/reported frequencies: 9080, 12120, 15731, 18788, 19463 kHz.

Thanks guys for your input. Now we need some more schedule times - awaiting input from the rest of you.

>>....TechiTips.....>

::: Arrangement

Sometimes known as polarity of MARK and SPACE. NORMAL or REVERSED.

Standardisation of asynchronous telegraphy:

MARK	Stop condition	Z	Idle
SPACE	Start condition	A	Active

Fine for DC circuits where there are two definitive voltage or current levels. But what of radio circuits?

By international agreement (CCITT Recommendation 246-3) the NORMAL condition is where the lower frequency represents the MARK condition and the higher frequency the SPACE. Therefore REVERSED is when the MARK frequency is higher/SPACE the lower.

Assuming one's decoder has a NORMAL/REVERSE toggle function it is easy to select either condition and produce intelligible data. However there is a risk of one making an incorrect logging in respect of arrangement. The decoder will only indicate the correct arrangement provided it is presented with tones in the same arrangement as they were issued by the originating terminal.

The purpose of this item is to discuss how a NORMAL signal from the originating terminal can become inverted or reversed by the time it reaches the decoder at the end of the signal path. Assuming a NORMAL signal and no wiring mishaps inversions can occur at either
(a) the transmitter, and/or
(b) through the receiver.

(a) the basic teleprinter rf may be generated at the transmitter as
- F1B - Frequency shifting of the carrier (FSK) between the MARK and the SPACE (radio) frequencies making use of one of two DC levels between terminal and transmitter to modify the transmitter's oscillator.
- J2B - Making use of two audio tones (the lower value representing MARK (in NORMAL) and a higher value representing the SPACE) being applied to an SSB RT transmitter. This is the general means of transmission these days - a modem supplying tones to an SSB transmitter.
  As one remembers from basic theory mixing the tones with the carrier will result in a carrier (which is suppressed), two tones (audio which cannot radiate) and two sidebands (Carrier +/- tones) which is rf and will radiate but the unrequired sideband will be suppressed.
  With simple calculations it can be seen that if the transmitter employs USB then the MARK will still be the lower of the two radiated frequencies. However if it is switched to LSB the MARK will be the higher of the two radiated frequencies. An inversion has been induced by virtue of changing the transmission mode.

(b) The receiver is used to recover the original tones from the incoming RF. Modern receivers are generally double or triple superhets employing frequency changing in various directions (up/down) passing through various intermediate frequencies before finally reaching the demodulator. The same mixing or frequency changing senario applies ie when two frequencies are mixed plus/minus components are generated with filtering removing the unwanted originals/generated components and allowing the wanted signal (new IF) to pass to the next section. Depending on the design of the

individual receiver the local oscillator at each frequency change stage may be above or below the incoming signal. As a result an inversion of the signal may occur. This sounds as if it's getting complex but it makes no difference if the receiver employs 2 or 22 frequency convertors as long as the NET inversion down the length of the receiver is nil. Note every two inversions cancel themselves out.

Given the low rf NORMAL MARK is applied to the antenna connector and a receiver with no net inversions down its length then the low value tone (NORMAL) will appear at the audio terminals and be applied to a decoder. Intelligent decoding would occur if the decoder were set to NORMAL.

So much for the basic theory. As with any craftsman knowing his tools so with the monitor; it's a case of one learning the facilities, variants and limitations within one's primary tool - the receiver.

After I'd finished the first draft of this piece the July "Monitoring Times" arrived. In Digital Digest Bob Evans is discussing Third Shift Cyrillic but in the middle of the text he reiterates my sentiments with the following paragraph.

"If the transmission seems unintelligible, reverse the polarity. You will find that about 95 percent of all traffic is sent at one polarity. (Again, polarity depends on your receiver. For example a signal that decodes in normal using ICOM receivers or the JRC NRD-525, must be decoded in reverse if an NRD-535D is used.)"

However as far as I'm concerned the 525/535 both operate the same way, and opposite to ICOM but I'll come back to that later.

Receivers operate in different modes, each having more or less depending on the particular model. The final oscillator (associated with the demodulator, and usually designated the CIO (carrier injection oscillator) or the BFO (beat frequency oscillator) may be fixed or variable and may/may not cause an inversion of the signal through the receiver.

USB	No inversion
LSB	Inversion
RTTY,FAX,CW(fixed).	These have fixed CIO/BFO values offset from the IF by usually 2210, 1900 and 800hz respectively. But is the oscillator on the correct side of the IF to ensure no net inversion through the receiver. This is something the user needs to check and establish. In the case of the NRD535 there is no net inversion when using RTTY/FAX modes.
CW(variable)	In receivers of this type the oscillator may be adjusted on either side of the IF by means of (eg) a. Front panel control - JRC NRD525, Racal RA1792 b. Internal function cfg - JRC NRD535. The user needs to check which side to use to establish the no net inversion result. In the case of my own experience with these listed receivers NRD525 Control clockwise of zero. NRD535 + value RA1792 - value

So how does one go about checking? Find a reasonably strong rtty station operating in NORMAL arrangement. Set the decoder to NORMAL (see * para). If the receiver is operating with NO net INVERSION intelligent data will appear, if not the screen will fill with garbage.

If the receiver operates in a mode causing no inversion of the data the setting on the decoder will CORRECTLY reflect the transmitted arrangement when data is being correctly decoded.

* On decoders of the following types:
Universal M7000, M8000 the setting is Normal.
Hoka Code3 (V.5), Code3-Gold, Code30 [M]=1 represents Normal

Hoka Code3 (V.3), [M]=0 represents Normal.

What are typical stations operating in NORMAL arrangement?

Hamburg Met/DDH/K	4583	7646	10100.8	11039	14467.3
CF Halifax/CFH	4271	6496.4	10536	13510	
FN Djibouti/FUV	8568	13042.5	16905	22447	
FN Le Port/FUX	4333.5	6360	8475.5	12691	16915
FN Noumea/FUJ	4271	8646	16958	22461	
FN Papeete/FUM	6462	8625	12664.5	16959	

Thanks to JDoe, Murray Lehman, Rab Thomson for running the above tests and helping me compile the following summaries of six popular receivers, and to Murray for checking the FN outlets.

Icom R71E

USB	No inversion
LSB	Inversion
CW	Inversion
RTTY	Inversion

Icom R9000

(On this receiver there are four variants (providing different offsets) within each mode and together these two switches have an effect on the data passing though the receiver).

set to -->	CCIR	LOW	HIGH	FAX
USB	N/inversion	N/inversion	Inversion	N/Inversion
LSB	Inversion	Inversion	N/inversion	Inversion
CW	N/Inversion	N/Inversion	Inversion	Inversion
FSK	N/Inversion	N/Inversion	Inversion	Inversion

JRC NRD525/NRD535

USB	No inversion		
LSB	Inversion		
CW+	No inversion	525	CW+ is Clockwise setting of BFO control on front panel
		535	CW+ is Internal Function memo setting.(+value)
CW-	Inversion	525	CW- is Anticlockwise setting of BFO control on front panel
		535	CW- is Internal Function memo setting.(-value)
FAX	No inversion		
RTTY	No inversion.		

(Sorry, Bob, there is no difference between 525/535 with same settings)

Kenwood R5000

USB	No inversion	
LSB	Inversion	
CW	No inversion	(fixed oscillator)
FSK	Inversion	

Racal RA1792

USB	No inversion	
LSB	Inversion	
CW+	Inversion	(Front panel BFO setting: +value)
CW-	No inversion	(Front panel BFO setting: -value).

Couple or four final points.

Stations operating REVERSED are at liberty to do so since that is the protocol within their own organisations. NORMAL is there to provide a consistency when international working between two administrations

is involved.

Stations operating/transmitting J2B/lsb will also expect the receiver to be operating in lsb therefore the two inversions along the network will cancel each other out.

If one's decoder can automatically sense and switch to the correct arrangement in rtty on the above frequencies then look for the indication of NORMAL when decoding correctly being the indicator that the receiver has no net inversion.

And I've just discovered that in the radio amateur world of low tones (centred 1360hz) and high tones (centred 2210hz) are not the same but (using CCITT norms) REVERSED and NORMAL respectively which may explain the differences in the Icom R9000 summary above.

Now get to know your own receiver if not listed.

>>....Unid.....>

::: 4-tone MFSK/195.3bd

This signal runs using a 4 tone sequential format (ie only one tone on at any given time). The tones, relative to the assigned frequency are located -300/-100/+100/300 hz.

The frequencies reported so far are

```
 8177.4
 9903.6    9910.9
10033.0   10037.2   10072.3   10291.9
11647.9
12376.9
13564.9   13950.0
14779.9
15793.9
16602.0   16605.9
```

There appears to be two frequencies active at any one time suggesting a duplex system - whether arq or independant fec is not known. DFs reported have suggested bearings lying through Cyprus and Gibraltar.

::: 11482.22 kHz

This is unidentified in the source context - not in its mode.
It is transmitted every 10 minutes in Sitor/B starting from H+00. The transmission is inverted.

```
                                      07h20m54s
 --  --
 2  2  2  30  30  30  30  30  30   - 07h30m54s
 --  --
 0  0  0  24  24  24  28  28  28   - 07h40m54s
 --  --
 -18  -18  -18  30  30  30  30  30  30   - 07h50m54s
 --  --
```

The above samples were taken at 0620-0755z (19/Jul). The time is A(lpha) which is currently British Summer Time in the UK. Alpha time is used for daylight saving time in Ireland, Faeroes, Canaries, Madeira. The signals are quite strong in the UK, though fading occured on the next two transmissions.

Note that the given time is always 54 seconds after the 10 minute integer. Be advised that each transmission occurs some 2.5 minutes after the same integer time. Note the data sent (3 parameters) is repeated with each parameter sent three times. Note the variation in the parameters.

Given the above I would hazard a guess sampling is occuring starting at the the integer time and ending 54s later with the given time time-stamping the end of this period. Thereafter computing occurs in the next 1.5 minutes terminating with the transmission of the computed parameters - whatever they might be. AnyWUN throw any further light or noted any other frequencies?

>>....Signoff.....>

Enough for this month, folks. Let's have your input and comments to swell next month's column. In the meantime satisfying monitoring.
Regards Day

==========

Military Channel Designators List

Very little to report this month; a few more 'Mystic Star' tie-ups, another unknown added into the same list, and a few corrections to some typo's. On with the show...

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 24th May 98)

USAF MYSTIC STAR:

F003 8036 (6)	F365 11059 (7)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123 (8)	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)
F054 8058 (7)	F404 7690	F703 9991.5 (6)
F058 4742 (6)	F405 6972	F706 8057 (5)
F061 23265	F406 18393 (6)	F707 10589
F063 14870	F417 4992	F708 23377
F064 11214 (7)	F419 11407 (5)	F709 9317 (7)
F066 15036	F420 7933 (7)	F713 16246 (5)
F077 ?	F432 6731 (6)	F717 10883
F078 18532	F433 20972	F722 12270
F080 15677	F435 3821	F723 18323 (6)
F084 13205.5	F437 5684 (6)	F728 11236 (5)
F085 MF 6,8,11 MHz	F441 17440	F731 6683 (8)
F086 9461	F444 19267	F732 15011 (7)
F089 13204 (6)	F448 16-18 MHz	F734 4757 (7)
F090 6716	F451 13248 (7)	F736 11494 (8)
F094 9017 (6)	F452 5026	F741 7873
F098 14585	F453 19063	F748 6756(5)
F099 13247 (7)	F461 13211 (8)	F749 15-16 MHz?
F101 12106 (6)	F463 4610 (7)	F752 8047 (8)
F102 11118 (6)	F464 16157	F754 11627
F103 11488 (6)	F465 8040 (6)	F777 3113 (6)
F108 7316	F466 14864.5 (7)	F778 18023 (8)
F114 6986 (6)	F467 9023 (7)	F784 9043 (6)
F117 6993 (8)	F476 4-6 MHz?	F785 15687 (6)
F124 11217 (6)	F481 7605	F790 16323
F128 23242	F483 18626	F803 5078?
F134 4942.5	F486 5152 (7)	F807 12103?
F136 5429.5 (7)	F487 24483	F809 5700 (5)
F146 9027 (7)	F489 5437 (7)	F814 6989 (7)
F153 8063 (6)	F496 11059.5 (6)	F821 ?
F173 14420.5	F497 5411 (7)	F823 11229 (8)

F182	3078 (6)	F498	8032 (8)	F825	19047?
F184	10648 (8)	F499	4442 (7)	F832	18267
F186	3046	F500	8989 (6)	F843	MF 6 MHz
F194	13825 (5)	F505	9006 (6)	F845	6-7 MHz?
F195	20631	F516	4645 (6)	F846	13822 (5)
F197	4982 (6)	F517	9270 (6)	F853	12 MHz?
F202	16014 (5)	F521	11484 (5)	F864	16008
F204	12057	F522	11232	F867	6830 (7)
F211	11056 (7)	F523	9215	F868	9218 (6)
F213	?	F529	8077 (7)	F869	16090
F226	5435.5 (6)	F530	23325	F873	13248 (7)
F228	7735 (5)	F533	18675 (6)	F874	13246?
F236	15041 (7)	F538	?	F875	6717 (8)
F243	18590	F540	5404.5	F877	4721 (7)
F248	5398 (5)	F542	5431 (6)	F885	13207 (5)
F249	4731	F545	10580	F895	5710 (7)
F250	15091	F551	18331 (6)	F904	10202 (7)
F251	13217 (8)	F555	4894 (6)	F906	4524
F262	10717	F561	11052 (6)	F909	7687 (8)
F264	7693 (6)	F567	13565 (6)	F910	19671
F265	15733 (6)	F569	18387	F912	7330
F266	7997 (6)	F574	11413 (6)	F917	10205 (6)
F267	6730 (8)	F575	10427	F918	13482
F268	7325 (8)	F576	11153.5 (7)	F919	11159 (6)
F271	18320	F577	10544 (7)	F920	7927 (7)
F277	11153 (8)	F579	MF 11 MHz	F924	16317
F287	11226 (8)	F595	10877	F933	?
F290	8026 (8)	F600	13878 (6)	F935	9 MHz?
F291	13960 (7)	F611	14863	F937	?
F292	9414.5	F614	8026 (7)	F940	11445
F295	11460 (8)	F616	9320 (7)	F943	19002 (6)
F300	15707 (6)	F622	5817	F948	15038 (6)
F301	7500.5	F623	18317	F952	Night
F302	?	F624	13241 (8)	F957	6761 (8)
F310	?	F626	19343	F965	11466 (6)
F311	11220 (8)	F627	7910 (5)	F974	10586 (6)
F322	?	F631	18755 (5)	F975	MF 11 MHz night
F326	14864	F633	18290 (7)	F980	15724
F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (8)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (7)	F997	15667
F360	7919.5 (8)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

..and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F229 - ? (used 7/98), F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1
CA 6691 (7)
CB 11187 (7)
CC ?
CD ?
also check 11267 & 13240. References have been made to designators CF, CG, CK and CL.

*USAF STRATCOM 'Zulu':
Z100 3068 (8)
Z105 3116 (7)
Z110 3134?(8)
Z115 3143 (8)
Z120 3295 (8)
Z124 ?
Z125 4495 (8)
Z130 4472 (8)
Z135 4745 (8)
Z140 5026 (8)

Z145 5705 (8)
Z150 5800 (8)
Z155 5875 (8)
Z160 6715 (8)
Z165 6757 (8)
Z170 7831 (8)
Z174 ?
Z175 9016 (8)
Z180 9057 (8)
Z185 9809 (8)
Z190 10204 (8)
Z195 11104.0 (possibly?)
Z200 11181 (8)
Z205 11494 (8)
Z210 11229 (8)
Z211 12070 (8)
Z215 13242 (7)
Z220 13245 (7)
Z225 13907 (8)
Z230 15046 (7)
Z235 15094 (8)
Z240 15097 (7)
Z250 15962 (7)
Z255 17973 (7)
Z270 18027
Z275 18046 (possibly?)
Z280 ?
Z285 ?
Z290 19665 (possibly?)
Z295 ?
Z300
Z305
Z310 ? (was mentioned by NW01 in 6.98)
Z315 23872
Z330 ?
We had no positive confirmation during 1997 that Z110 was 3134, but that frequency was active with 'Nightwatch' traffic during January 1998 so it is still one of 'their' frequencies.

*USAF AFSOC
==========
FOX 1 13207
FOX 2 5732
FOX 4 9017
FOX 8 23271
FOX 9 18027
? 9018

*US Customs/DEA/JTF
==========
 3428 Yankee Alpha
 5571 Yankee Bravo
 8912 Yankee Charlie
11288 Yankee Delta
13312 Yankee Echo
17972 Yankee Foxtrot

27870 Victor Alpha
20631 Victor Bravo
18594 Victor Charlie
15964 Victor Delta
11494 Victor Foxtrot
 3369 Victor Kilo

 4500 Zulu Alpha
 7527 Zulu Bravo
 9802 Zulu Charlie
12222 Zulu Delta

 5277 Alpha (Night DEA Pri)
 5841 Bravo
 7300 Charlie
 9497 Delta
11076 Echo (Day DEA ops)
 7657 Foxtrot
14690 Golf
18666 Hotel (DEA Active)
23675 India
14350 Lima
14686 Papa (DEA day pri)
23402.5 Romeo

17171 Sierra Hotel
18171 Sierra India
19131 Sierra Hotel

 7527 COTHEN Scan 1

15867 Zulu Echo

10242 Tango Alpha (also VE)
13907 Tango Bravo (also VG)
20890 Tango Charlie (also YG)
23214 Tango Delta (also YH)
25350 Tango Echo (also YI)

2808.5 Xray Alpha
4991 Xray Bravo
5058.5 Xray Charlie
7778.5 Xray Delta
9238.5 Xray Echo
11073.5 Xray Foxtrot
15953.5 Xray Golf
17601 Xray Hotel
19131 Xray India

5912 Whiskey Charlie
12138.5 Whiskey Delta
13658.5 Whiskey Echo
15964 Whiskey Foxtrot

8912 COTHEN Scan 2
10242 COTHEN Scan 3
11494 COTHEN Scan 4
13907 COTHEN Scan 5
15867 COTHEN Scan 6
18594 COTHEN Scan 7
20890 COTHEN Scan 8
23214 COTHEN Scan 9
25350 COTHEN Scan 10

*USCG "SECURE"
==========

3A3	5422.5
3A4	4448
3A5	?
3A8	7773.5
3A9	7421
3A30	?
3E4	6234.5
3E5	10608.1?
3E6	5272
3E7	?
3E9	?
3E10	7626
3E11	7783
3E12	7845
3E13	7884
3E14	7909
3E19	10675
3E20	10759
3E21	10788
3E24	11157.5
3E25	13413

Another two frequencies may be 13809.0 and 13950.0.
For a full listing of USCG aircraft and helicopters, please 'surf' to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers
==========

CH-1	3345	
CH-2	5015	
CH-3	5327.5	
CH-4	5400	
CH-5	5437.5	
CH-6	6020	
CH-7	6785	
CH-8	9122.5	Pri
CH-9	11693.5	
CH-10	12070	Sec
CH-11	12122	
CH-12	16077	
CH-13	16326	Ter
CH-14	16358	
CH-15	20659	

The USACE hold a weekly Net each Friday on Ch.8 where many USACE

*U.S. ARMY TRANS CORPS
==========

CH.1	4146
CH 2	6224
CH 3	6227
CH 4	8294
CH 5	8297
CH 6	12353
CH 7	12359
CH 8	12365

stations 'check-in'.

*FEMA
=====
FEMA uses "Foxtrot" designations for their frequencies. There are quite a few frequencies.

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008
09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*SFOR BOSNIA
============
I2   6723
I8   6721.5 (5)
I9   2839.5 (5)
 ?   2841.5 (5)
PUSH 81 5788
PUSH 81A 6865
PUSH 81B 5346
PUSH 82 4450
PUSH 85 3178
PUSH 89 6932.5
PUSH 103 5110
PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312
The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.
*Update: 6865 was heard carrying 'Bookshelf' traffic in 6.98.

*'Habitat' net
==============
Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:
4704.4   (replaced 4721.0)
5700.4   WY02B
6719.4   WY02A   (replaced 6736.0)
8978.4
9005.4
9011.4

11212.4   (replaced 11214.0)
15095.4
(the two designators listed above, WY02A and WY02B, are not yet
confirmed.)

*Canadian Forces
================
A6A   4560.0
A6G   6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver
Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

CanForces CFARS
CFARS is the Canadian Forces Affiliated Radio System. CFARS stations are
located at various United Nations peace-keeping operations around the
world and operate amateur radio equipment that provides phonepatches for
service personnel to their families.

Hotel   (unid 10-meter frequency)
Lima   20976.0
Fox   20970.0
Golf   20962.0
Delta   14461.5
Charlie   14458.5
Juliet   14452.5
Kilo   14448.0
Echo   14445.0
Bravo   14385.0
Alpha   6977.0 (ex- 13971)

*Belgian Air Force Designators
==============================
4745.0   YD
8989.0   YG (used to be Y8)
11268.0   YJ (used to be Y11)
15010.0   ?? (new freq)
15015.0   YM (new freq. + desig.)
18006.0   YO (new desig.)
20050.0   YQ (new freq. + desig.)
20620.0   YP
23332.0   YS (used to be Y23)

*French Air Force 'Circus' Net
==============================
Marjolaine 2   6712
Racontar 1   8972 (not heard for years, is it still active?)
Vinaigrette 3 8992
Reconfort 3   13236
Citadelle 1   18012
Citadelle 3   ?
Verite 3   23254
Capitole/RS902   6688
143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)

*German Navy
============
Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
=================
>From a listener in Europe comes an extensive update to the German Air Force frequency list. This information comes from a very good source, and he wishes to remain anonymous.

3107 - Alpha	13203 - Oscar
3143 - Bravo	13233 - Papa
3903 - Charlie	15073 - Quebec
4721 - Delta	17973 - Romeo
5687 - Echo	17991 - Sierra
5717 - Foxtrot	18012 - Tango
6700 - Golf	23201 - Uniform
6715 - Hotel	23215 - Victor
6730 - India	23255 - Whisky
6751 - Juliet	23318 - X-ray
8965 - Kilo	23341 - Yankee
9025 - Lima	23345 - Zulu
11217 - Mike	29724 - Alpha-bravo
11265 - November	

*Note: Freq 'Victor' *may* be 23231. Comments?
These frequencies are used by DHM91, which is the HQ Station of the German Air Force Air Transport Command. The other ground stations in this net are DHO23 (61st Air Transport Wing at Landsberg AB, southern Germany), DHO32 (62nd ATW at Wunstorf AB, north-central Germany) and DHO60 (63rd ATW at Hohn AB in northern Germany).
  Other callsigns heard are DHO32, DHO75 (a collective callsign for all the three ATW's) and DHM81. Callsigns 'O5IP' (Oscar-5-India-Papa) and 'NI81' (November-India-81) seem to be other 'regular/daily' callsigns. The Primary frequency appears to be 'E'/5687.

*NATO E-3 AWACS
===============
Ch.AA	6700.0
Ch.AB	11228.0
Ch.AC	8971.0
Ch.A4	10315.0
Ch.A5	?
Ch.KD	6760.0
Ch.KF	6695.0

Ch.NB 3081.0
Ch.NC 3225.0
Ch.ND ?
Ch.NE 4542.0
Ch.NF 4720.0
Ch.NG ?
Ch.NH 4758.0
Ch.NI 6762.5
Ch.NJ 8986.5
Ch.NK 11270.5
Ch.NL 15050.0
Ch.NM 17996.5
Ch.XC 6754.0
Ch.XD 8980.0
Ch.XE 10315.0
Ch.?? 12165.0
Ch.?? 5691.0
Ch.?? 6728.0
Ch.?? 23241.2
The X-net is replacing N-net altough the N-freqs are still sometimes used. (Thanks to Gerbrand Diebels/SC-MAC)

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
4540, 8190, 13257, 15031 (group B - see below)
2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
Freqs: any of the above.

*Royal Air Force Designator's (actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above).
If the UKADGE circuits are active, there will be an announcement after the weather broadcast with the code-letters for the active frequencies.
For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.

The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):

401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5

The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========

The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this

new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 08	4020.00 Khz#
Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#
Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 26	(uhf)
Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#
KJ 02	3357.0
KJ 04	3805.0
KJ 28	(uhf)
KJ 37	5910.0 (poss.)
TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========
(also known as 'Coastal Control')

Controlled from Whitehall ('GYA') with standby location at Forest Moor ('GXQ').
Transmitters:- Milltown and St. Eval
Receivers:- Kinloss and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515

2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly use their ships name.

UKMACCS info Compliments of Graham Tanner

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========

Utility Monitoring in the Maritime Bands
Editor: Day Watson (jdwatson@cableinet.co.uk)
14, Gardens Road
CLEVEDON, North Somerset
BS21 7QG United Kingdom

Hi MariWUNners

I had intended to cover South Africa in general terms having received some info from a couple of sources. However lots of other input has arrived this month so I'll hold that off till the August newsletter.

I've also decided to dispense with the Station Overview section. I'm now repeating myself. At the same time the major station's services are rapidly losing their WT sections, and reducing times on others. The smaller stations I've always been wary of doing due to current reliability on information and generally a limitation in both hours/service range.

Now to this month's offerings

QTC list:

Athens closes HF WT
Lyngby Radio/OXZ to cease WT
Auckland/ZKLF hangs on
GlobeEmail and QRG Reports
Monaco Radio implement telex
USCG 2670 khz MIBs
Another look at NAVTEX

NAVTEX updates
1997 World registries

++++++ Athens closes HF WT

Many thanks to PB for passing on this service bulletin, and for JH for later confirming MF WT will be continued at Athens for the forseeable future

"WE WOULD LIKE TO BRING TO YOUR KIND ATTENTION THAT ATHINAI RADIO COAST STATION ABOLISHES MORSE RADIOTELEGRAPHY IN THE ZONE OF HF FROM MIDNIGHT OF 1ST JULY 1998.
RADIOTELEGRAMS FROM AND TOWARDS SHIPS WILL BE TRANSMITTED THROUGH SATELLITE SYSTEM OR RADIOTELEX AS WELL AS RADIOTELEPHONY.
BEST REGARDS
ATHINAI RADIO/SVA."

++++++ Lyngby Radio/OXZ to cease WT

Information trickles in from all sources/routes. My thanks to old DXer/new WUNner Jim Cumbie from Dallas.

He says a recent QSL from OXZ/Lyngby Radio indicates that they will cease cw transmissions at 23:59 UTC on December 31, 1999.

++++++ Auckland/ZKLF hangs on

Up until the last moment the intention was to terminate the CW broadcast of weather forecasts/WMO FM46 coded analysis on 30/Jun as attested by the capture and post by jdStephens, our QSL Editor, of

>NOTICE NOTICE NOTICE
>BE ADVISED THAT ALL MORSE TRANSMISSIONS OF FORECASTS AND WARNINGS FROM
>ZKLF WILL CEASE AT 2359 UTC 30 JUNE 1998.

Surprise, surprise - when at 0543z on 30/Jun on 13550.1 khz I copied

"flash flash flash the termination of morse broadcasts on zklf has been postponed. the termination of morse broadcasts on zklf has been postponed. morse broadcasts will be contining until 0000utc 1 february 1999. Morse broadcasts will be continuing until 0000utc 1 february 1999. = ".

Obviously sufficient people out there using/appreciating their service. Thanks jd.

++++++ GlobeEmail and QRG Reports

Bert van Rij asked "qrg-reports, can you explain to me what these are??"

A qrg report he had seen had been transmitted by a ship to a station in the Globe Radio Network as Bert's sample had been preceeded by a string of XVSM selcalls (Globe Wireless).

About the same time I was lucky enough to have met Peter Kierans, VP Development at Globe Wireless, over in the UK on a business trip. He kindly left me some documents re Globe Wireless which included a copy of "GlobeEmail. User's Manual and Guide for Users at Sea". This is, as its name implies, the "how-to-use" document for Globe Wireless's maritime customers.

To answer Bert's question I've extracted and reordered, with the kind permission of Globe Wireless, a number of sections of the above manual.

To place QRG reports in context it is first necessary to give an overview of GlobeEmail itself.

The basic hardware requirements are for the ship to have an MF/HF

transceiver (or separate transmitter and receiver) capable of being remotely controlled. Much of today's maritime radio equipment has such facilities and Globe Wireless is adding more models to its approval list. The ship must also have a suitable PC running under the latest Windows environment.

Globe Wireless supplies the client ship with a "GlobeData" modem and cabling to connect PC, modem and radio equipment. Finally GlobeEmail is installed as a standard Windows program. The modem can communicate in the original Sitor/A and /B (arq/fec) protocols in the ITU NBDP channels, together with a protocol based on the CLOVER technique but with some modifications to adapt to maritime use on the NBDP channels. The "GlobeData" modem is a HAL Communications product. DSP technology is used in the modem permitting the use of the CLOVER mode, data compression, error correction and automatic maintenance of the data link.

Wideband (3 Khz bandwidth) marine HF data/fax frequencies are also used and they will be the predominant frequencies in the future.

"GlobeEmail Overview

GlobeEmail is a messaging system designed for ships at sea. It offers the following features:

==> A Microsoft Windows user interface that is similar in operation to typical office E-mail systems.

==> All messages from shore locations are received automatically aboard the vessel.

==> All messages 'sent' from aboard ship are transmitted automatically to the shore network.

==> Messages consist of normal textual information and can have any type of computer binary file attached.

==> The computer completely controls the radio. No technical knowledge of radio operation, propagation conditions or frequency management are required of the shipboard personnel."

"Automatic Reception

Reception of messages on board a ship using GlobeEmail is completely automatic. A background routine, part of the GlobeEmail software package, is in continuous control of the radio equipment. It scans all suitable channels, listening for a possible call from a station in the Global Radio Network. When called, the ship exchanges traffic with the shore system. Upon receipt of an incoming message the GlobeEmail software sounds an audible alarm and flashes a notification on the computer screen that a message is waiting. In addition, the software can be set to automatically print out all incoming messages as they are received.

Automatic reception, as described, requires that the radio equipment and computer be operating all the time."

The background routine mentioned is called GlobeData. When one sees a period of selcalls between the Globe channel-free marker that is a ship being called.

"Traffic, Ship to Shore

Shipboard users wishing to send messages, are not required to deal with radio equipment in any way, at any time.

<snip>

A background routine, part of the GlobeEmail software package, is in

continuous control of the radio equipment, which is left on at all times. It scans all suitable Global Radio Network channels and keeps track of those available for traffic at any moment. When this software senses that a user has "sent" a message, it automatically contacts the network coast station that has the best current reception and forwards the message to the network system, and that system then forwards the message on to its ultimate destination."

All the time the ship is at sea it scans the channels in the Globe Radio Network and assesses the channel quality on each. This is staticised in the computer and all the time it is updating its table of six or so best channels at any one time and if they are currently busy. When the ship needs to send traffic it goes to one of the channels in that table and - boom-boom - straight out.

As the day progresses and propagation alters with better conditions to other Globe Radio Network stations on other channels then the table is constantly being modified and updated.

The summary of these modifications is merged with the ship's position and sent as a daily QRG report to the Globe Wireless California HQ. They are used for statistical analysis such that, for a ship in a given position at a given time, they can work out which channels used for calling the ship will result in a rapid response from the ship when they have shore>ship traffic. Back to the manual for the final extract.

"Automatic Scanning Report

Approximately once per day the GlobeEmail software automatically generates a short message that communicates the results of the past day's scanning activity and sends it to the Traffic Delivery Center ashore. This message is both generated and sent automatically and does not require user involvement. The information in the message is compressed to save circuit time and will make no sense to the casual reader. There is no charge for these messages".

In conclusion the entire GlobeEmail system is a continuously evolving and improving system. The entire polling system will be upgraded and changed over the next year. Greater use will be made of unique control channels in the future.

Again my thanks to Peter and to Globe Wireless for allowing me to use this manual.

++++++ Monaco Radio implement telex

It has been noted recently by myself and Geoff Halligey that Monaco/3AC has come up with two telex channels :

3AC	Ship	[ITU Chan]
8423.5	8383.5	[815]
16822	16699	[1632]

So far no traffic handling/traffic list has been heard. And for some reason they have now (July) stopped running the channel free marker. Thanks to JH for confirming 2500 is the station number (Selcall QPVV). He also says the Monaco only have two commands at present namely ga+? and msg+?.

It appears Geoff and I caught them when they were doing initial testing and it may be that that they now require a preliminary call on RT which is Monaco's main mode before transferring to Telex ie it is not (yet?) a fully automatic service. Time will tell.

++++++ USCG 2670 khz MIBs

The following list is due to a David Wright project of gathering in all

the information in respect of the MIBs sent by individual USCG stations on RT on their common 2670 khz working frequency.

NMN13	Cape Hatteras	0133	1303				
NMC9	San Francisco	0203	1403				
NMA21	St. Petersburg	0320	1420				
NMA	Miami	0350	1550				
NMF2	Woods Hole	0405	1005	1605	2205		
NMB	Charleston	0420	1620				
NMQ27	Los Angeles	0503	1303	2103			
NMW	Astoria	0533	1733				
NMO	Honolulu	0545	0903	1145	1745	2103	2345
NMG	New Orleans	0550	1235	1635	2235		
NMA10	Mayport	0620	1820				
NOY26	Corpus Christi	1040	1240	1640	2240		
NOY	Galveston	1050	1250	1650	2250		

Data appreciated, thanks David.

++++++ Another look at NAVTEX

Greg Gilbert posed the question a few days ago. I omitted to copy to the list at the time as I had intended so here was my reply which will then lead me into some further updates.

"Is anyone receiving any copy from 0.518 or 0.424 kHz?"

In a word YES.

NAVTEX broadcasts are part of the new Global Maritime Distress and Safety System (GMDSS) implementation of which comes to fruition 1/Feb/99. This implementation has been a rolling one over the last few years and NAVTEX is already in place.

Use 518 khz. This is the International Navtex frequency under GMDSS.

424 khz. This is NOT a GMDSS nor a NAVTEX frequency. However it is known that in addition to NAVTEX in English on 518 khz the Japanese JMSA broadcast nav warnings/Wx on this frequency in Japanese which I expect will be in a special character form. Come 1/Feb they may switch to 490 khz which is the other frequency designated under GMDSS for the transmission of bulletins of this nature (and as far as one can read into the frequency list covers situations like this where a country can provide a secondary NATIONAL broadcast in its own language). NAVTEX is the primary outlet to which ALL ships are mandated to keep an H24 watch on 518 khz. The USCG, tasked with the provisioning of NAVTEX in the US, has no need for a second broadcast.

518 khz is groundwave and these transmitters are designed for a service area of a few hundred miles over water during daylight hours. Distances over which received will increase as nighttime descends attested by many WUNners who copy NAVTEX over many thousands of miles during long winter nights. If your path to the transmitter is basically over land then some attenuation is likely. A good longwire antenna and a good ground help. The bandwidth allowed is 500hz so some reasonable filtering also helps.

Don't expect a continuous outpouring of data. NAVTEX is operated under a time share system to avoid mutual interference between adjacent stations, each station having six scheduled time slots during the day (H24). Nav warnings and wx messages which turn up for transmission between these times can be transmitted at any time given the proviso that the station first checks the frequency is not in use and gives way until the completion of a scheduled broadcast by an adjacent station.

Given the above and Greg's location in Georgia, USA, the two adjacent stations to him (with ID and scheduled start times) are

Miami	[A]	0000	0400	0800	1200	1600	2000
CAMSLANT, Portsmouth	[N]	0130	0530	0930	1330	1730	2130

++++++ NAVTEX updates.

Following on from the previous item the NAVTEX system is in a continual state of evolution. New stations coming onstream provide automatic reception of navigation warnings and weather messages world-wide and will eventually take over completely as the current system of WT broadcasts finally becomes a thing of the past.

Baltic. Weekly corrections to ALRS vol.5 (to whom thanks for this section info) show that the station previously IDed [U] namely Stockholm has been withdrawn and the ID transferred to Tallinn. The scheduled transmission times are 0030 0430 0830 1230 1630 2030

Gulf. With Bushehr (Iran) coming onstream I thought I might list the NAVTEX stations in the Gulf itself for those of you who have that area within dx possibilities. They've been ordered in time rather than geographically.

Bushehr	[A]	0000 0400 0800 1200 1600 2000
Bahrain	[B]	0010 0410 0810 1210 1610 2010
Bandar Abbas	[F]	0050 0450 0850 1250 1650 2050
Dammam	[G]	0100 0500 0900 1300 1700 2100

Malaysia/Singapore. Again three new stations have come onstream in Malaysia, which are listed below with Singapore.

Singapore	[C]	0020 0420 0820 1220 1620 2020
Labuan	[S]	0300 0700 1100 1500 1900 2300
Kuching	[T]	0310 0710 1110 1510 1910 2310
Port Klang	[U]	0320 0720 1120 1520 1920 2320

++++++ 1997 World registries

This item of interest to maritime WUNners comes from Steve Schultz by way of the SHIPs list with thanks to both.

"Lloyd's Register of Shipping's most recent World Fleet Statistics reports that Panama had the world's largest register at the end of 1997, with 6,188 ships of 91.128 million gross tons and an average age of 17 years. This accounts for 17 percent of the world's fleet. Liberia is second with 1,697 ships of 60.058 million gross tons averaging 12 years. Third was the Bahamas with 1,221 ships of 25.523 million gross tons averaging 16 years. In all, at the end of 1997, the world fleet totaled 85,494 ships of 522.2 million gross tons with 45,097 cargo vessels of 757.84 million deadweight tons. The average age of the fleet is 19 years with the youngest that of containerships at 10 years. The oldest average type is passenger and general cargo ships at 30 years. However, the oldest category includes only 342 ships of 600,000 gross tons. Tankers average 18 years. In 1997, 1,820 ships of 25.2 million gross tons were completed with Japan and South Korea responsible for 71 percent. Other registries, ranked by decreasing gross tonnage, are:

4. Greece, 1,641 ships of 25.288 million gross tons, 24 years
5. Cyprus, 1,650 of 23.653 million, 16
6. Malta, 1,378 of 22.984 million, 19
7. Norway, 715 of 19.780 million, 15
8. Singapore, 1,656 of 18.875 million, 11
9. Japan, 9,310 of 18,516 million, 11
10. China, 3,175 of 16.339 million, 18
11. Russia, 4,814 of 12.282 million, 17
12. United States, 5,260 of 11.789 million, 24
13. The Philippines, 1,699 of 8.849 million, 22
14. St. Vincent and the Grenadines, 1,343 of 8.374 million, 22
15. South Korea, 2,441 of 7.430 million, 20
16. Germany, 1,125 of 6.950 million, 17
17. India, 941 of 6.934 million, 15
18. Turkey, 1,146 of 6.567 million, 23
19. Marshall Islands, 168 of 6.314 million, 13
20 Italy, 1,324 of 6.194 million, 22."

++++++ Signoff

Something for everyone. And a reminder - NN Editorship still vacant - can you take on the challenge ? - Regards, and cu   Day.

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THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens
106 Anita Drive
Madison, AL 35757-8419, U.S.A.

E-Mail: jdstephens@geocities.com

A nice turnout this month - some first time reporters to the QSL Center for 1998. Thanks to all who answered ye Editor's plea for contributions in last month's WUN bulletin. Quite a few were received after the column deadline, so if your items aren't listed this month, don't despair - they've been held for the next column.

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CANADA:

CHU, National Research Council - Ottawa, Ontario, Canada. 3330kHz, 7335kHz, & 14670 p/d QSL cd. in 3 wks. picturing a color drawing of Sanford Fleming "unveiling his plan for Standard Time Zones." From the painting by Rex Woods. In other words, a picture of a bunch of old guys sitting around a map...hee.hee.hee... (JL)

DENMARK:

OXZ, Lyngby Radio. 12601.5 f/d PFC, 8 1/2" x 11" 4-page historical folder, & personal note from in 26 ds. V/s: J. Christensen. Address: TELE Danmark, Servicetelefonen, Lyngby Radio, Bagsvllevej 3, 2800 Lyngby, Denmark. (JC)

NEW ZEALAND:

ZKLF, Auckland Meteo. 13550.5 p/d ltr. in 16 ds. for 1 IRC. V/s: K.M. Alder - Customer Services Manager. (JDS)

UNITED STATES:

NAV-4, US Naval Training Center, Great Lakes, IL. 14467 nice computer-generated QSL certificate in 16 ds. for reception of Armed Forces Day radio activity.
V/s: Mike Anderson (WV7T/NNNOBGT) - Chief Petty Officer. (JDS)

WWV, Fort Collins, CO. 5000 f/d "Indians on horseback" folder cd. w/ extremely nice 27 page full size booklet, brief generic letter answering a FAQ (with hand printed note explaining that the voices used are real...that is recorded from real hoomans). SASE was returned. V/s: (Illegible) - Engineer in Charge. (JL)

NNNOSNW, U.S. Navy MARS Station, Inverness, FL. 14441.5 f/d PFC w/ friendly 2 page p/d letter in 14 ds. V/s: Barbara - NNNOSNW. (JDS)

AIRCRAFT:

Air Pacific 410 - Boeing 737, DQ-FJB, Selcal CQ-DR. 5643.00 USB, PFC in 71 ds. (PI)

Air Vanuatu 18 - Boeing 737, VH-TJI, Selcal EP-DR. 8867.00 USB, PFC in 42 ds. (PI)

SHIPS, CUTTERS & OTHER SEA VESSELS:

AEMI - M/V Strong. 14663 f/d logo/photo cd. w/ Corps of Engineers medallion in 22 ds. for reception of Armed Forces Day activity. V/s: Jim Pogue (KH2AR) - USCOE Public Affairs Specialist (and a fellow WUNner!). (JDS)

NNN0COL - U.S. Navy MARS Station, U.S.N.S. Indomitable (TAGOS-7). 14441.5 f/d PFC w/ p/d ltr. in 11 ds. after f/up. V/s: NT1 Vernon L. Cash Chief MARS Operator. (JDS)

NNN0CZY - U.S. Navy MARS Station, U.S.S. Scott (DDG-995). 14441.5 f/d PFC w/ p/d ltr. & sticker in 11 ds. after f/up. V/s: FC1 (SW) Kevin Fore - MARS Operator. (JDS)

NNN0NGW - U.S. Navy MARS Station, U.S.S. George Washington (CVN-73). 14441.5 f/d PFC in 10 ds. after 4 f/ups V/s: Communications Officer Pogue.(JDS)

NNN0NZX - U.S. Navy MARS Station, U.S. Coast Guard Cutter Polar Star (WAGB-10). 14441.5 f/d color photo of cutter cd. in 20 ds. V/s: Matthew E. Skahill. (JDS)

NNN0CPC - U.S. Navy MARS Station, United States Coast Guard Cutter Boutwell (WHEC-719). 14441.5 f/d PFC w/ cutter & USCG rubber-stamped seals, color brochure in 16 ds. V/s: (Illegible) - TCIC. (JDS)

NNN0CSF - U.S. Navy MARS Station, USS South Carolina (CGN-37). 14441.5 f/d PFC w/ ship's seal in 18 ds. V/s: Dwight L. Smith - FC1 (SW/AW). (JDS)

NNN0CCK - U.S. Navy MARS Station, U.S. Coast Guard Cutter Bear (WMEC-901). 14441.5 f/d PFC rubber-stamped with 2 nice seals in 35 ds. V/s: TC2 Griffin. (JDS)

OTHERNESS

Your editor's QSL for ZKLF - New Zealand Meteo was received for their CW weather bulletin on 13550.5 kHz. at 0500 UTC. During this transmission, it was stated that the CW service would end on July 1, 1998. However, subsequent transmissions have been noted by other DXers that the termination of the CW service has been postponed until February 1st of 1999. This was confirmed in the QSL letter received. Other frequencies mentioned in the QSL letter were 5807, 9459, and 16340.1. It was not noted whether transmissions were simultaneous on all frequencies, but a transmssions schedule can be found at their website address of http://www.met.co.nz.

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Abbreviations used:

f/d = Full data	p/d = partial data
n/d = no data	PFC = Prepared Form Card
v/s = Verification Signer	ds = ds
wks = weeks	SASE = self addressed stamped envelope

A hearty thank you to this month's contributors:

Jim Cumbie - Dallas, Texas, U.S.A. (JC)
Peter Ivakitsch - Toronto, Ontario, Canada (PI)
Jason Lillie - Tulsa, Oklahoma, U.S.A. (JL)
Your Editor - Madison, Alabama, U.S.A. (JDS)

See you next month!!

73 de JDS.

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
-
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

Hi gang. Two main items this month. A New Zealand special and the final part of the Time Signal series. Next month's special: DATALINK SYSTEMS.

We start this edition of the Ute Round-up with a contribution from New Zealand's Ian Julian. More info about Pacific Rim stations can be found on his new PACIFIC-RIM MONITOR web site at:
http://www.geocities.com/CapeCanaveral/Launchpad/7769/

NEW ZEALAND ON HF

* Aeronautical Stations

ZKAK Auckland Aeradio
SP-MWARA 3467, 5643, 8867, 13261 & 17904
ANTARCTIC-RDARA 5726, 8998, 11255 & 13251
VOLMET 6679, 8828 & 13282
AFTN 4940, 7740 & 9080 (For Backup Use)
NZ-RDARA 5592 Milford Flight Service, Queenstown Flight Service & Invercargill Airport
LDOC ZKA Auckland Air New Zealand 3007, 4687, 6637, 8930, 10072, 13333, 17940 & 21970

* Civil Defence

2018, 2021, 2024, 2027, 2030, 3351, 3354, 3357, 3360, 3363, 3366, 5383, 5386 (National Calling & Emergency), 5389, 5392, 5407, 6910, 7607 & 7740

Also the NZCD have just implemented a nationwide UHF link crossband linked to HF, for remotely calling up their Codan radios. Have heard a databurst on 5387.5, then heard ZKST Christchurch call ZKHQ Wellington National HQ for radio checks on the national calling & emergency channel 5386 CH# Alpha

o Northern Zone Stations
ZKNT Auckland Northern Zone HQ
2027 Alternate CH# PAPA
3357 Secondary CH# OSCAR
5386 Calling CH# ALPHA
5389 Primary CH# NOVEMBER

CALLSIGNS
ZKNT11 Whangarei
ZKNT12 Kaitaia
ZKNT13, ZKNT14, ZKNT18, ZKNT19 Whangarei District
ZKNT21 Auckland District (Rodney)
ZKNT22 Great Barrier Island
ZKNT31 Hamilton
ZKNT32 Te Kuiti
ZKNT33 Tokoroa
ZKNT34 Te Aroha
ZKNT35 Paeroa
ZKNT36 Whitianga
ZKNT37 Taupo
ZKNT41, ZKNT51 Rotorua
ZKNT52 Tauranga
ZKNT53 Whakatane
ZKNT54 Opotiki

Weekly Net Check-ins Wednesdays 2100 UTC

o Central Zone Stations
ZKCT Palmerston North Central Zone HQ

3354 Secondary CH# GOLF
5383 Primary   CH# FOXTROT
5386 Calling   CH# ALPHA

CALLSIGNS
ZKCT11, ZKCT12, ZKCT13, ZKCT14 Kapiti
ZKNT15, ZKNT16, ZKNT17, ZKNT20, ZKNT21 Napier
ZKNT22 Hastings
ZKNT23 Central Hawkes Bay
ZKNT31, ZKNT32 Masterton
ZKNT33 Wanganui
ZKNT34, ZKNT35 Horowhenua
ZKCT39 & ZKNT41 Taranaki

Weekly Check-ins Wednesdays 2100 UTC

o Southern Zone Stations
ZKST Christchurch Southern Zone HQ
2021 Alternate CH# BRAVO
2024 Alternate CH# DELTA
2030 Alternate CH# LIMA
3360 Secondary CH# KILO
5386 Calling   CH# ALPHA (also some net check-ins)
5392 Alternate CH# CHARLIE
5407 Primary   CH# SIERRA

CALLSIGNS
ZKST11 Nelson
ZKST12 Takaha
ZKST21 Blenheim
ZKST29, ZKST31, ZKST32 Kaikoura
ZKST33 Chatham Islands
ZKST34 Ashburton
ZKST35 Timaru
ZKST41 Karamea
ZKST 42, ZKST43 Murchison
ZKST44 Franz Joseph
ZKST45, ZKST46 Haast
ZKST51 Greymouth
ZKST52 Westport
ZKST53 Reefton
ZKST55, ZKST61 Dunedin
ZKST62 Otago Region
ZKST63 Oamaru
ZKST64 Balclutha
ZKST65 Queenstown
ZKST71, ZKST72 Gore
ZKST74 Invercargill
ZKST91 Alexandra
ZKST94 Ranfurly
ZKST96 Cromwell

Weekly Net Check-ins Thursdays 2230 UTC

o National Headquarters
ZKHQ Wellington National HQ
5386 Calling & Emergency

Weekly Check-ins with all Regional HQs Wednesdays 2125-2135 UTC

o Army
Training Nets 5272, 5338 & 5377 (Primary)
Land Mobile 7605 CH#6 (One of 6 Fixed HF Channels installed in vehicles)
Others Undefined 4568, 4967, 5353 & 5365 (Probable one off exercise use.)

o Royal New Zealand Airforce (RNZAF)
ZKX RNZAF Auckland, ZKY RNZAF Ohakea & RNZAF Woodbourne
Air-to-Ground 3032, 5687, 8974, 11235 & 13206 (Shared with RAAF)

Discretes 6754, 6760, 9010, 11247 & 13245
Point-to-Point 4600, 5356, 6867, 7915, 8055, 13417 & 15650 (Used for Exercises & Cyclone Relief)
SAR 3023 & 5680
RTTY 75 Bd 5442, 9003, 9012, 18004, 18011 (Usually RYRY & Fox Tests)

o Royal New Zealand Navy (RNZN)
ZLP Auckland & ZLO Irirangi
Ship-to-Shore 3192 (Secondary) & 8316 (Primary)
CW 4263.4, 6339.5, 8601.3, 12719.8 & 17227.5
Exercises 9014
VFT 6028:75 Bd 11011.5, 15937 & 18186.5(Encrypted)
Probable RNZN QPSK 2400 Bd 2731.5 & 4249

* Mountain Radio Service (MRS)

o North Island Net
ZKBY Taupo 3345(Primary) & 5254 (Secondary)
ZKVS Whangarei 3345
ZLJG Wellington 3345 (Primary) & 5299(Secondary)
ZLKU Taradale 3345

o South Island Net
ZKIB Christchurch 3261
ZKMM Blenheim 3261
ZLFK Southland 3261

* Red Cross
2580 (Night) & 5278 (Day)
Collective Callsign ZLCL Auckland, Christchurch & Timaru
ZLCL61 Palmerston North

* Meteorological Services
ZME Raoul Island the Kermadecs to NZ Link 3246, 3387, 4601, 5225, 7890, 8080, 9950, 11550, 12152.5, 13580, 14780 & 15690
In Regular Use 3387, 5225, 7890, 9950 & 11550
Note these frequencies are jointly shared with the Dept of Conservation on the Island
ZLKF Auckland Meteo FAX 120/576 5807, 9459, 13550 & 16340.1

FIJIAN POLICE ON HF

We continue with more info from Ian:

The Fijian Police now have a national HF network. Ian caught them on 5400 at 0540 UTC USB. Here is Ian's report:

''OM calling 78, 79, 81, 89, 91, 94 & 97 for radio checks in English and Fijian, then one of them mentioned check the police mobile and mentioned operations. Unfortunately I was also getting interference from US Fishing boats and some S.American inversion scrambling on the freq at the time, as at the end of the radio checks, those numbers were assigned to various stations around Fiji one of them became Suva another Lautoka etc, then once the number was assigned, an OM would confirm with Roger. Hopefully they'll come up again shortly so I can get more confirmation.

LIGHTHOUSE / LIGHTSHIP ACTIVITY WEEKEND

Ok, ok, I know that it is a tad early and not really utility dx, but still..... It is an unique opportunity to hear a lot of lighthouses and lightvessels.

The Lighthouse/Lightship Activity Weekend is a yearly HAM event and will be held from 00.01 UTC on Saturday 22 August until 23.59 UTC on Sunday 23 August 1998. During the event in 1997 a total of 36 stations were established at lighthouses and lightships in 14 countries. The

event is not a contest, each station decides how they will operate their station regards modes and bands.

The participating stations should add LIGHT, LGT, LIGHTHOUSE or LIGHTSHIP after their call.

More info? Contact Mike Dalrymple. e-mail: gm4suc@compuserve.com

CW
80m 3.510 - 3.540 Khz Centre 3.521 +/-
40m 7.005 - 7.035 7.021 +/-
20m 14.010 - 14.040 14.021 +/-
15m 21.010 - 21.040 21.021 +/-
10m 28.010 - 28.040 28.021 +/-

PHONE
80m 3.650 - 3.750 Khz Centre 3.721 +/-
40m 7.040 - 7.100 7.051 +/-
20m 14.125 - 14.275 14.221 +/-
15m 21.150 - 21.250 21.221 +/-
10m 28.300 - 28.400 28.351 +/-

Standard frequency and time signal stations on LF and HF, pt.6

This is the 6th and final part of the TSS series. I hope that you liked it. Once again I'd like to thank all members and organizations who cooperated in this project. This month the last stations: BPM, BSF, MSF, and TDF.

China: BPM Xian

BPM transmits on 2500, 5000, 10000 and 15000 kHz in CW/AM.
Schedule: 2500 kHz, 0730-0100 UTC
           5000 kHz, 24h
          10000 kHz, 24h
          15000 kHz, 0100-0900 UTC

Each minute, between 29-30m and 59-60m, callsign BPM is transmitted in CW, followed by a station id in Chinese (female voice).

Taiwan: BSF Chung-Li

BSF transmits continuously on 5000 and 15000 kHz. Voice and CW id in minutes 9, 19, 29, 49, 59. There is a 5 min. silence between 35-40m.

UK: MSF 60

The MSF transmission from Rugby (latitude 52ø 22' N, longitude 1ø 11' W) is the principal means of disseminating the UK national standards of time and frequency which are maintained by the National Physical Laboratory. The estimated radiated power of the MSF transmission is 27 kW and the antenna is substantially omnidirectional. The signal provides adequate field strength throughout the UK, and it can be received widely in northern and western Europe. The carrier frequency is maintained at 60 kHz to within 2 parts in 1012.

The MSF time and date code format is summarised in the diagrams above. Simple on-off carrier modulation is used, the rise and fall times of the carrier are determined by the combination of antenna and transmitter. The timing of these edges is governed by the seconds and minutes of Coordinated Universal Time (UTC), which is always within a second of Greenwich Mean Time (GMT). Every UTC second is marked by an 'off' preceded by at least 500 ms of carrier, and this second marker is transmitted with an accuracy better than ñ1 ms.

The first second of the minute nominally contains a period of 500 ms with the carrier off, to serve as a minute marker. However, for a tran-

sitional period, there may be on/off carrier modulation between 25 ms and 330 ms during second 00.

The other 59 (or, exceptionally, 60 or 58) seconds of the minute always begin with at least 100 ms 'off' and end with at least 700 ms of carrier. Seconds 01-16 carry information for the current minute about the difference between atomic and astronomical time (DUT), and the remaining seconds convey the time and date code. The time and date code information is always given in terms of UK clock time and date, and it relates to the minute following that in which it is transmitted.

The allocation of the signalling bits is detailed below and on the continuation sheet. Bits 17B-*51B inclusive, and bits 01A-*16A inclusive, are currently set to '0', but may be used in the future. Bits *52B and *59B are currently set at '0' but they may be used in the future.

o Minute Identifier
Bits *53A, *54A, *55A, *56A, *57A and *58A are all set permanently at '1', and are always preceded by bit *52A at '0', and followed by bit *59A at '0'. This sequence 01111110 never appears elsewhere in bit A, so it uniquely identifies the following second 00 minute marker.

*In minutes lengthened or shortened by a positive or negative leap second all these numbers are correspondingly increased or decreased by one (i.e. during these 61- or 59-second minutes the position of the time and date code is shifted by one second relative to the start of the minute).

o DUT Code
The difference between UTC and UT1 (which is closely equivalent to GMT), is known as DUT1 and is signalled to the nearest 100 ms in the range ñ800 ms. A positive figure means that GMT is at a higher count than UTC. Bits 01B-16B are used to signal the DUT code in the following way.

DUT1	positive	DUT1	negative
0 ms	no bits set to '1'	- 0 ms	no bits set to '1'
+100 ms	bit 01B '1'	-100 ms	bit 09B '1'
+200 ms	bits 01B and 02b '1'	-200 ms	bits 09B and 10B '1'
+300 ms	bits 01B-03B incl.'1'	-300 ms	bits 09B-11B incl.'1'
+400 ms	bits 01B-04B incl.'1'	-400 ms	bits 09B-12B incl.'1'
+500 ms	bits 01B-05B incl.'1'	-500 ms	bits 09B-13B incl.'1'
+600 ms	bits 01B-06B incl.'1'	-600 ms	bits 09B-14B incl.'1'
+700 ms	bits 01B-07B incl.'1'	-700 ms	bits 09B-15B incl.'1'
+800 ms	bits 01B-08B incl.'1'	-800 ms	bits 09B-16B incl.'1'

o Time and Date Code

Binary-Coded-Decimal Year (00 - 99)

80	40	20	10	8	4	2	1
*17A	*18A	*19A	*20A	*21A	*22A	*23A	*24A

BCD Month (01-12)

10	8	4	2	1
*25A	*26A	*27A	*28A	*29A

BCD Day-of-Month (01-31)

20	10	8	4	2	1
*30A	*31A	*32A	*33A	*34A	*35A

Day-of-Week (0-6)

```
          -----------------
            4    2    1
          *36A *37A *38A
```

Note: for Day-of-Week, 0=Sunday to 6=Saturday

```
BCD Hour (00-23)                  BCD Minute (00-59)
-----------------------------     ----------------------------------
 20   10    8    4    2    1       40   20   10    8    4    2    1
*39A *40A *41A *42A *43A *44A     *45A *46A *47A $48A *49A *50A *51A
```

o Parity Bits
Bit *54B, taken with bits *17A-*24A incl., provides and odd number of 1's
Bit *55B, taken with bits *25A-*35A incl., provides and odd number of 1's
Bit *56B, taken with bits *36A-*38A incl., provides and odd number of 1's
Bit *57B, taken with bits *39A-*51A incl., provides and odd number of 1's

o Summer Time
When UK civil time is subject to a one-hour positive offset during part of the year, this period is indicated by setting bit *58B to '1'. Bit *53B is set to '1' during the 61 consecutive minutes immediately before a change, the last being minute 59, when bit *58B changes.

In the event of UK civil time undergoing an additional permanent offset, bit *58B will need to be changed once without any corresponding change in UK clock time.

France: TDF

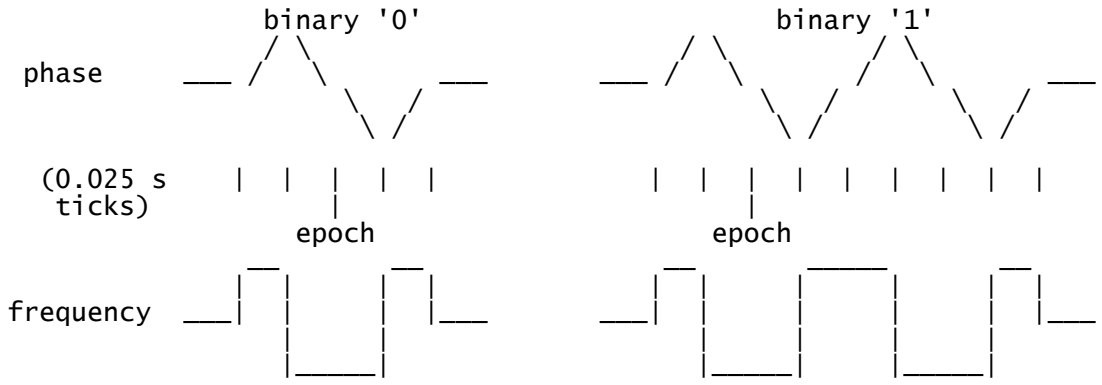
Information provided by Richard B. Langley, University of New Brunswick

Station: TDF, Allouis, France
Address: Centre National d'Etudes des Telecommunications
PAB - STC - Etalons de frequence et de temps
196 avenue Henri Ravera
F - 92220 Bagneux
France
Coordinates: 47d 10' N, 2d 12' E
Frequency: 162 kHz
Power: 2,000 kW
Schedule: continuous except every Tuesday from 01:00 to 05:00 UTC

o Form of Time Signals:
TDF is an amplitude modulated longwave broadcasting station, transmitting the programs of the France-Inter Network of Telediffusion de France (TDF). Time signals are transmitted by phase modulation of the carrier by + and -1 radian in 0.1 s every second except the 59th second of each minute. This modulation is doubled to indicate binary 1. The numbers of the minute, hour, day of the month, day of the week, month and year are transmitted each minute from the 21st to the 58th second, in accordance with the French legal time scale. In addition, a binary 1 at the 17th second indicates that the local time is 2 hours ahead of UTC (i.e., summer time), a binary 1 at the 18th second indicates when the local time is 1 hour ahead of UTC (i.e., winter time). A binary 1 at the 14th second indicates that the current day is a public holiday (14 July, Christmas, etc.) and a binary 1 at the 13th second indicates that the current day is the day before a public holiday.

o The phase modulation pattern.
One signal element consists of the following: the phase of the carrier is advanced linearly up to +1 radian in 0.025 second, then retarded linearly up to -1 rad in 0.050 second, then advanced again to reach 0 after another 0.025 second. One signal element is always sent at each second between 0 and 58. The epoch is when the down ramp crosses zero. If a '1' bit is to be stransmitted, two signal elements are sent in

sequence. Since the phase is the integral of the frequency, to this triangular phase modulation corresponds a square frequency modulation with an amplitude of about + and - 6Hz.



Both the average phase and the average freq. deviation are thus zero. More data is sent by phase modulation during the rest of each second. But the second marker (and data bit) is always preceded by 0.1 second without modulation. There is no marker at the beginning of the 59th second, nor any data sent during the entire duration of that second.

o The binary encoding of date and time data.
Seconds 20 to 58 carry exactly the same information as the signal of the German transmitter DCF77.

Sources: Richard B. Langley
Klaus Betke
David Mills
Admiralty List of Radio Signals, vol.2
NPL National Physical Laboratory (UK)

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THE MILITARY NEWSREEL

---- Military Information of use to the UTE monitor ----

David C. Wright, Editor

email: dcwright@gte.net or dcwright@usa.net
#monitor id: DaveWUN ----- AIM ID: DCWUN ----- IChat ID: Davewun
==========

Welcome to another edition of The Military Newsreel. This month we have our third Focus Article: This time taking a look at the US Army's Transportation Command's vessels.

- Military News -

Several members of WUN were fortunate (unfortunate?) enough to catch the last transmission from MacDill Global, which went off of the air on 01 July 1998. The following message was posted by Tom Norris and was the first of many messages about this event to reach my "shack".

While monitoring 11.175 today 30 june, came across this message from MacDill to Andrews...

"MacDill Global to Andrews"
(replies)
"Macdill Global requests permission to secure from the net"
(Andrews authenticates MacDill)
"This is MacDill Global signing off permanently after 50 years of service

on 0000 Zulu 1 July 1998"
(or words to that effect.)

According to an article in the July 20th edition of the Navy Times, the US Navy will be transfering seven of the 13 Cyclone-class Patrol Craft to the US Coast Guard. These vessels share many systems with the USCG's 110-foot Island-class patrol boats, and their adoption will take advantage of the logistics commonality between these vessels.

Since March, the USCG has been operating the USS Thunderbolt (PC-12) (USCGC Thunderbolt in USCG service) in an evaluation of the craft's capabilities to support the USCG's law enforcement and maritime patrol missions. During this evaluation period, the "USCGC" Thunderbolt was painted in typical USCG colors.
Each of these vessels is 51 meters in length and carries a crew of 28 personnel.

The following list of US Navy and US Coast Guard ships to be commissioned or decomissioned appeared in the July 20th edition of the Navy Times.

----- Commissionings -----

Ship	Commissioning Date
Harry S. Truman (CVN-76)	July 25th
Decatur (DDG-73)	August 29th
McFaul (DDG-74)	August 25th
BonHomme Richard (LHD-6)	August 15th
Raven (MHC-61)	September 5th
Santa Barbara (TAE-28)	September 30th
Abbie Burgess (WLM-553)	July 31st
Marcus Hanna (WLM-555)	August 10th
Hammerhead (WPB-87302)	July 29th
Mako (WPB-87303)	September 9th
Decisive (WMEC-629)	August (will be Re-Commissioned from Service Life Extension Program overhall)

----- Decommissionings -----

Ship	Decommissioning Date
Independence (CV-62)	September 30th
Arkansas (CGN-41)	July 7th
Calfornia (CGN-36)	September 30th
John Rodgers (DD-983)	September 9th
Conolly (DD-979)	September 30th
Reid (FFG-30)	September 3rd
Lewis B. Puller (FFG-23)	September 30th
Guam (LPH-9)	August 25th
Santa Barbara (AE-28)	September 30th
Mount Hood (AE-29)	August 30th
Point Ledge (WPB-82334)	August 3rd
Basswood (WLB-388)	September 30th
White Holly (WLM-543)	September 30th

On September 30th two fighter squadrons will be decomissioned: VMA-131 "SNAKES" and VMFA-124. Both have been in Cadre status for awhile and are finally being decommissioned.

- Focus on US Army Vessels -

--The United States Army's Fleet

(Callsigns in parentheses are probable, but not confirmed. If anyone has any confirmation of these callsigns, please feel free to send them to the address at the top of the column, and I'll be sure to update the listing in the next column.)

LSV-1	GENERAL FRANK S. BESSON	AAEC	FT EUSTIS, VA
LSV-2	CW3 HAROLD C. CLINGER	AAED	FORD ISLAND, HI
LSV-3	GENERAL BREHON B. SOMERVELL	AAEE	TACOMA, WA
LSV-4	LT. GENERAL WILLIAM B. BUNKER	AAEF	FT EUSTIS, VA
LSV-5	MAJ GENERAL CHARLES P. GROSS	ADSV	FORD ISLAND, HI
LSV-6	SPEC4 JAMES A. LOUX	AAFA	FORT EUSTIS, VA
LCU-2001	RUNNYMEDE	AADS	
LCU-2002	KENESAW MOUNTAIN	AAEG	
LCU-2003	MACON	AAEH	
LCU-2004	ALDIE	AADT	
LCU-2005	BRANDY STATION	AADU	
LCU-2006	BRISTOE STATION	AADV	
LCU-2007	BROAD RUN	AADW	
LCU-2008	BUENA VISTA	AADX	
LCU-2009	SPRINGFIELD (x-CALABOZO)	(AADY)	
LCU-2010	CEDAR RUN	AADZ	
LCU-2011	CHICKAHOMINY	AAEA	
LCU-2012	CHICKASAW BAYOU	AAEB	
LCU-2013	CHURUBUSCO	AAEI	
LCU-2014	COAMO	AAEJ	
LCU-2015	CONTRERES	ADMM	
LCU-2016	CORINTH	ADMN	
LCU-2017	EL CANEY	ADMO	
LCU-2018	FIVE FORKS	ADMP	
LCU-2019	FORT DONELSON	ADMQ	
LCU-2020	FORT MCHENRY	(ADMR)	
LCU-2021	GREAT BRIDGE	(ADMS)	
LCU-2022	HARPERS FERRY	(ADMT)	
LCU-2023	HOBKIRK	ADMU	
LCU-2024	HORMIGUEROS	(ADMV)	
LCU-2025	MALVERN HILL	ADMW	
LCU-2026	MATAMOROS	(ADMX)	
LCU-2027	MECHANICSVILLE	ADMY	
LCU-2028	MISSIONARY RIDGE	(ADMZ)	
LCU-2029	MOLINO DEL REY	(ADNA)	
LCU-2030	MONTERREY	ADNB	
LCU-2031	NEW ORLEANS	(ADNC)	
LCU-2032	PALO ALTO	(ADND)	
LCU-2033	PAULUS HOOK	(ADNE)	
LCU-2034	PERRYVILLE	ADNF	
LCU-2035	PORT HUDSON	ADNG	
LT-801	MAJ GENERAL NATHANIEL GREEN	AAFB	
LT-802	MAJ GENERAL HENRY KNOX	ADTG	
LT-803	MAJ GENERAL ANTHONY WAYNE	(ADTH)	
LT-804	BRIG GENERAL ZEBULON PIKE	(ADTI)	
LT-805	MAJ GENERAL WINFIELD SCOTT	(ADTJ)	
LT-806	COL SETH WARNER	ADTK	
LT-807	SGT MAJOR JOHN CHAMPE	(ADTL)	
LT-808	MAJ GENERAL JACOB BROWN	(ADTM)	
LT-1937	SGT WIMMIAM W. SEAY		
LT-1953	SALERNO		
LT-1956	FREDERICKSBURG		
LT-1959	MURFREESBORO		
LT-1960	LUNDY'S LANE	IN STORAGE, HYTHE, ENGLAND	
LT-1970	OKINAWA		
LT-1971	NORMANDY		
LT-1972	GETTYSBURG		
LT-1973	SHILOH	IN STORAGE, HYTHE, ENGLAND	
LT-1974	CHAMPAGNE-MARNE	IN STORAGE, HYTHE, ENGLAND	

LT-1977	ATTLEBORO	
LT-2076	NEW GUINEA	
LT-2081	SAN SAPOR	PREPOSITIONED, DIEGO GARCIA
LT-2085	ANZIO	PREPOSITIONED, DIEGO GARCIA
LT-2088	PETERSBURG	
LT-2090	SP4 LARRY G. DAHL	PREPOSITIONED, DIEGO GARCIA
LT-2092	NORTH AFRICA	PREPOSITIONED, DIEGO GARCIA
LT-2096	VALLEY FORGE	

The 1600-series LCUs have been or will shortly be withdrawn from service. No logs have been recorded on these units in over a year.

----Communications Profile----

--Callsigns:

AAC2 - 1099th Transportation Company Harbormaster, Ft Eustis, VA
RAIDER - 1097th Transportation Company based at Rodman Naval Station, Republic of Panama
VIKING OPS - Unid, logged several times in communications with USAVs, unknown if it is US Army associated or not.

--Frequencies:

The US Army vessels operate on a wide variety of frequencies. Historically, they were most active on the simplex maritime frequencies, with a preference for 8297 and 8294 being shown. Since 1995, the USAVs have been logged on the following maritime frequencies by members of WUN.

4113, 6227, 8294, 8297, 12365, 16528

Within the past two years the USAVs have shown up more and more often on the GHFS freqs. While it is possible for the vessels to use any GHFS frequency, the following have been logged by members of WUN.

8968, 8992, 11175, 11185, 11244, 15016

--QSL Address:

For Fort Eustis, VA, the QSL address is as follows:

Department of the Army
Port Operations Detachment
Fort Eustis, VA 23604

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73 to all...Dave

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NUMBERS & ODDITIES

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[- N&O #04 -]

Hi folks! We have two guest writers this month; Toby with his second cipher article and from Frode comes the Enigma article. Chris checks in with 'Atencion' stations profiles and I am very glad that Guy decided to

write another 'Morse Stations Corner', although the response he got was next to nothing. Come on folks, we all can use your reactions, ideas, and input!

Because Jascha had e-mail problems and was unable to send me the logs section, I prepared a logs section with the help of Guy, which resulted in a morse stations special. Further a bunch of LP logs from first time contributor Darren Riley. Welcome to the 'Cloak and Dagger club', Darren! Only hours before the absolute dead line, Jascha's problems were over and he rushed the logs to me, hence the different line-up of the logs section.

Anyway, the logs section is huge this month. We still can use more morse and RTTY spooks logs though. Only three or four of you submitted morse logs while the morse stations are more active than ever. We like to extend our gratitude to everyone for sending those logs. Keep sending them!!!

As I am running out of time, I must postpone the second part of the jamming article till the next newsletter.

Latest news: Chris is working on a CD containing several hours of numbers stations transmissions and lots of info. We'll keep you posted. If you have interesting stuff for the CD, you can send Chris an e-mail on cps@access.digex.net

* MORSE STATIONS *

I have decide to continue with my morse stations column for the time being, even though I only had a limited response to my last months comments. I have been sending in some logs of morse stations to Ary to be shown in the logs section. As you will see there are a large number of them, and hopefully it might persuade some of you to learn the morse code and log some of them.

I have been asked about receiving morse with some of the data decoders that are on the market. I have been carrying out some tests over the past few weeks to see which of them was best. The ones I have tested are the PK232, Code 3, Code 3 Gold, and Hamcomm 3.

I have come to the conclusion that none of them are really up to the mark for this. Possibly because of the on off nature of morse signals. A large majority of numbers stations are either very weak or have QRM on the frequency.

I have tried out these decoders and found it virtually impossible to make any sense out of the majority of those I tried to decode. The PK232 only seems to like very strong signals, and then does not like slow speeds. Another problem is getting the spacing correct, if the morse is a little slow then the decoder prints a space between each letter. Really the best thing for decoding morse are two ears and a brain. As the number of stations on are so many I think it worth while trying to learn the code.

I would suggest that it would be a good start to just learn figures from 0 to 9 and a couple of the signs = which is BT, Dah dit dit dit dah, AR which is Dit dah dit dah dit and the slash sign / which is Dah dit dit dah dit. With those you will be able to copy the majority of them. Not forgetting of course T for short Zero.

I have also been doing some tests with help, as to how many of them are audible in the USA and at the moment it does not seem that there are many that can be heard. M8 is one, I think that comes from Cuba, although I think the ones that we hear in the UK are broadcast from Europe as they are such strong signals. Another one I know was heard and that is M12, normally very strong in the UK. Trouble is that it is not very good for starters as it sends at 30 WPM.

Possibly as we progress through the sunspot cycle things might improve.

The time difference does not help as there are a lot on during what is the middle of the night for the USA.
I am not sure if they will as conditions in the first week in July have been really bad. I normally receive M1 and M10 with very good signals but they have been almost unreadable this week. One station that I am looking for reports of, particularly those of you in Europe, is the M10 that comes on 5705 at 1000, almost every day. It is slightly different to the usual M10 in that it uses 5 figure IDs and there are no pauses in the Auto sending. I have yet to hear it other than extremely weak, so I wonder if anyone else can hear it and give me some idea of the signal strength from their location. The normal M10 is a very good signal with me.

I am continuing with the profile of some more stations, and then at the end of the column I will give some news of recent happenings.

-o-o-o-o-o-o-o-o-o-

M13 & M13A

M13 sent in ICW very rarely in MCW Another group constantly changing frequencies and times. Can be found on anywhere between 3.8 and 12 Mhz. Can be recognized as it is sent very slowly, about 9 WPM, and the signal is very strong in the UK.Messages are usually about 23 groups but they have been known to send up to 80 groups The message is sent four times in a period of 4 weeks.Has been logged between 1600 and 1000 the next day, on the hour but transmissions at Hour+30 and Hour+ 50 have been noted. A popular time seems to be at 2100 and 2200.

Repeat sequences that have been logged
- On the same day 1 Hour later on the same frequency.
- On the same day 1 Hour later on a different frequency
- On the next day at the same time on the same frequency
- On the next day at the same time on a different frequency
- On the same day 2 Hours later on the same frequency and also the next day the same.

The sequence is then repeated 2 weeks later with the same message. The next transmission will be 2 weeks later, with a new message on a different frequency. It has also been noted that some only transmit once a month. Now that I have been logging these stations for 1 year, some of them are coming on the same frequency that they were on 1 year ago, so it would seem that they are using a twelve month cycle of frequencies.

Call	Preamble	Message	Repeat	Ending
261 R5 =	189 22 =	22x5f	ID sent x12 = 189 22 =	3 long dashes

M13A Format is the same only the ID is sent as
847 847 847 000 R5 Repeat is 4 times

This format can easily be confused with M12. It has become very rare that they use this format, I have only heard it once this year.

-o-o-o-o-o-o-o-o-o-

M14

M14 Modes ICW, MCW, and MCW CC Similar format to M1, machine sent, but ends with 5 zeros.Longer messages than M1.The last group in the message is random and not as M1 Date/Group count. Another group everlasting changing times and frequencies. Variations exist.

-o-o-o-o-o-o-o-o-o-

M16

M16: 8BY Mode ICW. Uses long zeros.

Call IDS

VVV VVV VVV 8BY 8BY 8BY 605/432/679/236

The IDs can be any number up to 12, they can remain the same for several transmissions, or change by having one ID go and leave the rest, such as 432/679/236.IDs are always in the same sequence. Transmission is at each hour+40 for 20 minutes.Up to 3 frequencies in parallel.

My own theory for this group is that it is just a list of IDs that there is a message waiting for and the ID collects the message possibly on another frequency or by other means.

Can also use Q and Z codes
If no IDs sends QRU
Example of ZKY= 142 825 047 ZKY/759
Example of ZCC= 142 047 ZCC 11 18/439 ZCC 10 16/306/146

Frequencies in use are:
7668 10248 12075 12170 12283 14433 14925 14931 18415 20946

-o-o-o-o-o-o-o-o-o-

M17

M17 Mode MCW Constant carrier. Each message sent 3 times each on a different frequency. They do use the same triplets of frequencies for each time slot. Transmissions are Monthly 2 weekly or weekly, on week of each month basis. Either on the Hour, Hour+20 Hour+40 Or Hour+30 Hour+50 Hour+70.

Mainly on during the evening but have been heard at other times of the day. Changes times with the season, 1 hour later in Winter

Call	Preamble	Message	Ending
70832 R4 5 Seconds Dots	29 29 =	29x5f	VA

First 2 figures of header are schedule numbers.

Frequencies used:
3410 3910 4270 4460 4740 5235 5695 5865 6290 6675 6935 7425
7790 8070 9050 9245 10470

Other skeds are Monday   2030 4740/4460/4270
Tuesday   1900 4460/4740/4270
Wednesday 0800 7425/6675/5865
Wednesday 1600 5865/4740/4270
Wednesday 1900 3410/3910/4740
Thursday 2030 3410/3910/4740

-o-o-o-o-o-o-o-o-o-

M20

M20 Part of the M3 Family.
Sends a varying amount of Vs then = = 000
Has been known to send VVV = = 000 and up to 5 minutes of Vs
Uses same frequencies as M3

-o-o-o-o-o-o-o-o-o-

Morse stations round-up

Here is the news of what is happening on the bands.

M1: Continues with its normal skeds, will be ID 025 until the end of August. It used to have a regular message length of 40 groups, but for the past few months this has dropped down to 32 to 37 Groups. Now in July it is back sending longer messages now up to 44 groups. As you may know it never repeats these messages.

There are some changes going on as it did not have the end of month special transmissions in June, 1997 June was the same.
On Tuesday 7 July and Thursday 9 July it missed the 2000 transmission on 4905. It has been known to miss the 2000 sked, but I think this has only happened once before.

M1B: Skeds at present are as follows although they are liable to change. Listed as Time/Frequency/ID

Monday	1718/5220/719	2010/5812/729	
Tuesday	1723/6283/382		
Wednesday	1510/5473/745	1718/5220/719	
Thursday	1503/6823/168	1723/6283/382	2032/5750/931
Friday	2102/5750/871		
Saturday	1605/5350/053	1855/5777/127	

It is very rare for M1B to have problems, but on Thursday 7 July the 1723 transmission on 6283 started breaking up at the end. The 2032 transmission on 5737 was entirely broken. The interesting thing is that M1 at 1800 had a perfect transmission, so it looks like M1 and M1B have separate transmitters. There are probably other skeds and any reports of those would be appreciated.

M3: Still plenty of activity from 0630 to 1400. A lot of the IDs never receive a message. The afternoon sked at 1630 on 7256 and the Saturday morning at 0800 on 9272 are still running.

M4: Only on now the second week of each month, On Monday, Wednesday, and Thursday. 0957 on 7250, 1157 on 8188, 1257 on 5748. Sends the same message all the week.

M7: A very difficult one to catch as it only has a call up of 1 minute and has no particular sked. Tends to come up at Hour plus 20 and hour plus 50. Uses M10 frequencies

M12: Still continues to send the same message on every Sunday. Changes frequency each month. I have recently been finding some of these on in the mornings, 0630 onwards using similar frequencies to V7 and XPH.

M10: Still plenty of activity. One I would like reports of is on at 1000 each morning on 5705. It is never a very good signal in the UK, but I think it is on every morning. I first logged it a year ago. It uses 5 figure IDs usually 4 with short messages.

M13: Still as elusive as always. Trouble is that it can appear anywhere, I found one under a broadcast station. I have found one way to find them is to look back in my old logs as they use the same frequency on a yearly basis.

M23: Has recently returned to 6999 at 1000, used to be a regular frequency but has not been there for several months. Still on at 1500 on 7795, repeating messages that started in April.

M24: Still difficult to find as it is everlasting changing frequencies and times. As M13 does come on same frequencies as a year ago. Logged one at 1920 on Thursday 9 July on 9260. One of the very fast ones, 40 WPM

M29: On each day at 1700 and 1900, sends the same message for a week starting on Monday. The same groups are often repeated several times in the message and also appear week after week.

M51: Still sending endless streams of 100 5 letter messages. It broke its own record recently,was on for over 5 and a half hours. Has been noted on for over 13 hours in one week.

M53: On most evenings, but usually a very poor signal in the UK. Another one I would like some reports of to get some idea where it may be. Is on

most evenings at 2000 on 8231

Hope you have found this interesting, perhaps some of you seeing the amount of stations active, might be persuaded to have a go at learning morse.

-o-o-o-o-o-o-o-o-o-

Thanks Guy, excellent stuff as always. Like many of you I am not a skilled morse listener. After Guy sent me his article, I decided to browse the web for a morse trainer. The amount of morse software is incredible, varying from very basic to very advanced software, free programs, shareware and commercial. A large number of programs can be found on the Funet FTP site:

HOST   = ftp.funet.fi
User id = anonymous
DIR   = pub/ham/morse

I have tried some 15 different morse programs and one of my favorites is NuMorse 1.40. A nifty shareware program for Windows. Here a brief description:

NuMorse 1.40 Morse Code trainer for Windows 3.1+
Shareware; registration $29.00

Options: Code via sound card /PC speaker/Code oscillator/Semaphore window. Code source is random generator/text file/QSO generator. Select characters + weighting. Set code speed/timing or let program adjust speed. Farnsworth code/prosigns supported. FCC type tests+QSOs generated. Drill mode, monitor progress/correct error using voice phonetics. +Much more.

You can retrieve NuMorse 1.40 from the Funet FTP site.

BTW, have a look at the pub/.../utility directory as well. Lots of good stuff on Funet! -Ary-

HIGH PITCHED POLYTONE (XPH)

Andy Bell <andy.bell@sabwabco.co.uk> sent us the daytime (UTC) sked for the XPH station.

06.00 UTC, 9441 kHz AM
06.20 UTC, 11041 kHz AM
06.40 UTC, 12141 kHz AM
Transmissions are on Wednesday and Friday.

There are also nighttime transmissions; the times and frequencies are unknown to me, but are probably at 21.00, 21.20 and 21.40 UTC, although I am not sure about this. Note that they change the frequencies each month.

The following freqs were used in June: 9394, 11494, 13394 kHz. Does anyone know if the same sets of freqs are repeated after a certain period?

Every now and then the station sends 'null' messages, just like the 'normal' voice and morse stations do.

Andy sez ''Sounds like the station call up is 4 tones (ident?) repeated, followed by 2 tones (group count?) then into tone groups''

Hans-Friedrich Dumrese heard the following sequence:
4 Tones (like A-C-A-F)   )
4 Tones (like A-C-A-F)   ) repeated for 2 mins
4 Tones (like A-C-A-F)   )

2 Tones (like G-D)   )

and at the end I counted 12 tones, Hans-Friedrich.

Following this scheme, this could mean
   3 tones - id of the recepient
   1 tone - number of messages
   2 tones - group count
   message
  12 tones - two groups of six zero's

Do we have someone in the audience who can write a decoder program for these signals? Who wants to accept this challenge?

Comments are most welcome!

* VOICE STATIONS *
----
* Cuban Atencion Stations (ENIGMA V2) *

The Atencion stations are most probably the easiest numbers station to hear in North America. While transmissions have been heard at all hours, the most common times are from 0000-1200Z. Frequencies generally range from 4 - 12 MHz, although higher and lower frequencies have been used in the past.

3060 and 3090 kHz were extremely heavily used frequencies. 6840 kHz was also heavily used, but also by other numbers stations! The Counting Station, The Skylark, and MOSSAD (which still uses the frequency) could all be heard on 6840 kHz, sometimes more than one station was on at the same time!

Transmissions are always in Spanish. Transmissions are often of a poor technical quality, with hum and other noise frequently present. It is also not uncommon to hear other audio mixing into the numbers transmission, usually identified as Radio Havana Cuba, which does give away the transmitting location.

In the past, most transmissions used to repeat at H+30 many kHz up or down in frequency. This is not the case anymore, transmissions always begin on the hour. Well - they're supposed to. The Atencion stations are [in]famous for their technical glitches. It is not uncommon for there to be a few false starts before the transmission finally gets going.

V2 is has a sister morse code station - M8. It transmits messages of 150 groups using cut numbers. (letters used to represent numbers)

These are the formats that have been used by the Atencion Station. Formats 2 and 6 are still in use today, although format 2 is rarely heard. Format 6 replaced format 5 on January 1, 1997. This format always transmits three messages, with each message having 150 groups.

The number of finals heard at the end of the transmission varies, it is always either two or three. To date, no one has come up with a satisfactory explaination for the varying number of finals.

-o-o-o- Atencion Station Formats -o-o-o-

* Format 1: [obsolete]
Atencion 485 31   Repeated for several minutes
47383 59393 10322 93984 29494...   Message, in this case 31 groups
Final Final   Used to be "Adios" years ago

* Format 2: [still in use, somewhat rare]
Atencion 823 01   Repeated for several minutes
01 45   Repeated for one minute

```
47383 59393 10322 93984 29494...    Message, in this case 45 groups
Final Final

* Format 3: [obsolete]
Atencion 237 01 32                  Repeated for several minutes
32                                  Repeated for one minute
47383 59393 10322 93984 29494...    Message, in this case 32 groups
Final Final

* Format 4: [obsolete]
Atencion                            Repeated three times
643 23                              Repeated once
47383 59393 10322 93984 29494...    Message, in this case 23 groups
Final Final Final
(this format was only observed on live transmissions)

* Format 5: [obsolete]
Atencion 65848                      Repeated for several minutes
65848 150                           Repeated
47383 59393 10322 93984 29494...    Message, always 150 groups
Final Final (two or three finals)

* Format 6: [still in use, most common format]
Atencion 72302 51782 41592          Repeated, messages to 72302 51782 41592
72302                               Repeated five times
03832 13983 79833...                First message, always 150 groups
51782                               Repeated five times
04383 34932 88939...                Second message, always 150 groups
41592                               Repeated five times
49393 63832 12393...                Third message, always 150 groups
final final                         End of transmission, sometimes
                                    three finals
```

ENIGMA does not presently distinguish between the different formats. (they used to distinguish between two or three finals at the end of the transmission, but I believe this is meaningless). I do believe that the two formats presently in use should be distingished, at least by a letter suffix. Ideally, for continuity, suffixes should be assigned for all six formats that were used, with four marked as inactive or obsolete. Most of the transmissions are of format 6. However, format 2 transmissions are heard. Indeed, if a schedule of transmissions is created, it will be found that a time slot is either format 2 or 6, it does not change from week to week.

Two voices have been noted - one is a younger sounding YL with a higher pitched voice, the other sounds older, with a lower pitch. Some attempts have been made to determine if a given time slot always uses the same voice or not, but more work is needed in this area.

-o- Some recently used frequencies by the Cuban Stations -o-

3292	3410	3444	3926	4017	4020	4027
4174	4328	4479	4601	4610	5087	5118
5135	5407	5415	5417	5420	5470	5682
5760	5762	5762	5771	5800	5810	5900
5903	6228	6293	6768	6778	6787	6797
6800	6825	6854	6856	6867	6872	6888
6890	6892	6920	6933	6935	6942	6953
6983	6995	7425	7435	7480	7482	7520
7525	7580	7648	7682	7726	7743	7755
7845	7860	7887	7890	8010	8018	8066
8126	8136	8150	8165	8186	8240	8380
8790	8873	8980	8992	9120	9140	9237
9251	9255	9330	9925	10125	10180	10270
10345	10510	10713	10865	11125	11215	11468
12144	13373	13419	14180	14736	14770	14825
17425	17520	18035	18434	20316	21865	

In the past, a CW "ID" was often heard at the beginning of a transmission. It was "DE ? HI" which, 'translated' from CW into English, means 'Origin unknown, ha ha'. If someone has an older recording of such a CW ID, I would greatly appreciate getting a copy.

THE LINCOLNSHIRE POACHER (E3)
by Simon Mason, revised by Ary Boender

One of the most famous numbers stations is E3, nicknamed 'the Lincolnshire Poacher', after it's interval signal. The station is believed to be operated by British intelligence (MI6) and beamed into Iraq and Iran from Cyprus, or possibly other British facilities in the Middle East and England. The Poacher is subject to jamming from Iraq and/or Iran.

Here is an updated version of Simon Mason's station profile, followed by the transmission schedules, courtesy of the ENIGMA group. -Ary-

-o-o-o-o-o-o-o-o-o-o-

On the hour the interval signal is played twelve times, followed by a five figure header read ten times by a woman. This is repeated for ten minutes. After that, six tones are transmitted followed by exactly 200 five figure groups. At 45 minutes past the hour the interval signal is sent once again and then the station stays silent until the start of the next hour.

The woman has a distinct British accent. As noted before, these transmissions are always jammed by warble jammers which are extremely powerful and effective and have followed the station around during its frequency changes.

The tune used is a very old English folk song called "The Lincolnshire Poacher". The county of Lincolnshire is in eastern England, just south of the river Humber and is mainly flat agricultural country. The tune itself dates from around 1776 but might belong to an even earlier time. It is the most famous of all English county songs and is not only the signature tune for Radio Lincolnshire, its rousing chorus has been sung wherever "Yellow Bellies" (Lincolnshire folk) have travelled. Here are the lyrics of the song:

> ''When I was a bound apprentice in famous Lincolnshire Full well I served my master for more than seven year. Till I took up with poaching, as you shall quickly hear:
>
> Oh, 'tis my delight on a shiny night in the season of the year.
>
> As me and my companions were setting of a snare 'twas there we seed a gamekeeper- for him we did not care, For we can wrestle and fight my boys, and jump o'er everywhere.
>
> Oh, 'tis my delight on a shiny night in the season of the year.
>
> As me and my companions were setting four or five And taking on him up again, we caught the hare alive We caught the hare alive, my boys, and through the woods did steer:
>
> Oh 'tis my delight on a shiny night in the season of the year.
>
> Bad luck to every magistrate that lives in Lincolnshire. Success to every poacher that wants to sell a hare Bad luck to every gamekeeper that will not sell his deer.
>
> Oh 'tis my delight on a shiny night in the season of the year.''

The choice of a folk song is interesting. Another numbers station used a folk song of Romania. Perhaps they are intended to instil a patriotic feeling in the people concerned?

When I first heard this station on 21 December, 1988 it was using 6485 and 5422 in parallel from 1700-2200. The warblers then discovered it and it then moved to 5422/5756 in March, 1990. After a while it moved again, this time to 8464. Eventually it settled on these five frequencies: 14487/15682 anytime between 0500-1800 and 7887/8464/9251 anytime between 1500-2200 UTC.

There was a brief flirtation with 6959 for awhile but this has ended. Many additional transmissions outside these times have been noted, for example at 0300 it was on 6959/7887/9251 and also at 0500 on 7887/8464/9521. There have also been many tests.

Some errors have been noted, the most common being when the transmissions change frequency at 1800. Prior to 1800 14487/15682 are used and sometimes the 1800-1845 transmission begins on these two frequencies by mistake. The jammers then start up on 14487/15682, ready to block the message. At about 1803 someone realises the evening schedule is in operation and switches to 7887/8464/9251. The warblers are then "woo-wooing" away on 14487/15682 until they wake up and move to the other frequencies.

LINCOLNSHIRE POACHER SCHEDULE (E3)
(Schedule courtesy ENIGMA group)

UTC	MON	TUE	WED
10	H 16084/15682/14487	D 16084/15682/14487	H 16084/15682/14487
11	D 16084/15682/14487	H 16084/15682/14487	D 16084/15682/14487
12	F 16084/15682/14487	F 16084/15682/14487	F 16084/15682/14487
13	I 16084/15682/14487	I 16084/15682/14487	I 16084/15682/14487
14	B 14487/12603/10426	C 16084/14487/11545	D 16084/15682/14487
15	A 15682/13375/11545	B 10426/ 8464/ 7755	C 16084/14487/11545
16	H 13375/12603/11545	A 15682/13375/11545	B 10426/ 7755/ 6485
17	G 11545/ 8464/ 6959	H 13375/12603/11545	A 16475/14487/12603
18	F 12603/ 9251/ 7337	G 9251/ 6959/ 5746	H 11545/ 9251/ 6959
19	E 12603/ 9251/ 7337	I 11545/ 9251/ 6959	G 8464/ 6485/ 5746
20	I 11545/ 9251/ 6959	F 12603/ 9251/ 7337	I 11545/ 9251/ 6959
21	D 11545/ 9251/ 6959	E 12603/ 9251/ 7337	F 12603/ 9251/ 7337
22	C 11545/10426/ 6959	D 11545/ 9251/ 6959	E 12603/ 9251/ 7337

UTC	THU	FRI	SAT
10	D 16084/15682/l4487	H 16084/15682/14487	H 16084/15682/14487
11	H 16084/15682/14487	D 16084/15682/14487	D 16084/15682/14487
12	F 16084/15682/14487	F 16084/15682/14487	F 16084/15682/14487
13	I 16084/15682/14487	I 16084/15682/14487	I 16084/15682/14487
14	E 16084/15682/14487	F 16084/15682/14487	G 14487/11545/10426
15	D 13375/12603/11545	E 13375/12603/11545	F 13375/12603/11545
16	C 14487/12603/ 8464	D 13375/12603/11545	E 13375/12603/11545
17	B 8464/ 6485/ 5422	C 16084/13375/11545	D 13375/12603/11545
18	A 16475/14487/12603	B 8464/ 6485/ 5422	C 16084/13375/11545
19	I 11545/ 9251/ 6959	A 15682/13375/11545	B 8464/ 6485/ 5422
20	H 11545/ 9251/ 6959	I 11545/ 9251/ 6959	A 11545/10426/ 6900
21	G 9251/ 6959/ 5746	H 11545/ 9251, 6959	I 11545/ 9251/ 6959
22	F 12603/ 9251/ 7337	G 9251/ 6959/ 5746	H 11545/ 9251/ 6959

UTC	SUN
10	D 16084/15682/14487
11	H 16084/15682/14487
12	F 16084/15682/14487
13	I 16084/15682/14487
14	A 16084/15682/14487
15	H 13375/12603/11545
16	G 11545/10426/ 8464
17	F 13375/12603/11545
18	E 12603/ 9251/ 7337
19	I 11545/ 9251/ 6959
20	D 11545/ 9251/ 6959
21	C 9251/ 6959/ 5746
22	B 8464/ 6485/ 5422

CHERRY RIPE (E4)

E4 aka 'Cherry Ripe', also uses an old folk song as interval signal. The station is a sister station of the 'Lincolnshire Poacher' and is also believed to be operated by MI6.

On the hour the interval signal (Cherry Ripe) is played twelve times, followed by a five figure header read ten times by a woman. This is repeated for ten minutes. After that, six tones are transmitted plus exactly 200 five figure groups. At 45 minutes past the hour the interval signal is sent once again and then the station stays silent until the start of the next hour.

The transmissions originate most probably from a site in the Far East. Guam is a possibility.

CHERRY RIPE SCHEDULE (E4)
(Schedule courtesy Simon Denneen)

UTC	Frequencies	UTC	Frequencies
00.00	15624/19884/22108	01.00	15624/19884/21866
10.00	10452/15624/17499	11.00	9263/13866/14469
12.00	8320/12056/13866	13.00	7484/11570/13866
22.00	9263/12056/15624	23.00	17499/20474/23461

RUSSIAN MAN (S7) SCHEDULE

05.00 UTC, 8167 kHz AM
05.20 UTC, 9367 kHz AM
05.40 UTC, 11167 kHz AM

THE ENIGMA MESSAGE

You probably all know the story of the ENIGMA cipher machine. A very nice Windows program called Enigma97, shows how the Enigma machine works, and you can even try it yourself. Download your own copy from http://www.blueangel.demon.co.uk/enigma.html

Some time ago, when the Enigma was mentioned on Spooks, someone asked me if I could help him to an actual Enigma message. Frode Weierud has the text of a message and he kindly permitted us to publish his article in our newsletter. Much appreciated Frode! Check Frode's home page for more info: http://wwwinfo.cern.ch/f/frode/www/crypto/

o German Army Enigma Message
In the Cryptologia article by C.A. Deavours and Louis Kruh, "The Turing Bombe: Was It Enough?", Cryptologia, Vol. XIV, No.4, October 1990, pp. 331-349, there is on page 342 a facsimile of a teleprinter message which contains a cipher text in three parts. These three parts had been enciphered on the German Army's Enigma machine.

First of all the date given for this message as 21 September 1939 is wrong, it should be 21 September 1938. Secondly on page 346 the decrypts of the three parts are given in German with the indication that they contain garbles. This is true, but nevertheless difficult to understand why, as the three parts as given in the facsimile can be decrypted almost 100% without garbles. The only error is the 24th group in part II, YRORP, which should be XRORP.

The three parts have been successfully decrypted and are set out below. First as the separate three parts and then as an assembled, but still 100% authentic decrypt in German. To ease understanding and translation this completely assembled whole has then been rewritten in more standard German with punctuation and abbreviations in full.

It should be stressed that the construct Z X ZT which the Cryptologia authors thought was a possible map reference is meant to be z.Zt which is a very common German abbreviation for 'zur Zeit', at this moment.

The essential part of the facsimile is given below.

o Teleprinter message:

```
Fernschreiben H.F.M.No. 563
+ HRKM 13617 1807 -
AN HEERESGRUPPENKOMMANDO 2=              06 18 24 (FRX)
2109 -1750 - 3 TLE - FRX FRX -           1TL -172=

                          01 07 09 (In pencil; AGI)
HCALN UQKRQ AXPWT WUQTZ KFXZO MJFOY RHYZW VBXYS IWMMV WBLEB
DMWUW BTVHM RFLKS DCCEX IYPAH RMPZI OVBBR VLNHZ UPOSY EIPWJ
TUGYO SLAOX RHKVC HQOSV DTRBP DJEUK SBBXH TYGVH GFICA CVGUV
OQFAQ WBKXZ JSQJF ZPEVJ RO -

2TL - 166 -              25 02 05 (In pencil; YBE)
ZZWTV SYBDO YDTEC DMVWQ KWJPZ OCZJW XOFWP XWGAR KLRLX TOFCD
SZHEV INQWI NRMBS QPTCK LKCQR MTYVG UQODM EIEUT VSQFI MWORP
RPLHG XKMCM PASOM YRORP CVICA HUEAF BZNVR VZWXX MTWOE GIEBS
ZZQIU JAPGN FJXDK I -

3TL - 176 -              12 21 14 (In pencil; LUN)
DHHAO FWQQM EIHBF BMHTT YFBHK YYXJK IXKDF RTSHB HLUEJ MFLAC
ZRJDL CJZVK HFBYL GFSEW NRSGS KHLFW JKLLZ TFMWD QDQQV JUTJS
VPRDE MUVPM BPBXX USOPG IVHFC ISGPY IYKST VQUIO CAVCW AKEQQ
EFRVM XSLQC FPFTF SPIIU ENLUW O =
1 ABT GEN ST D H NR. 2050/38 G KDOS +
```

Note:
The starting positions, 01 07 09 in the case of part I, was not part of the original teleprinted message, but had been added in pencil on the received message form as an aid in the deciphering process. I have added as well the starting positions in letters, 01 07 09 corresponds to AGI.

o Decrypts:

Part I:
AUF BEFEHL DES OBERSTEN BEFEHLSHABERS SIND IM
FALLE X Z X ZT X UNWAHRSCHEINLICHEN X FRANZOESISQEN
ANGRIFFS DIE WESTBEFESTIGUNGEN JEDER ZAHLENMAESSIGEN
UEBERLEGENHEIT ZUM TROTZ ZU HALTEN X
Part II:
FUEHRUNG UND TRUPPE MUESSEN VON DIESER EHRENPFLIQT
DURQDRUNGEN SEIN X ABS X DEM GEMAESS BEHALTE IQ
MIR DIE ERMAEQTIGUNG ZUR PUFGABE DER BEFESTIGUNGEN
ODER AUQ VON TEILEN AUSDRUECKLIQ
Part III:
PERSOENLIQ VOR X ABS X AENDERUNG DER ANWEISUNG
X OKH X GEN X ST X D X H X ERSTE ABT X NR X DREI DREI
ZWO EINS X DREI AQT G X KDOS X VOM JULI EINS NEUN DREI AQT
BLEIBT VORBEHALTEN X DER OBERBEFEHLSHABER DES HEERES

o Completely assembled German message:

AUF BEFEHL DES OBERSTEN BEFEHLSHABERS SIND IM
FALLE X Z X ZT X UNWAHRSCHEINLICHEN X FRANZOESISQEN
ANGRIFFS DIE WESTBEFESTIGUNGEN JEDER ZAHLENMAESSIGEN
UEBERLEGENHEIT ZUM TROTZ ZU HALTEN X
FUEHRUNG UND TRUPPE MUESSEN VON DIESER EHRENPFLIQT
DURQDRUNGEN SEIN X
ABS X DEM GEMAESS BEHALTE IQ MIR DIE ERMAEQTIGUNG
ZUR PUFGABE DER BEFESTIGUNGEN ODER AUQ VON TEILEN

AUSDRUECKLIQ PERSOENLIQ VOR X
ABS X AENDERUNG DER ANWEISUNG X OKH X GEN X ST
X D X H X ERSTE ABT X NR X DREI DREI ZWO EINS
X DREI AQT G X KDOS X VOM JULI EINS NEUN DREI AQT
BLEIBT VORBEHALTEN X
DER OBERBEFEHLSHABER DES HEERES

o Rewritten German text:

Auf Befehl des Obersten Befehlshabers sind im Falle,
(z.Zt =) zur Zeit unwahrscheinlichen, Franzoesischen Angriffs
die Westbefestigungen jeder zahlenmaessigen Ueberlegenheit
zum trotz zu halten.

Fuehrung und Truppe muessen von dieser Ehrenpflicht
durchdrungen sein.

Dem gemaess behalte ich mir die Ermaechtigung zur Aufgabe
der Befestigungen oder auch von Teilen ausdruecklich
persoenlich vor.

Aenderungen der Anweisung OKH/Gen/St/D/H Erste Abt Nr. 3321/38
G/KDos vom Juli 1938 bleibt vorbehalten.

Der Oberbefehlshaber des Heeres.

o English translation:

The Commander-in-Chief orders as follows:
In the case of French attacks on the western fortifications,
although unlikely at this moment, those fortifications must be held
at all costs, even against numerically superior forces.

Commanders and troops must be imbued with the honour of this duty.

In accordance with orders, I emphasise that I alone have the right
to authorise the fortifications to be abandoned in whole or
part.

I reserve the right to make changes to the order OKH/Gen/St/D/H
1. Abt. Nr. 3321/38 GKDos of July 1938.

The Commander-in-Chief of the Army.

o Comments on the translation:
I am indebted to Ralph Erskine who has verified my translation and
proposed various improvements. The translation has been kept as close
to the German text as possible, however it is not a literal translation.
It has been attempted to make the translation easily understandable in
the English language and to use British Army idioms (i.e Commander-in-
Chief) where applicable.

The German word 'Westbefestigungen' means literally western fortifi-
cations and has been retained as such in the given translation, even if
it could be interpreted to simply mean 'western front'. A major fortifi-
cations in this sector was the French Maginot Line, but the message
clearly does not refer to this. It is therefore likely that it is the
'West Wall' or the Siegfried line which the message refers to. According
to "The Oxford Companion to the Second World War" the construction
started in 1936 and accelerated in 1938 when the Todt Organization
employed 500,000 workers and consumed one-third of Germany's annual
output of cement to complete it. It eventually ran for 300 miles (480
km), opposite the Maginot line.

CRYPTO CODES
by Torbjorn Andersson

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  * Introduction
  * Ordered codes
  * Unordered codes
  * Superencipherment
  * Code charts
  * Teletype

* Introduction

Codes are a special kind of cryptosystem, closely related to substitution ciphers. Whereas in a cipher, the individual letters -or sometimes groups of letters of a fixed length- are substituted for other cryptosymbols, the codesystems operate on whole words and/or phrases, substituting these for codegroups. Usually these codegroups are of a fixed lenght and entirely made up of letters only, or figures only.

Codesystems require the use of codebooks, or -in the case of a very small code- codecharts, listing the cleartext words and phrases together with the allotted codegroups. Since there exists quite a few words in any language, all words can't be listed in an average codebook, so commonly there also are found codegroups representing the letters of the alphabet, syllables, numbers, punctuation marks, grammatical terms and so on, in the book.

* Ordered codes

In an ordered code, the cleartext entries are listed alphabetically and the codegroups are allotted to these entries in numerical order - in case the codegroups consists of figures - or in alphabetical order - in case the codegroups consists of letters. A small sample part of the beginning of one such code might look something like this:

Cleartext	Codegroup	Cleartext	Codegroup
A	00001	address	00051
-ab-	00002	addressee	00052
abandon	00003	adjacent	00053
abide	00004	adjust	00054
able	00005	adjutant	00055
...	...	...	...

Both encoding and decoding are easily done with the same book, since both cleartext and codegroups follow in their normal order. Unfortunately this also greatly helps the enemy trying to break the code, so to counter this unordered codes was invented.

* Unordered codes

In an unordered code, the codegroups are allotted to the cleartext in random fashion. If the code is a big one (i.e. not a small chart), one needs two books or lists. In one the cleartext is listed in alphabetic order together with the codegroups in their mixed order. In the other the codegroups are listed in order with the cleartext in mixed order. A small sample will make things clearer:

Encoding section		Decoding section	
Cleartext	Codegroup	Codegroup	Cleartext
...	...	...	...
Stop	7404	3729	Strong
Stopped	4017	3730	A
Storm	2809	3731	Was
Strength	3318	3732	Does not
Strike	5056	3733	Will be
Strong	3729	3734	And
Succeed	0047	3735	Unit
Success	6395	3736	Enemy
...	...	...	...

Unordered codes can pose a difficult problem for the enemy cryptanalyst,

especially if the intercepted material is small. The problem facing the legitimate users is that the codebook usually see heavy use - thus providing the enemy with a lot of traffic, since it is no small thing replacing the code with a new edition. The countermeasure to this, is to use superencipherment.

* Superencipherment
Superencipherment of a code can be achieved in a number of way and service to hide the actual codegroups from the enemy cryptanalyst. The most common way to do this if the codegroups consists of figures, is to use an additive.

The additive is a - usually very long - series of figures listed as groups in a table or book of its own. The user starts somewhere in this series, and allots a group from the additive to each group of his coded message, and adds them together (almost as in Gronsfeld's cipher) modulo 10, the sums being the cryptogram to be sent.
The receiver, which must have the same additive series and knowledge of where the sender started to pick out groups, subtracts these modulo 10 from the received cryptogram, to get the naked codetext.

> Modulo 10 addition/subtraction may puzzle some of you reading this, so here is a quick explanation: When adding two single numbers, modulo 10, one simply only keep the last figure of the sum, if the sum is greater than nine, and forget everything you learned in school about carry.
> When subtracting modulo 10, you automatically add 10 to the first number if the result otherwise would be negative.
> (N.B. This is the practical explanation, which probably won't please the mathematicians out there, but they hardly need modulo arithmetic explained, so I hope they skip this part.)

I'll give an example of the use of the additive superencipherment method using this additive key:

81855 06392 93111 72993 95106 30217 25634 33084 01669 17442
95745 76799 13525 85433 66391 63054 24755 51069 06037 50362
10815 30580 71285 74122 53029 05471 80545 55717 85607 56281

The basic code is ordered and the text Enemy force moving east towards your sector is first coded like this:

enemy	force	move	-ing	east	towards	your	sector
25348	31800	55362	43915	25724	94039	99151	78673

Starting with the first group of the additive and proceeding from left to right when reading the rest of the groups off, and then adding them modulo 10 to the above code text will give the following result:

enemy	force	move	-ing	east	towards	your	sector
25348	31800	55362	43915	25724	94039	99151	78673
81855	06392	93111	72993	95106	30217	25634	33084
+	+	+	+	+	+	+	+
06193	37192	48473	15808	10820	24246	14785	01657

Together with the final cryptogram in the last row, it is necessary to also communicate where in the additive to start. This information is usually hidden in the cryptogram as a special group.

Another superencipherment system sometimes used, involves a substitution chart. In a German WWI-code using an ordered code with three-figure codegroups, the first two digits of every such group was superenciphered with a 10 by 10-cells chart, called Geheimklappe ("Secret flap"). Different charts were used by different divisions, and they also changed from time to time. One such Geheimklappe looked like this:

Encoding	Decoding
0123456789	0123456789

0 2460735625	0 8216704913
3805858492	7260334996
1 2735270460	1 4298766934
0739102038	8014685731
2 1406447724	2 1120578540
1919719422	0480210698
3 3731730586	3 3531709773
2698509105	5402553792
4 6148057612	4 1224689202
1931663208	7592665411
5 8528382955	5 5306854501
5048147057	1793285963
6 0995614818	6 0441038862
3163864957	2078798943
7 9270931393	7 1784233102
7514544738	5216741146
8 2759184066	8 3498559656
6242335067	8365500937
9 8193948190	9 5687976799
6286962747	7138842024

When encrypting, the first figure of a codegroup is used as a row-index to the leftmost table, and the second is used as a column-index. These two figures are substituted for the ones found at the intersection in the encoding table, and the third figure of the original codegroup is appended as it is. To decode a received codegroup, one uses the right-most table in the same way, since it is the inverse of the encoding table.

The codegroup 153 meaning Gegner geht zurck (=Enemy is retreating) will be superenciphered as 703 using the above keychart.

A similar superencipherment system was used by the Soviet Baltic Navy during World War II. The Soviet codegroups were four figures long and these were split up into pairs and then superenciphered with a chart and recombined into four-figure groups prior to transmission.
The Soviet Baltic Navy four-figure-code was successfully attacked and read by the Swedish signal intelligence organization during WWII, probably due to the fact that the basic codebook was ordered and saw heavy use.

* Code charts
In military situations small code charts are often used as low-level tactical cryptosystem, e.g. complete words are substituted by codes, or if the vocabulary that has to be used is too large, a syllabary square can be used. There are - of course - many possible constructions, but one sometimes found in cryptographic literature looks like this:

	1	2	3	4	5	6	7	8	9	0
1	A	1	AL	AN	AND	AR	ARE	AS	AT	ATE
2	ATI	B	2	BE	C	3	CA	CE	CO	COM
3	D	4	DA	DE	E	5	EA	ED	EN	ENT
4	ER	ERE	ERS	ES	EST	F	6	G	7	H
5	8	HAS	HE	I	9	IN	ING	ION	IS	IT
6	IVE	J	0	K	L	LA	LE	M	ME	N
7	ND	NE	NT	O	OF	ON	OR	OU	P	Q
8	R	RA	RE	RED	RES	RI	RO	S	SE	SH
9	ST	STO	T	TE	TED	TER	TH	THE	THI	THR
0	TI	TO	U	V	VE	W	WE	X	Y	Z

Normally, a two-figure system will double the length of the text (since two figures have to be used to encrypt every individual letter of the plaintext), but in a syllabary system - if it is carefully constructed, like the above one - the resulting cryptogram is in most cases shorter. In the above chart clusters of up to three letters will be encrypted by single two-figure codegroups, and if we encrypt the sample text ''Train with ammunition has arrived'',it will look like this:

```
     t  r  i  w  i  h  a  m  m  u  n  i  io  has  ar  ri  ve  d
        a  n     t                    t  n

     9  8  5  0  5  4  1  6  6  0  6  5  58  52   16  86  05  31
     3  2  6  6  0  0  1  8  8  3  0  0
```

* Teletype
Growing use of the telegraph caused several automatic transmission systems to be invented in the late 19th century. One such system was invented by the Frenchman E. Baudot in 1874. His system - still in use today - uses two radio frequencies when operating on shortwave to represent two elements, usually called zero and one nowadays, which, when combined into groups of five, gives 32 combinations which are used in the following way to represent letters, figures, punctuation and control codes:

combination	letter	figure
11000	A	-
10011	B	?
01110	C	:
10010	D	who are you?
10000	E	3
10110	F	(national use)
01011	G	Ž (national use)
00101	H	™ (national use)
01100	I	8
11010	J	bell
11110	K	(
01001	L	)
00111	M	.
00110	N	,
00011	O	9
01101	P	0
11101	Q	1
01010	R	4
10100	S	'
00001	T	5
11100	U	7
01111	V	=
11001	W	2
10111	X	/
10101	Y	6
10001	Z	+
00010	carriage return	
01000	line feed	
11111	letter shift	
11011	figure shift	
00100	space	
00000	unperforated tape	

Since 32 combinations isn't enough to represent both letters and figures, two shifts are used. When switching between these shifts the combinations letter shift and figure shift are used. (The combinations F, G and H on the figure shift are not used in international traffic, but are reserved for national use. The letters given above show how these combinations are used for national Swedish teletype traffic.)

* Teletype cryptosystems
The zeros and ones of the teletype code lends themselves well to encryption and several systems for encrypting teletype traffic have been invented. A few will be described below.

* U.S. WWI system
During WWI, heavy military traffic between France and the U.S. caused the American Signal Corps to conduct a series of experiments aimed at automatically encrypting teletype transmissions since it was feared that the enemy might be in a position to intercept messages passing

through the trans-Atlantic cables. Together with engineers from the American Telephone and Telegraph Company a machine was constructed, which was able to automatically encrypt or decrypt the 32 teletype symbols. The machine used two loops of tape containing arbitrary teletype symbols as key. One keytape contained 999 symbols, and the other 1000. For every teletype symbol to be encrypted, the two key-tapes stepped forward one step. At two reading positions - one for each keytape - the five bits of the current baudotsymbols of each tape were combined to form a new symbol of five bits in the following way:

Two of the same symbols, two zeros or two ones, combined to yield a one; whereas, two different symbols, a one and a zero, combined to yield a zero. Thus, if the first keytape had the baudotsymbol representing the letter A, and the second keytape had the symbol representing Z, these would combine like this:

```
  tape 1 - "A":  1 1 0 0 0
  tape 2 - "Z":  1 0 0 0 1
  -------------------------
  new      "F":  1 0 1 1 0
```

The new symbol - F, in this case - were likewise combined with the symbol representing the cleartext - or cryptotext, since the operation is reciprocal - to form the cryptosymbol.

Originally, the AT&T engineers wanted to use only one keytape, which should be destroyed as it was used. This system is known today as a one-time-tape (more commonly: one-time-pad) and is absolutely impossible in theory to break when used correctly. The military saw the immense logistic problem of manufacturing and distributing such tapes, and there-fore the less secure method using two keytape loops came to be the one used.

****
Numbers + Oddities Logs column # 04, July 1998
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****
Hi, folks, welcome to the logs. Our log format is as follows:

FREQ c/s Station Enigma-Code Time date Mode baud Remarks (Initials)

Example:
10426 Lincolnshire Poacher E3 1540 13/april USB ongoing msg (JRU)

I will make the log-format a little more like freestyle: please put the freq and the stn name at the beginning, the rest is up to you. But it is nice if you use the format described above. In this column I include logs posted to the spooks or wun mailing lists or to Ary or myself privately. For a reference of the enigma designators see n+o newsletter no.1. If you want to remain anonymous, just send your logs to me or Ary with a note saying so.

* MORSE STATIONS *
 3410 M17, Mon 13/7/98, 2030, 66829 30 (GD2)
 3410 M17, Weds 15/7/98, 1900, 70789 24 (GD2)
 3410 M17, Thurs 16/7/98, 2030, 66440 25 (GD2)
 3410 M17, Weds 8/7/98, 1910, 70279 27 = (GD2)
 3410 M17, Thurs 9/7/98, 2030, 66829 30 = = (GD2)
 3410 M17, Weds 1/7/98, 1900, 70579 22 (GD2)
 3410 M17, Thurs 2/7/98, 2030, 66338 22 (GD2)
 3824 M10, Sun 12/7/98, 2000, 111x3 28730x3 30x3 (GD2)
 3824 M10, Sun 5/7/98, 2000, 111x3 44843x3 30x3 (GD2)
 3824 M10, Sat 11/7/98, 2000, 111x3 71973x3 30x3 (GD2)
 3824 M10, Sun 28/6/98, 2000, 111x3 66235x3 30x3 (GD2)
 4485 M10, Sun 5/7/98, 1645, Repeat of Saturday (GD2)
 4485 M51, Tues 30/6/98, 0800, NR 63 Until 0845 (GD2)
 4485 M10, Sat 4/7/98, 1645, Very weak U/R (GD2)

4760 M14, Frid 17/7/98, 1900, 560 R4 448 448 71 71 = =
M14 Frid 17/7/98 # 139 139 72 72 = = Sent a second message (GD2)
4903 M1, Tues 14/7/98, 2000, 025 R4 391 391 42 42 (GD2)
4903 M1, Thurs 16/7/98, 2000, 025 R4 717 717 44 44 = = (GD2)
4905 M1, Tues 30/6/98, 2000, 025 R4 214 37 (GD2)
4905 M1, Thurs 2/7/98, 2000, 025 R4 908 40 (GD2)
5028 M10, Sun 12/7/98, 1645, Repeat of Sat 11/7 (GD2)
5028 M10, Mon 13/7/98, 1645, Repeat of Sunday (GD2)
5028 M10, Mon 13/7/98, 2100, 555x3 783x3 41 961x3 42 (GD2)
5028 M10, Weds 15/7/98, 2100, Repeat of Monday (GD2)
5028 M10, Sat 18/7/98, 1645, 555x3 571x3 50 275x3 50 049x3 46
435x3 28 M10 this Saturday has much longer messages (GD2)
5028 M10, Mon 6/7/98, 1645, Repeat of Sunday 1645 (GD2)
5028 M10, Mon 6/7/98, 2100, 555x3 783x3 49 961x3 16 (GD2)
5028 M10, Weds 8/7/98, 1645, Repeat of Monday (GD2)
5028 M10, Weds 8/7/98, 2100, Repeat of Tuesday (GD2)
5028 M10, Sat 11/7/98, 1645, 555x3 571x3 29 275x3 27 049x3 18
435x3 30 (GD2)
5028 M10, Sun 28/6/98, 1645, Repeat of Saturday (GD2)
5028 M10, Mon 29/6/98, 1645, Repeat of Sunday (GD2)
5028 M10, Mon 29/6/98, 2100, 555x3 783x3 19 961x3 29 (GD2)
5028 M10, Weds 1/7/98, 1645, Repeat of Monday (GD2)
5050 M3, Frid 10/7/98, 0900, 012/00 (GD2)
5074 M45, Thurs 16/7/98, 1702, Repeat of Tuesday (GD2)
5080 M3, Mon 29/6/98, 0700, 040/00 (GD2)
5090 M3, Mon 13/7/98, 0700, 040/00 (GD2)
5120 M3, Tues 7/7/98, 0730, 041/00 (GD2)
5120 M3, Tues 30/6/98, 0730, 041/00 (GD2)
5180 M3, Mon 13/7/98, 0730, 018/00 (GD2)
5180 M3, Mon 13/7/98, 0830, 044/00 (GD2)
5180 M3, Mon 13/7/98, 0930, 011/00 Same as 1997 (GD2)
5180 M3, Weds 15/7/98, 1030, 047/00 (GD2)
5180 M3, Mon 6/7/98, 0730, 014/56 R10 (GD2)
5180 M3, Mon 6/7/98, 0830, 046/52 (GD2)
5180 M3, Tues 7/7/98, 1400, 044/00 (GD2)
5180 M3, Weds 8/7/98, 1030, 047/00 (GD2)
5180 M3, Thurs 9/7/98, 0730, 018/00 (GD2)
5180 M3, Mon 29/6/98, 0730, 018/00 (GD2)
5180 M3, Mon 29/6/98, 0830, 044/00 (GD2)
5220 M1B, Mon 13/7/98, 1718, 719 R4 437 437 47 47 (GD2)
5220 M1B, Weds 15/7/98, 1718, 719 R4 974 974 46 46 = = (GD2)
5220 M1B, Mon 6/7/98, 1718, 719 R4 437 437 47 47 (GD2)
5220 M1B, Weds 8/7/98, 1718, 719 R4 437 437 47 47 (GD2)
5220 M1B, Mon 29/6/98, 1718, 719 R4 437 47 (GD2)
5220 M1B, Weds 1/7/98, 1718, 719 R4 437 47 (GD2)
5248 M14, Frid 3/7/98, 1800, 491x3 00000 // 5254 (GD2)
5278 M1, Tues 14/7/98, 1800, 025 R4 210 210 44 44 (GD2)
5278 M1, Thurs 16/7/98, 1800, 025 R4 261 261 41 41 = = (GD2)
5278 M1, Tues 7/7/98, 1800, 025 R4 541 541 38 38 (GD2)
5278 M1, Tues 30/6/98, 1800, 025 R4 178 35 (GD2)
5278 M1, Thurs 2/7/98, 1800, 025 R4 102 40 (GD2)
5287 M1, Thurs 9/7/98, 1800, 025 R4 284 284 40 40 = = (GD2)
5301 M10, Sun 5/7/98, 1610, Call missed ???x3 42 859x3 20 (GD2)
5301 M10, Mon 6/7/98, 1610, 555x3 107x3 42 859x3 20 (GD2)
5350 M1B, Sat 18/7/98, 1605, 053 R4 117 117 42 42 = = (GD2)
5350 M1B, Sat 11/7/98, 1605, 053 R4 117 117 42 42 = =
Both M1 and M1B Very poor signals today (GD2)
5350 M1B, Sat 4/7/98, 1605, 053 R4 117 42 (GD2)
5360 M3, Weds 15/7/98, 0830, 044/00 (GD2)
5360 M3, Weds 8/7/98, 0830, 046/52 (GD2)
5360 M3, Weds 1/7/98, 0830, 044/00 (GD2)
5365 M3, Weds 1/7/98, 1500, 046/00 at 1997 041/54 (GD2)
5365 M3, Frid 3/7/98, 0800, 041/00 (GD2)
5428 M12, Weds 15/7/98, 1900, 941x3 000 (GD2)
5428 M12, Sun 5/7/98, 1900, 941 941 941 000 (GD2)
5466 M13, Mon 6/7/98, 2100, 378 R5 = 201 19 = (GD2)
5473 M1B, Weds 15/7/98, 1510, 745 R4 632 632 40 40 = = (GD2)
5473 M1B, Sat 18/7/98, 1510, 745 R4 632 632 40 40 = = (GD2)

5473 M1B, Weds 8/7/98, 1510, 745 R4 529 529 48 48 (GD2)
5473 M1B, Weds 1/7/98, 1510, 745 R4 529 48 (GD2)
5474 M45, Tues 14/7/98, 1702, 074 R4 736 44 736 44 (GD2)
5474 M45, Tues 7/7/98, 1702, 074 R4 736 736 44 44 (GD2)
5474 M45, Thurs 9/7/98, 1702, 074 R4 736 736 44 44 = = (GD2)
5474 M45, Tues 30/6/98, 1702, 074 R4 736 44 (GD2)
5474 M45, Thurs 2/7/98, 1702, Repeat of Tuesday (GD2)
5520 M3, Tues 14/7/98, 0630, 047/50 (GD2)
5520 M3, Thurs 16/7/98, 0630, 047/50 Repeat of Tuesday (GD2)
5520 M3, Thurs 16/7/98, 0800, 017/00 (GD2)
5520 M3, Thurs 16/7/98, 0900, 011/00 (GD2)
5520 M3, Frid 17/7/98, 0730, 040/00 (GD2)
5520 M3, Tues 7/7/98, 0630, 047/57 (GD2)
5520 M3, Thurs 9/7/98, 0630, 047/57 Repeat of Tues (GD2)
5520 M3, Thurs 9/7/98, 0800, 017/00 (GD2)
5520 M3, Thurs 9/7/98, 0900, 013/50 (GD2)
5520 M3, Frid 10/7/98, 0730, 040/00 (GD2)
5520 M3, Tues 30/6/98, 0630, 042/00 (GD2)
5520 M3, Weds 1/7/98, 1200, 016/00 (GD2)
5520 M3, Thurs 2/7/98, 0630, 042/00 (GD2)
5520 M3, Thurs 2/7/98, 0800, 013/52 (GD2)
5520 M8, Thurs 2/7/98, 0900, 011/00 (GD2)
5520 M3, Frid 3/7/98, 0730, 040/00 (GD2)
5550 M3, Tues 14/7/98, 0730, 010/52 (GD2)
5550 M3, Thurs 16/7/98, 0830, 010/52 Repeat of Tuesday (GD2)
5550 M3, Thurs 9/7/98, 0830, 012/51 Repeat of Tuesday (GD2)
5550 M3, Tues 30/6/98, 0830, 019/00 (GD2)
5550 M3, Thurs 2/7/98, 0830, 019/00 (GD2)
5609 M29, Sun 5/7/98, 1900, Repeat of 17000 (GD2)
5625 M3, Frid 10/7/98, 0830, 017/00 (GD2)
5625 M3, Frid 3/7/98, 0830, 013/00 (GD2)
5670 M3, Weds 15/7/98, 0930, 012/00 (GD2)
5670 M3, Weds 8/7/98, 0930, 012/00 (GD2)
5670 M3, Weds 1/7/98, 0930, 015/58 (GD2)
5670 M3, Weds 1/7/98, 0957, VVV = = 000 (GD2)
5705 M10, Mon 13/7/98, 1000, 111x3 19263 17 3 other IDs ??? (GD2)
5705 M10, Frid 17/7/98, 1000, 111x3 45347/16 55987/18 51553/15
68807/17 (GD2)
5705 M10, Sat 18/7/98, 1000, 111x3 97255/18 64935/15 36376/17
?????/18 (GD2)
5705 M10, Mon 6/7/98, 1000, On but U/R (GD2)
5705 M10, Tues 7/7/98, 1000, 111x3 16606x3 15x3 55530x3 19x35180 (GD2)
5705 M10, Thurs 9/7/98, 1000, 111x3 06975x3 15x3 37112 18 47025 ?? (GD2)
5705 M10, Frid 10/7/98, 1000, 111x3 81518 16 37047 19 51793 15 (GD2)
5705 M10, Sat 11/7/98, 1000, Just detectable (GD2)
5705 M10, Sun 28/6/98, 1000, 111x3 28230x3 15x3 ?????x3 ??x3
26403x3 (GD2)
5705 M10, Tues 30/6/98, 1000, On but too weak to read (GD2)
5705 M10, Thurs 2/7/98, 1000, Call Missed ?????/87/18 (GD2)
5737 M1B, Thurs 16/7/98, 2032, 931 R4 682 682 65 65 = = (GD2)
5737 M1B, Thurs 9/7/98, 2032, 931 R2 Rest U/R.
Transmission became broken after 2 minutes (GD2)
5737 M1B, Thurs 2/7/98, 2032, 931 331 40 (GD2)
5748 M4, Thurs 16/7/98, 1257, Repeat of Wednesday.
Also on 0957/7250 1157/8188 (GD2)
5750 M1B, Frid 17/7/98, 2103, 871 R4 682 682 65 65 = = (GD2)
5750 M1B, Frid 10/7/98, 2102, 871 R4. 682 682 65 65 = = (GD2)
5750 M1B, Frid 3/7/98, 2102, 871 R4 331 40 (GD2)
5777 M1b, Sat 11/7/98, 1855, 127 R4 Rest U/R (GD2)
5811 M1B, Mon 13/7/98, 2010, 729 R4 682 682 65 65 (GD2)
5812 M1B, Mon 6/7/98, 2010, 729 R4 331 331 40 40 (GD2)
5812 M1B, Mon 29/6/98, 2010, 729 R4 331 40 (GD2)
5860 M10, Mon 13/7/98, 1500, 555x3 966x3 17 (GD2)
5865 M17, Weds 8/7/98, 1600, On but U/R 1620 on 4740 1640 on 4270 (GD2)
5865 M17, Weds 1/7/98, 1600, 53588. Repeat of 0800 (GD2)
5874 M13, Sun 5/7/98, 2030, 411 R5 = 191 21 = (GD2)
6283 M1B, Tues 14/7/98, 1723, 382 R4 214 214 44 44 (GD2)
6283 M1B, Thurs 16/7/98, 1723, 382 R4 214 214 44 44 = = (GD2)

6283 M1B, Tues 7/7/98, 1723, 382 R4 543 543 48 48 (GD2)
6283 M1B, Thurs 9/7/98, 1723, 382 R4 543 543 48 48 = =
Transmission became broken at the end (GD2)
6283 M1B, Tues 30/6/98, 1725, 382 R1 543 48 (GD2)
6283 M1B, Thurs 2/7/98, 1723, 382 R4 543 48 (GD2)
6330 M3, Mon 6/7/98, 0900, 976/00 (GD2)
6330 M3, Weds 8/7/98, 0900, 214/00 Same as 1997 (GD2)
6330 M3, Mon 29/6/98, 0900, 976/00 (GD2)
6330 M3, Weds 1/7/98, 0900, 214/00 (GD2)
6430 M3, Frid 17/7/98, 0930, 552/00 (GD2)
6430 M3, Frid 10/7/98, 0930, 552/00 (GD2)
6433 M1, Sat 11/7/98, 1500, 025 R4 053 053 32 32 = = (GD2)
6434 M1, Sat 4/7/98, 1500, 025 R4 721 41 (GD2)
6437 M1, Sat 18/7/98, 1500, 085 Corrected 025 R4 458 458 42 42 = = (GD2)
6469 M29, Mon 29/6/98, 1900, Repeat of 1700 (GD2)
6509 M29, Weds 1/7/98, 1900, Repeat of 1800. New frequency.
Repeats rest of week on same frequency (GD2)
6529 M29, Mon 29/6/98, 1700, Usual Call. New Message (GD2)
6545 M13, Weds 1/7/98, 2100, 254 R5 = 176 20 = (GD2)
6659 M29, Mon 13/7/98, 1700, Usual Call New mssge 14 Groups (GD2)
6659 M29, Mon 6/7/98, 1700, Usual Call. New message 13x5F.
Repeats same message same time rest of week 1900 on 6509 (GD2)
6660 M29, Weds 1/7/98, 1700, New frequency.
Repeats rest of week on same frequency (GD2)
6675 M17, Tues 14/7/98, 1900, 58182 24 (GD2)
6675 M17, Tues 7/7/98, 1900, 58372 35 35 = = 1920 on 6290
1940 on 5235 (GD2)
6780 M1, Sun 12/7/98, 0700, 025 R4 465 465 40 40 = = (GD2)
6780 M1, Sun 5/7/98, 0700, 025 R4 283 283 44 44 (GD2)
6780 M7, Tues 7/7/98, 1650, Call Missed Ended 22 22 30 30 (GD2)
6780 M1, Sun 28/6/98, 0700, 025 R4 128 42 (GD2)
6782 M12, Sun 12/7/98, 1600, 749x3 000 (GD2)
6782 M12, Weds 15/7/98, 1600, 749x3 1 4796 145 (GD2)
6782 M12, Thurs 16/7/98, 1600, 749x3 000 (GD2)
6782 M12, Sat 18/7/98, 1600, 749x3 000 (GD2)
6782 M12, Sun 5/7/98, 1600, 749 749 749 000 (GD2)
6782 M12, Mon 6/7/98, 1600, 749 749 749 1 4039 145 4039 145 (GD2)
6782 M12, Tues 7/7/98, 1600, 749x3 1 4278 146 (GD2)
6782 M12, Weds 8/7/98, 1600, 749 749 749 1 2439 145 2439 145 (GD2)
6782 M12, Thurs 9/7/98, 1600, 749x3 000 (GD2)
6782 M12, Frid 10/7/98, 1600, 749x3 000 (GD2)
6782 M12, Sat 11/7/98, 1600, 749x3 000 (GD2)
6782 M12, Sun 28/6/98, 1600, 749x3 000 (GD2)
6782 M12, Weds 1/7/98, 1600, 749x3 1 1598 142 (GD2)
6787 M8, Mon 13/7/98, 0700, 80591 25492 54212 (GD2)
6787 M8, Thurs 16/7/98, 0800, 44141 65382 42052 (GD2)
6787 M8, Sat 18/7/98, 0700, 44143 43291 10561 (GD2)
6787 M8, Thurs 9/7/98, 0800, 86893 11341 92601 (GD2)
6787 M8, Sat 11/7/98, 0700, 38772 11343 92603 (GD2)
6787 M8, Mon 29/6/98, 0700, 39293 45033 45163 (GD2)
6787 M8, Mon 29/6/98, 0800, 03373 90742 23232 (GD2)
6797 M8, Tues 14/7/98, 0700, 80592 25491 54213 (GD2)
6797 M8, Frid 17/7/98, 0700, 44142 65383 42053 (GD2)
6797 M8, Tues 7/7/98, 0700, 86891 10562 13052 (GD2)
6797 M8, Frid 10/7/98, 0700, 38771 11342 92602 (GD2)
6797 M8, Sun 28/6/98, 0800, 39292 45032 45162 (GD2)
6797 M8, Tues 30/6/98, 0700, 73991 22861 32541 (GD2)
6823 M1B, Thurs 16/7/98, 1504, 168 R3 574 574 46 46 = = (GD2)
6823 M1B, Thurs 9/7/98, 1503, 168 R4 574 574 46 46 = = (GD2)
6823 M1B, Thurs 2/7/98, 1503, 168 R4 574 46 (GD2)
6825 M8, Tues 14/7/98, 0800, 31433 49162 07842 (GD2)
6825 M8, Weds 15/7/98, 0800, Repeat of Above (GD2)
6825 M8, Sun 5/7/98, 0800, 63872 22513 61373 (GD2)
6825 M8, Tues 7/7/98, 0800, 92403 09381 27141 (GD2)
6825 M8, Weds 1/7/98, 0800, Repeat of 0700 (GD2)
6854 M8, Thurs 16/7/98, 0800, 47292 72791 56501 (GD2)
6854 M8, Thurs 2/7/98, 0800, 52131 64572 08002 (GD2)
6855 M12, Mon 13/7/98, 1800, 658x3 1 2469 148 2469 148 (GD2)

6855 M12, Tues 14/7/98, 1800, 658x3 1 1876 143 1876 143 (GD2)
6855 M12, Mon 6/7/98, 1800, 658 658 658 1 4039 145 4039 145 (GD2)
6855 M12, Tues 7/7/98, 1800, 658 658 658 1 4278 146 4278 146 (GD2)
6855 M12, Mon 29/6/98, 1800, 658x3 1 2557 143 (GD2)
6855 M12, Tues 30/6/98, 1800, 658x3 1 2936 142 (GD2)
6860 M??, Thurs 16/7/98, 2000, 631 01110 This was repeated until
2017.Short zero. Ended after 63 (GD2)
6933 M8, Sat 18/7/98, 0800, Repeat of 0700 (GD2)
6934 M12, Weds 15/7/98, 2000, 658x3 1 4796 145 (GD2)
6934 M12, Sat 18/7/98, 2000, 658x3 1 1695 142 1695 142 (GD2)
6934 M8, Sat 11/7/98, 0800, ????? 11343 92603 (GD2)
6947 M10, Tues 14/7/98, 1500, 555x3 966x3 17 (GD2)
6983 M51, Mon 29/6/98, 0700, Nr 16 to NR 28 (GD2)
6985 M8, Weds 15/7/98, 0700, 80593 65381 40251 (GD2)
6985 M8, Weds 8/7/98, 0700, 86892 10653 10353 (GD2)
6985 M8, Weds 1/7/98, 0700, 73922 22862 32542 (GD2)
6999 M23, Frid 17/7/98, 1000, 00000 R4 = 27 27 = (GD2)
6999 M23, Mon 6/7/98, 1000, 33 R7 = 52 52 = (GD2)
6999 M23, Tues 7/7/98, 1000, 44 R8 = 51 51 = (GD2)
6999 M23, Weds 8/7/98, 1000, 11 R8 = 52 52 = (GD2)
7250 M4, Mon 13/7/98, 0957, U R3 LO LOx3/44262
Same Message repeated 1157/8188 1257/5148 (GD2)
7250 M4, Weds 15/7/98, 0957, U R3 LO LOx3/44262 (GD2)
7256 M3, Sun 12/7/98, 1630, 287/00 (GD2)
7256 M3, Mon 13/7/98, 1630, 287/00 (GD2)
7256 M3, Tues 14/7/98, 1630, 287/00 (GD2)
7256 M3, Frid 17/7/98, 1630, 287/00 (GD2)
7256 M3, Sat 18/7/98, 1630, 287/00 (GD2)
7256 M3, Sun 5/7/98, 1630, 287/00 (GD2)
7256 M3, Mon 6/7/98, 1630, 287/00 (GD2)
7256 M3, Tues 7/7/98, 1630, 287/00 (GD2)
7256 M3, Weds 8/7/98, 1630, 287/00 (GD2)
7256 M3, Thurs 9/7/98, 1630, 287/00 (GD2)
7256 M3, Frid 10/7/98, 1630, 287/00 (GD2)
7256 M3, Sat 11/7/98, 1630, 287/00 (GD2)
7256 M3, Sun 28/6/98, 1630, 287/00 (GD2)
7256 M3, Weds 1/7/98, 1630, 287/00 (GD2)
7256 M3, Thurs 2/7/98, 1630, 287/00 (GD2)
7256 M3, Frid 3/7/98, 1630, 287/00 (GD2)
7256 M3, Sat 4/7/98, 1630, 287/00 (GD2)
7425 M17, Weds 8/7/98, 0800, 53983. Rest U/R (GD2)
7425 M17, Weds 1/7/98, 0800, 53588 48 (GD2)
7505 M10, Sun 5/7/98, 1000, 111x3 7????x3 ??x3 79077x3 15x3 (GD2)
7580 M8, Thurs 16/7/98, 0900, 47292 72791 56501 (GD2)
7580 M8, Sun 28/6/98, 0800, 03372 90741 23231 (GD2)
7649 M3, Tues 14/7/98, 1200, 741/00 Same as 1997 (GD2)
7680 M8, Sat 11/7/98, 0800, 69563 03282 06282 (GD2)
7725 M17, Weds 15/7/98, 0800, 53463 28 ? (GD2)
7725 M17, Tues 30/6/98, 1900, Nil Heard (GD2)
7795 M23, Mon 13/7/98, 1500, 480 R5 = 129 129 =
Repeat of message sent 27/4 4/5 11/5 18/5 29/6 (GD2)
7795 M23, Tues 14/7/98, 1500, 486 R4 = 54 54 = (GD2)
7795 M23, Weds 15/7/98, 1500, 484 R5 = 63 63 = (GD2)
7795 M23, Thurs 16/7/98, 1500, 246 R4 = 57 57 =
Repeat of message sent on 30/4 7/14/21/28/5 11/22/6 9/7 (GD2)
7795 M23, Frid 17/7/98, 1500, 664 R3 = 60 60 = (GD2)
7795 M23, Mon 6/7/98, 1500, 480 R5 = 129 129 = (GD2)
7795 M23, Weds 8/7/98, 1500, 484 R5 = 63 63 =
Repeat from 29/4 6/5 13/5 20/5 27/5 3/6 10/6 (GD2)
7795 M23, Thurs 9/7/98, 1500, 246 R4 = 57 57 =
Repeat from 30/4 7/5 14/5 21/5 28/5 11/6 22/6 (GD2)
7795 M23, Frid 10/7/98, 1500, 664 R2 = 60 60 = (GD2)
7795 M23, Mon 29/6/98, 1500, 480 R4 = 129 129 = (GD2)
7795 M23, Mon 29/6/98, 1500, 480 R4 = 129 129 = (GD2)
7795 M23, Tues 30/6/98, 1500, 486 R4 = 54 54 = (GD2)
7795 M23, Weds 1/7/98, 1500, 484 R4 = 63 63 = (GD2)
7834 M13, Sun 12/7/98, 1900, 417 R5 = 166 20 = (GD2)
7834 M13, Mon 13/7/98, 1900, 417 R5 = 166 20 = (GD2)

7845 M10, Thurs 16/7/98, 1810, 555x3 661x3 46 423x3 11 (GD2)
7940 M52, Mon 29/6/98, 2000, 55 R12 (GD2)
7940 M52, Weds 1/7/98, 1800, 14 : 824393x3 : 26 AR (GD2)
7940 M52, Thurs 2/7/98, 1445, 17:317056x3:38 AR (GD2)
7940 M52, Thurs 2/7/98, 1730, 55 R5 17:984821x3 AR (GD2)
8055 M12, Weds 15/7/98, 1700, 135x3 1 4796 145 Note that the 3 M12s sent the same message to 3 IDs (GD2)
8055 M12, Weds 8/7/98, 1700, 135 135 135 1 2439 145 2439 145 Same message as sent at 1600 on 6782 to 749 (GD2)
8153 M13, Frid 3/7/98, 2000, 284 R3 = 164 25 = (GD2)
8173 M12, Mon 13/7/98, 1640, 749x3 1 2469 148 2469 148 (GD2)
8175 M13, Mon 29/6/98, 1900, 417 R5 = 165 22 = (GD2)
8188 M4, Weds 15/7/98, 1157, Repeat of 0957 1257/5678 (GD2)
8191 M10, Sun 12/7/98, 1810, 555x3 661x3 31 423x3 45. Repeat of Sat 0710 (GD2)
8191 M10, Sat 18/7/98, 0710, 555x3 661x3 36 423x3 11 (GD2)
8191 M10, Sun 5/7/98, 1810, 555x3 661x3 21 423x3 46 (GD2)
8191 M10, Thurs 9/7/98, 1810, 555x3 661x3 31 423x3 45 (GD2)
8191 M10, Sat 11/7/98, 0710, Rpt of Thursday 1810 (GD2)
8191 M10, Sun 28/6/98, 1810, 555x3 661x3 46 425x3 13 (GD2)
8191 M10, Thurs 2/7/98, 1810, 555x3 661x3 23 423x3 46 (GD2)
8191 M10, Sat 4/7/98, 0710, 555x3 661x3 23 423x3 46 (GD2)
8231 M53, Tues 14/7/98, 2000, 747.738 HR 18 HR 18 (GD2)
8231 M53, Weds 15/7/98, 2000, 747.738 Repeat of Tues (GD2)
8231 M53, Frid 17/7/98, 2000, On but U/R (GD2)
8231 M53, Sat 18/7/98, 2000, 747.571 Rest U/R (GD2)
8231 M53, Sun 5/7/98, 2000, 747.296.665 HR 27 HR?? (GD2)
8231 M53, Frid 10/7/98, 2000, Just detectable (GD2)
8231 M53, Sat 11/7/98, 2000, 747.381 HR 62 (GD2)
8231 M53, Tues 30/6/98, 2000, 747.?3?? (GD2)
8231 M53, Weds 1/7/98, 2000, 747.320 (GD2)
8231 M53, Thurs 2/7/98, 2000, On but U/R (GD2)
8231 M53, Frid 3/7/98, 2000, 747.877 HR 31 (GD2)
8231 M53, Sat 4/7/98, 2000, 747.665.296 HR32 HR27. One of the rare double messages. Unusual strong signal (GD2)
8307 M23, Mon 13/7/98, 0800, 579 R10 // 9285 Repeats same for rest of week (GD2)
8307 M23, Mon 13/7/98, 1400, 579 R10 // 9285 (GD2)
8307 M23, Sun 5/7/98, 0800, 579 R10//9285. Repeated each day for rest of week (GD2)
8307 M23, Sun 5/7/98, 1400, 579 R10 // 9285. Repeated each day rest of week (GD2)
8307 M23, Sun 28/6/98, 0800, 579 R10 // 9285. Repeats rest of week on same frequency (GD2)
8307 M23, Sun 28/6/98, 1400, 579 R10 // 9285. Repeats rest of week on same frequency (GD2)
9260 M24, Thurs 9/7/98, 1920, 572 R4 469 469 138 138 = = (GD2)
9272 M3, Sat 18/7/98, 0800, 624/00 (GD2)
9272 M3, Sat 11/7/98, 0800, 624/00 (GD2)
9272 M3, Sat 4/7/98, 0800, 624/00 (GD2)
9441 XPH Polytone station, 06.00 (July 10) TONES Long message, ca 5 mins. Very loud signal (AB)
9950 M3, Tues 14/7/98, 1300, 183/00 (GD2)
9951 M24, Weds 1/7/98, 0700, 972 R4 605 187 (GD2)
9952 M24, Weds 8/7/98, 0700, 972 R4 348 348 117 117 (GD2)
9953 M24, Weds 15/7/98, 0700, 972 R4 864 864 93 93 = = (GD2)
10167 M12, Sun 12/7/98, 1920, Repeat of 1900 (GD2)
10270 M3, Tues 7/7/98, 0900, 503/00 (GD2)
10270 M3, Tues 30/6/98, 0900, 503/00 (GD2)
10721 M14, Sun 28/6/98, 0800, 591 R4 267 57 (GD2)
10921 M10, Sun 12/7/98, 1920, 555x3 481/20 988/46 M10 IDs abbreviated each sent 3 times (GD2)
10921 M10, Mon 13/7/98, 1920, 555x3 481x3 20 988x3 46. Repeat of Sunday (GD2)
10921 M10, Sun 5/7/98, 1920, 555x3 481x3 21 988x3 20 (GD2)
10921 M10, Sun 28/6/98, 1920, 555x3 481x3 18 988x3 30 (GD2)
11041 XPH, Weds 1/7/98, 0620, 0640/12141 (GD2)
11041 XPH Polytone station, 06.20 (July 10) TONES Long message,

ca 5 mins. Very loud signal (AB)
11416 M10, Thurs 2/7/98, 1100, 555x3 866x3 48 844x3 14 (GD2)
11567 M12, Sun 12/7/98, 1900, Repeat of 1840 (GD2)
12132 M12, Frid 17/7/98, 1600, 963x3 1 379 48 379 48 (GD2)
12132 M12, Weds 8/7/98, 06??, Call Missed (GD2)
12132 M12, Frid 10/7/98, 1600, 963x3 1 3718 142 3718 142 (GD2)
12132 M12, Frid 3/7/98, 1600, 963x3 1 8795 143 (GD2)
12141 XPH Polytone station, 06.40 (July 10) TONES Long message,
ca 5 mins. Very loud signal (AB)
12167 M12, Sun 12/7/98, 1840, 151x3 1 792 66 792 66 (GD2)
12167 M12, Sun 5/7/98, 1840, 151 151 151 1. 792 66 792 66
1900 on 11567 1920 on 10567 (GD2)
13367 M12, Sun 28/6/98, 1840, 315x3 1 792 66 (GD2)
13371 M12, Tues 30/6/98, 0600, Call Missed (GD2)

* LINCOLNSHIRE POACHER *
5422 //6458 Lincolnshire Poacher (E3) 2200 (July 19) id 82534 (DR)
5422 //6485 Lincolnshire Poacher (E3) 1900 (July 18) id 82534 (DR)
5746 //6959//9251 Lincolnshire Poacher (E3) 2100 (July 19) id 75506 (DR)
6484 Lincolnshire Poacher (E3) 1800 (July 17) id 82534 (DR)
6900 //10426//11545 Lincolnshire Poacher (E3) 2023 (July 18) id in
progress (DR)
6959 //10426//11545 Lincolnshire Poacher (E3) 2200 (July 20) id 75506 (DR)
6959 //11545 Lincolnshire Poacher (E3) 1700 (July 20) id 99843 (DR)
6959 //9251//11545 Lincolnshire Poacher (E3) 1900 (July 19) id 71416 (DR)
6959 //9251//11545 Lincolnshire Poacher (E3) 2000 (July 19) id 26079 (DR)
6959 //9251//11545 Lincolnshire Poacher (E3) 2100 (July 18) id 71416 (DR)
6959 //9251//11545 Lincolnshire Poacher (E3) 2200 (July 18) id 61235 (DR)
7337 //9251//12603 Lincolnshire Poacher (E3) 1800 (July 19) id 28290 (DR)
10426 //11545 Lincolnshire Poacher (E3) 1600 (July 19) id 99843 (DR)
10426 //12603//14487 Lincolnshire Poacher (E3) 1400 (July 20) id in
progress (DR)
11545 //12603//13375 Lincolnshire Poacher (E3) 1600 (July 18) id 28290 (DR)
11545 //12603//13375 Lincolnshire Poacher (E3) 1600 (July 20) id 61235 (DR)
11545 //12603//13375 Lincolnshire Poacher (E3) 1700 (July 18) id 26079 (DR)
11545 //12603//13375 Lincolnshire Poacher (E3) 1700 (July 19) id 47658 (DR)
11545 //13375//15682 Lincolnshire Poacher (E3) 1500 (July 20) id 89125 (DR)
11545 //13375//16084 Lincolnshire Poacher (E3) 1800 (July 18) id 75506 (DR)
11545 //14487//15682 Lincolnshire Poacher (E3) 1400 (July 19) id 89125 (DR)
11545 //14487//15682 Lincolnshire Poacher (E3) 1500 (July 19) id 61235 (DR)
11545 //16084 Lincolnshire Poacher (E3) 1700 (July 17) id 75506 (DR)
11545 Lincolnshire Poacher (E3) 1905 (July 17) id 89125 (DR)
14486 //15682 Lincolnshire Poacher (E3) 1300 (July 18) id 28290 (DR)
14487 Lincolnshire Poacher (E3) 1300 (July 19) id 71416. JAMMED (DR)
14487 //15682//16084 Lincolnshire Poacher (E3) 1200 (July 18) id 47658 (DR)
14487 //15682//16084 Lincolnshire Poacher (E3) 1200 (July 19) id 47658 (DR)
14487 //15682//16084 Lincolnshire Poacher (E3) 1200 (July 20) id 47658 (DR)
14487 //15682//16084 Lincolnshire Poacher (E3) 1300 (July 20) id 71416 (DR)

* VARIOUS STATIONS *
3389 SS/YL/5FG Atencion 123 USB 14/july (young YL) in progress,
presumed 0100 start Heavy ute QRM. Hard to tell, but it
seemed like it wasLSB + USB (ie: sidebands but no carrier) (CS)
3824 M10 numbers station. 20.00 (june/21) CW 111x3 56056x3 30x3 15
15 30 30 + 5FG 15 15 30 30. No zero's at the end. Id is hand
sent. (AB)
3840 MOSSAD NO. STN. (E10) 1902 AM 13/july YHF, msg., my first log of
this freq. and callsign for Mossad, but i know it is around
a long time) [JRU]
3927 count stn (V5) 06/21/0100 USB (BR)
4015 CW 04:00 070998 5LG Cut numbers (M08) (RC)
4016 cut no's (M8) 06/22/0300 CW (BR)
4027 M8 03:00 070598 CW 5LG Cuban cut numbers (RC)
cut no's stn (M8) 0300 07/14/98 CW (BR)
4028 Atencion Stn. 04:50 070398 YL/SS 5FG "Attencion" These stations
are very good about starting right cn the top of the hour, but
today the broadcast started early. No "Attencion" call up but
several numbers slipped out. 04:54 "Attencion" call up then

2 numbers slip out. 05:00 broadcast starts as normal (RC)
SPANISH LADY (V2) 1142Z (13.07.98) AM in progress (SD)
4506 cut no's (M8) 06/18/0100 CW msgs IIMTA UIWRA WMGRA (BR)
cut no's stn (M8) 0100 (Jul 2) CW (BR)
CW 01:00 070998 5LG Cut numbers (M08)(RC)
4832 E23 Mon 22/6/98 0757 40764 66577 55357 Rest of week as per schedule (GD2)
5050 M3 numbers station, ? 9.00 (July 3) CW 015/57 + 5FG (AB)
5127.5//5879.5 P7X 0155 on w/ 5L msgs (TS)
5180 S12 Cherta numbers station, ? 21.00 (July 1) USB 971/00 (AB).
5419 CW 03:00 070998 5LG Cut numbers (M08)(RC)
5421 AM 03:00 070998 YL/EE 5FG X2 "English man and Family" (E17) (RC)
5428 M12 numbers station, ? 19.00 (July 5) CW 941 941 941 000 (5 mins) (AB)
5758 cut no's (M8) 06/24/0200 CW with msgs WAAMA UDUTA NWGNA (BR) Cut numbers (M8) 0203 (24-6-98) CW (RST 599) (BL) M12 Sun 21/6/98 1900 941x3 000 (GD2)
5435 AM 0300 Monday 5/13/98 MOSSAD/E10 YL/EE rptg "ART". Extremely weak. (JM4)
5530 "Victor Lima Bravo 2" MOSSAD E10 2000 6/julya YL with "Nancy Adam Susan" E15 OM on same frequency. VLB should have finished 2045, they seem to have forgotten to turn the transmitter off in time for "NAS". Also happens sometimes on 14000 before "Frank Young Peter" 1400z, a MOSSAD station will sometimes appear around 1350 UTC. (SM)
5740 The three note oddity G4 2035 5/july msg:
36589 12147 54899 30125 45200 45214 95458 32548 65458 21025
12147 62025 78547 65458 62125 45214 65458 30258 65458 32125
54588 65458 62125 45214 32125 65458 63025 (HFD)
5758 cut no's stn (M8) 0200 (Jul 1) CW IGGUN UAGAN UIUAA (BR)
cut no's stn (M8) 0200 07/08/98 CW (BR)
5800 Atencion 03:00 062898 AM YL/SS 5FG "Attencion" //6826//6855 (RC)
5840 The three note oddity G4 2005 5/july msg:
36589 12147 54899 30125 45200 45214 95458 32548 65458 21025
12147 62025 78547 65458 62125 45214 65458 30258 65458 32125
54588 65458 62125 45214 32125 65458 63025
5879.5 P7X (??) 06/24/0215 CW with 5 ltr groups (BR)
6658 MOSSAD NO. STN. (E10) 1838 AM 13/july MIW, msg. by YL. my first log of this freq. for Mossad. [JRU]
6745 MOSSAD NO. STN. (E10) 1755 AM 12/july KPA20PB-msg [JRU]
MOSSAD NO. STN. (E10) 1721 AM 13/july KPA2 (no msg today) [JRU]
6780 M1 numbers station, ? 7.00 (July 5) CW 025 (4 mins) 283 44 == 5FG (AB)
6785 CW 06:00 070798 5LG Cut numbers (M08)(RC)
6786 AM 06:09 070898 YL/SS 5FG "Attencion" starts late today. Call up "29721 11922 06242" same call up as 7726 log 1hr earlier (RC)
6786 cut no's (M8) 06/22/1000 CW (BR)
6797 AM 0200 Monday 7/13/98 Atencion/V2 YL/SS 5FG in progress. Down at :46 w/three final. (JM4)
6797.5 Spanish YL Numbers 0215 29/june Strong AM but had to listen in USB QRM from RTTY (WCA)
6825 cut no's (M8) 06/18/1200 CW msgs MIAAA RDRGD MARMN (BR)
cut no's stn (M8) 1200 (Jun 25) CW UDUTD ATRDA WAAMD (BR)
cut no's stn (M8) 1200 (Jul 2) CW MRIUN UDMTN WRMTA (BR)
cut no's stn (M8) 1200 07/09/98 CW (BR) M8 Tues 23/6/98
6826 Atencion stn (V2) 06/22/0300 AM (BR)
cut no's stn (M8) 1000 (Jul 7) CW (BR)
AM 03:00 070898 YL/SS 5FG "Attencion" call up "38049 57251 80051"(RC) AM 0300 Monday 5/13/98 Atencion/V2 YL/SS rptg "Atencion 80053 58622 59683". (JM4)
6826.5 cut no;s stn (M8) 0200 (Jun 30) CW DTUID NGMUD UAGAA (BR)
6827 cut no's (M8) 06/16/0200 CW msgs AUUDA WARMA UIDTA (BR)
6840 MOSSAD NO. STN. (E10) 2103 AM 12/july EZI2 [JRU]
6854 CW 04:00 070998 5LG Cut numbers (M08) (RC) 6855 Atencion stn (V2) 06/22/0300 AM (BR)
6959 LINCOLNSHIRE POACHER (E3) 2105 USB 12/july tune, ID: 27294 [JRU]
6982 cut no's (M8) 06/22/1200 CW (BR) cut no's stn (M8) 1300 07/12/98 CW (BR) cut no's stn (M8) 1200 07/13/98 CW (BR)

6985 YL/SS 5FG. AM Mode, 0205 UTC Heavy QRM from adjacent SW Broadcast on 6980kHz. Off at 0240 UTC with "FINAL"x3. (JMO)

7482 AM 04:00 070998 strong AM carrier present. This freq. sched for Atencion spook at 03:00 but no transmission took place, no carrier here at 03:00. Now at 04:00 an AM carrier is present. More problems in Cuban spook land? (RC) SPANISH LADY (V2) 0444Z (02.07.98) AM in progress (SD)

7583 Atencion stn (V2) 06/22/1000 AM new time/freq? (BR) Atencion stn (V2) 06/24/0200 AM (BR) Atencion stn (V2) 0209 (24-6-98) AM end 0233 (BL) Atencion stn (V2) 0204 (Jul 1) AM (BR) Atencion stn (V2) 0200 07/08/98 AM (BR)

7726 SPANISH LADY (V2) 0549Z (24.06.98) AM in progress (SD) AM 05:03 070898 YL/SS 5FG "Attencion" starts late today. Call up "29721 11922 06242" // 9153 (RC)

7846 cut no's stn (M8) 1100 (Jul 1) CW NTGID MAMAN DDNGD (BR) cut no's stn (M8) 1100 (Jul 7) CW AGAUA NWAAN MAMNN (BR) cut no's stn (M8) 1100 07/08/98 CW (BR)

7887 AM 0200 Sunday 7/12/98 Atencion/V2 YL/SS rptg "Atencion 38049 53231 20561"(JM4)

7888 CW 0100 Tuesday 5/14/98 ANDUWRIGMT/M8 5F/L/G (JM4) cut no's stn (M8) 0100 (Jun 30) CW DTUID NGMUD UAGAA (BR)

7889 cut no's (M8) 06/16/0100 CW (BR)

8067 cut no's (M8) 06/22/1100 CW (BR) cut no's stn (M8) 1100 (Jul 1) CW GDUDN AWARD ARDWA (BR) cut no's stn (M8) 1100 07/08/98 CW (BR)

8126 RUSSIAN MAN (S7) 0500Z (18.06.98) AM callup 138 138 138 1 id 248 72 (SD) RUSSIAN MAN (S7) 0500Z (30.06.98) AM callup 138 138 138 1 id 248 72 (SD)

8166 RUSSIAN MAN (S7) 0500Z (14.07.98) AM callup 131 131 131 1 id 248 72 (SD) RUSSIAN MAN (S7) 0500Z (14.07.98) AM callup 131 131 131 1 id 248 72 (SD)

8185 cut no's stn (M8) 1100 (Jun 25) CW ANIDN RRGWD MAAMD (BR)

8187 cut no's stn (M8) 1100 07/09/98 CW (BR)

8307 M23 numbers station, 8.00 (July 5) CW 579 for 10 mins //9285 (AB)

8320 Cherry Ripe number station, 1200 23/july id 72337 (good signal)(NJ) // 12056 // 13866 Cherry Ripe E4 1200 24/june usb 58820 5ngs 05104.(CT) CHERRY RIPE (E4) 1200Z (19.06.98) USB id 13235 (SD)

8320 // 12056 // 13866 e4 1301utc usb 55109 5ngs 73222.(CT)

9216 GMN FAPSI (M42) 06/18/0052 rpt of "TIKAS" msg (BR)

9238 SPANISH LADY (V2) 0600Z (24.06.98) AM id 41823, 33411, 41731 (SD) AM 06:00 070898 YL/SS 5FG "Attencion" very weak (RC) SPANISH LADY (V2) 0606Z (01.07.98) AM in progress (SD)

9251 // 7337, 12603 LINCOLNSHIRE POACHER (E3) 1906 USB 13/july tune, ID: 76557, msg. [JRU]

9260 YL/SS 5F (V2) 0211 (24-6-98) AM. Does not seem to be parallel to 7583 (different voice). (BL) Atencion stn (V2) 0200 (Jul 1) AM (BR) AM 02:00 070898 YL/SS 5FG "Attencion" call up "616 07"(RC) Atencion stn (V2) 0200 07/08/98 AM (BR)

9263 Cherry Ripe number station, 1100 23/june id ? (good signal)(NJ)

9263 // 13866 // 14469 e4 1115utc usb 5 ngs missed callup.(CT)

9263 //13866 //14469 Cherry Ripe E4 1100 7/july ID: 72243 5ngs 6985.(CT)

9263 CHERRY RIPE (E4) 1119Z (13.07.98) USB very weak and in progress (SD)

9268 SPANISH LADY (V2) 0600Z (16.06.98) AM id 971 04 and 584 02 (SD)

9285 M23 numbers station, 8.00 (July 5) CW 579 for 10 mins // 8307 (AB)

9326 RUSSIAN MAN (S7) 0525Z (16.06.98) AM in progress (SD) 0520Z (18.06.98) AM callup 138 138 138 1 id 248 72 (SD) 0520Z (30.06.98) AM callup 138 138 138 1 id 248 72 (SD)

9366 RUSSIAN MAN (S7) 0520Z (14.07.98) AM callup 131 131 131 1 id 248 72 (SD) 0520Z (02.07.98) AM callup 131 131 131 1 id 248 72 (SD)

9393 HIGH PITCHED POLYTONE (XPH) 0603Z (24.06.98) AM in progress (SD) HIGH PITCHED POLYTONE (XPH) 0603Z (26.06.98) AM (SD)

9394 XPH - Polytone Station 0600 AM 24/june SINPO 45444. Carrier already on at 0557z/off at 0604z/tx moved to 11494kHz within 1 minute. (ABe) XPH - Polytone Station 0600 AM 26/june SINPO 55544 off at 0605z/tx moved to 11494kHz at 0606z.(ABe)

9415 CUBA/SPOOK The Bored Man 1413-1425*, USB 28/june SP M "R290" msg & longcounts, first time noted here, // usual 6868/4106, all good. Suspect this one will get out very well. (ANUS) Atencion Stn V203:55 AM 070598 YL/SS 5FG This broadcast started = early with

"Attencion, Attencion, Attencion, Attencion" then a pause = "Attencion, Attencion 974 011111111111.....etc...." the computer got = stuck on uno and repeated it many times. The operator realizes it and = you hear some beeps from someone resetting the computer. 04:00 = broadcast starts as normal "Attencion 974 01" call up msg 01 45 then = into 5FG finale X2 04:06. "Attencion 974 01" call up msg 01 45 then = into 5FG at 04:08. finale X2 04:12. This one seems to be short every = week. (RC) The Bored Man USB 1400 Sunday 7/12/98. SS/OM rpt "? 7 23" (couldn't make out the letter). Better copy than 6868, but still tough.(CS)

9441 XPH - Polytone Station 0600 AM 03/july SINPO 43554 off at 0604z. Tx moved to 11041kHz immediately. Broadcast Station QRM. (ABe) XPH-Polytone Stn. 0600 USB 22/july carrier from 0554, tones. (JRU) XPH - Polytone Station 0600 AM 8/july SINPO 43544 off at 0605z. Tx moved to 11041kHz at 0606z. Broadcast Station QRM. 0600 AM 10/july SINPO 52544 off at 0605z. Tx moved to 11041kHz at 0606z. Broadcast Station QRM. (ABe) 0600Z (15.07.98) AM (SD)

10223 count stn (E5) 06/17/1200 USB msg 869 count 215. 1200 (Jul 1) USB msg 690 count 215. 1200 07/08/98 USB with msg 690 count 215 (BR)

10234 AM 0400 Monday 7/6/98 Atencion/V2 YL/SS 5FG in progress. Very weak.Possible replacement for 6768 which was silent.(JM4)

10321 AM 12:00 070898 YL/EE 3+2FG "Counting" (E05) // 13906 (RC)

10328 BPA FAPSI (M42) 06/20/1550 rpt of above (BR)

10452 Cherry Ripe number station 1000 23/june id 94346 (good signal)(NJ) 1000Z (13.07.98) USB very weak simulcast 15624//17499 (SD) 1000 23/june id 94346 (good signal)(NJ). 1000Z (13.07.98) USB very weak simulcast 15624//17499 (SD)

10566 cut no's stn (M8) 1300 07/12/98 CW (BR)

10826 RUSSIAN MAN (S7) 0540Z (18.06.98) AM callup 138 138 138 1 id 248 72 (SD) 0540Z (30.06.98) AM callup 138 138 138 1 id 248 72 (SD)

10858 cut no's (M8) 06/18/1200 CW msgs GDRMN DMWIA NTDGN (BR) cut no's (M8) 06/16/1200 CW msgs MDWDD NUGAN WRAUD (BR) cut no's (M8) 06/23/1200 CW with msgs GAGIN RNATD NWNRN (BR) cut no's stn (M8) 1200 (Jun 25) CW DUDMA RRNUN WGIGA (BR) cut no;s stn (M8) 1200 (Jun 30) CW (BR) cut no's stn (M8) 1200 (Jul 7) CW NNMIR GTRNN RTRMN (BR) cut no's stn (M8) 1200 07/09/98 CW (BR) cut no's stn (M8) 1200 07/14/98 CW (BR)

11041 XPH - Polytone Station 0620 AM 03/july SINPO 55444Off at 0624z. Tx moved to 12141kHz immediately.(ABe) 0610 USB 22/july tones (JRU) 0620 AM 8/july SINPO 44544 Off at 0625z. Tx moved to 12141kHz at 0626z. (ABe) 0620 AM 10/july SINPO 55445 Off at 0625z. Tx moved to 12141kHz at 0626z.(ABe) 06.20 (July 10) TONES Long message, ca 5 mins. Very loud signal (AB) 0620Z (01.07.98) AM with new callup tones (SD) 0620Z (15.07.98) AM (SD)

11147 SPANISH MAN (V7) 0600Z (18.06.98) AM callup 118 118 118 1 id 810 37 (SD) 0600Z (30.06.98) AM callup 118 118 118 000 null message (SD) V7 Tues 23/6/98 0600 118x3 000 (GD2)

11149 Spanish Man V7 0600 23/june AM ss/om/frequency id-118/call-'000'/ no tfc SINPO 55444 off at 0605z. Tx moved imediately to 12149 kHz (ABe) Spanish Man V7 0600 25/june AM ss/om/frequency id-118/ call-'000'/no tfc SINPO 54555 off at 0605z. Tx moved immediately to 12149 kHz. (ABe) Spanish Man V7 0600 AM 30/june ss/om/frequency id-118/call-'000'/no tfc SINPO 55555 off at 0605z. Tx moved immediately to 12149 kHz. (ABe)

11166 RUSSIAN MAN (S7) 0540Z (14.07.98) AM callup 131 131 131 1 id 248 72 (SD) 0540Z (14.07.98) AM callup 131 131 131 1 id 248 72 (SD)

11270 S25 Mon 22/6/98 0820 615 01738 08328 (GD2)

11461 Spanish Man V7 0600 AM 02/july ss/om/frequency id-403/call-'000' /no tfc SINPO 55545 off at 0604z. Tx moved to 12061 kHz within 30 seconds. (ABe) Spanish Man V7 0600 7/july ss/om/frequency id-403 /message-1/id key-5829/gc-39/5fg SINPO 45444 off at 0609z with 000 000. Tx moved to 12061 kHz at 0610z. (ABe) Spanish Man V7 0600 9/july ss/om/frequency id-403/message-1/id key-5829/gc-39/ 5fg SINPO 42543 off at 0609z with 000 000. Tx moved to 12061 kHz at 0610z. (ABe) Spanish Man V7 0600 AM 14/july ss/om/frequency id-403/call-000/No tfc SINPO 43454 off at 0605z. Tx moved to 12061 kHz at 0606z.(ABe)

11494 HIGH PITCHED POLYTONE (XPH) 0620Z (24.06.98), 0620Z (26.06.98)

(SD) 0620 AM 24/june SINPO 55535 Off at 0624z/tx moved to 13394kHz within 1 minute.(ABe) 0620 26/june AM SINPO 45434 Off at 0625z/ tx moved to 13394kHz at 0626z.(ABe)

11570 // 12866 Cherry Ripe E4 1300utc usb 72243 5ngs. (CT)

11634 Russian man 0100 (Jul 2) AM with 627 x3 then 00000 (BR)

11637 GMN FAPSI (M42) 06/18/0045 RTTY 75/425 with "TIKAS" msg (BR) GMN FAPSI (M42) 0045 (Jul 2) RTTY 75/425 46's - no tfc (BR)

12056 Cherry Ripe number station, 1200, 23/july id 72337 (poor signal)(NJ)

12061 Spanish Man V7 0610 AM 02/july ss/om/frequency id-403/call-'000' no tfc SINPO 55545 off at 0616z. Tx off immediately.(ABe) Spanish Man V7 0620 7/july ss/om/frequency id-403/message-1/id key-5829 gc-39/5fg SINPO 44444 off at 0629z with 000 000. Tx moved to 13361 kHz at 0633z. (ABe) Spanish Man V7 0620 AM 9/july ss/om/frequency id-403/message-1/id key-5829/gc-39/5fg SINPO 45544 off at 0629z with 000 000. Tx moved to 13361 kHz at 0630z.(ABe) Spanish Man V7 0610 14/july ss/om/frequency id-403/call-000/No tfc SINPO 55445 off at 0615z. Tx off immediately. (ABe)

12092.8 ??? 1304-1337 8/july CW mmm o mmmmmm o mm o 0 oomo mom00 mm o mo t later into amiru widda wmwdd tugwt drmnr = = = tatr aangr, this is below 12095 BBC, very strong s15 - 20 dB at times. I was unable to find a listing for this broadcast?? Is it a new one Guy??? (CT) sounds like cuban cut numbers with tx problems -jru

12141 XPH - Polytone Station 0640 AM 03/july SINPO 55545 Off at 0644z. Tx off at 0645z.(ABe) 0640 AM 8/july SINPO 55555 Off at 0645z. Tx off at 0646z. (ABe) 0640 AM 10/july SINPO 55344 Off at 0645z. Tx off at 0646z. (ABe) 06.40 (July 10) TONES Long message, ca 5 mins. Very loud signal (AB) 0640Z (15.07.98) AM (SD)

12147 SPANISH MAN (V7) 0620Z (18.06.98) AM callup 118 118 118 1 id 810 37 (SD)

12149 Spanish Man V7 0610 23/june AM ss/om/frequency id-118/call-'000' no tfc SINPO 55545 off at 0616z. Tx off imediately. (ABe) 0610 AM 26/june ss/om/frequency id-118/call-'000'/no tfc SINPO 44444 off at 0616z. Tx off immediately (ABe) 0610 AM 30/june ss/om/frequency id-118/call-'000'/no tfc SINPO 45544 off at 0616z. Tx off immediately.(ABe)

12167 M12 numbers station, ? 18.40 (July 5) CW 151 151 151 1 (5 mins) 792 66 5FG 000 000 (AB)

12215 cut no's (M8) 06/16/0100 CW (BR)

12300 //14421The Counting Station - Spanish Language Service (V5) is now on the air at 0200 on Sat, 7/11/98 with the latter giving better reception here at my QTH. Message to "697". Count 122. (CS)

12603 // 7337 LINCOLSHIRE POACHER (E3) 1803 12/july tune, ID: 76557 and msg follows [JRU]

13361 Spanish Man V7 0640 7/july ss/om/frequency id-403/message-1/id key-5829/gc-39/5fg SINPO 55555 off at 0649z with 000 000. Tx off immediately. (ABe) 0640 AM 9/july ss/om/frequency id-403/message-1 id key-5829/gc-39/5fg SINPO 55555 off at 0649z with 000 000. Tx off immediately.(ABe)

13374 cut no's stn (M8) 1800 (Jun 29) CW (BR)

13394 HIGH PITCHED POLYTONE (XPH) 0640Z (24.06.98) AM (SD) 0640Z (26.06.98) AM (SD) 0640 24/june AM SINPO 45334 Off at 0644z. Tx off within 1 minute.(ABe) 0640 AM 26/june SINPO 35333 Off at 0645z. Tx off within 30 seconds.(ABe)

13556 HZW FAPSI (M42) 06/20/2008 rpt of above (BR) 2012 (Jul 6) RTTY 75/425 1/503 (BR)

13847 SPANISH MAN (V7) 0640Z (18.06.98) AM callup 118 118 118 1 id 810 37 (SD)

13866 Cherry Ripe number station, 1100 23/june id ? (poor signal)(NJ) 1200 23/julyid 72337 (poor signal)(NJ)

13906 Count stn (E5) 06/17/1200 USB msg 222 count 215 (BR) 1200 (Jul 1) USB msg 222 count 215 (BR) 1200 07/08/98 USB with msg 222 count 215 (BR)

14421 AM 03:00 070798 YL/SS 3+2FG "Counting" (V05) (RC) 0300 07/14/98 USB (BR)

14469 EE/YL 5FIGx2 stn 1100 07/09/98 AM - who is this? (BR)

14650 crypto stn 0029 (Jun 30) RTTY 75/200 sent "DE 074 ZNY CCCCC/CCCCC BT" then 5LG's repeated at least 6 times, then off at 0052 (BR)

14731 BPA FAPSI (M42) 06/20/1515 RTTY 75/425 with 7/2593 msgs (BR)

1515 (Jun 29) RTTY 75/425 46's - no tfc (BR) 1515 (Jul 6) RTTY 75/425 46's - no tfc (BR)

14843 JMS FAPSI (M42) 06/23/2220 carrier on for abt 30 secs, then off never came on at 2230 for sked but at 2320 hrd morse "O" sent followed by 2 sec burst of hi spd data. Have hrd this on other freqs as well. (BR) JMS FAPSI (M42) 2230 (Jul 1) RTTY 75/425 46's - no tfc (BR) JMS FAPSI stn (M42) 2230 07/08/98 RTTY (75/425) with 46's only (BR)

14941 WNY FAPSI (M42) 1810 (Jul 6) RTTY 75/425 1/337 (BR)

15478 // 16050 count stn (V5) 06/24/0100 USB msg 902 count 142 (BR) 0100 (Jul 8) USB msg 407 count 219 (BR) 0100 USB 07/10/98 with msg 407 (BR) 01:00 070898 YL/SS 3+2FG "Counting" (V05) (RC) 0100 07/15/98 USB with msg 407 count 219 (BR)

15735 TCS E5 1235-1251 7/july AM 3ngs / 2ngs finished with end. very good signal strength s10-15dB.(CT)

16086 The Counting Stn. E5 1140 usb/am 3ng/2ng.(CT) A new freq??? (CT) 1100 07/09/98 USB with msg 414 count 215 (BR)

16207 Spanish man 2000 (Jun 29) AM 694 x 3 then 000 til 2005 (BR)

16218 HZW FAPSI (M42) 06/20/2000 RTTY 75/425 with 1/143 msg (BR) HZW FAPSI (M42) 2000 (Jul 6) RTTY 75/425 1/503 (BR)

17499 CHERRY RIPE (E4) 2300Z (14.07.98) USB id 15185 simulcast 20474//23461 (SD)

18444.5 crypto stn 0030 (Jul 2) CW sent like "NR 73 J 02 0274754 19NR8 BT" then 5LG's til past 0130 (BR)

19088 WNY FAPSI (M42) 1800 (Jul 6) RTTY 75/425 1/337 (BR)

19884 USB 0100 Tuesday 5/14/98 Cherry Ripe/E4 Extremely weak - only tune was audible. (JM4)

################### contributors ########################

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73, 000 000 ZNN DE JASCHA

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Good News! The Logs Column is back!

Thanks to all contributors who took the time to share their logs. Special thanks go to my co-editors of Team Logs who have volunteered to take the burden of editing the whole bunch of logs that come along.

As I recall from former editions there have been several sections for the listing, i.e. Digital, Military etc. We will now have a single list that is sorted just by frequency.

Format requirements have also been changed to a basic

FREQ CALL: EVERYTHING ELSE.

However, I would like to ask you to stick to the initial WUNformat, i.e.

FREQ CALL: TIME MODE, COMMENTS dd/Month (INITIALS).

Note the addition of the date and its format (like 18/Jul) just in front of your initials. This would help us in processing the logs.
Thanks in advance.

Remember that there are several ways of taking part in the combined effort to present the most actual overview of activities on the bands below 30 MHz. Besides posting to the WUN listserver you may send logs directly to me or just drop a log at the WUN server. Deadline for all logs contributions will be the 10th of each month. This will give Team Logs the time needed to get the column together and mail it to the WUN editor for the appropriate edition of the WUN newsletter.

We will try hard to keep up with the standards set by our predecessors on the column. However, if there are any comments or suggestions feel free to just drop me a line.

Enough said for now and on with the logs...

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294 BL: BUTT OF LEWIS 2304 MSK First log of newly installed/unencrypted dgps modem. Decode of transmission confirms expected ID 684. 10/Jul (DW)

304 LATOKARI, TURKU 2346 MSK 200bps dgps modem in Finland (nice piece of dx!). Type 9 msgs, using one of expected ID's - 404 (tx stn). 16/Jul (DW)

2182 NMN: CAMSLANT Chesapeake, Va 0259 USB clg Air Force Rescue 82101, adv shift & answer 8983 (RB) * SYDA: Zim Odessa I 1805 USB clg "Rodos Radio" (SVR), no reply (CK)

2590 SVN: Athens R., GRC 2005 USB tfc list, announced on 2182 (CK)

2989 ATHINA: Athens Air, GRC 1710 USB clg IPPOKRATIS (Kos Airport, GRC) (ANE) * "KALAMATA": Kalamata Airport, GRC 1718 USB wkg ATHINA (Athens Air, GRC) (ANE)

3116 Bravo Bravo: UNID Greek Navy 2017 USB passing traffic to 57BV (UNID Greek military) (ND2)

3356.2 UNID 1951 FAX 90/576/R/700 LSB of 3358.1, shift uncfmd, chart weak/noisy, station not listed. Last time Kiev (?) logged using USB of 3358.1 (assigned 3360). 9/Jul (DW)

3814 FDG: FAF Bordeaux, F 0055 RTTY 50/425 ry (ALF)

3824 M10 numbers station. 2000 CW Different from normal M10 format. 111x3 56056x3 30x3 15 15 30 30 + 5FG 15 15 30 30. No zero's at the end. Id is hand sent. 21/Jun (AB)

3840 MOSSAD NO. STN. (E10) 1902 AM YHF, msg., my first log of this freq. and callsign for Mossad, but i know it is around a long time) 13/jul (JRU)

4068.8 NJIS: UNID tactical 1800 RTTY 50/170 tfc, RYRYRY A2ML ER NJIS. See 5830.8 kHz (ALF)

4165 MIW MOSSAD NO. STN. 2106 USB MIW2 repeated. 8/jul (JRU)

4185 UZFB: ??? 0820 CW clg HPP (Panama) (BB4)

4282 Rxx88: UNID Russian 2025 CW R_P66 (RGP66?) DE R__88 .... K, RFY94 RFY94 RFY94 QSA? K' (ALF)

4300.5 KEJ: Honolulu Radio 0934 CW marker 23/May (JRC)

4375 BERMAGUI: 1132 USB (mine countermeasures vessel) calling JERVIS BAY CONTROL with routine immediate message including weather report at Broken Bay, N.S.W. (SD) * Canberra Control 1130 USB calling 8 VICTOR JULIET advising no joy w/tape on 12MHz and requesting him to go to 4MHz (SD)

4435 ISL: UNID Italian Military (Army ?) 1443 USB sx m II wkg IV5. 1450z QSY into LSB wkg IV5 & IV5 MOBILE. refer to 'FREQUENZIA FC'. See 5068 kHz (ALF)

4443 VLDR: UNID static tactical 2203 CW QTC 5 LGS, time: CEST, using long zeros, end: =VLDR (ALF)

4459 UNID: 2211 RTTY 50/425/R 5 FGS, after 50 groups: ;50; end handtyped: - 2216 (time: UTC), into CW. See 5086 kHz (ALF)

4503 UNID: Russia ? 1831 CW time marker, UTC +4h (=Moscow/etc. summer-time):2231 2231 2231 ... 2232 2232 (ALF)

4559 UNID: maybe FAPSI/Russian Intelligence 1105 CW marker: 738 738 738 T857T T857T T857T into beeps and next marker: 738... 89557 89559 89557, beeps, mkr: 738 ... 6T657 ..., beeps, mkr: 738 ... 641T8 641T8 641T8, s/off. Each marker for about 3 minutes. (ALF)

4575 Argentine Nat'l Police 0305 USB w/two-tone siren like tone, then SS/OM w/app ann's (RB)

4594 P3D8: UNID tactical, tent. Military 1118 CW header: ... 1318 = 161 P3D8 = into 5 FGS, short zeros. Time: CEST (=Berlin/etc.), end: == XXX 77777 K, into simplex cfm-tfc (ALF)

4598 FDG: FAF Bordeaux, F 1844 CW v-mkr (ALF)

4712 Lvov Radio, UKR: 1745 USB sx YL RR, other player Vinnitsa Radio (UKR) and Mineralny Vody Radio, RUS (ALF)

4739 RESCUE 314: CanForces a/c 0406 USB wkg Halifax Military w/pp Halifax RCC, is enrt to Halifax Harbor pad w/3 survivors, ETA 20 mins, need ambulance standing by. Was re SAR for a overdue fishing vessel off Nova Scotia (RB) UNID: Number Station 1620 CW marker: 53263 53262 ...., then many beep's, =23 23 and 5 FGS, short zeros, end: =SK, s/off. Not FAPSI ? (ALF)

4742 Architect: ???? ??? wkg Kiwi806 Pass message to St.Mawgan Base Ops, eta 1130z? Architect With color code Black for Brize Norton, think something wrong there. * SHF454: 27Sqn Ops ???? ??? request to know if they were ops normal, eta EGQL and closing down (JF) [Time, Mode missing FORMAT! - LOGS]

4787 VLDR: UNID static tactical 1628 CW QTC-header: .. 1828 = 161 WZVT = and 5 FGS, long zeros, end: =VLDR K and short simplex cfm-tfc, s/off (ALF)

4810 UNID: 0343 UNID 150/700 encrypted 12/Jul (DW2)

4922.5 FDG: FAF Bordeaux, F 0130 CW v-mkr (ALF)

4960 UNID: 0415 CW (fast ?/? Never heard anything but VOA & other SW sta. here. (BH4)

4962 SNN299: MFA Warsaw, POL 1553 CW v-mkr (ALF)

5001 4XZ: IN Haifa, ISR 1905 CW v-mkr (ALF)

5009 DPQT: UNID static tactical 1615 CW 5 FGS, long zeros, end: =DPQT, into sx cfm-tfc. 1234z 5 FGS to M5RT, 1457z to HC8J 'QTC 5020 22 1657 = 453 HC8J =' . Heard here last time in 8/97 (ALF)

5011 CVLO: UNID tactical 1615 CW wkg TX8B (ALF)

5027 PROMETKA 78?: UNID Polish Mil? 1142 USB OM sx PP wkg GROSAM? ___ , message of letters (no groups), self id as TELEGRAMMI, later some scrambled voice ALL TIME with 'RTTY'-synchro. polish spelling like: VIOLETTO, BARBARA, HENRYK, JOZEF, SIGMUND, KAROL, OLGA, TADEUS, ROMAN, STAPHAN, YPSILON, URSULA, IGNAZI, LUDWIG, GUSTAV, XAWERE, etc. ...) (ALF) * UNID: Czech Number Station 1400 USB YL Cz marker: 555 555 555 616 616 616 05 into 2x5 FGS after 41 41 05 05 TOSOR TOSOR, end: TOSOR TOSOR 42 42 05 05 KONETS KONETS (ALF)

5028 UNID: tent. Russian Intell./FAPSI ? 1645 CW clg: ... 18 555 555 555 571 571 571 41 275 275 275 41 T49 T49 T49 36 435 435 435 18 571 571 571 86 86 41 41== into 2x5 FGS, short zeros (ALF)

5050 M3 numbers station 0900 CW 015/57 + 5FG 3/jul (AB)

5055 VICTOR 212: UNID NATO Military, Europe 1805 USB m EE wkg T58, R282 (ALF)

5053.5 UNID: 1635 CW msg: ... 141 72896 DAPx 141 XXX XXX MNJU MNJU 72896 DAPx IK 141 72896 DAPx IK 141 +, s/off. x: means special morse character ---. (ALF)

5068 ISL: UNID Italian Military (Army ?) 1320 USB sx m II wkg IV5, IM4,

see 4435 kHz (ALF)
5077 RAC32: UNID Russian 1810 CW wkg RAQ51, 5 FGS/T, simplex cfm-tfc like: a) GR 81 * b) GR 81 = 61451 K (ALF)
5085 Russian/CIS Domestic Aero Coordination Net: 1500 USB OM/YL sx RR, player: TASHKEWI ?, TARIS ? (ALF)
5086 UNID: 1435 RTTY 50/425/R 5 FGS, after 50 groups: ;50; end handtyped: - 1435 (time: UTC) and OP chat, later CW. See 4459 kHz (ALF)
5087.5 MIND READER: UNID NATO (Europe) Mil 1410 USB sx m EE wkg 6IZ w/pos reports, wkg DEPELL ?. 2AT clg GARRY ?. Found NATO AIRCENT (Europe) Net on this freq., right ?? (ALF)
5096.8 CFH: CF Halifax, CAN 0141 RTTY 75/850 kind of CARB (ALF)
5111 RMP: RN Kaliningrad, RUS 1533 CW 5 LGS in vy QRQ, later 5 FGS/T normal speed. Into P channel-marker (ALF)
5113 UKWO: UNID tactical 1550 CW wkg 4-graphs fr QSA? & RK ra/chks (ALF)
5118 M6PA: UNID tactical 1625 CW wkg CKBD fr QSA-tfc (ALF) * FR4P: UNID tactical 1800 CW QAN5 DE FR4P ZBG ZMO ZHR QYT6 K (ALF)
5120 FDI22: FAF Narbonne, F 1457 CW v-mkr (ALF) * FDI22 FAF Narbonne 1621 CW vvv vvv de FDI22 (WP3)
5132.5 UNID: 1450 USB OM Polish Uwaga-announcements, e.g.: UWAGA, TU HAWANA TU HAWANA CYCLODRON DELTA, UWAGA, TU HAVANA TU HAVANA MANGAN DELTA. Other Uwaga's are longer with numbers,many ZEROs (ALF)
5144 DHO24: UNID GAF/GN 1410 USB sx m GG wkg 34XC w/coord. fr noise like data (ALF)
5152.5 UNID: 1448 continiously 'HH6Q' (ALF)
5178 UNID: Backwards Music station, ? 2156 TONES 27/jun (AB)
5180 UNID: Number Station ? 1033 CW marker: T47/TT, 1035: == T T T (ALF) * S12 Cherta numbers station, ? 2100 USB 971/00 1/jul (AB)
5195 DJ1H: UNID Italian Military, maybe Army 1120 USB sx m II wkg AK41 (ALF)
5196.8 CFH: CF Halifax, CAN 0140 RTTY 75/850 kind of CARB, spurious from 5096.8 ? much weaker here (ALF)
5206 CONTROL: UNID British RN 1345 USB sx m EE wkg KA, KD, KO (ALF)
5213 RMP: RN Kaliningrad, RUS 1704 CW RR wx QTC to RZK (ALF)
5213.5 UNID: 1500 USB OM Polish Uwaga-announcements, e.g.: UWAGA, TU SENJOR TU SENJOR RADAR GALA (numbers) ZERO ZERO. (ALF)
5221 UNID: 0522 ARQ-M2 144/0 Single tone "mystery station" 8/Jul (RH2)
5217.5 Russian Air Defence: CW 2010 time-mkr UTC +4h: =99TT1T??8????? (ALF)
5223 K8K: USCG aircraft 2346 USB wkg H7K//Aircraft operating from H5A. (MC2)
5224 Stockholm Radio, S: 1220 USB sx m EE wkg Finnair 842 QK-AR nr Visby (ALF)
5226 VLDR: UNID (static) tactical 1325 CW 5 FGS, 0=0, end =VLDR K into cfm-tfc. Heard VLDR here on this freq. last time 8/97. Static freq and call. Using CET, no east EU time (ALF)
5229 GP3J: UNID tactical 1435 CW wkg MC3F sx, long zeros, msg: 681 080 580 550 985 590 385 550 861 665 COL 681 080 ... K (ALF)
5230 Mossad: 1817 AM vmf EE 'KPA2' (ALF)
5236.3 FDI8: FAF Nice, F 1538 RTTY 50/425 ry, Le Brick (ALF)
5240 2RR7: UNID Italian Army 1700 USB sx m II wkg 1L48, 'passo'-msgs/ NATO-spelling. Hrd that net last time here 4/97 -> fixed freq (ALF)
5245 7DYA: UNID Italian Army 1520 USB m II clg ZM3W, 4NOE, NH3G (ALF)
5249.8 UNID: Polish Army ?? 1030 RTTY 50/425/R dx, header: 889 102 8 1230 889 ;; ZCCZLN ZUE ZEP ;; into 5 FGS, end: ;100; 1042 R ? QRU - (ALF)
5258 DPQT: UNID (static) tactical 1229 CW M5RT M5RT M5RT DE DPQT DPQT QTC 45 20 21 1428 = 347 M5RT = into 5 LGS without special (cyrill, etc.) signs, end: = DPQT, into simplex confirmation-tfc (ALF)
5257.5 FDI22: FAF Narbonne 1656 CW vvv vvv vvv FDI22...ar (WP3) * FDI22: FAF Contrexeville, F 1245 CW v-mkr (ALF)
5277 PANTHER: DEA Bahamas 0402 wkg numerous units re interdiction ops. STINGRAY-40 (USCG a/c), 39C, SHARK-29 (uscg cutter) all in communications (LCB) * SHARK 05: USCG Cutter 0051 USB wkg PANTHER on DEA freq ALPHA re switch to BRAVO freq (LCB) * PANTHER:DEA Bahamas 0402z PANTHER wkg numerous units re interdiction ops and tracking a vessel. STINGRAY-40 (uscg a/c), 39C, SHARK-29 (uscg cutter) all in communications. "Launch boat, do not board the vessel, get names of folks aboard" 2/jul (LCB)
5320 NCF:? Miami Op's 0510 USB wkg GANTSEC, USCG Greater Antilles Section, rdo ck (RB)

5340 UNID: Number Station 1337 USB YL EE 2x5 FGS, end: 'end' and s/off. Heard on this freq. before the Swedish Rapsody in AM (YL 2x5 fgs, but in german) and the LOLO (Enigma: M4) in CW with 5 FGS using long zeros (ALF)

5347.5 A1: Dutch Army, HOL 21.34 (June 27) USB Tactical talks + 50bd RTTY on 5349 kHz (AB)

5363.1 ZSEZJE: UNID, Polish Army? 1654 RTTY 50/170/R endless RYRY, later after header: 335 TSM 27 17.45 335 ; ZWA ; FM ZSEZJE FOR ZNVZWX / ZSRZJI / - ZFDZLW ; 44477 - 19999 end, into clear cfm-tfc: RPR RPT RPT RPT, then same msg repeated (ALF)

5367.5 UNID: French Air Force 1550 USB voice-mirror OM/FF: "(Je suis) un emission de (Calorie?) destine pour reglage .... recepteur. Lundi, Mardi, Mercredi, Jedi, Vendre, Samedi, Dimanche (weekdays..) 301 302 303 304 305 306 307 308 309, Janvier, Fevrier, Mars, Avril, ..., Octobre, Novembre, Decembre (months)." On 5387.5 I heard FAF in CW with v-mkr: FDI22 (Narbonne, 11/97) and FDY (Orleans, 9/97) (ALF)

5383.5 1IR: UNID NATO 0145 USB sx m EE (US accent) wkg K7J, U0P, 0NH w/tracking reports (ALF)

5391 UNID Russ. Navy: 1711 CW ch.-mkr V (ALF)

5403 BUCHAN: RAF Buchan, G on UK ADGE Channel XA 1340 USB sx m EE tracking reports to K7J, clg CROWBAR (mobile radar unit of TACC Boulmer) for ra/chk. (ALF)

5420 6RR: UNID NATO Military, Europe 1542 USB sx m EE wkg 7PC (ALF)

5428 M12 numbers station, ? 1900 CW 941 941 941 000 (5 mins) 5/jul (AB)

5431 D8E: UNID NATO Military, Europe 1855 USB sx m EE wkg X5U (ALF)

5448 UNID: French Military 1511 CW non protege open FF txt. Exercise ? (ALF)

5450 MVU: RAF Drayton 0304 USB w/RAF VOLMET. (12/Jul) (DW2)

5443.7 UNID: 0536 ARQ-M2 144/0 Single tone on Space only 8/jul (RH2)

5475 UNID: tent. FAPSI/Russ.Intell ? 1515 CW 2x5 FGS, T=0, end: == 529 529 48 48 T T T (ALF)

5478.1 ZSEZJE: UNID, Polish Army? 1554 RTTY 50/170/R online encrypt, clear header: 335 TSM 27 17.45 335 ; ZWA ; FM ZSEZJE FOR ZNVZWX / ZSRZJI / - ZFDZLW ; 44477 - 19999 (ALF)

5486 EURO 05: Italian Military 1430 USB sx m II wkg EURO 00, coord. for unclass RTTY 50/850 on 5487.8 kHz from EUROBSP to EUROCOM (ALF)

5487 Rostov Radio, RUS: 1623 USB sx YL RR clg Wolgograd Radio (ALF)

5487.8 EUROBSP: UNID Italian Military 1430 RTTY 50/850/R RR EUROCOM DE EUROBSP ... FM G5-EUROBSP TO EUROCOM/G8-LCC, UNCLASS open French txt abt EUROFOR, coord.in Italian between EURO 05 (=EUROBSP) and EURO 00 (=EUROCOM) on 5886 kHz simplex. txt abt EUROFOR (ALF)

5530 Mossad number stn 1931 USB YL keeps repeating 'VLB2' (MB3) * Mossad: 1948 AM vmf EE 'VLB2' (ALF)

5541 REACH F6 Evergreen: 1604 USB wkg Stockholm, fm ETAR, s/c CG-AK, N479EV B747-132 (ALF) * SOUTHERN AIR TRANSPORT 600 1726 USB dept. ELLX, eta LHSV 0150, s/c ck BH-AL. 13/jul (JRU)

5598 AIR FRANCE 033: 0358 USB wkg. Shanwick with posrpt, s/c ck HL-FJ 1/jul (JRU) * DELTA 108: 0423 USB posrpt to Santa Maria, s/c ck CK-?B 7/jul (JRU) * SWAP 23: 0424 USB posrpt, qsy'd to Madrid control on vhf 7/jul (JRU) * TWA 904: 0425 USB posrpt 46N40W, Santiago next 7/jul (JRU) * KLM 0750: 2230? USB WORKING SANTA MARIA AIR RADIO AT 40N 58 W @37K (KW4)

5600.1 UNID: tent Russian 2155 RTTY 50/170/R ;KRIPT NA PL DLQ WSEH 4-53; .... ; ___ NR:401/492 ___; ..... GRAMMA (ALF)

5649 AIR FRANCE 033: 0438-0441 USB wkg Shanwick with posrpts. 7/jul (JRU) * AIR FRANCE 347: 0439 USB posrpt, qsy'd to Scottish control on vhf 7/jul (JRU) * EGYPTAIR 987: 0438-0441 USB wkg Shanwick with posrpts. 7/jul (JRU) * LTU 1531 0438-0441 USB wkg Shanwick with posrpts. 7/jul (JRU) * SABENA 544: 0438-0441 USB wkg Shanwick with posrpts. 7/jul (JRU) * SPEEDBIRD 1514: 0435 USB FL change 7/jul (JRU) * SPEEDBIRD 965: 0431 USB posrpt, s/c ck BD-FL 7/jul (JRU) * SPEEDBIRD 9656: 0435 USB 7/july VPCRB 0436 USB posrpt to Shanwick 7/jul (JRU)

5652 Algiers, ALG: MWARA AFI-2 0045 USB wkg Speedbird 2078 (ALF)

5661 TC-RAM: Cessna 650 of Set Air, Istanbul 1245 USB clg Malta Control fr r/c, no joy (ALF)

5680 DRAT wkg RESCUE 276. (AN) * Kinloss Rescue, G: 1453 USB wkg Rescue 137. 1250z wkg Navy 177. 1307z wkg SRG 169 and Coastguard MU.

* Gotland Rescue, S: 1505 USB wkg Tallinn Rescue, EST & clg Kuresaare Rescue (ALF)

5687 DHM91: GAF Muenster, D 1640 USB m sx DD/EE wkg GAF 492 fm Berlin-Schoenefeld to Cologne. 1255z wkg GAF 002. 1300z wkg GAF 183 on ground at Cologne. 1110z wkg GAF 722 (ALF) * GAF 351 wkg DHM91 C-160 LTG62 Dep Koeln 0730z, est Eindhoven 0805z, eta 0808z. Dep 0915z, est Wunstorf 1010z. * GAF233 Dep Hohn 0458z, est Paderborn 0550z, selcal GHFP, eta 0556z. Dep Paderborn 0759z, est Souda Bay 1340z, alternate K & M. * GAF001 Dep Koln 0523z, est Muenchen 0613z, eta 0608z. Dep Muenchen 0750z, est Brussels 0855z. * GAF647 Dep Koln 0635z, est Brussels 0705z. * Nato 08: B707 10+04 FBS1 On a VFR flight from Hamburg-Napels with GAF2.

5688 4MG: RAF Helicopter 1615 USB clg Culdrose operations for r/c check no reply (TW2)

5692 RESCUE 2140: USCG HU-25 Falcon 0144 USB wkg CAMSLANT w/pp District 7 Op's, inbound w/1 survivor re crash of Army UH-60 assigned operation Bahamas & Turks drug interdiction, D-7 adv 2140 to land at Miami Int'l customs (RB)

5696 LOCKHEED ZH868: 0314 USB "Lockheed aircraft Zulu Hotel 868" clg for a radio ck (RB) * NMF2: USCG Group Woods Hole, Me 0424 USB clg CG 1503, HC-130, no joy (RB) * Rescue 1603: United States Coast Guard 0210 voice USB/ Rescue 1603 working CAMSPAC give Stand Flight Ops and Position (JD) * 1715: HC-130H7 0155 USB wkg CAMSLANT. Request you assume my radio guard. 18/jul (DW2) * 2133: HU-25C 0157 USB wkg CAMSLANT w/flight ops and position. 18/Jul (DW2) * Coast Guard 1601: USCG HC-130H 0201 USB wkg CAMSPAC. 12/Jul (DW2) * CG6009 rep flt ops\pos to CAMSLANT 1841 7/JUL (MF2)

5702 WISKEY VICTOR: FWV, FN Nimes, F 1640 USB sx m FF wkg EW (ALF)

5705 NRN 356 wkg PBV. (AN) * UNID: tent. FAPSI/Russ.Intell ? 1020 CW 2x5 FGS, T=0, subheader: == 5T 5T 19 19 23669 23669 23669 15 15 16 16 ==, end: == 15 15 16 16 T T T, s/off (ALF)

5708 ARMOR: French Navy Western France Approach Control, Brest-Loperhet, F 1616 USB sx m FF wkg 8P2. 1135z wkg AT (ALF)

5717 RESCUE 310: CanForces a/c 0310 USB wkg Halifax Military w/pp Halifax RCC (aka Halifax Search) re tasking for search area (RB)

5730.9 FDI22: FAF Narbonne, F 1515 CW v-mkr (ALF)

5738.5 9V1: UNID Dutch (spoken) Military 1255 USB sx m DD wkg 9A1 (ALF)

5770 MERCATO: UNID Swiss ? Military 1330 USB m GG/swiss accent wkg SYDNEY, military OP style 'verstanden, antworten' (=understood/roger, answer) 'Frequenzwechsel VICTOR NOVEMBER HYPOLITH ULRICH' =QSY to VNHU (ALF)

5809 UNID: 1824 CW cont. ... F7AAD ..., by machine (ALF)

5812.5 FDG: FAF Bordeaux, F 1513 CW v-mkr (ALF)

5820 GOLF ECHO ALPHA: UNID German Military 1515 USB sx m GG wkg 3 BRAVO, coord. fr data on BRAVO (ALF)

5831 UNID: Tunisian MOI station 1730 RTTY 50/170 ATU-80, msg-header like: TMLM G/O FA--J)315(O--MM40591/T, end: AU KGHR (ALF)

5830.8 CIXT: UNID East Europeans 1515 RTTY 50/170 RYRY VB9L ER CIXT, slavian OP chat, into CW, later online encrypt after R.BB 064146 02424 02424 MMMMMM. See 4068.8 kHz (ALF)

5841 PANTHER: 0051 USB wkg SHARK-05 "Can't stay any longer...what do we do" (LCB) * PANTHER: DEA, Nassau, Bahamas 0049 USB wkg RESCUE 2140 re need frequency to turn on runway lights at Bridgetown, on-going comms w/93A, others re crash of Army UH-60 assigned operation Bahamas & Turks drug interdiction (RB) * PANTHER: DEA Bahamas 0223z PANTHER wkg numerous units in interdiction operations. Callsigns monitored include HAMMER, OP-BAT, OMAHA-79A, OMAHA-62A, J40. Working on tracking a vessel in the Carib area. Went to channel Alpha (5277) around 0345z (2/Jul) (LCB) * 93ALPHA & 04 CHARLIE, 39 CHARLIE coord crash recovery operation with PANTHER 24:35 USB. 39 CHARLIE is enroute Georgetown for medical personal 24:40 USB 04C coord w\PANTHER 400 24:45 93 ALPHA discussing extractions sitrep w\PANTHER 24:47 USB 93 ALPHA reports 5 POB,winch extraction is required. 24:50 USB 04 CHARLIE reports 1 possible KIA,3 major injuries on approach. 24:55 USB [assume this is all 23.. hrs!? - LOGS] (ground personal using 282.8) 39 CHARLIE req another helo,4 still in cabin 00:02 93 ALPHA req lat\long from PANTHER. 00:08 USB 04 CHARLIE reports 2 critical onboard PANTHER routes them to Nassau 0011 USB 39 CHARLIE reports 12 Mikes out 00:12 USB 93 ALPHA reports crash lat\longs as

N232649\W0754697 00:14 USB PANTHER req 04 CHARLIE rep ETA to Nassua 00:16 USB 04 CHARLIE passing injury report to PANTHER 00:24 USB PANTHER 400 offers to relay for 39CHARLIE to PANTHER 00:25 USB 93ALPHA reports at least 1 still trapped under fuselage 00:33 USB 93ALPHA reports 2 still in cockpit 00:35 USB (MF2) 6/July 00:47 USB CG 2140 reports they circling Great Exuma,req freq to turn on lights at Great Exuma Cay, Bahamas. 0059 93 ALPHA rep CG has transported 4,1 left 01:03 USB 93 DELTA enroute w\Jaws-of-Life 01:06 USB CG2140 calling 39CHARLIE,no joy 01:09 USB 93 ALPHA req FALCON come up on 282.8 01:11 USB 7CHARLIE SIERRA relays for 93A no pulse on last person extracted,1 still trapped. 02:20 USB 92DELTA reports ops normal to PANTHER 02:30 USB 7CHARLIE SIERRA relays for 93A,last person is DOA, PANTHER copies. 02:32 USB 7 CHARLIE SIERRA relays that 2140 has 1 survivor onboard 02:38 USB 7 CHARLIE SIERRA relays report,2 DOA still onsite 02:38 USB 93 ALPHA calling 93 DELTA, pass PANTHER 400 info. 02:51 USB 93 ALPHA req alternate assets for DOA recovery to PANTHER 02:53 USB PANTHER req 7 CHARLIE SIERRA relay to 93 ALPHA that CG2140 should launch 02:55 USB PANTHER req 7 CHARLIE SIERRA relay to 93 DELTA that they coord extraction gear drop. 03:01 PANTHER req to know from 7CS if DOA are still on deck at Georgetown. 03:03 7 CHARLIE SIERRA req PANTHER use 101 net,PANTHER replies 101 Net is down. 03:05 USB. 93 ALPHA reports 2 DOA females onsite to PANTHER 03:10 USB 7 CHARLIE SIERRA reports CG2140 is airborne to PANTHER 03:11 USB 93 DELTA relays thru 7 CHARLIE SIERRA, they are landing at old Georgetown airport. 03:15 USB 93 DELTA req switch to 122.8 03:17 USB 39 CHARLIE is hoisting last DOA, relayed by 7 CHARLIE SIERRA. 03:19 USB PANTHER req 7 CHARLIE SIERRA relay to 39 CHARLIE rtb DOA to Great Exuma so CG2131 can recover. 03:20 USB 7 CHARLIE SIERRA req CG2131 ETA, 93 DELTA req sitrep from PANTHER 400,PANTHER informs 93 DELTA standby, 93 DELTA shuts down 03:26 USB PANTHER req PANTHER 400 have 93 DELTA call him landline. 03:27 USB (MF2) 6/July * HERC 20 no joy w\PANTHER 1929 7/JUL (MF2) * 24 CHARLIE on test flight req guard w\PANTHER 1845 CHARLIE 32 req guard w\PANTHER 5 pob,5841P\5696S 1900 63 ALPHA coord w\PANTHER 1926 CHARLIE 32 flt ops\pos w\PANTHER 1931 CHARLIE 32 airborne on local op,PANTHER 2000 PANTHER calling 37 CHARLIE & 63 ALPHA 2033 16\July usb (MF2)

5859.1 DDA86: UNID German (Meteo?), D 1355 RTTY 50/170 marker: HIER IST DDA86 (this is DDA86) ... 00000 11111 22222 ..., end: SO DAS WARS UND EINEN SCHOENEN FEIERABEND, s/off (ALF)

5861 FDI22: FAF Narbonne, F 1532 CW v-mkr (ALF) * FDI22 FAF Narbonne 0954 CW vvv vvv vvv de FDI22...ar (WP3)

5860.5 FDE14(?) 0955 CW vvv vvv vvv FDE14...ar (WP3) * FDE14: FAF Contrexeville, F 1028 CW v-mkr (ALF)

5868 FDI8: FAF Nice, F 1612 CW v-mkr (ALF)

5893 UNID: maybe Polish Military ?? 1358 RTTY 50Bd duplex, vy vy slow handtyped, 5 FGS and cfm-tfc: QRV QRV QRV --, RPT PBL -, R 409 -, RPT TLG -, R NEW -, R33-, next msg, header: QTC QTC QTC QTC -- 32 30 17 1540 (=17th June, Time) ; 32 ; ZQW ZNW ZVK ZAM ZEB ; 16 5FGS end: ZWU ZEN ZIQ ZWB --, cfm-tfc: QTC WC QTC PAA, OK OK OK -- (ALF)

5914.7 KAWN: USCG Saddlebunch Key 0550 rtty 75/850 Marine Wx 09/Jul (RH2)

5925 FDI22: FAF Narbonne, F 1030 CW v-mkr (ALF)

5965 UNID: tent. FAPSI/Russ.Intell ? 1448 CW 2x5 FGS, T=0, end: == 745 745 46 46 T T T, s/off (ALF)

6331 VCT: Tors Cove Radio 0340 CW mkr, 5/Jun (JRC)

6379 4XZ: IN HAIFA 2033 CW. Sfc analysis in WMO FM46 coding. On completion reverts marker "vvv de 4XZ ==". 9/Jul (DW)

6382 TBA6: TN ANKARA 2045 CW. Marker "vvv TBDJ de TBA6 qap". Keying faulty. 9/Jul (DW)

6385 FUO: FN TOULON 2047 rtty 75/850 Marker "vvv de FUO ry's sg's testing". 9/Jul (DW)

6396.8 KAWN: USCG Saddlebunch Key 0559 rtty 75/850 Aero Wx 09/Jul (RH2)

6502 TBB6: Turkish Ny, Ankara 1110 CW / VVV TBDJ DE TBB/6 QAP (ANE)

6620 F1IM: UNID tactical 1305 CW clg C23L (ALF)

6658 MOSSAD NO. STN. (E10) 1838 AM 13/july MIW, msg. by YL. my first log of this freq. for Mossad. (JRU)

6688 PORTLAND OPS: GXW, RN Portland, G 1530 USB sx m EE wkg T1P, 1750z clg NAVY 630 (ALF)

6693 7HT: UNID NATO Net 1705 USB sx m EE wkg 3JU (ALF) * L7R clg N9R no joy. (AN)
6695 UNID: Whale station, ? 1934 TONES 27/jun (AB)
6706 PAPA QUEBEC: UNID, Brit. MATT Fisheries Surveillance Net 1159 USB sx m wkg GB ment. WATCHDOG 93, w/pos of fisher boats/Trawlers (ALF)
6712 VERTE: FAF Villacoublay, F 'Circus Verte Net' 1414 USB sx m FF wkg COTAM ____ (1021?) s/c BG-AK (should be F-RAFF, a DC8 a/c) on Frequency/channel: MARJOLAINE 2 (ALF)
6715 BUCHAN: RAF Buchan, G on RAG UKADGE channel PO 1315 USB m EE tracking reports, clg CROWBAR (mobile radar unit of TACC Boulmer) fr r/c, sx wkg I0L (ALF)
6722 OVK: Danish Marine Aarhus, DNK 1940 CW sx wkg OCC as coordination for online encrypted RTTY on 6722.1 kHz (ALF)
6722.1 OVK: DM Aarhus, DNK 1040 RTTY 75?/170 online encrypted wkg OCC, msg-end: YYYYY. Coordination in CW on 6722 kHz: after 'OCC DE OVK QRV ON 7NI1' into RTTY (ALF)
6724 BUCHAN: RAF Buchan, G on UK ADGE Channel TG 1445 USB OM EE tracking infos as bulletin to 7ZO. 1523z wkg K7J (ALF)
6721.5 GOLF MIKE: UNID NATO (Europe) Military 1940 USB sx m EE (Italian accent) wkg ECHO. 1945z INDIA wkg ECHO (ALF)
6727 JWT: RNN Stavanger, NOR 1407 USB sx m EE wkg 6CJ (ALF)
6728 DHN66 wkg MAGIC 68. (AN)
6729 VENTA?: UNID Italian AF? Base? 1625 USB sx m II wlg DAGA 74 (IAF a/c) (ALF)
6730 EBIA: UNID, maybe Spanish Navy Vessel ? 1812 USB m SS wkg UNID w/wx (ALF) * DHJ59: GN Wilhelmshafen, D 1415 USB sx m GG wkg V8I w/coord. for online encrypted RTTY (ALF) * VAERLOESE: OWD, RDAF Vaerloese, DNK 1405 USB sx m DD wkg 69_ (690 ?) re: EGQL (ALF)
6733 IDR: IN Rome, I 1405 USB sx m II wkg UNID, into 'F1B'. 1533 wkg A2F w/'QAM LIEE', means: wx for Brindisi. 1625z wkg DAGA 88 (Italian AF a/c ?) and SPADA (?) 86 (ALF) [SPADA is the name of an Italian Air Defense Missile System!? - LOGS]
6739 ARCHITECT: RAF STCICS, G 1430 OM EE colour-wx on UK ADGE channel: B (ALF)
6744 UNID 2312 USB Constant ADVNT sounding carrier (LCB)
6745 MOSSAD NO. STN. (E10) 1721 AM KPA2 (no msg today) 13/jul (JRU) * MOSSAD NO. STN. (E10) 1755 AM KPA2OPB-msg 12/jul (JRU)
6753 RFFN: UNID static tactical 2100 CW to RFFR, RFFO w/QTC, 5 LGS w/special characters (ALF) * UNID: Backward Music station, ? 2222 TONES 5/jul (AB)
6758 MKL: RAF Pitreavie, G 1206 CW wx to 6LP (ALF)
6768 FDG: FAF Bordeaux, F 1040 CW v-mkr (ALF)
6773 30: UNID NATO Military (Europe) 2115 USB sx m EE wkg 40, QSY to 'Frequency 4'. 2155z USB 30 wkg 20 talking abt freq.lists (ALF)
6779 DRHJ wkg DHJ59, qsy 8335.5, qsy Foxtrot 63. (AN) * DRFJ: GN Passau, INT 0848 USB clg DHJ59. No joy 15/jun (AB)
6780 UNID: tent. FAPSI/Russ.Intell. ? 1537 CW marker: 167 167 167 ..., later 2x5 FGS (ALF) * M1 numbers station, ? 0700 CW 025 (4 mins) 283 44 = = 5FG 5/jul (AB)
6782 M12 numbers station, ? 1600 CW 749 749 749 1 (5 mins) 4039 145 +5FG 6/jul (AB)
6795 UNID: 0111 USB m SS clg 4L, might be S'American Military ? (ALF)
6810 PHANTOM NULL ADIN (PHANTOM 01): UNID Russian, Military? 1500 USB m RR clg UNIDs (ALF)
6815 ICI: MRSC/Guardia Costiera (Ital. CG) Roma, I 1043 USB sx m II wkg NA1, wkg IGUT: ICG Vessel M/V Bannock (CP451) fm ICG Genova (ALF) * ICI01: MRSC/CG Genova: 1505 USB clg IHTB (ALF) * ICI05: MRSC/CG Reggio Calabria, I 1505 USB clg IHTB (ALF) * IHVM: ICG Vessel 0200 USB clg ICI (ALF) * NA1: Nucleo Aereo Guardia Costiera (CG Air Station) Catania-Fontanarossa, I 1044 USB wkg KOALA 902 (UNID SH-3D helicopter) and NA2 (CG Air Station Luni-Sarzana) (ALF)
6825 FAV22: FA Mont-Valerien, F 1513 CW morse-lessons: FF text (ALF)
6840 MOSSAD NO. STN. (E10) 1732 USB EZI, e, YL, message, message, groups 94, 66, 5lg 14/jul (JRU) * MOSSAD NO. STN. (E10) 2103 AM EZI2 12/jul (JRU) * Mossad: 2115 AM YL 5 LGS (ALF)
6839.5 Mossad: 2232 AM vmf EE 'EZI', not 6840 kHz ! (ALF)
6844.5 FDC: FAF Metz, F 1405 CW v-mkr (ALF)
6865 BOOKSHELF 01: wkg TRACKER. (AN) * FDG: FAF Bordeaux, F 1126 CW

v-mkr (ALF)
6868 UNID: 0625 CW Tfc in offline encrypt with accentuated letters and very poor spacing. 12/Jul (DW)
6871 HEP7: KANTON POLICE ZURICH (HEP7) 0633 CW Periodic marker "vvv de HEP7 ar" 12/Jul (DW)
6873 RMP: RN Kaliningrad, RUS 1655 CW wx to REO, QTC 197 133 7 2T18 197 = (ALF)
6871.5 FDG: FAF Bordeaux, F 0145 CW v-mkr (ALF)
6873.5 ICS: IN La Spezia, I 1330 USB sx m II wkg IHBC, Navy Aux Vessel Vesuvio (A5329) (ALF)
6880 DORIA: UNID Italian Navy 1259 USB sx m II wkg TAVOLA 1 re: NIOBE 1. 1525z TAVOLA 1 wkg TAVOLA 4 (ALF)
6880.2 UNID: Italian Military 1335 RTTY 50/850/R open OP chat as test, simplex, moved fm 6883 kHz Phone-LSB QSO (ALF)
6883 2EU7: UNID 1257 clg OTGI. 1335z LSB UNIDs italian Military, into open RTTY 50Bd/50Hz on 6880.2 kHz (ALF) * WT3M: UNID Italian Military (Army?) 1828 USB sx m II passing msg in NATO spelling: HYPERGLYCAEMIA - PROBABLY RE, ENTRY TO ITALY ON JUNE 9.1998, THE MEDICAL SITUATION IS GENERALLY OPTIMUM (ALF)
6893 Russian Navy 0811 36-50 36-50/200 Unable decode 12/Jul (RH2)
6920 _9PO: UNID Italian Military (Army?) 1405 USB sx m II wkg AMW / A3MW ? (ALF)
6946.2 KIEV MET 0648 FAX 90/576/R/800 Producing dead zones but no app pix. 0650z pix started, reversed (use lsb 6948.1). Noisy chart with obs. Further investigation shows this is spurious output. See 6950 khz. (12/Jul) (DW)
6950 KIEV MET 0703 FAX 90/576/N/800 Use usb 6948.1. This is assigned freq for Kiev. Noisy chart with obs. 12/Jul (DW)
6959 LINCOLNSHIRE POACHER (E3) 2001 USB tune, ID: 96189. no time to search for //s. 13/jul (JRU) * LINCOLNSHIRE POACHER (E3) 2105 USB tune, ID: 27294 12/jul (JRU) * UNID: tent. FAPSI/Russ.Intell ? 2140 USB YL EE 2x5 FGS. 2143z YL, EE 2x5 FGS. That's the Russian Lady or Lincolnshire Poacher ?? (ALF)
6955.5 UNID 0730 PICC/6 6955.510. On standby until 1000z when offair - no tfc. UNID 2024 PICC/6 6955.510. On standby - no tfc in 1.5 hrs. 12/Jul (DW)
7486.8 UNID 1043 RTTY 75/830 encrypted tfc (BC3)
7527 OMAHA 641: Customs Air Asset 2243 USB clg HAMMER (Customs NAT C3I Center - March AFB) w/rdo cks (LCB) * SERVICE CENTER: Customs Service Center 2257 USB wkg UNID. Remote unit was scrambled (LCB) * OMAHA-641:Customs Air Asset 2243z USB OMAHA-641 clg HAMMER (Customs NAT C3I Center - March AFB) w/radio checks. Tried unsuccessfully in the green. Lima Charlie in the clear. Back to scan at 2245 2/Jul (LCB) * SERVICE CENTER: Customs Service Center 2257z USB SERVICE CENTER wkg UNID. Remote unit was scrambled while serivce center was in the clear 2/Jul (LCB)
7535 NJJC: USS Clark (FFG-11) 1730 USB Oliver Hazard Perry-class frigate wkg SESEF Norfolk w/start of HF xmitter testing (RB) * NNTR: USS Theodore Roosevelt (CVN-71) 1715 USB wkg SESEF for HF testing, was here for two days (RB)
7592 UNID: Australian tuna fishing net 2216 USB chat (SD)
7608 RFHI: FF Noumea 1051 ARQ-E3 100/425 idling (BC3)
7635 Texas CAP 1623: 0030 USB wkg Net Roll Call. 14/Jul (DW2)
7643.3 RFLIG: FF Cayenne 0255 ARQ-E3 192/290 (assumed C.I. RTI to RFLI) idling (RB)
7646 DDH7: Hamburg Meteo 0249 RTTY 50/425 AAXX meteo reports, then RYRY, CQ DE marker (RB)
7783 SLCS Link-11 Coordination Net 0030 USB FOXTROT, KILO, LIMA & other single letter callsigns w/link-11 coordination (RB)
7822.3 RFFA: FF Paris 0259 ARQ-E3 200/400 (assumed, "FDX" to RFFVAE Dharan) idling (RB)
7912.7 9JZ: Lusaka Air 1601 rtty 50/466 Aero Wx.Ends: GUD NITE STATION CLOSED ! 08/Jul (RH2)
7962 UNIDs wkg clear voice before going ANDVT. 0700z 11/Jul (JJ)
8012 UNID 1625 RS-Arq 228.6/170 Unable decode 13/Jul (RH2)
8022 HMF85?: 1301 RTTY 50/100? Typical pro-Nth Korea "nx" about the great leader etc. (JC6)
8043 RFFHCFA: COMELEF ACTIONEX DEUX 1440 ARQ-E 72/394 "EXERCICE" tfc

to RFFZEFD, "DIRECTIONEX DEUX" via "UFA" cct. (PT)
8050.3 RFQP: FF Djibouti 0300 ARQ-M2 200/335 (assumed circuit QPA/QPB) idling both channels (RB)
8063.3 RFFA: MoD Paris 0305 ARQ-M2 200/342 (assumed circuits PQA/PQB) both channels idling (RB)
8070 FDI22: FAF NARBONNE 1813 CW. Marker "vvv de FDI22 ar" 14/Jul (DW)
8073.5 DRUT: UNID 1300 CW 25/NONE NAVY MIL FORMAT 4 LTR GROUPS. ANY ID?? (BB4)
8095 RADAN: St.Petersburg (Puklkovo) Air, RUS 1135 USB sx YL RR wkg YAROK: Kiev (Borispol) Air, UKR (ALF) * Petersburg Meteo, RUS: 0108 USB OM RR Volmet 'Petersburg Meteo Konjets' into YLs coordination-QSO. Maybe a taped recorded copy/relay ??. (ALF)
8105.3 RFFX: MoD Paris? 0318 ARQ-E 72/425 (assumed), idling (RB)
8110 UNID yachting net 0506 USB re contaminated fuel, anchoring at Cato Is. and making 6kts on the genoa (SD)
8118 BMB: Taipei, Taiwan 0956 CW / cleartext wx tfc (BB4)
8122 Canberra Control 0621 USB calling WHYALLA (Fremantle Class patrol boat 208) with wx info (SD) * Canberra Control 0516 USB wkg UNID; "request you initiate." 12/Jul (DW2) * Canberra Control 1057 USB clg HMAS Labuan, Heavy Landing Craft L128. No joy. 14/Jul (DW2) * Canberra Control 1100 USB clg HMAS Launceston, Fremantle-class Patrol Boat 207. No joy. 14/Jul (DW2) * Canberra Control 1102 USB wkg HMAS Townsville, Fremantle-class Patrol Boat 205. 14/Jul (DW2) * HMAS Tarakan: Heavy Landing Craft L129, 1121 USB wkg Darwin Control. 13/Jul (DW2) * Z2I: UNID RAN 1057 USB wkg Darwin Control. 16/Jul (DW2)
8126 Russian Man S7 0500 AM numbers station with call-up 138 (SD)
8144 UNID 0217 UNID 100/170. No id or synch w/C3Gold. 18/Jul (DW2)
8150.4 PBB: Dutch Navy, Den Helder 0410 RTTY 75/810 w/CARB bdcst. 12/Jul (DW2)
8190 2SG wkg G5B w/ Meet my unit circuit Foxtrot. (AN) * 4BR wkg 8ZR w/ C/S 9EM now at angels one, and resuming search. (AN) * 6HS wkg BI w/sonartrack entering mpa sector coord. (AN) * 6HS wkg BI w/ track now id'ed as Delta Skunk. (AN) * 7YV wkg J6V w/ coord. (AN) * 8ZN wkg 3QW w/Ops normal messages. (AN) * 8ZN, 4ER, P0O, 4BR w/coord new patrol sectors. (AN) * 9EM wkg 4SW w/ ASW warning yellow. (AN) * 9EM wkg J6V w/l6v launched pony, rqst 9em's angels. (AN) * 9LI wkg BI w/ Pony now inbound Sigonella. (AN) * 9LI wkg J6V w/track coord. (AN) * 9WG wkg J6V w/Sitrep track 7400, no contact. (AN) * A7A wkg J6V w/ r/checks. (AN) * B1U wkg D5D w/ coord. (AN) * BI w/ all units Diamond 700 now hot on force track. (AN) * BI w/ all units Diamond 700 now id's force track as purple contact. (AN) * BI w/ all units force track now id'ed as purple submarine by Diamond 700. (AN) * BI wkg 3XS, 3SE and Z3A. (AN) * BI wkg 4TW and 2DV. (AN) * BI wkg E4E w/ sweep West, then to the North. (AN) * BI wkg TIGER 30. (AN) * BI wkg W4F, O1O, E4E, D5C and Q7O. (AN) * BI wkg W4F, O7Q and D5C w/ new track, sinker. (AN) * Bravo India 1742 USB wkg. the following untis in an exercise in the mediterranean: W4F, E4E, O1O, 5PO, C9W, D5T. at 1745 ARCHITECT came up with a color state msg for Cologne, status blue. 15/jul (JRU) * G5B wkg L7R w/ G5B to recover. (AN) * H7Q wkg D5D w/ go green for position report. (AN) * L7R to pass Comms Guard duty. (AN) * M5Q wkg BI w/ both Red-Lions now rtb. (AN) * V3W wkg BI w/sonartrack id'ed as purple submarine. (AN) * W5F wkg Bi w/ what time do we launch again. (AN) * Y4D wkg BI w/ BI rqst status y4d's pony(ships helo). (AN)
8255 9HNU3: MV Slovejna 0506 USB clg Valparaiso Playa Ancha Radio. 12/Jul (DW2)
8300 New Star Broadcasting Numbers Station 1110 AM w/YL/CC/5FGs. 06/Jul (DW2)
8302 UNID 1123 81-81 81/500 w/encrypted tfc. 6/Jul (DW2)
8307 M23 numbers station, ? 0800 CW 579 for 10 mins //9285 kHz 5/jul (AB)
8331.5 GYA: Royal Navy FAX 120/576 w/chart 12/Jul (DW2)
8368 DTEJ: ??? 1013 CW clg HLW (Korea), qsw 34 (BB4)
8377 UIJP: SHIP PIONER BELORUSSI 1008 arq Bulk/container carrier. Tfc via GKE. 5/Jul (DW)
8394.5 ELTD7: SHIP UNID 1014 arq QRG report to Globe via SAB. 5/Jul (DW)
8420 KHF: Guam Radio 1141 CW marker, 15/Jul (JRC)

8421.5 9AR: Rejeka Radio, 0240 CW marker, 11/Jul (JRC)
8423 VRX: Hong Kong Radio 1210 fec / traffic list (JC6)
8427 OXZ: LYNGBY RADIO 0944 arq Danish news (refers France 98 football) to ship c/sign OXLY and time totalled 37.8 mins. 5/Jul (DW)
8430 EAD: Madrid Radio 0132 CW mkr, 18/Jun (JRC)
8428.5 PCH45: Scheveningen Radio 0241 CW marker "PCH", 11/Jul (JRC)
8433 8PO: Bridgetown Radio 0243 CW marker, 11/Jul (JRC)
8434 LPD: General Pacheco Radio 0045 CW marker, 21/May (JRC)
8436 VCT: Tors Cove Radio 0415 CW marker, 18/Jun (JRC)
8434.5 SAB: GOETEBORG RADIO 1001 arq Sending email confirmation to ship c/sign ELSP5. 5/Jul (DW)
8435.5 OST40: Oostende Radio 0417 CW marker "OST", 18/Jun (JRC)
8443 UNID: 2104 USB Two oms in greek comms, sound like fishermen chat. 8/jul (JRU)
8473 UUR: possible-ex-soviet bloc 2310 CW / unable to find listing for qsl (BB4)
8571 JNA: Tokyo Radio 1137 CW CQ mkr, 15/Jul (JRC)
8605 ZRH: SAN Silvermine 1330 rtty 75/170 5LG + NAWS S12S059 ZOT 3Z60 /TUF 13/Jul (RH2)
8670 IAR8: Rome Radio 0357 CW V mkr "IAR", 15/Jul (JRC)
8685 IRM: CIRM Rome 0350 CW V mkr, 15/Jul, (JRC)
8683.4 LFI: Rogaland Radio 0348 CW marker, 15/Jul (JRC)
8713 VZX: Penta Comstat 0701 USB with North Qld wx and long range sked with PALADIN at Tangaroa (Easter Island), PUSSYCAT, TACTICAL DIRECTIONS, RATU7, CETACIOUS (SD)
8772 WOM: AT&T Coast Station 2100 USB / Voice weather s10dB. (CT)
8845 UNID: 1739 USB 2 m chatting in SS, both fading badly (MB3)
8846 New York ATC (CAR-B MWARA) 0200 USB selcal'ing Air France 095, adv come up 5550 or 6586 (RB)
8900 Cuban "Babbler" stn 0202 USB OM/SS counts (RB)
8903 Kinshasa, DRC: 2145 USB clg Lumbumbashi (ALF) * Bangui: 2146 USB wkg N'Djamena, 2220 clg Douala (ALF) * Air France 875: 2157 USB clg Kano (ALF) * Lufthansa 573: 2146 USB clg Kisangani, no joy, wkg Kinshasa (ALF) * Luanda, AGL: 2210 USB wkg BCS082 Harare-Lagos, EI-BNA, EF-JL (ALF)
8906 AERO MEXICO 001: 0412 USB posrpt 1/jul (ALF) * AIR EUROPA 1164: 0413 USB s/c ck JR-AG, this freq primary, 5598 backup 1/jul (ALF) * AIR FRANCE 471: 0407 USB wkg. Shanwick with posrpt, s/c ck EH-KS 1/jul (JRU) * AIR JAMAICA 001: 0418 USB reads back msg. from NY 1/jul (JRU) * LEISURE 222: 0415 USB clg. NY, adv. to standby, maintain FL 350, report reaching, posn. 37N 45W 1/jul (JRU) * New York ATC (NAT-A MWARA) 0212 USB wkg UNID Sunwing flt selcal ck EG-BR (RB) * Reach Z13: 2100 USB wkg S/M (ALF) * Reach Z4: 2100 USB wkg Shanwick (ALF) * Navy JT240: 2100 USB wkg S/M (ALF) * Reach S5: 0220 USB w/SM (ALF) * NAVY JR 170: 2310 USB w/NY (ALF) * ABM 006: (also: November 006) 0220 USB w/NY. Who is ABM ?? (ALF) * SPEEDBIRD 4530: 0408 USB 1/july wkg. NY with posrpt (JRU)
8913 UNID: tent. FAPSI/Russ.Intell ? 1431 CW clg: 2T 2T 2T 111 111 111 53188 53188 53188, into 20 grps: 5x2 FGS/T=0, header: 53188 5T 5T 2T 2T==,end: ==5T 5T 2T 2T TTT, s/off (ALF)
8921 LTU Duesseldorf, D: 2155 USB sx m GG wkg US (= D-AMUS), long discussions about broken toilets, all except one (ALF) * Speedbird LHR 1830 USB wkg AJM002 passing Lajes weather (MB3) * Speedbird London, UK, LDOC 0204 USB wkg Caledonian 78 selcal ck JM-EL (RB)
8924 Piarco Op's LDOC, TRD 0207 USB wkg UNID a/c (RB)
8928 UNID: tent. FAPSI/Russ.Intell ? 2147 CW clg: 757 757 757 757 ...(ALF)
8930 AIR FRANCE 368: 0826 USB s/c ck JK-BP 11/jul * DELTA 043: 0827 USB s/c ck DF-MR, a/c is enrt Cincinatti 11/jul (JRU) * AIR FRANCE 3694: 0825 USB on ground Paris/CDG with rdo ck, s/c ck KM-BF (F-BTDH, B747) 11/jul (JRU) * AIR FRANCE 718 1319 USB s/c ck BM-HS, F-GHGJ, B767 11/jul (JRU) * AIR FRANCE 722: 1626 USB s/c ck EF-DK with Stockholm R. 8/jul (JRU) * AMBULANCE 537: 0817 USB wkg. Stuttgart Ambulance re ata stuttgart at 0900, need RTW (that is Rettungstransportwagen, ambulance car for transportation of patient). patient will be accompanied by the doctor. This is Deutsche Rettungsflugwacht Stuttgart. 11/jul (JRU) * AMTRAN 8882: 1021 USB arrival msg., landed at EIDW 12/jul * BISCAYNE 290: 1110 USB wkg. Stockholm R., eta Keflavik 1315 4/jul * REACH 14: 1112 USB wkg Stockholm R., flying

for Atlas Air, dept. Keflavik 1045, eta KBWI 1710, s/c ck EG-AJ 4/jul (JRU) [I doubt this aircraft flying for Atlas Air. Should be Atlas Air flying for the USAF. - LOGS] * CRL 975: 1752 USB over Khartoum, pp to ops 13/jul (JRU) * DELTA 47: 1014 USB s/c ck EQ-AK, qsy'd to 5541 12/jul (JRU) * EGYPTAIR 652: 1741 USB enrt Moscow-Cairo, eta 2030, FL 370, wx for Cairo 13/jul (JRU) * EVERGREEN 812: 1655 USB req. wx for AMS, relrelease JG ATN 13/jul * JHF 5: 1702 USB msg. to ops, eta OEKH 2212 13/jul (JRU) * FEDEX 4X: 0423 USB wkg. Stockholm R., landed at UUWW 0240, 0347 out, eta Frankfurt 0656, s/c ck CE-HJ 1/jul (JRU) * GEMINI 7050: 1843 USB LFLB to Istanbul, msg to company 1/jul (JRU) * FUTURA ECGVB: 0813 USB wkg. Stockholm R. with pp to ops, did not work at first trial, but on second 11/jul (JRU) * GEMINI 6441: 1029 USB 49n50w, FL290, eta lfpg 1356, ops normal, s/c ck AL-CJ 12/jul (JRU) * HBVLL 0908 USB pp to company 12/jul * UNITED 943: 0913 s/ck AQ-CH (JRU) * JAPAN AIR 412: 2047 USB pp to company in japanese via Stockholm R. 2/jul * AIR FRANCE 992: 2049 USB s/c ck HL-FJ and rdo ck 2/jul (JRU) * NORTHWEST 36: 1703 USB posrpt, ERZ 1642, OASIS 1658, FL 330 13/jul (JRU) * POLAR TIGER 605: 1955 USB dept. msg. to company, dept Amsterdam 1906, eta Chicago 0315, payload 215.5, fuel at dept. 262.9, s/c ck CM-EJ 11/jul (JRU) * SAUDIA 738: 1706 USB for Tower Air, arrival msg, s/c ck AH-DG 13/jul (JRU) * SCANDINAVIAN 6983: 1738 USB dept. msg for Atlas Air, dept. Dubai 1642, eta Bankok 2236, fuel 93.8, uplift 27245, payload 110040 kg, s/c ck MR-EK 13/jul (JRU) * TOWER 37: 1025 USB rdo ck, dept Paris/Orly, eta KJFK 1727, s/c ck EF-KL, 437 pax 12/jul (JRU) * VPCPO: 1812 USB dept. EGHI, eta EHGG 1835, c/c ck JR-AM 13/jul (JRU)

8939 Rostov VOLMET, Ukraine 0655 USB / Meteo, fem op (ANE)

8942 Singapore Radio ???? USB with various aircraft . Not too bad for the DX440 with 3 foot telescope ! I usually monitor this tfc with random longwire up a tree. (GG)

8957 EIP: Shannon Volmet, IRL 0205 USB aviation wx (RB)

8960 Portishead Radio, G: 1023 USB sx m EE wkg Britannia OL 407, QSY 10291 kHz (ALF)

8968 BLUE EYES: 1126 USB calling MAINSAIL, no response (SD)

8971 4RM: ???? ??? wkg 3JV. (AN) * BEAR 02: E-2C of VAW-124 "Bear Aces" 0122 USB wkg BEAR 03, MIDNIGHT 05 DELTA wkg BLUESTAR, Tactical Support Center, Roosevelt Roads, PR (RB) * FLYING TIGER 751: 1749 USB wkg 4BM spare group message (RB) * L7B w/ D5S w/ contact my unit by any possible means. (AN) * ACE 01 req OSCAR 7 JULIET go green 1916 8\USB (MF2) * PELICAN 71 ECHO passig spare group to FOXTROT 0 UNIFORM 1909 USB 16\jul (MF2)

8980 RESCUE 1504: USCG HC-130 1910 USB wkg NMN, CAMSLANT Chesapeake w/pp 'Command Center' re fuel status, UNID SAR (RB)

8982 F5Z: ???? ??? wkg E1L w/ r/checks. (AN) * L7R wkg 2ED w/ spare group massages. (AN) * S4JG, L7R, N9R, 8XH w/ r/checks. (AN) * "UJG": UNID, US military 0545 USB / wkg "UK" (fem op) (ANE)

8983 NMN: CAMSLANT Cheasapeake 0650 USB calling RESCUE 1502, re vessel requiring medevac (SD) * CAMSLANT: 2304 USB wkg Air Force Rescue 232: HH-60G enroute to support USCG SAR. CG Rescue 1719 is flying cover over area with at least one 41' USCG boat in the area. At 2325, 1719 reports one lost diver recovered by 41' boat with second diver recovered by the HH-60G and enroute to Crystal River (Florida) airport. (5 July). (DW2) *CG1504: ???? ??? req PP to LANTAREA thru CAMSLANT 7/jul (MF2) * DELTA 1 ZULA: rep flt ops\pos to CAMSLANT (MF2)

8992 Andrews 1501 USB w/20-char-EAM for "SR7K02" (MB3) * REACH 5E2: 1204 USB clg ANDERSON w/request for Hickam meteo and command post (SD)

9023 DRAGNET SIERRA: E-3 AWACS 1720 USB wkg Trenton Military w/rdo ck (RB) * SIDECAR: Canadian NORAD Region (CANR) East/West Sector Op Control Center, CFB North Bay, Ontario, CAN 1752 USB wkg FALCON 02 w/rdo ck (RB)

9031 RAF Akrotiri 1842 USB wkg Ascot 5090 (MB3) * Cyprus: STCICS RAF flight watch 1455 USB / working Ascot 5??? signal very weak (JG3)

9069 AF RES 82101 0259 USB wkg "Rescue Op's", adv will call after they make contact w/vsl (RB)

9130 EZI2: Mossad number sta 2201 USB YL/EE w/EZI2 ann (RB)

9228 UNID. Jammer 1010 USB obviously testing modes with toggling between

warble jammer, bubble jammer and something curiously similar to the buzzer (SD)

9251 LINCOLNSHIRE POACHER (E3) 1906 USB tune, ID: 76557, msg. //7337/ 12603// 13/jul (JRU)

9252 UNID: 0919 arq-m2 144/??? C3G/M7000 would not show shift. But unusually both Mk & Sp LEDs lit up and were 0.3 khz. Previously single tone! 14/Jul (RH2)

9278 UNID: 1150 USB STANAG 4285. Testing. Used cw for various problems...(PF2)

9285 M23 numbers station, ? 0800 CW 579 for 10 mins // 8307 kHz 5/jul (AB)

9326 VXN26?: 1328 RTTY 50/100? french news of vietnam. not sure if call is correct (JC6)

9327.7 VNA Hanoi 1618 rtty 50/400 Nx\EE. Unusual strong reception - S7 here! 04/Jul (RH2) * VNA Hanoi 1618 RTTY 50/400 Nx\EE Very strong signal - S7 here! 07/Jul (RH2)

9344.2 UNID: Columbia? 2301 PACTOR-5 100/200 Sp. msg. re: various regional areas and concerns in Columbia. Not the usual users of Pactor-5 (UNO and MSF) (ED)

9970 JMH3: Tokyo Meteo 1656 fax 120/576 Good Wx chart 12/Jul (RH2)

10072 Speedbird LHR 1506 USB wkg CKT363 (s/c JM-EP) pp to ops (MB3)

10100.6 DDK9: Hamburg Meteo 0500 RTTY 50/532 wx reports (BC3)

10100.8 DDK9: Hamburg Meteo 0410 RTTY 50/425 RYRY, CQ, DE & freq list after AAXX shore stns report (RB)

10130.3 RBX73: Tashkent Meteo, UZB 1000 RTTY 50/850 wx 5/Jul (BC3)

10157 UNID: 0328 36-50 36/235 idles. Presumed Cuban station. 12/Jul (DW2)

10162.7 DOR: MFA Sofia 1623 RTTY 75/418 Heavy crypto! 05/Jul (RH2)

10185 UNID: 2317 USB Link-11 tfc (LCB)

10197 DRET: FGS Rottweil (M-1061) 1725 USB German Navy minesweeper wkg DHJ59, Wilhelmshaven Naval w/RTTY coordination tfc (RB)

10215 HZN: Jeddah Saudi Arabia 0200 RTTY 75/100 aaxx (CT)

10281.3 RFLIG: FF Cayenne 0558 ARQ-E3 192/342 w/controle de voie on circuit "RTI" (RB)

10291 Portishead Radio, G: 1023 USB sx m EE wkg Britannia OL 407, pp to ops, QSY from 8960 kHz (ALF)

10310 UNID: 2315 RTTY 100/850 UNIDentified MIL - encrypted RTTY netted 4809/5215/5785/9097 (MC2)

10314 SNN299: MFA Warsaw 1645 POL-ARQ 100/170 Poor Rx; only a few words of Polish seen 07/Jul (RH2)

10315 DHN66: ???? ??? wkg MAGIC 99. (AN)

10433 UNID: 0701 81-81 81/180 Unable decode. Good sigs. On again at 1705 hrs! 14/Jul (RH2)

10452 Cherry Ripe E4 1000 USB numbers station with call-up 05847, //15624 //17499 (SD)

10540.5 UNID: 1640 CROWD36 Unable decode 13/Jul (RH2)

10705.6 UNID: 0709 VFT white noise with around 2500Hz bandwidth. At least 53 tones in 48 Hz steps, finished at 0711 and followed immediately by CW : "E NFB 73 AH O JSC E" 16/Jul (BG2)

10780 Cape Radio: USAF ETR, Cape Canaveral AFS 1000 USB clg USS Boone during launch of Space Shuttle Discovery (OV-103) on STS-91 (RB)

10789.9 RFLI: FF Fort De France 0550 ARQ-E3 100/425 idling (BC3)

10805 Stockholm Radio, S: 1235 USB sx m EE wkg Air France 006, pp to ops, QSY from 8930 (ALF)

10814.4 UNID: 0705 VFT R39-1 with 16 channels spaced at 170 Hz, channels 4, 8, 9, 11 with mark only, all others with 75 Hz FSK. 16/Jul (BG2)

10863.4 UNID: 0659 VFT sounds like white noise with 4800 Hz bandwidth, 18 tones 282.6 Hz apart, tones 1 and 5 unmodulated. 16/Jul (BG2)

10943.5 CFH: CF Halifax, NS, CAN 1615 RTTY 75/850 NAWS marker (RB)

11041 High Pitched Polytone XPH: 0620 AM tonal numbers station (SD)

11034.7 " jg 7" UNID EGY 1628 ARQ Tfc\AA. Listed as EGY Pyongyang 03/Jul (RH2) * kdakr-fh MFA Cairo 1650 ARQ Crypto to yphnkg (Pyongyang?) 3/Jul (RH2)

11041 XPH Polytone station, ? 0620 TONES Long message, ca 5 mins. Very loud signal 10/jul (AB)

11053 NAVY 50515: VP-3A BurNo 150515 0008 USB a/c of CinCAFSE wkg Andy VIP w/pp (RB)

11084 PANSY 21: 1707 USB wkg PANSY 58 re being unable to raise a Global stn (RB)

11125.1 HZN: JEDDAH MET 1513 rtty 100/R/400 Met tfc. 6/Jul (DW)

11153 SAM 203: 2018 ??? DV-2 + 8, checking Andrews VIP on F-277, for new primary freq. 5/Jul (JJ)

11154 DZFG: MFA Belgrade, YUG 0952 RTTY 75bd Encrypted tfc + ops chat 3/jul (AB)

11175 4ZP: 1639 USB req. stateside dsn pp from croughton, a/c can not hear croughton at first, tries several rdo cks, finally they are doing the pp to dsn#565xxxx 8/jul * AMC 2069: 0444 USB clg. Andrews, no joy 15/jul * 0458 Skyking, Skyking, do not answer, AIT ___ 6, standby, from 0459 until 0508 two EAMs for SAJCPP (20 char, SAJQ4J...) and SRWDWP (19 (!) char, SCQX7J...) repeated by 6 GHFS stns. identified Offutt, Andrews, Lajes, presumedly also by Croughton, Thula and Incirlik. (JRU) * ANDREWS AFB 2054 USB wkg Shadow 104 (not hrd) 2/jul (JRU) * Croughton GHFS, G 0609 USB clg SPAR 60 all frequency request, no joy (RB) * NAVY CW150: C-130T, VR-54 'Revellers', NAS New Orleans, LA 0008 USB wkg Thule GHFS w/pp UNID meteo for wx, during PIREP, ID's as Navy C-130 over ESV, Ecrador (RB) * RANGER 10 1719 USB with rdo ck 8/jul (JRU) * REACH 1819 0427 USB clg. Mainsail and raising Thule, pp to Hilda East, eta UGEE 0650, at 0434 pp to Thule Meteo, req. wx for UGEE 15/jul (JRU) * REACH 4618: 2308 USB w/pp to McCord Base Ops DSN 984-5611 - inbound to McCord w/a few requests (LCB) * SEAGULL 09 (sounds like) 2002 USB pp to dsn#302xxxx (Diego Garcia ?), ghfs stn sounds like lajes. much more tfx going on here, but no time to monitor. 8/jul (JRU) * SHADOW 12: 0437 USB wkg. pp via Andrews, re. problems with engine no. 3, the fuel pressure light is constantly flickering, even in cross speed, qsy'd to vhf comms 15/jul (JRU) * (In) L7R: pp N9R w/ spare group massages. (AN) * Andrews w\PP for REACH JHL3 DNS#731-1110-Little Rock Ops. 2227 USB 6/jul (MF2) * KING 33 w\PP to CLEARWATER Ops 1922 Andrews wkrg PP for VADER 04 to DNS#346-1315 1924 USB 8/jul (MF2) * Andrews w\PP for REACH 5242 to Kelly Base Ops & meteo 2008 USB 16/jul (MF2)

11214 SAM 375: 2206 ??? inbound Andrews wkg Andrews VIP for pp to SAM Command. 11/Jul (JJ)

11220 SAM 27000: 1434 ??? DV-2 (Secretary of State Madeleine Albright)+ 38, outbound Elmendorf wkg Andrews VIP for pps re: 2015z arrival at Andrews. 4/Jul (JJ) * SPAR 65: 0610 ??? wkg Andrews VIP for pp re: ETA Shannon 0825z and then back home to Ramstein. SAM 683 also on freq. 11/Jul (JJ)

11226 GOLON 08: 1557 USB wkg Andrews w/pp Dover CP (RB)

11232 CHR: Trenton Military, Ont, CAN 1958 USB wkg CanForce 2102 re departed -? at 1755z, ETA Winnepeg 0110z, selcal ck GH-AE (RB) * RAZOR 26: 1821 USB clg Trenton Military "with request", no joy(RB)

11265 UNID: 1714 USB 2 m (one in an aircraft) in Portugese (MB3)

11273 Balkan Aws LDOC Sofia 1858 USB wkg "TN" w/Varna wx info (MB3)

11300 Benghazi Aero 1510 USB wkg 5_-A__(missed) cleared FL410 (MB3)

11306 GKX: Portishead Radio 1455 USB wkg CYP3006 w/pp to ops LGW (MB3)

11308 UNID: 1748 AM (poss. LDOC) wkg an UNID aircraft in RR (MB3)

11342 New York ARinc (NA-CC-LDOC) 1248 USB wkg Monarch 117 w/company msg, wx (RB)

11345 CONDOR 869: 2104 USB qsyd 10206, a/c has problems copying the qrg, no joy. 3/jul (JRU) * JAPAN AIR 403: 1117 USB gets customs clearance info from Stockholm R. and reads it back. eta London/Heathrow 1450 4/jul (JRU) * KLM 9107: 1128 USB s/c ck MR-EP lailed 4 times, rdo ck okay, a/c maintains listening watch 4/jul (JRU) * GBXE: 1129 USB rdo ck 4/jul (JRU) * SDJ: Stockholm Radio 1526 USB wkg UNID flt. 383 enrt to EGCC (MB3) * Stockholm Radio, S: 1230 USB wkg AWD 632 'Envoy 632' for Ryan International, reg. N716AW, s/c RS-EG, pp to Ryan ops (ALF)

11341.9 MFA Copenhagen, DNK 0938 TWINPLEX 100bd Plain text msgs to various embassies 3/jul (AB)

11405 UNID: ptp; Telesenegal Dakar? 1000 LSB F/A tel. tfc; F opr ment. "Bravo Zulu"; 6VK511 reactivated? (FM)

11401.6 UNHCR Ruanda (tent) 1615 PactorU 200 Msgs\FF re food and refugees. Mentions LOOKOLELA ? 14/Jul (RH2)

11401.7 UNID 1656 Piccollo Unable decode. Unlisted 08/Jul (RH2)

11416.7 RFFVAY: FF SARAJEVO 1922 ARQ/342 200/400 8rc. 2chan tdm. Chan A: and B: betas. ChanB: at 2000z cct [FKWB] wx at Sarajevo/LQSA. At 2010z off sync but still strong signal for 2mins - no apparent reason.

6/Jul (DW)
11437.9 MFA Copenhagen, DNK 0948 TWINPLEX 100bd Encrypted msgs 3/jul (AB)
11453 MB3: ROME MET 1450 RTTY 50/R/850 Met tfc. 14/Jul (DW)
12134.5 UNID: 1134 ARQ-E3 100/400 Unlisted. Nil on screen. Presume new FF Mil freq.? 02/Jul (RH2)
12141 XPH Polytone station, ? 0640 TONES Long message, ca 5 mins. Very loud signal 10/jul (AB)
12145 Stockholm Radio, S: 1055 USB sx f EE wkg Continental 51, pp to ops (ALF)
12167 M12 numbers station, ? 1840 CW 151 151 151 1 (5 mins) 792 66 5FG 000 000 5/jul (AB)
12211.7 PWX33: Brazil Navrad 1100 RTTY 75/850 Boletin\PP fm Ministerio da Marinha 07/Jul (RH2)
12478 UCMQ: TKH Mikhail Cheremnykh 0424 ARQ 4,054 cargo vsk w/tlx tfc via UCE, Arkhangelsk Radio (RB) * UCMV: TKH Vlas Nichkov 0436 ARQ Russian flagged 14,200 DWT bulk carrier w/tlx to Egymar, Alexandria, Egypt re ETA Alexandria (RB) * WCT3725: F/V One and All 0422 ARQ posn report 4.15N/156.04W via KFS (RB) * WCX9576: UNID vessel 0427 ARQ log-in to KFS (RB)
12497.5 WCX8938: M/V Galaxie 0434 ARQ U.S-flagged offshore/supply vsl (Secor) w/Globe Wireless RFPF tfc (RB)
12579 GKE5: Portishead Radio 2343 CW marker, 7/Jun (JRC)
12580.5 ZLA: Awanuy Radio 0934 CW marker, 23/May (JRC)
12588 HEC: Berne Radio 0355 CW marker, 11/Jul (JRC)
12596 GKC5: Portishead Radio 0045 CW marker, 11/Jun (JRC)
12596.5 PCH56: Scheveningen Radio 2345 CW marker 7/Jun (JRC)
12602 TAH: Istanbul Radio 0015 CW marker, 22/May (JRC)
12603 LINCOLNSHIRE POACHER (E3) 1701 USB tune, ID: 27032 14/jul (JRU) * LINCOLSHIRE POACHER (E3) 1803 tune, ID: 76557 and msg follows //7337// 12/jul (JRU)
12601.5 OXZ: Lyndby Radio 0050 CW marker, 11/Jun (JRC)
12602.5 IAR: Rome Radio 0410 CW marker, 27/Jun (JRC)
12603.5 SVU5: Athens Radio 0050 CW marker "SVU", 11/Jun (JRC)
12609 GKQ5: Portishead Radio 0054 CW marker, 22/May (JRC)
12613 USU: Mariupol Radio 0300 CW marker, 20/Jun (JRC)
12610.5 VCT: Tors Cove Radio 0051 CW marker, 21/Jun (JRC)
12615 8PO: Bridgetown Radio 0035 CW marker, 22/May (JRC)
12611.5 KEJ: Honolulu Radio 0928 CW marker, 23/May (JRC)
12624 SAB: Gotenberg Radio 0044 CW marker, 11/Jun (JRC)
12628 KHF: Guam Radio 1301 CW marker, 13/Jun (JRC)
12639 OST50: Oostende Radio 0353 CW marker, 6/Jun (JRC)
12647 LPD: General Pacheco Radio 0104 CW marker, 21/May (JRC) * LSD836: Buenos Aires Radio 0402 CW marker, 6/Jun (JRC)
12649.5 XSG: Shanghai Radio1305 CW marker, 13/Jun (JRC)
12654 TAH: Istanbul Radio 2320 CW marker, 7/Jun (JRC)
12664.5 FUM: FF Military, Papeete, Tahiti 0306 RTTY 75/850 RY's/DE FUM Marker (JEB)
12697 USU: MARIUPOL RADIO 1736 CW Tfc to t/h Doblestx Dubaa. 4/Jul (DW)
12730 NMC: USCG San Francisco 0820 fax 120/576 Good signal but undecipherable chart 13/Jul (RH2)
12737 LSD836: Buenos Aires Radio 0116 CW marker, 21/May (JRC)
13019.7 SPE63: Szczecin Radio, POL 0450 ARQ ships messages (BC3)
13076.5 JNA: Tokyo R., 1455 CW tfc list (only 3 c/s) 13/Jul (CK)
13089 CAMSLANT: 1842 no joy w\Cutter HORNBEAM 7/JUL (MF2)
13171.7 TSBN: Tazarka (P205) 0158 ARQ Tunisian Navy Tazarka-class (lead ship) Small Patrol Boat w/several non-classified msgs in FF after selcal QCQT (RB)
13200 Various: Andrews et al 2200 USB / Operation Yuletide plus other characters/echo. What is it? (PV) * Andrews: 1859 USB wkrg PP for KING 76, DSN #431-2911 7/jul (MF2) * REACH 507: 1912 USB no joy w\Andrews 16/Jul (MF2)
13215 UNID: 1543 USB a pp w/2 men in Arabic, jammer on freq! (MB3)
13247 SAM 203: 1935 ??? DV-2 + 8, wkg Andrews VIP re: 2210z arrival Andrews. 5/Jul (JJ)
13342 SDJ: Stockholm Radio 1844 USB wkg UNID flt. 1844 enrt to EGSS (MB3) * Stockholm Radio, S: 1050 USB sx m EE wkg United 915 (ALF)
13375 Lincolnshire Poacher 1918 USB YL/EE w/5FG x 2 in progress (RB)
13440 6-BRAVO: 0148 ??? wkg Andrews VIP for pp to 6-OSCAR re: duty

rotations and 6-LIMA. 9/Jul (JJ)
13479.7 RFFA: MoD Paris 0516 ARQ-M2 200/400 non-protoge tfc on Ch.B, C.I. "FDX" (RB)
13510 CFH: CF Halifax, NS 1038 RTTY 75/734 wx 9/Jul (BC3)
13538 ZRO3: Pretoria Meteo 0727 FAX 120/576 Superb Wx charts (4) 09/Jul (RH2)
13555 UNID: 0740 81-81 81/500 Unable decode 04/Jul (RH2) * UNID: 0900 81-81 81/500 Unable decode. Good synch! 14/Jul (RH2)
13551.5 RFFA: MOD Paris 1721 FEC-A 192/400 Staff Promotions & Appointments 09/Jul (RH2)
13560 BMB: Taiwan 1600 CW Wx report. gave freqs of operation as 3641/5909/8117/13560 (BW2)
13665.3 6VU73: DAKAR MET 1604 RTTY 50/R/750 Met tfc. 3/Jul (DW)
13780 HMF35: KCNA Pyongyang KRE 0800 RTTY 50/170 ry's 10/Jul (BC3)
13906 UNID: maybe the CIA Number Station ? 1201 USB vmf EE: '222 222 222 1234567890' (ALF)
13953 P6Z: MFA Paris, F 0458 FEC-A 192/357 5LG's (RB)
13958 UNID: USN(?) Net 2212 USB w/YY, 7J, K9G, I2A, X7A, and others active. 15/Jul (DW2)
13966.5 UNID: ICRC 0506 PACTOR 200/200 w/weak signal, tfc broken from breaks in synch, may have been in FF. Assumed ICRC unk location (RB)
13977 HDB20: MFA Berne ARQ w/5LGs 0635 6/Jul (ML2)
13979 RAT2: UNID 0846 CW. Two stns n net. "RAT" er?" "RCQ54 er?". "qtc nr 2030 gr129 04 07". Msg in offline encrypt (5 fig grps) Much bk wkng by weak stn. "RAT2 qsa2". ends "=RAT2 qsl?". 4/Jul (DW)
13977.7 RFFA: MoD Paris, F 0512 ARQ-E3 200/325 (assumed) idling (RB)
13996.5 STK: Khartoum Air, SDN 1400 RTTY 50/425/R ch [SKA], wx (ALF)
14156 RBL88: UNID Russian Navy 1230 CW clg RKL94 (CK)
14352 Russian FAPSI, Lourdes, Cuba 1548 RTTY 75/500 5LG's in progress, link 00128 (RB)
14379.8 T0B: UNID 0923 PACKET Two stns on net, T0B and T0C. Little info transferred, mainly supervisory frames. "xxx excesso de tiempo no acti" "[FBB-5/15-ABFHM$] Kaixo, HAMDY 1:T0C BBS>" "*** Error: comando F< no Conocido 4/Jul (DW)
14405 UNHCR Somewhere? 1647 Pactor-U 170/- Admin Msgs\EE. No ID or address seen. 13/Jul (RH2)
14432 PTT Lumumbashi 0843 ARQ Various tlx\FF incl. URGENT POUR GECAMINES KINSHASA 09/Jul (RH2)
14441.5 NNN0CCK: USCGC Bear (WMEC-901) MARS 1813 USB clg ASSMS w/beam heading of south (RB) * NNN0CEQ: USCGC Harriet Lane (WMEC-903 1811 USB clg ASSMS (RB)
14467.3 DDH8: HAMBURG MET 1513 RTTY 50/450 Marker "cq de DDH47 DDH9 DDH8 frequencies 147.3 khz 11039 khz 14467.3 khz". 10/Jul (DW)
14511 UNID: 1137 2 chan piccolo vft on usb 4/Jul (DW)
14511.5 UNID: 1140 PICC 14510.510. Chan 1 (eng) in vft. On standby for short period then vft offair. 4/Jul (DW)
14511.9 UNID: 1139 PICC 14510.910. Chan 2 (tfc) in vft. On standby. 4/Jul (DW)
14545.5 BAF: BEIJING MET 1935 FAX 120/576/R/800 Weak outlines in noise. 5/Jul (DW)
14585.6 RFTPA: FF NDJAMENA 0540 ARQ/E3 200/400 8rc. Betas. 0610z C de V svc RFTPA de RFTPA without Cct/serial/dtg. "Controle de voie pour essai liaison". 10/Jul (DW)
14585.7 RFTPA FF Ndjamena 1417 ARQ-E3/200 rr rffva de rfpta cr de la journee du (WP3)
14626.7 RFLI: FF Fort de France, MRT 0530 ARQ-E3 192/425 CdV on C.I. "LIJ" (RB)
14633.3 RFLI: FF FT DE FRANCE 0736 ARQ/E3 192/I/400 8rc. Stuck in rq loop for period then moves on but transfer slow at first. Cct [IRT] to Cayenne. svc C de v RFLI de RFLI and daily forces press bulletin part 3/3 in French. 10/Jul (DW)
14686 PANTHER: DEA Bahamas 2300 USB wkg "911" (LCB) * PANTHER:DEA Bahamas 2300z PANTHER wkg "911" in UNID comms 2/Jul (LCB)
14786.8 FDI8: FAF NICE 1216 CW. Marker "vvv de FDI8 ar". 4/Jul (DW)
14809.9 GXQ BA London 1411 RTTY 50 ryi quick brown fox (WP3)
14837.1 VVD65: DELHI MET 0839 rtty 50/R/200 Listed as 14838. Occ met tfc, weak, poor copy. 10/Jul (DW)
14864.7 UNID: 0933 arq Two bursts of selcals. EPXM, EQVQ. No response/

subsequent qso in following 15 mins. 10/Jul (DW)
14902 Louisiana Cap 30: 0041 USB wkg Night Time Communicators Net. Units included Yosemite 184: California CAP, Hill Cap 49: West Virgina CAP. 14/Jul (DW2)
14914 KIEV RADIO ? 1245 FAX 60/576/N/800 Plot starts 1250z covers area 10W-40E 30N-55N. Centre of chart circa Balkans area. Sfc chart - date seems to be 13th (label not clear) front, now over my qth, moved N France - sfc prognosis ? 12/Jul (DW) * UNID: 1327 FAX 60/576/N/800 Very weak stn. Typical CIS slew. Faded out rapidly. UNID in CFL/10. Marius Rensen's list ponders Tblisi at this (and 1350z) time. 10/Jul (DW)
14909.7 EGYPTIAN EMB TUNIS 1052 ARQ Weak, poor copy. jg yphkg hlgp (Boustan Tunis). Tfc in Arabic (ATU80). 10/Jul (DW)
14959.7 RFTJ: FF Dakar 0630 ARQ-E3 192/425 TJI821 Dakar to Port De France 9/Jul (BC3)
14966.7 MFA Stockholm 1358 SWED-ARQ tfc to ambassaden alger (WP3) * EGYPTIAN EMB MOSCOW 1334 arq Tfc in ATU80. (yp-hkg jlp---wl). Weak signal. 4/Jul (DW) * EGYPTIAN EMB MOSCOW 1452 arq First up "jg jlp---wl kds kdjfkqo--r" (Fm (musku) Moscow to (al mrajgh)(variant of khargia?). Tfc in Arabic (ATU80). 10/Jul (DW)
15006.7 EGYPTIAN EMB ? LOC 1345 arq Signing off "fk tgs yks yks". 4/Jul (DW)
15016 TANGO GOLF 616: 0200 ??? wkg Hickam Global for pp to Wake Island Base Ops re: diverting to Midway Island. 11/Jul (JJ) * Reach 007: 2149 USB wkg Hickam AFB w/request for frequency for pp. 15/Jul (DW2)
15812.5 GHQ: London(?) 0217 PICCOLO Mk.6 op. msg (ED)
15867 ROCKFISH 163: US Customs COTHEN network 2348 USB wkg SERVICE CENTER and SECTOR op and routine tfc (LCB) * Custom COTHEN 1845 ??? "TURKEY TALK" 7/JUL (MF2)
15885 UNID: 1600 36-50? 36/200 can't decode (RB)
15901 GXQ: RN LONDON ? 1134 VFT 8 chan DCN interleaved vft on usb. Signal too poor to sync into channels. 7/Jul (DW)
16027.6 NPN: USN Apra 1206 FAX 120/57 Poor chart! 2/Jul (RH2)
16087.7 RFVI: FF Le Port, REU 0610 ARQ-E3 100/425 RFVI/Paris/REI634 (BC3)
16098 HBD48: Swiss Embassy, Riyadh 1040 ARQ 100/170 encrypted tfc to HBD20 in 5L grps (ANE)
16106.9 SAM: MFA Stockholm 0752 SWED-ARQ 100/400 Tfc\Swede to Damascus Emb. 9/July (RH2)
16125.2 RFQP: FF DJIBOUTI 1327 ARQ-M2-342 200/170 4rc. 2 chan tdm. Chans A: and B: Betas. 1347z ch A: cct [QPB] Cde v RFQP de RFQP. Ch B: cct [QPC] CdV RFQP de RFQP. 7/Jul (DW)
16149.2 UNID: 0805 CROWD36 Unable decode 14/Jul (RH2)
16221.7 EGYPTIAN EMB ? LOC 1613 arq Very weak. Tfc in very broken ATU80 Arabic and offline encrypt. 7/Jul (DW)
16265 UNID: 0450 RTTY 75/760 encrypted tfc 5/Jul (BC3)
16303.7 2YSU: UNID 1850 ARQ 4LG's and simulated traffic, mil com exercise, sent entire copy following in CW (ED)
16316 UNID: 1624 36-50 36-50/188 C3G showed two speeds - 36 & 50; 1st time logged this mode! Unable decode. AnyWUN know where it comes from ?? 09/Jul (RH2)[Presumed Russian/CIS teleprinter system - LOGS]
16324.7 RFTJD: FF Libreville, GAB 0153 ARQ-E3 192/345 CdV on C.I. "JDJ" (RB) * RFTJD: French Forces Libreville, Gabon 1908 ARQ-E3 192/340 idling w/no tfc. Presumed id. (DW2)
16335 FZS63: St Denis Meteo, REU 1235 RTTY 75/400 Aero Wx 3/Jul (RH2)
16351.4 UNID: 1609 RS-Arq 228.5/170 Unable decode. Guess MFA Rome? 13/Jul (RH2)
16357 OLZ: MFA Prague 0810 rtty 100/400 Nx\Czech 2/Jul (RH2)
16453.5 HGX21: MFA Budapest 1556 DUP-ARQ 125/170 5LG to unk 1/Jul (RH2)
16616.7 UNID: 1648 ARQ selcal vkxe, also noted on 6671.7 (m/v Adventure1)(ED)
16699.5 UDEZ: TK Geori Novorossiyska 1732 ARQ Russian-flagged 54,990 DWT tanker, w/list of items needed aboard, sitor login 55144 UDEZ (RB)
16706 UULN: SHIP UNID 1846 ARQ Passing posn 6.25N 10.54W to USU. 3sc. 12/Jul (DW)
16747 UNID: Ship 1903 FEC relay of PNA press (in English) on ship duplex telex channel [118] - ship channel for XSG. Only ID "emn2~ b-62" 12/Jul (DW)
16785.5 PNA Relay 1220 fec Nx\EE 3/Jul (RH2)
16800 UYCF: TKH Mikhail Stenko 1736 RTTY 50/170 Ukrainian-flagged 7,700 DWT cargo vsl (Azov) w/EE status report (RB)

16802.5 UAHV: Kapitan Konovov 1723 RTTY 50/170 Russian-flagged fish factory (unk prefix) w/RR tfc to Arkhangelsk using hull#/ID AB-0595 (RB)
16803.5 UAUK: BATM Nivenskoye 1718 RTTY 50/170 Russian-flagged 4,537 DWT "Bol'shoj Avtonomnyi Trauler Morozil'nyj" -BATM, or large autonomous trawler/freezer, long range/endurance, w/crew TG's home in RR to Kaliningrad, this is former c/s UPPY (RB)
16808 SPA81: Gdynia R. 1255 FEC tfc/List 13/Jul (RH2)
16812 CBV: Olaya Ancha Zonal Radio 1257 CW marker 11/Jul (JRC)
16809.5 EAD: Madrid Radio 1655 CW marker 11/Jul (JRC) * VIP35: Perth R. 1245 FEC Tfc/List 14/Jul (RH2)
16815 9VG83: Singapore Radio 1656 CW marker "9VG", 11/Jul (JRC)
16821 VRX83: Hong Kong Radio 1258 CW marker "VRX", 11/Jul (JRC)
16823 VRX: Hong Kong Radio 1522 CW marker 20/Jun (JRC)
16829 USU: MARIUPOL RADIO 1847 ARQ tfc to UNID ship csign UULN. 3sc. 12/Jul (DW)
16836.5 UFN: Novorossiysk Radio 1736 CW marker, 2/Jul (JRC)
16838.5 9AR: Rejeka Radio 1735 CW marker, 2/Jul (JRC)
16842.5 KEJ: Honolulu Radio 1700 CW marker, 11/Jul (JRC)
16851.5 SAB: Gotenberg Radio 0000 CW marker, 1/Jun (JRC)
16865 XSQ: GUANGZHOU RADIO 1923 ARQ Channel free marker (Maritex) "ererer". Selcals FEEF EAMV VMXXVUT 12/Jul (DW)
16869 9VG: Singapore Radio 1355 CW marker, 25/May (JRC)
16883 OST60: Oostende Radio 1305 CW marker, "OST" 7/Jun (JRC)
16888 XSQ: Gangzhou Radio 1319 CW marker, 13/Jun (JRC)
16899.5 UAT: Moscow Radio 1355 CW marker, 25/May (JRC)
16904.6 FUV FN Jibouti 0906 RTTY 75/850 RY/ID test tape 9/Jul (RH2)
16936.9 RN Preston (?) 0901 RTTY 100/192 Crypto 8/July (RH2)
16947.5 6WW: FN Dakar 0828 RTTY 75/850 RY/ID test tape - now Tx on 3 freqs ! //16951.2 + 16955.0 9/Jul (RH2)
16971 KYODO 0930 FAX in japanese from left to right (JG3) * JJC: TOKYO 0914 FAX 60/576/N/800 "JSU News", "Kyodo News", "Kyodo Sports", etc. Excellent reception ALL day (9.5 hrs) 8/Jul (DW)
16988 XSG: Shangahi Radio 1300 CW marker, 11/Jul (JRC)
17038.5 URL: Sevastopol R. 0915 RTTY 50/850 Spot on Sev'pol freq and high power but unable decode. Not Latin or Cyrillic; clues anyWUN? 9/Jul (RH2)
17055 MGJ: RN Faslane 1645 RTTY 75/340 CARBs 8/Jul (RH2)
17069.6 JJC: TOKYO 0821 FAX 60/576/N/800 "Kyodo News" in Japanese script 8/Jul (DW)
17139 GYA: RN Whitehall 1618 RTTY 100/850 Fleet Broadcast RATT 4/Jul (RH2)
17147 URL: Sevastopol R. 1317 RTTY 50/170 Crew telegrams 13/Jul (RH2)
17204 LFI: Lyngby R. 1326 ARQ CW/arq ID. Note callsign change from OXZ82 13/Jul (RH2)
17314 NMC: CAMSPAC Point Reyes, CA 1648 USB scheduled marine wx fcst (RB)
17423 Minrex Havana 0900 RTTY 50/379 Nx\SS. Unlisted Kling/CFL 8/Jul (RH2)
17416.8 SAM: MFA Stockholm 0730 SWED-ARQ 100/400 Tfc\Swede to SVENSK ADDIS ABABA & DJIBOUTI 9/Jul (RH2)
17428.5 SAM: MFA Stockholm 1210 SWED-ARQ 100/400 5LG to unk 3/Jul (RH2)
17430.5 9VF209: Kyodo Singapore 1043 FAX 60/576 JJ Newspaper 8/Jul (RH2)
17428.9 CLP?: Minrex Havana(?) 0954 RTTY 50/381 Nx\FF. Unlisted. MFA Stockholm usually on this freq.! 13/Jul (RH2)
17438.2 GG Emb., Brasilia (tent) 1623 RS-ARQ 228.5/170 Unable decode 4/Jul (RH2)
18011.7 Egyptian Emb New Delhi 0610 FEC (JG MDRS) clg Cairo, then off air 10/Jul (ML2)
18064 MFA Warsaw 1620 POL-ARQ 100/246 Nx\Pol 7/Jul (RH2)
18183.5 MFA Algiers 0748 COQ8 26.67 Tfx\FF to New York, Ambalg Amman & Addis Abeba 14/Jul (RH2) * MFA Algiers 0800 COQ8 26.67 Tfc\AA to Tripoli and Ambalg Cairo 14/Jul (RH2)
18203 P6Z: MFA Paris 1603 ARQ6-90 200/400 5LG. Looked like Embassy circular 3/Jul (RH2)
18230 UNID: British Military? 1700 PICCOLO-6 sounded like idling, no tfc decoded (RB) * GYU: RN GIBRALTAR 1950 2 chan piccolo vft on usb. 7/Jul (DW) * GXQ: RN LONDON 1636 PICCOLO 2 channel Piccolo vft on USB. At first tfc channel on 2 (+510hz) Nil on 1. Later tfc on 1 (+510hz) and Eng at standby on 2 (+910hz). Equipment problems ? 13/Jul (DW)
18230.5 GYU: RN Gibraltar 2031 PICCOLO 6 op. msg. requests resync (ED)

* GYU: RN GIBRALTAR 1955 PICCOLO-6 18230.510. (eng) chan 1 in vft. On standby. 2207z "MKD de GYU". Opchat re resync. 7/Jul (DW) * GXQ: RN LONDON 1636 PICCOLO 18230.510. Missing at first, later 6 tone on line encrypted. 13/Jul (DW)

18230.9 GYU: RN GIBRALTAR 1952 PICC/6t 18230.910. Online encrypted. 7/Jul (DW) * GXQ: RN LONDON 1536 PICC 18230.910. 6 tone piccolo, on line encrypted. Later standby and op chat but vry poor copy. Using "de GXQ" but last logged GYU on this frequency on Jul/7 working MKD. 13/Jul (DW)

18257 HBD2O: MFA BERN 0913 ARQ Tfc in offline encrypt to Amman. 9/Jul (DW)

18269 HBD2O: MFA BERN 1136 ARQ Tfc in offline encrypt to Ottawa 9/Jul (DW) * SWISS EMB OTTAWA 1142 ARQ Tfc in offline encrypt to Bern. 9/Jul (DW)

18276.7 SWISS EMB TEL AVIV 0641 ARQ Starts in irs mode then tfc in offline encrypt to Bern. 9/Jul (DW)

18304.5 RFGW: MFA Paris 1632 FEC-A 192/400 5LG circular to Embassies 02/Jul (RH2)

18325 8WA23: Indian Emb Beijing RTTY 50/250 clg 8WD14 New Delhi, no tfc, QSX was 18407 0910 10/Jul (ML2)

18441.2 JMJ5: TOKYO MET 1311 FAX Grainy chart. FXAS. 9/Jul (DW)

18445.5 MFA Oslo 0730 TWINPLEX op chat & Norwegian nx to Beijing 8/Jul (ML2)

18496.1 CNM80X11: MAP RABAT 1325 RTTY 50/425 Press in English. 9/Jul (DW)

18552 V5G: MFA Bucharest 1029 ROU-FEC 164.5/400 Nx\Rum 13/Jul (RH2)

18555.1 MKD: RAF Akrotiri, CYP 1629 PICCOLO 6 op. msg (ED)

18597.5 MFA Madrid 0752 ARQ Crypto to Kinshasa Embassy. Usual strange letter groups 16X4X4 + Opchat in SS 3/Jul (RH2)

18667.8 EGYPTIAN EMB MADRID 1614 ARQ irs mode, qso ceases. scal SSTZ (MFA Cairo). Reconnect, poor copy ATU80 "jg j---mfsm" (Madrid). 9/Jul (DW) * CLP1: MFA HAVANA 1332 RTTY 50/R/500 Tfc (press circulars) in Spanish and French. 9/Jul (DW)

18771.1 UNID: 1358 RS-ARQ 228/170 encrypted tfc, no ID, but frequency is used by MFA Germany (ED)

18806.7 UNID: 0628 ARQ Two stns on net. Language - part UNID (Greek?), part Eng. qso breaks. Scals TVVM. Further qso but poor copy. Greek maritime "Voyager" telex net? 8/Jul (DW)

18966.7 RFHJ: FF Papeete, Tahiti 1707 ARQ-E3 96/342 CdV on circuit "HJL" (RB) * RFHJ: FF Papeete, Tahiti 0427 ARQ-E3 100/425 tfc to Noumea [HIJ924]. 15/Jul (BC3)

19031.7 Foreign Islamabad 1330 ARQ ftc e to parep Algiers + opchat e (WP3)

19031.8 Pak Emb London 1413 ARQ eng. msg, asking for traffic from UNID. Twinplex also, but bandwidth too large to copy, a new arrangement(ED)

19033.7 FF Accra 1834 COQUELET 26.5 msg to MAE, plus relays from other African emb (ED)

19058.1 MKD: RAF Akritiri, CYP 1706 PICCOLO 6 op. msg (ED)

19204.4 RFLI: FF Fort De France ARQ-E3 100/425 idling, 15/Jul (BC3)

19216.7 RFLI: FF FT DE FRANCE 1010 ARQ/E3 96/400 8rc. Stuck in rq loop "vzczcl rq" for over 35 minutes - gave up waiting! 18/Jul (DW)

19498.5 RFHI: FF Noumea 0530 ARQ-E3 100/425 Noumea/Papeete [HIJ160]. 15/Jul (BC3)

19606.6 MUH: UNID RAF? 1805 PICCOLO op. msg.; callsign usually a portable, but location is unknown (ED)

19698 OST: Oostende Radio 1700 CW marker, 6/Jun (JRC)

19699.1 UFN: Novorossiysk Radio 1445 CW marker, 13/Jun (JRC)

19697.5 SPB: Szczenin Radio 1948 CW marker, 13/Jun (JRC) * SPB71: SZCZECIN RADIO 1100 fec End of blind tfc. Stn info. 18/Jul (DW)

19707 LSD836: Buenos Aires Radio 1708 CW marker, 6/Jun (JRC)

19725 A9M: Bahrain Radio 1503 CW marker, 13/Jun (JRC)

19730.3 P6Z: MFA Paris 0930 FEC-A 192/400 Calling N2G (FF Emb. Sana). No reply! 12/Jul (RH2)

19860 MGJ: RN FASLANE 1105 RTTY 75/340 CARB. 5/Jul (DW)

19897 MUH: UNID 1110 PICCOLO Two channel piccolo vft on usb. 5/Jul (DW)

19897.5 MUH: UNID 1112 PICC 19897.510. Chan 1 (eng) in vft. On standby. 1240z opchat inc "MKD de MUH". 5/Jul (DW)

19897.9 MUH: UNID 1111 PICC 19897.910. Chan 2 (tfc) in vft. 6 tone, online encrypted. 5/Jul (DW)

19925.3 RFLI: FF Fort De France, MRT 0709 ARQ-E3 192/425 "ZCZC LFB893 OO PROVENCEROVENCE VENCE DE PROVENCE8213 QOQPUPYZNR UV" Controle De Voie 82138213 10/Jul (BC3)

20265.5 UNID 1319 PICC 20265.510. No adjacent tfc channel(s). No app opchat. 5/Jul (DW)
20286.5 SPW: WARSAW RADIO 1859 fec Polish ship press. 17/Jul (DW)
20426.2 CNM29: MAP RABAT 1649 rtty 50/850 Press in French. 2nd harmonic of MAP CNM29/10213.1. Note doubling of shift. Ends "fin bulletin map 1716542 gmt jui 1998". 17/Jul (DW)
20633.7 RFVI: FF LE PORT 1629 ARQ/E3 100/400 8rc. Cct [REI]. Two Cde de v svcs. RFVI de RFVI [REI843] and Paris de Paris [REI844]. 17/Jul (DW)
20699.9 SAM: MFA Stockholm 0833 Swed-Arq 100/400 5LG PERSONAL/URGENT UD-CRYPTO FOR AMBASSADEN HARARE. 14/Jul (RH2)
20797.9 POLISH EMB ? LOC 1603 ARQ/POL 100/200 Idling in betas. then "wielkie dzieki 73 i do poniedzialku pa++" sign off. 17/Jul (DW)
20856.7 RFQP: FF Djibouti 1714 ARQ-E3 200/401 non-protege tfc on circuit "DJK" (RB)
20925 NDJX: FF Emb. N'Djamena 0930 ARQ690 200/400 5LG to MFA Paris 7/Jul (RH2)
20925 FRENCH EMB ? 1531 ARQ6 200/400 End of qso (irs mode). Op chat "ok vx tks r r r r f 120 to 124 qru pse qrx 180700z 68/22". Final signoff in cw " de 2 de 2 int c qrx k" 17/Jul (DW)
20945 LN2A: NTA SVEIO IPS 1544 CW. Beacon on usb cw id and rtt burst at +1700hz. 17/Jul (DW)
20946 8BY: UNID 1552 CW. Marker "vvv 8BY 585/270/532" 17/Jul (DW)
22380 PCH75: Scheveningen Radio 1540 CW marker, 5/Jul (JRC)
22386 OXZ: Lyngby, Radio 1544 CW marker "OXZO", 5/Jul (JRC)
22387.5 SVU: Athens Radio 1855 Tone & CW call sign mkr, 6/Jun (JRC)
22542 JJC: TOKYO 0829 FAX 60/576/N/800 Rythmic fax beat just audible, dead zone just visible. Occasionally rises enough to display vague outlines. 8/Jul (DW)
22603.6 PPR: RIO DE JANEIRO RADIO 1904 CW. Tfc list. 7/Jul (DW)
23053.7 UNID: 1403 ARQ 100/E/170 Tail end burts of qso. 6/Jul (DW)
23214 UNID: 2304 USB scrambled Customs operations (LCB)
23214 UNID: 2304z Scrambled Customs Operations 2/Jul (LCB)
23237 MKL: NORTHWOOD London 1410 CW. Weak signals (skip) "LOG de MKL" plus msg in slow CW 6/Jul (DW)

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(JC6)	Jimmie Cullen	(SD)	Simon Denneen, AUS
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(JEB)	Jason Berri, USA	(WP3)	Wolfgang Palmberger, D
(JF)	Jos Frielink, NLD		

5-6 MHz Bandscan (part 2)
compiled by Alf Rosenstock

5480 - 5730 kHz Aeronautical Mobile ([R])
SelCal-Check in AM and 1 kHz higher as the USB frequency

5480 CW VDE Hungarian Intelligence, HNG v-mkr, 5 fgs W96
USB Moroccan Police Net W96

	USB	French Military Net s/LS, RX, DE, ST (cf 5481/C) 6/97
5481	USB	RDARA: 2A/C, 4B, 6G, 7D, 9C, 10C/E, 12E/J, 13E/F/K, 14D/G
	CW	French Military Net s/LS, RX, 3O, 6X, DE, ST 6/97
5484	USB	RDARA: 1B, 3A/C, 6A, 9B, 10A, 12C/G, 13H
5486	Data	HGX21 MFA Budapest, HNG W96
5487	USB	RDARA: 2C, 6G, 10C, 12E
5490	USB	RDARA: 2A/B, 3A, 6D, 10A, 12C, 13C
5493	USB	MWARA: AFI-4
		Garoua, CMR W96
		TNL Brazzaville, COG W96
		TTL N'Djamena, TCD 2/98
		9PL Kinshasa, 'ZAI' 1/98
		9PS Kisangani, 'ZAI' W96
		D2U Luanda, ANG W96
	USB	RDARA: 3B, 6G
5495.5	CW	REA4 unid Russian h+40: 5 fgs 2/98
5496	USB	RDARA: 2A/B, 3A, 6F, 10A/D, 12C/J, 13I
5499	USB	RDARA:3B, 6G
	USB	V-AFI
5502	USB	RDARA: 2A/B, 3A, 6B, 10C, 12C, 13M
	R/75	PBC DN Goree, NLD W97
5502.5	CW	REA4 unid Russian h+40: 5fgs 1097
5505	USB	V-EUR: EIP Shannon Volmet, IRL 4/98
	USB	RDARA: 3B, 6G
5507.5	USB	US Military w/ANDVT W98
5508	USB	RDARA: 2B/C, 6F, 7, 9B, 11B, 12F, 13N
	USB	RDARA: 12F Rio Negro/Medellin, CLM W96
		Quibda, CLM W96
		Monteria, CLM W96
		HKI9 Pereira, CLM W96
5510	R/50	MUH10 unid British Military RY W97
5511	USB	RDARA: 3A, 5B, 6G
5514	USB	RDARA: 2C, 3B/C, 6E, 11B, 13C
5517	USB	MWARA AFI-3
		SUC Cairo, EGY 2/98
		5AF Tripoli, LBY 2/98
		Asmara, ERI 1/98
		ETD3 Addis Ababa, ETH 3/98
		5YD Nairobi, KEN 2/98
		STK70 Khartoum, SDN 3/98
		6OM Mogadishu 'Information', SOM 2/98
		Entebbe, UGA 1/98
		Sana'a, YEM 2/98
		Djibouti, DJI 1/98
		Riyadh, ARS W97
		S7Z Seychelles/Mahe, SEY W96
		3BN Mauritius, MAU W96
	USB	RDARA: 3A, 6G
5520	USB	MWARA: CAR-B KEA5 New York, NY, USA W96
		RDARA: 2B/C, 3B, 6D, 7E
5523	USB	RDARA: 2A, 6G, 9B, 11B, 12G, 13I
5526	USB	MWARA: SAM-C ZWBE Belem, B W96
		ZWMV Manaus, B W96
	USB	RDARA: 2B/C, 3B, 5D, 6E, 10F, 14
5527	FAX	BAF6 Beijing Meteo, CHN W98
5529	USB	LDOC: W1 IBERIA Madrid, E 2/98
		Berna Radio, SUI 1/98
	USB	LDOC: W2
5530	USB	INTER, Guatemala Reg.Airline Net
		INTER Interoperaciones, GTM W98
		Coatepeque, GTM W98
		Cancun, MEX W98
		Boban, GTM W98
		Flores, GTM W96
		Guatemala City (La Aurora) W98
		Puerte Barrios, GTM W98
		Quetzaltenango, GTM W98
		San Jose, GTM W98

		Santa Cruz de Quiche, GTM W98
	AM	MOSSAD, ISR Intelligence #MIW: YL EE, 5lgs 3/97
	USB	unid Number Station 'Nancy Adam Susam'-marker W96
5532	USB	LDOC: W1 OKL CSA Prague, CZE 4/98
	USB	LDOC: W5 SAA 'Springbok Jo'burg, AFS 2/98
5535	USB	LDOC: W1 BA 'SPEEDBIRD' London, G 1/98
		LDOC: W4 Lima Flight Support, PER W97
5536	USB	Ethopian Air 'HOLLOWAY' 1/98
5538	USB	LDOC: W2 FALCON Bahrain, BHR 2/98
	USB	LDOC: W5
5541	USB	LDOC: W1 SDJ Stockholm Radio, S 1/98
	USB	LDOC: W4
5544	USB	LDOC: W2 SAUDIA Jeddah, ARS 1/98
	USB	LDOC: W5
		NMN USCG CAMSLANT Chesapeake, VA, USA W97
5547	USB	MWARA: CEP-1/2 KMA7 San Francisco, CA, USA W97
		KUA3 Honolulu, HI, HWA W97
5550	USB	MWARA: CAR KEA5 New York, NY, USA 4/98
		CMI Havanna - Boyeros, CUB W96
	USB	RDARA: 2B/C, 3B, 5D, 6C/E, 14G
5553	USB	RDARA: 6G, 10B
	USB	RDARA: 13C ZWBE Belem, B W96
5555	R/MS2	unid Russian Military encrypted W97
5556	USB	RDARA: 2, 3, 12F
5559	USB	MWARA: SP
		RDARA: 2A, 4A, 6G, 10E, 12G, 13J
5562	USB	RDARA: 2C, 3B/C, 10C, 12D, 13D
5565	USB	MWARA: SAT-1/2 ZWRF Recife, B W97
		ZUJ Johannesburg 'Oceanic', AFS W97
		6VU Dakar, SEN W96
	USB	RDARA: 6G, 9B, 10A
5568	USB	RDARA: 1A, 5B, 6D, 7F, 10B, 12
		RDARA: 3A/C AVRORA Volgograd, RUS 3/98
		SHPORA Rostov-na-Donu, RUS 3/98
		RDARA: 13J V.C. Byrd & Vigil, LCA W97
5571	USB	RDARA: 6G, 11B, 13C
5574	USB	MWARA: CEP-1/2 KMA7 San Francisco, CA, USA W97
		KUA3 Honolulu, HI, HWA W96
	USB	RDARA: 2B/C, 4B, 6D, 13G
5577	USB	RDARA: 1C, 5A, 6G, 7B, 10E, 13C/J/K
	USB	Oostende Radio LDOC, BEL W97
5580	USB	RDARA: 3A/B, 6A/C, 14G
	USB	V-CAR
5583	USB	RDARA: 1E, 5A/C, 6G, 7B, 9, 10B, 12E/F/H, 13E/F
5586	USB	RDARA: 2C, 3C, 10A
5589	USB	RDARA: 12C
	USB	El-Al Tel-Aviv LDOC, ISR 3/98
	USB	V-MID
5592	USB	RDARA: 6G, 7C, 9D
	USB	V-NAT
5595	USB	RDARA: 1C, 2B, 6B, 10C, 12E
5598	USB	MWARA: NAT-A EIP Shanwick, IRL 3/98
		CSY Santa Maria, AZR 4/98
		KEA5 New York, USA 4/98
		VFG Gander, CAN 1/98
	USB	RDARA: 6G
5601	USB	RDARA: 3A/B
	USB	RDARA: 6A AWB Bombay, IND 1/98
	USB	V-SAM LWB Buenos Aires, ARG W97
5604	USB	RDARA: 2A/C, 4B, 6G, 12A/E/F, 13E/F/K, 14
	USB	RDARA: 10 VCT Rainbow Radio, Tors Cove, CAN W97
5606	CW	A2A unid, tent. MOI ROU v-mkr 6/97
5607	USB	RDARA: 2B
5610	USB	RDARA: 6G
	USB	Portishead Radio LDOC , G 4/98
5613	USB	RDARA: 2B, 12C
5616	USB	MWARA: NAT-B EIP Shanwick, IRL 3/98
		VFG Gander, CAN 3/98

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                TFW Reykjavik 'Iceland'', ICE 1297
        USB     RDARA: 6G
5619    USB     RDARA: 2B, 12J
5621.5  ARQ     RETAME Spanish Army Leon, E to RETA W97
5622    USB     RDARA: 1D, 6G
5625    USB     RDARA: 3A, 5B, 6B, 10D
        USB     unid Number Station 'Strich': GG 2x5 fgs, id: 1V1/38 W97
5628    USB     MWARA: NP KUA3 Honolulu, HI, HWA W97
                KMA7 San Francisco, CA, USA W97
                JIA Tokyo, J W96
                AWB Bombay, IND W97
        USB     RDARA: 1D, 6G
5629    AM      MOSSAD, ISR Intelligence #SYN/VLB: YL EE 5lgs 4/98
5630    AM      MOSSAD, ISR Intelligence #SYN: YL EE 5lgs 3/98
        USB     Mexican Army Net W96
5631    USB     RDARA: 6D, 10A
5634    USB     MWARA: INO-1 VZPH Perth, AUS W96
                3BN Mauritius, MAU W96
                5ST Antananarivo 'Tana', MDG 1/98
                S7Z Seychelles, SEY W96
                C8F Beira, MOZ W96
        USB     RDARA: 6G
5637    USB/CW  RDARA: 1D SWA Athens, GRC 1297
                SWH Iraklion (Nikos Kazantzakis), GRC 3/97
                SWI Ioannina, GRC W96
                SWK Kerkyra/Corfu-(I.Kapodistria), GRC W96
                SWX Limnos, GRC W96
                LGZA Zakinthos, GRC W96
                LGSM Samos, GRC W96
                LGST Sitia, GRC W96
                LGIK Ikaria, GRC W96
                LGKJ Kastelorizio, GRC W96
                LGMR Marathon, GRC W96
                Chios, GRC W96
                Diagoras, GRC W96
                SWM Kalamata, GRC W96
                YRA Bucuresti Air 'Informare', ROU 11/97
                TAROM Bucurest, ROU W96
                SUC Cairo, EGY W96
        USB     RDARA: 3C
5638    CW      YRA Bukarest 'Information', ROU 11/97
5640    USB     RDARA: 6G
5643    USB     MWARA: SP-6/7 ZKAK Auckland, NZL W97
                VZBN    Brisbane, AUS W97
                VZPH    Perth, AUS W97
                KUA3    Honolulu, HI, HWI W97
                3DN Nadi, FJI W97
                FXP Papeete 'Tahiti', OCE W96
        USB     RDARA: 3C
5646    USB     MWARA: NCA
        USB     RDARA: 12G
5648.4  Data    Hungarian Diplo W97
5649    USB     MWARA: NAT-C VFG Gander, CAN 3/98
                EIP Shanwick, IRL 3/98
                TFW Reykjavik 'Iceland' ICE W97
        USB     MWARA: SEA
5652    USB     MWARA: AFI-2 Niamey, NGR W96
        USB     MWARA: CWP
5655    USB     MWARA: SEA-2/EA 9VF Singapore, SNG W97
                Hong Kong, HNK W96
                DUM Manila, PHL W97
                AWA Dehli, IND W96
5658    USB     MWARA: MID  ARA Karachi, PAK 1/98
                ARB Lahore, PAK W96
                AWA Dehli, IND W96
                AWB Bombay, IND 1/98
                Kuala Lumpur, MLA W96
                BDZ Urumqi, CHN W96
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YAV Kabul, AFG W97
5661 USB MWARA: EUR 9HA Malta, MLT W97
USB MWARA: CWP
5664 USB MWARA: NCA
5667 USB MWARA: MID A9C Bahrain, BHR 1/98
MWARA: KMA7 San Fransisco, CA, USA W97
JIA Tokyo, J W97
5670 USB MWARA: EA Madras/Chennai, IND 3/98
ARA Karachi, PAK W97
AWB Bombay/Mumbai, IND W97
Dhaka, BGL W96
Yangon, MYA W96
Colombo, SLK 1/98
Kuala Lumpur, MLA W97
8BN Medan, INS W96
5673 USB V-SEA Beijing Volmet, CHN 1297
5675 USB Italian Army Net s/GG15, VT 1097
5676 USB V-NCA

5677 - 5683 kHz Worldwide SAR - Distress / Calling Frequency [R/OR]

5680 USB Worldwide SAR - Distress / Calling Frequency (USB)
USB,CW GFF Kinloss Rescue, G #Day Primary 1/98
Cambridge Rescue, G W96
Liverpool Rescue, G 3/97
RAF STCICS Upavon 'Architect', G W97
RAF STCICS Cyprus 'Cyprus Flightwatch', CYP W98
Shanwick Rescue, IRL W97
Swedish Air Rescue, S 9/97
Gotland Rescue S W98
Stockholm Rescue, S W96
Kiruna Rescue, S W96
Tallinn Rescue, EST W98
Kuresaare Rescue, EST W98
LIB Bodo Rescue, NOR W97
Longyearbyen 'Longyear' Rescue, Svalbard W96
Ijmuiden Rescue, NLD W96
DHM42 Glcksburg Rescue, D W97
Karup Rescue, DNK W96
Riga Rescue, LTV W98
Koksijde Rescue, BEL W96
NMC USCG CAMSPAC Pt.Reyers, CA, USA W96
CFH CF Halifax Military, NS, CAN W97
Tuai Base, NZL w/Tuai 1,6,7 W97
Hanmer Search Base, NZL W96
Christchurch Base, NZL W96
Wellington Rescue, NZL W96
USB US Military Net s/Trigraphs (EAMs) W98
USB Canadian Domestic Aero Net
Resolute Radio, NWT, CAN W96
Churchill Radio, MN, CAN W96
Hay River Radio, CAN W96
Yellowknife Radio, NWT, CAN W96
St.Anthony Radio, NF, CAN W96
St.John's Radio, NS, CAN W96
Sept-Iles / Seven Islands Radio, PQ, CAN W96
Fort Smith Radio, CAN W96
Fort Simpson Radio, NWT, CAN W96
Norman Wells Radio, NWT, CAN W96
Rankin Inlet Radio, CAN W96
Kuujjuarapik Radio, PQ, CAN W96
La Grande Riviere Radio, PQ, CAN W96

5883 - 5730 kHz Aeronautical Mobile ([OR])

5684 USB USAF 'Mystic Star' Net #F437
AFA USAF Andrews AFB, MD, USA W96
USB USAF GHFS Net

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                 XPH USAF GHFS Thule AFB, GRL w/BW5 2/98
         USB     British RAF UKADGE Net  #TS:
                 RAF Neatishead, G w/B1R, 6XP, 9XE, 3CD W97
                 GFF RCC Kinloss Rescue, G W97
         USB     Canadian Forces Net
                 CFH CF Halifax Military, NS, CAN W97
5685     USB     Italian Military SAR Net
                 MARTINA  IAF Martina Franca, I w/MB 12/97
         USB     British RAF Net
                 MKH5 RAF Domine ATCC, Cranwell, G w/CWL__ 12/97
         USB     RAAF Net W96
5685.5   USB     Royal Dutch Navy Net s/PFD74, PFD5 W97
5687     USB     GAF / Bundesluftwaffe Net #Echo (cf: 5688.5/R)
                 DHM91 GAF Munster, D 3/98
                 DHO23 GAF Landsberg, D 2/98
                 DHO60 GAF Hohn, D W96
                 DHM42 Glucksburg Rescue, G w/PC 327 W97
         USB     RAAF/RNZAF AOCS-GPN Net
                 ZKX RNZAF Auckland Military, NZL W98
                 AXF RAAF Sydney, AUS W96
5688     USB     NATO Military Net s/OB, B10, B20, B30, B40 W96
5688.5   R/      GAF/Bundesluftwaffe Net online encrypted (cf: 5687/U) 5/97
5690     USB     Irish Navy/Irish Air Corps Net
                 Irish Air Corps Baldomuel Airfield W96
                 OA  Irish Military HQ Dublin, IRL w/C253, YS 3/97
                 Brit. UK Off-Shore Coord. Net
                 SOC Buchan, G W96
         USB     unid Turkish Net, tent. TAF (cf: 5691.5/R)  3/98
         USB     unid (spanish spoken) Military Net s/C21, 79 3/98
5691     USB     Irkutsk Meteo, RUS h+25/55: Volmet 1/98
5691.5   R/      unid Turkish Net, tent. TAF online encrypted (cf: 5690/U) 7/97
5692     CLV,CW  Irish Navy/Irish Air Corps Net
                 MSF unid Irish Military CW-id 1097
                 C252 Irish Air Corps CASA aircraft CW-id 4/97
         USB     USCG Aircraft Net
                 NMN USCG CAMSLANT Chesapeake, VA, USA W98
                 NOS USCG AirSta Cape Cod 'Cape Air', MA, USA W97
                 USCG AirSta Miami, FL, USA W98
         USB     USN Net s/4OA, 9KV, W7Z W97
5693     USB     British RAF UKADGE Net  #AB
                 RAF STICS 'Architect' Upavon, G 3/97
                 RAF Neatishead, G w/9RS W97
                 GFF RCC Kinloss Rescue, G 1097
         USB     USCG AirSta 'Saftly on Flight' Net  w/ANDVT
                 NMO USCG COMMSTA Honolulu, HWA W96
                 NMA USCG Miami, FL, USA W96
                 NOI USCG AirSta Detroit-Selfridge 'Detroit Air', MI, USA W98
5693.5   CW      FDG FAF Bordeaux, F v-mkr 3/97
5694.7   CW      NOJ USCG COMMSTA Kodiak, AK, ALS W96
5696     USB     USCG 'Saftly on Flight  Network
                 NOJ USCG COMMSTA Kodiak, AK, ALS W98
                 NMN USCG CAMSLANT Chesapeake, VA, USA 3/98
                 NMC USCG CAMSPAC Point Reyes Station, CA, USA W98
                 NMO USCG COMMSTA Honolulu, HI, HWA W97
                 NOO USCG AIRSTA Sacramento, CA, USA W96
                 NMF USCG COMMSTA Boston, MA, USA W96
                 NMG2 USCGGP New Orleans, LA, USA W98
                 NMR USCG COMMSTA San Juan, PR, PTR W98
                 NOS USCG AirSta Cape Cod 'Cape Air', MA, USA W97
                 NMA21 USCGGP St.Petersburg, FL, USA W96
                 NMA10 USCGGP Mayport, FL, USA W98
                 NMQ USCGGP Long Beach, NJ, USA W97
                 NMY42 USCGGP Moriches, NY, USA W98
                 NMD47 USCGGP Buffalo, NY W97
                 NOR USCGGP San Diego, CA, USA W97
                 NOP USCG AirSta Brooklyn 'Brooklyn Air', NY W97
                 NRV USCG Guam, GUM W96
                 NOZ USCG Elizabeth City, NC W97
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                  USCG AirSta Miami, FL, USA W98
                  NMO12 USCG AirSta Barbers Point, HI, HWA W96
                  NMN37 USCGGP Fort Macon, NC, USA W96
                  NOY USCGGP Galveston, TX, USA W96
                  NOY8 USCGCG Corpus Christi, TX, USA W96
                  NMK USCGGP Cape May, NJ, USA W96
                  NMD21 USCGGP Detroit, MI, USA W97
                  NOI USCG AirSta Detroit-Selfridge 'Detroit Air', MI, USA W97
                  NMW USCGGP Astoria, OR, USA W98
                  NMW51 USCG AirSta Astoria, OR, USA W97
                  NOE USCG AirSta North Bend, USA W98
                  NMB USCGGP Charleston, SC, USA W96
                  NMC11 USCGGP Humbold Bay, CA, USA W97
                  NOB USCG AirSta San Francisco, CA, USA W97
                  Westhampton Rescue, USA W96
                  PANTHER DEA Reg. HQ Nassau, BHM W98
          USB     CHR CF Trenton Military, ON, CAN W96
          USB     British RNAS Culdrose Net
                  MJV RNAS Culdrose Ops, G w/NAVY 126 8/97
                  K.. RN Sea King Helicopters W98
5699      USB     British RAF  Net
                  RAF Buchan, G w/1BS 1097
                  GFF RCC Kinloss Rescue, G W98
5700      USB     Italian Navy Net
                  IDR IN Rome, I w/AG 1097
          USB     USAF STRATCOM Net
                  WAR46 JCS Alt.Nat'l Mil.Cmd Ctr, Site R, Raven Rock Mt, PA W97
          USB     USAF 'Mystic Star' Net  #F809 W96
          USB     USAF/NASA Net Pegasus-Rocket Launch releated
                  ABNORMAL 10 USAF WTR Vandenburg AFB, CA w/BLOODHOUND 341 W98
5700.4    USB     USN 'Habitat' Net
                  HABITAT COMPATWING TEN, NAS Whidbey Isl., WA w/U0A,O3M W98
          USB     AKA USAF Elmendorf AFB, USA w/O3O W97
5701.5    CW      FDE14 FAF Villacoublay, F v-mkr 1297
5702      USB     French Navy Net s/2F3 (cf 5703.7/R)
                  FWV FN Nimes, F w/MY 9/97
          USB     Spanish Military Net s/AME318 10/97
          USB     unid Turkish Net 3/98
          USB     USAF Net s/REACH 21C 2/98
5703.7    R/      French Navy Net encrypted (cf 5702/U) 7/97
5705      USB     British RAF 'UKADGE' Net #NJ
                  GFF RCC Kinloss Rescue, G W97
                  RAF Neatishead, G w/Z7J, PBV W98
          USB     Joint NATO Navy Net
                  PBV RDN Valkenburg, NLD w/3KA, CG 03, DHJ59, NAVY 399 1/98
                  DHJ59 GN Wilhelmshafen, G w/PBV W97
                  6EY RDN P-3C aircraft w/PBV W98
          USB     USAF STRATCOM Net   #Z145
                  WAR46 JCS Alt.Nat'l Mil Cmd Ctr, Site R, Raven Rock Mt, PA W97
                  'NW01'  USAF 'Nightwatch' aircraft w/WAR46 W98
          FAX     LOR AN Puerto Belgrano, ARG wx W97
5706.5    USB     Bundeswehr Net s/ BETREUER,FAVORIT W96
5707      CW      FDE14 FAF Villacoublay, F W96
          USB     NATO Navy Net W96
          FAX     LOR AN Puerto Belgrano, ARG W97
5707.5    USB     Joint NATO Navy Net
                  JWT RNN Stavanger, NOR  w/X6E, OCD 2/98
5708      USB     USA FAC Military (Eu) Net s/J3C 3/97
          USB     FN Western France Approach Control Net
                  ARMOR FN Brest-Loperhet, F w/5L1, ZBEP/EP 2/98
                  F-ZBEP  French Customs aircraft w/CI, ARMOR 6/97
                  5L1 unid French Patrol w/ARMOR 1/98
          USB     Irish Military Net
                  EIYX IN M/V Aoife, "P21"-class patrol vsl W96
                  C253 IAC CASA CN235 aircraft w/EIYX W96
          USB     UK MAFF Net UK Fisheries Surveillance Service
                  MAFF HQ London, G w/WATCHDOG 92 W96
5709      USB     NATO Navy (Eu) Net  s/Trigraphs, ORCA 77 W96
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        USB     FN Aeronavale Navigators Training Net
                FN Nimes 'Nimes Ecole', F w/FNY 53B, 53D1, 53E3, 53F3 W96
        CW      VDE unid v-mkr, 5 fgs [En.: M29] W98
5710    USB     USAF STRATCOM Net
                WAR46 JCS Alt.Nat'l Mil.Cmd Ctr, Site R, Raven Rock Mt. PA W97
                'NW01'  USAF 'Nightwatch' aircraft  w/WAR46 W97
        USB     USAF 'Mystic Star' Net  #F895
                AFA USAF Andrews AFB, MD w/SAM___ W98
                CUW2 USAF Lajes AFB, POR w/NUT MEAD W98
5711    USB     USAF 'Space Shuttle' Net
                AFE70 USAF ETR Cape Canaveral AFS 'Cape Radio', FL, USA W97
                KRFB M/V Freedom Star (THI-705) W97
                NGWU USS Underwood (FFG-36) W96
                NLTT USS John Hancock (DD-981) W96
                USS Taylor W96
                WRPH M/V Liberty Star W97
                KING 2  USAF HC-130 Aero Rescue a/c W96
        USB     USAF SAR Net
                Moffett Rescue, Sunnyvale, CA w/KING__, JOLLY__ W98
        USB     USAF Net s/REACH Z3 1197
                XPH USAF Thule AFB, GRN w/PACOM 01, SPAR 46 W96
5711.7  ARQ     MFA Cairo, EGY W96
5714    USB     Italian Navy Net (cf: 5715.8/R)
                ICT IN Taranto, I 3/97
                IDR IN Rome, I 3/97
                IGJ IN Augusta, I 3/97
        USB     British RAF UKADGE Net  #ZZ
                RAF STICS 'Architect' Upavon, G 4/98
        USB     French Military Net s/3ZH, 3EA, UI 3/97
5715    USB     GN / Bundesmarine Net
                DHJ78   GN Flensburg, D w/7HS W96
        USB     NATO Military Net 2/98
5715.8  R/      Italian Navy Net encrypted (cf 5714/U)  3/97
5716.5  CW      FDG FAF Bordeaux, F v-mkr W96
5717    USB     CF / Canadian Forces Net
                CFH CF Halifax Military, NS, CAN W98
                CHR CF Trenton Military, ON, CAN W96
                CJU CF Vancouver Military, BC, CAN W97
                CJX CF St.John's Military, NF, CAN W96
                VXA CF Edmonton Military, AB, CAN W96
5718.4  USB     NASA's Shuttle Booster Recovery Net W98
5719.5  USB     US Military Net s/BLASTER, BLASTER ACTUAL  W97
5720    USB     British RAF Net #MC:
                RAF Buchan, G w/N6F W98
                Data    RNZLAF Net. W96
5723    USB     USN 'Fox-Tango'-Net W96
5723.5  CW      FDG FAF Bordeaux, F v-mkr 1297
5725    USB     unid Italian Navy c/Vessel Sparviero W97
5725.5  USB     NATO Military Net Link-11 Coord.,s/FT,I,J,N,NH,P W97
        FEC     unid Time, UTC +1h W97
5727    CW      UTN unid Military, tent UKR w/4-graphs, 5lgs 4/97

            Region 1:   Landmobile
            Region 2/3: Mobile ( not aeronautical mobile [R] )

5730    R/50    BAA24   Beijing Meteo, CHN wx W96
5731    R/50    YRR4    Bucharest Meteo, ROU wx 1097
        FEC     Tunesian National Guard Net W96
5732    USB     US Customs/DEA COTHEN Net
                HAMMER US Cust. C3I West, March AFB, Riverside, CA W96
                US Customs Service Center to BUSHWACKER W96
        USB     unid Number Station YL GG: 5x2 (3-2) fgs: ZERO 1097
5733.7  ARQ     RFLI FF Fort de France, MRT W96
5736    USB     French Military Ex Net s/CHARIOT, MASSAGE 3/97
        CW      'FAPSI'/Russian Intelligence 2x5 fgs/T, end: TTT 4/98
5737.5  CW      FDE14 FAF Villacoublay, F v-mkr 1297
5739.5  R/100   5ST ASECNA Antananarivo, MDG ry-mkr 1096
        USB     USAF/NASA Net Pegasus-Rocket Launch related
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                ABNORMAL 10 USAF WTR Vandenburg AFB, CA w/BLOODHOUND 341 W98
                PEGASUS NOM USA Missile Range White Sands, NM, USA W98
                P3 NOM NASA Goddard Space Center, Greenbeld, MA, USA W98
                ASHLEY 11 unid USAF W98
5740    ARQ     RFFE FF Bordeaux, F W96
5741    USB     FEMA - SHARES Net
                KGA93 FCC Washington, DC, USA W96
                KGD34 SHARES NCC Arlington, VA, USA W96
                WGY929 FEMA Carson City, NV, USA W96
                Striker 1 44th Medical Brigade, Ft.Bragg, NC, USA W96
5742    USB     Bundeswehr Net s/WEINERNTE,IRRGARTEN,etc.  2/97
        USB     NATO Military Net 4/97
5743    USB     NATO Military Net s/Zero, C14C, Q14C 3/97
5746    USB     MI6, Brit. Intelligence 'Lincolnshire Poacher':YL E 5fgs 1/98
        ARQ     OLZ88 MFA Praha, CZE W96
        ARQ     RFFHCFA unid FF [UAF] Exercise W97
5747    USB     French Air Force Net
                CYRANO FAF E-3F aircraft w/MOTHAL INDIA W98
5748    AM      unid Number Station 'Swedish Radsody':YL G 2x5 fgs 1/98
5748.5  CW      FDI8 FAF Aix, F v-mkr 6/97
5750    USB     ARIS Greek CG HQ Pireaus, GRC W97
5752.5  ARQ     HBD20 MFA Berne, SUI to Bonn, Brussel W97
                HBD64 Swiss Emb. Bonn, D to Berne W96
                Swiss Emb. Brussels, D  to Berne W96
        CW      FDG FAF Bordeaux, F v-mkr W96
5753    R/      'FAPSI'/Russian Intelligence to DKR W97
5754    ARQ     RFFXCFA unid FF [UFA], Exercise W97
                RFFZEFA FF 'DIRACTIONEX DEUX', F [UAF] QSX 5459, Exercise W97
                RFFHCCS unid FF [UEF] to RFFHCFE, Exercise W98
5755    FAX     AXI32 Darwin Meteo, AUS wx W97
5755.5  USB     US FHWA/DoT Reg.7 Net #F23
                AFA3HY USA MARS Shawnee, KS NCS W98
                KWB406 DoT Ames, IA, USA W98
                WWJ71 FHWA Madison, WI, USA W98
                WWJ85 FHWA Amesm IA, USA W98
5757    ARQ     HBD20 MFA Berne, SUI to Prague W98
        ARQ     HBD77 Swiss Emb. Brussels, BEL to HBD20 W97
        CW      TBO2 TN Izmir, TUR v-mkr to T23C 3/98
5758    AM      Number Station, CUB 'Attencion': YL SS: 5 fgs [En.: V2]  W98
5759    CW      TBO2 TN Izmir, TUR v-mkr W96
5759.5  CW      Number Station, CUB 'Cut' Numbers [En.: M8] W98
5760    USB     US Army MARS Net s/AA6EN
                AAR6WZ  unid US Army MARS W98
5762    CW      FDE14 FAF Villacoublay, F v-mkr 1297
        AM      Number Station, CUB 'Attencion': YL SS: 5 fgs [En.: V2] W98
        AM      unid Number Station '6 Tone Repeating'-mm [En.: X6] W98
5763    USB     unid Turkish Net, tent Military 4/98
5763.5  VFT:FDM RAN Bonshow (Canberra), ACT, AUS W98
5764    USB/Data RNZAF Net s/19E, HOL, T87 W96
5768.5  USB     Dutch Army Net s/NTY, CCR, OGU, YZJ, etc. 3/97
5769.9  R/      Dutch Army Net onl.encrypted 'Telex' (cf 5768.5/U) 3/97
5771    CW      Russian Air Defence, RUS time-mkr: UTC +3h (=99..) W97
5772    ARQ     SNN299 MFA Warsaw, POL W96
5773    ARQ     HBD20 MFA Berne, SUI to Emb. Tel Aviv, Paris W96
                HBD25 Swiss Emb. Tel Aviv, ISR to Berne W96
                HBD60 Swiss Emb. Paris, F s/c: BMRV, to Berne W96
5774    ARQ     Pol. Emb. Bonn, D to SNN299 Warsaw W96
5775    USB     USAF 'Space Shuttle' Net
                AFE70 USAF ETR Cape Canaveral AFS 'Cape Radio', FL, USA W97
                NCWA USN USS Mossbrugger (DD-980), IWA W97
        R/      VNB 'FAPSI'/Russian Intelligence [80061] to WQL W97
5778    AM      'FAPSI'/Russian Intelligence The English Man:OM EE 5fgs W97
5779.5  CW      P7X unid Number Station //5431.5 kHz W98
5780    AM      'FAPSI'/Russian Intel The Russian Man:OM RR 2x5 fgs 7/97
5781.7  ARQ     MFA Cairo, EGY to TVVC Baghdad W96
5782.5  CW      FDI22 FAF Narbonne, F v-mkr 3/97
5783    USB     NATO Military Net s/RED PIPE 3/97
5785    ARQ     FIT513 Fr. Pref. Marseille, F aka:FIT13 W96
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	USB	NATO Military (Eu) Net s/5KN, 1IX 4/97
5785.3	ARQ	MoD Madrid, E to Army Posts W96
5786.5	ARQ	RFFE FF Bordeaux, F W96
5788	CW	'FAPSI'/Russian Intelligence mkr: 658''' 1, 1x5 fgs/T 4/98
5788.5	CW	Russian Air Defence time-mkr: UTC +3h (=99..) 3/97
5790	USB	unid Number Station YL EE 5(3-2) fgs 1297
5790.5	CW	Italian Military Net
		IEB21 unid Italian Military 7/97
		IEN31 unid Italian Military 7/97
		IEZ37 unid Italian Military 7/97
5795	CW	FDY FAF Orleans, F v-mkr 5/97
	CW	FDI22 FAF Narbonne, F v-mkr 5/97
	VFT:FDM	RAN Bellconnen, ACT, AUS W98
5796	R/50	Tunisian MOI ATU-80 msg 1097
5797	CW	unid Russian Net
		RBL6 unid Russian 1097
		RKY2 unid Russian 1097
		RLA2 unid Russian 1097
	R/50	Bulgarian Army Net s/CM3L,DF2Z,BH7D,AM4X W96
5798.5	PCT	USMC MARS Net W98
		NNN0MDM unid USMC MARS W97
		NNN0MDP unid USMC MARS W97
		NNN0MRE unid USMC MARS W97
		NNN0MDA unid USMC MARS W97
		NNN0MRB unid USMC MARS W97
5800	USB	USAF STRATCOM Net #Z150
		WAR46 JCS Alt.Nat'l Mil.Cmd Ctr, Site R, Raven Rock Mt. PA W98
		'NW01' USAF 'Nightwatch' aircraft w/WAR46 W98
		USAF MacDill AFB, USA W98
	AM	Number Station, CUB 'Attencion': YL SS: 5 fgs [En.:V2] W97
5802	ARQ	RFFWERM unid FF W96
5803	CW	FDE14 FAF Villacoublay, F v-mkr 6/97
5804	USB	Capricornian School of Distance Education, Emerald, AUS. W98
5804.5	CW	FDC FAF Metz, F v-mkr W96
5804.7	R/psk	GAF / Bundesluftwaffe, D W96
5806	CW	LFJ1 unid Russian Navy clg RMP 1297
5806.8	CW	ZKLF Auckland Meteo, NZL 1530z wx 4/98
5807	R/75	DFZG MFA Beograd, YUG W98
	FAX	ZKLF Auckland Meteo, NZL wx W97
	CW,R/	A2A unid, tent ROU QRA-mkr 6/97
5808	CW	RJF94 unid Russian clg RJC38, to RCH84 3/97
5810	ARQ	IPR44 Ital. Police Rome, I W96
5811	ARQ	RETS unid Spanish Military W97
5812	R/75	DFZG MFA Beograd, YUG W97
5812.5	CW	FDI8 FAF Aix, F v-mkr 1097
	CW	FDG FAF Bordeaux, F v-mkr 2/98
5813.5	R/50	EIP Shannon Air, IRL ry-mkr, id: EIAAYH 1097
5814	VFT:	MKK RAF London, G W96
5815	R/75	IN Agrigento, I W97
5820	AM	MOSSAD, ISR Intelligence #YHD: YL EE 5lgs [En.: E10] 4/98
5821	USB	FEMA Net #F14:
		WGY901 FEMA Maynard, MA, USA W98
		WGY942 FEMA State EOC Albany, NY, USA W98
		WGY9412 unid FEMA Reg 1 W98
		WGY9421 unid FEMA Reg 2 W98
		WGY951 FEMA State EOC Hartford, CT, USA W98
5822	USB	USAF ARIA Net
		ARIA CONTROL USAF 512th Test Wing Ops Ctr, Edwards AFB, CA W97
		ABNORMAL 10 USAF WTR Vandenburg AFB, CA, USA W97
		ASHLEY 12 USAF Wheeler AFB, HI, HWA W97
5824.1	FEC,CW	MFA Bucharest, ROU W96
5826	USB	TR unid Spanish w/RE, duplex pp to Asturias 7/97
5827.5	CW	Russian Air Defence, RUS time-mkr: UTC +3/4h (=99..) 8/97
5828	ARQ	DOR MFA Sofia, BUL W96
	USB	NATO Military Net s/2GM, R9O, 4KU 5/97
5828.2	ARQ	RFLIRT FF French Guayana to Martinique [RIT] QSX 5082.3 W97
5832.5	R/50,75,	Data Bulgarian Diplo 3/97
5834	USB	unid Number Station: vmf: Willian Susan Peter 2/98

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5835.5  VFT:Pic6 GYU RN Gibraltar, GBR W96
5835.9  VFT:Pic6 GYU RN Gibraltar, GBR W96
5837    USB     USAF ARIA Net Space Shuttle related tfc
                ARIA CONTROL USAF 512th Test Wing Ops Ctr, Edwards AFB, CA W96
5840    ARQ     6XM8 BND, D W96
5841    USB     US DEA Net #BRAVO
                PANTHER US DEA Reg. HQ Nassau, BHA W98
5843.5  Data    MFA Helsinkil, FNL W96
5844    USB     NATO Military Tracking Net W96
5845    CW      'FAPSI'/Russian Intelligence mkr: T87''' 23341' 1197
5849.5  CW      OXT Copenhagen Meteo, DNK 0944z: CQ-mkr 7/97
5850    FAX     OXT Copenhagen Meteo, DNK 0945z: wx 7/97
        USB     unid Number Station YL EE clg: 162''' 12345678910 1197
5852.4  FAX     AOK USN Rota, E wx W96
5853    USB     VLH School of Distance Education Charleville, AUS W96
5857.5  FAX     HLL8 Seoul Meteo, KOR wx W96
5858    CW      FDI22 FAF Narbonne, F v-mkr 4/97
5859    R/50    DDF516 unid, D ry W96
5860.5  CW      FDE14 FAF Villacoublay, F v-mkr 2/98
5861.5  FEC,CW  LYNX MOI/PLACID Abuja, NIG fq-free-idle, CW id 4/98
5862    CW, R/  RMP RN Kaliningrad, RUS #P: ch-mkr, msg  //5111 7/97
5864.7  FAX     NSY USN Sigonella, I wx W96
5865    USB     VLN School of Distance Education Cairns, QLD, AUS W96
5865.7  R/75    British Military Net s/JU1C, EM40 W96
5868    CW      FDG5 unid FAF v-mkr 1097
5869.5  ARQ     Spanish Guardia Civil Net W98
                RETXX GC HQ Valdemoro (Madrid), E  to Valencia W96
                GC Orense, E to La Coruna W96
5872.5  ARQ     Spanish Guardia Civil Net
                RETXX GC HQ Valdemoro (Madrid), E W96
                RETZSL GC Algeciras, E to RETXX W96
5875    USB     USAF STRATCOM Net   #Z155
                WAR46 JCS Alt.Nat'l Mil.Cmd Ctr, Site R, Raven Rock Mt. PA W97
                'NW01'  USAF 'Nightwatch' aircraft  w/WAR46 W97
5879.5  CW      P7X unid Number Station 5 fgs W97
        ARQ     RFFA MoD/FF Paris, F to RFLI W96
5881    CW      RMP RN Kaliningrad, RUS #P: ch-mkr, wx, to REO/4-graph 1197
5887.3  R/50    IMB32 Rome Meteo, I ry-mkr, wx 4/98
5890    FAX     RBV78 Tashkent Meteo, UZB wx W96
5892    USB     Christian Radio Missionary Fellowship Net #Secondary
                CRMF Goroka, PNG w/outposts W96
                CRMF Apua, PNG
5893.7  R/50    RXFKE unid Bundeswehr, D to 2UA3 W96
5895    USB     Christian Radio Missionary Fellowship Net   #Primary
                CRMF Mt.Hagen, PNG  to outpost Bravo 6 W96
5896    CW      FDE14 FAF Villacoublay, F v-mkr 9/97

    5900 - 5950 kHz     Broadcasting
           Region 1:    Landmobile
           Region 2/3: Mobile ( not aeronautical mobile [R] )

5904    R/75    AFS USAF Offut AFB, Omaha, Elkhorn, NE W96
5906    FAX,R/75 AFS USAF Offut AFB, Omaha, Elkhorn, NE W96
5907    R/75    RPFN Port. NAVRAD Lisboa, POR RY, msg W97
5908    FAX     AFS USAF Offut AFB, Omaha, Elkhorn, NE W96
5909    CW      BMB Taipei Meteo, TWN W96
5914.8  R/75    NAR USN Saddlebunch Key, FL, USA wx fm KAWN 1097
5915.3  VFT:R/50 GXQ RN London,G RYI 4/97
5922    ARQ     RFFGCFA unid FF to RFFAAT [UFA] W98
5923    CW      Russian Air Defence, RUS  time-mkr: UTC +3h (=99..) 3/97
        ARQ     SNN299 MFA Warsaw, POL W96
5932    R/50    ETD3 Addis Ababa Air, ETH to DJR Djibouti [VHA] 4/97
5933    R/75    Bulgarian Diplo 5/97
        ARQ     RFFHCFE unid FF to RFFAAT [UFE] W98
5942    CW      RMP RN Kaliningrad, RUS to RBGE W96
5943.5  CW      FDG FAF Bordeaux, F v-mkr 3/97
        CW      FDI22 FAF Narbonne, F v-mkr 6/97
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5950 - 6200 kHz Broadcasting

R/50 ,normal" RTTY with speed 50 Bd, etc.
R/ RTTY unid Speed or Data Format
s/ Stations in the Net
Channel ,Name"
cf: /U.. coordination for/from... kHz in USB, etc.
[....] Link id/name
[E:...] Enigma Indicator for ,Number/Spooks" Stn
aka also known as / alias
mkr marker/tape (calling/testing-): ry,vvv,etc.
ch-mkr Channel marker (,QRV Beacon")
CARB Channel Avalaible Marker
pp Phone-Patch
W96/97: Logged in 1996 or 1997
W97 Logged over 2 years (1996/1997)
3/97 Last hear in March 1997, etc.
7/97 Heard here for few/several months
7/97 Heard here for 'many' months
_AF Air Force (e.g. FAF: French AF)
_N Navy (e.g. RN: Russian Navy)
_F Forces (e.g. FF: French Forces)
KURSIV no ITU conform Callsign/Ident
..Net Net Frequency (=mni Players/Stations)
[En.: M12] Enigma Code for a ,Number Station"
326''' 1 part of a mkr 3 times repeated: 326 326 326 1

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== END == FIN == ENDE == FINE == FIM == KONETS ==

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\\\\\ WORLDWIDE UTE NEWS Club ////
\\\ An Electronic Club Dealing Exclusively in Utility Stations ///
\\\\ WUNNEWS Vol. 4, No.7 Aug, 1998 /////

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Check out the WUN web site at: http://www.gem.net/~berri/wun

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From your Electronic Editor:

* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.

* Recently, Day Watson conducted some research into the causes of the mysterious line feeds that have been appearing in our

newsletter over the past few months. For those readers who do not subscribe to the WUN listserver, here is a reprint of the results of Day's research:

----Snip----
Each month one or other of the editors gets their ears bent about line wraps in the Newsletter. In fact the same rules apply to posts so EVERYWUN has their bit to play. Please give time to sit down and read over the investigations I carried out and the conclusions which were arrived at.

/// Dealing with spurious line wrapping on the Internet.
Complaints have been received that WUN newsletters frequently suffer from spurious line wrapping ie given lines are split into two as if a linefeed/ carriage return occured down the length of the intended line. This makes for an untidy copy and is difficult to read. How to overcome the problem is down to everyone for different reasons but first we have to understand it. We can force a line feed/carriage return at anytime by pressing the [Enter] or [Return] key. If not the line will extend out to possibly 256 characters (eg DOS EDIT). To overcome this latter characteristic text editors have progressed to include linewrapping or wordwrapping or "break at column position" whereby the software will automatically wrap the line at a nominal set position bearing in mind that a word may/may not straddle that line.

It would be easy if we could all say set to value xx. However we are dealing with a system - one's emailer, one's ISP, intermediate nodes on the Internet, the WUN listserver, the recipient's ISP, and the recipient's emailer. By the time the email gets to the recipient it will have passed a number of choke points which may cause a spurious wrap of longer lines. We have to CONSIDER THE SMALLEST VALUE ALONG THE ROUTE.

The following tests were conducted. Using my emailer (Eudora Lite) with its parameter "Message window width" set to 100 a test line "12345678901 23456789012....." was constructed until 90 characters were provided in a single line without line wrapping. [I can only speak for my own emailer but the above parameter is set when a new message is opened. If however one moves the righthand edge to widen the window the wrap-point will alter accordingly. So unless one is aware of the implications DON'T]. The message was sent to myself through the ISP (a veritable Controle de voie for you digi types !). The return message was wrapped after 76 characters. Here it appears my ISP has placed a 76 character limitation on line length.

On my daily log post of 12/Aug a similar string was attached. It came back eventually via the WUN listserver wrapped after 76 characters. From this one can deduce that the wrap value of the WUN listserver is 76 or more - certainly no smaller. One can also deduce that the intervening Internet from me-WUN-return has no smaller wrap value.

A correspondant phoned to confirm that the log/test message he received via his ISP (not the same as mine) produced a wrap after 76 characters. As a result I have altered my "message window width" to 75. [I found the initial setting of 76 caused a wrap after 77 characters].
My correspondant has in the past been unable to test using the address-to-oneself loop via the ISP - it appears his email software (supplied by the ISP - Demon (UK)) is over intelligent ie it sees one emailing oneself and passes the message directly from OUT to IN trays without passing through the ISP network - beware of this one.
However another twist in the story. My correspondent sends a line of 80 characters to me. He says if he attempts to go to more than 80 his software gives the following message - "The message you are posting contains at least one line that is so long that it may not be displayed sensibly to the recipient. Would you like to post the message anyway?". He sends his 80 character line and it arrives with me intact. We can only deduce that my ISP is wrapping on my OUT leg but not on my IN leg. Therefore with this and any like system one must consider the leg with wrap. One final consideration with Eudora Lite - IN emails will wrap if the window is too narrow - easy to get caught - check if opening the

window to the right alleviates the problem.

The above covers the email side of the problem and how one can go about testing one's own emailer/ISP by use of the address-to-oneself loop. DO NOT include the WUN server in your tests. DO let us know if your loop test produces a wrap value of less than 76 giving details of emailer and ISP. This should sort out any wrap problems when dealing with WUN posts but what of the Newsletter. My earlier editions of Nautical News and Digital Review were written on WP5.1 then saved as ASCII text. DOS EDIT was used to check for integrity (criteria - could I see all the line text on the screen. If so ok - but unfortunately a DOS EDIT screen shows 78 characters and would be liable to wrapping on the above findings. Even although the file goes zipped from me to the Electronic Editor eventually it will hit choke points during distribution. My apologies for my contribution to the problem. I would have suggested ALL editors/contributors set their text/ word processors for a wrap limit of 75 for the purposes of writing their columns/submitting contributions. However I seem to have induced a problem by pulling a text file generated with a 72 character wrap into an emailer with 75 set so the moral of the story would appear to be set BOTH THE SAME. Having just moved to W95 I've found and fallen for TEXTPAD (www.textpad.com) as a text editor. The default "Break at column position" set to 75 and the writing of columns (and this item) now moved there from WP5.1. Hopefully I thought this should tidy up future columns but of course that didn't work either. By now I'm rapidly tearing out my greying hairs :-(Much trialing later I seem at last to have found a method. It involves TEXTPAD (or any other text/word processor capable of inserting a HARDBREAK at the end of every line, and both the editor and the emailer may continue to be run with word wrap enabled.

Procedure:
1. Make up copy as usual with 73 characters as the default line length.
2. Once the column/copy is finalised to one's satisfaction go to Document Properties (or ALT+ENTER), "Save with hardbreaks" and APPLY.
3. Now do the final SAVE and a hardbreak will be inserted at the end of each line instead of a softbreak.

Why 73? - given a max line of 73 data characters plus 1 hardbreak plus 1 cell for safety we then reach at total of 75, which if the emailer software is set for 75 spurious wrapping should not occur. Should it be found that some ISPs/email software comes below 76 as outlined above then it may be necessary in the future to reduce that figure (E) and consequently reduce the editor to E-3.) If one elects to use TEXTPAD can I suggest at the same time one does the final SAVE that the option in Document Properties/TABS "Convert existing tabs to spaces when saving" is clicked/APPLIED.

But what of earlier columns suffering this problem. Using TEXTPAD having found past newletters with spurious wrapping if one goes to CONFIGURE/ Document Properties (or presses ALT+ENTER) a dialogue box appears offering "Break at column position". Applying to the current document only change the value to say [80] and click APPLY. The wrap problem should disappear for the current reading. To make it permanent one would need to set (temporarily) the value 80 by way of CONFIGURE/PREFERENCES/DOCUMENT, open a new document and paste in the old document by way of the clipboard.

Sorry it's a bit long but trust this all goes to alleviate the situation. Time will tell whether the value of 73 for editor/75 for emailer for posts and columns are the optimum choices.
----End msg---- Thanks for the research, Day!

* Now, with the above message posted, here is the bad news. These problems with the server were not discovered until after I had receieved several of the Editors' columns, and thus a couple of them are still written in the "80-characters per line" mode. If this causes problems once again, I apologize. Unfortunately, although I gave it an honest effort, I simply didn't have the time to go back and re-edit over 4000 lines of text to make them fit the 73-character limit.

WHAT'S INSIDE:
o Digital Review by Day Watson

o Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o Numbers and Oddities by Ary Boender, Chris Smolinski, Guy Denman,
  and Jascha Ruesseler
o The QSL Report by J.D. Stephens
o The WUN Logs Column by Klaus D. Buschmeier-Stein and TEAM LOGS
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DIGITAL REVIEW

- Editor: Day Watson E-mail: jdwatson@cableinet.co.uk

- Nickname on IRC channels #wun & #monitor DayW

Hi digi WUNners

The "comcen" has undergone some upgrading this month and Windows95 got to grips with. The place has been in a bit of a muddle but now near the end. Some more serious monitoring should be taking place shortly.
In the meantime thanks to regular correspondents and a few new ones as well for support, and for comments on my daily log posts. All helps with the learning curve and keeping this column going.

The menu

Diplo	Danish selcalls
	Egyptian HUXD
	Bulgarian/Slovakian ARQ/IRA systems.
dgps	Some observations of DPGS beacons in the MF band
Met	Murmansk Met FAX
Military	French domestic military exercise links
	Spanish military callsigns
	German Air Force ARQ/E links
Press	Feedback
Special	Equipment problems
Techitips	Asynchronous v synchronous

>>....dgps.....>

::: Some observations of DPGS beacons in the MF band

[This item was supplied by Klaus Betke from Germany and chronicals his approach/experiments in this field - so over to you Klaus].

The decoding of DGPS signals was one of my "some day projects". It suddenly became topical in May 1998, when Day Watson posted a few logs of DGPS radiobeacons in the UK, and it really started after Day told me some of the secrets of the RTCM SC 104 format that these stations use. Many beacons are still in the test or planning phase, so there are good chances for the utility listener to discover something unexpected.

Marine DGPS stations in the 285-325 kHz range transmit very narrowband signals; for a 200 bps beacon, a receiver bandwidth of 250 Hz is more than sufficient [USCG 93]. The Icom R72 with 500 Hz filter I use is thus a bit too wide, and my homemade RTTY converter is also not appropriate for signals with narrow shift. However, there is an advantage of this homebrew concept: All software modules necessary to decode synchronous RTTY signals were available, and with the June and July Digital Review at hand [WUN 98], it was not too much effort to add an experimental DGPS mode to my old DOS decoder program.

With this equipment far from optimum, I can hear about 15 DGPS beacons from the North Sea and the Baltic here in Northwest Germany. For 10-12 of them I get uncorrupted header readings at least occasionally. From 3 beacons I can read most of the navigational messages without errors. The strongest one 120 km distance) sometimes decodes with SSB bandwidth.

Mark or space, normal or inverted?

Before we start, we have to deal with a surprising property of the DGPS signal. In general, the RTTY decoder needs to know whether the higher or the lower frequency of a FSK signal is the "logical 1" or "mark polarity".
But with DGPS this is not necessary! How is this possible, and what are the consequences for the decoding process?

For safe navigation it is indispensable to know whether a received DGPS message is corrupted. This is ensured with a sophisticated parity scheme [USCG 95]. Remember that DGPS message words are 30 bits long; D1 is the leftmost bit and is transmitted first. D1..D24 are the data bits, and D25..D30 are parity bits. One part of the GPS parity scheme is a set of strange-looking formulas for each of the six parity bits, for example:

    D25 = D29'*D1*D2*D3*D5*D6*D10*D11*D12*D13*D14*D17*D18*D20*D23

* is the exclusive-or symbol, D29' denotes bit D29 of the preceeding word.

This means in words: Count the 1s in the bits of the right side of the equals sign; if the result is an even number, set D25 = 0, otherwise set D25 = 1. A DGPS receiver computes the six parity bits according to these equations. If they differ from the received parity, the data is discarded.

The second part of the parity scheme is the really important for us. It is this rule: If D30 of the previous word was a "1", toggle D1..D24, that is, set the 1s to 0 and the 0s to 1. For our purposes we do not necessarily need to calculate the parity, but we must track bit D30 to know how to read the next data bits. Before I was aware of this, I often received the first word of the header correctly, but followed by garbage, and I searched some time in vain for a bug in the synchronization routine. And now we see why it doesn't matter whether the polarity switch is set to normal or inverted: Since it affects both D30 and the 24 data bits, the result will be the same in both cases.

Receiving examples

In the examples the information extracted from the message header is displayed with the following abbreviations:

Id: Station ID
Msg: Message Type
Z: Modified Z-count, 0..6000, wraps around every full hour
Seq: Sequence number, 0..7, increments on each frame
FL: Frame Length, number of words following the header
He: Health field, 0..7

Remember that all messages contain unformatted, binary data; the formats used here to print some of these data are completely arbitrary. Message types encountered so far are 1, 2 (rare), 3, 6, 7, 9, 16 and 20 (rare).

Example 1: Message Type 3 - Reference Station Parameters

Id: 492 Msg: 3 Z: 3700 Seq: 2 FL: 4 He: 0
  X = 3705136.80 m Y = 514898.59 m Z = 5148735.87 m
  54ø10'59"N 7ø54'42"E

This message contains only three large numbers, X, Y and Z. They represent the coordinates of the reference stations's GPS antenna in the so-called ECEF (earth-center earth-fixed) system. They can be converted to the more familiar geographic latitude and longitude, as shown. The longitude equals arctan(Y/X), which can easily be computed on a pocket calculator, but the latitude requires some more mathematics [Hofmann-Wellenhof 93].

Since these data are not absolutely necessary for marine navigation, the repetition rate of a type 3 message varies from one country to another. Many stations stick to the USCG standard and transmit it every 30 minutes [USCG 93]. Danish beacons send it every 15 minutes, and the example message was received from Helgoland (D), who inserts it even every 3 minutes.

Example 2: Message Type 7 - Beacon Almanac

```
Id: 425   Msg:  7   Z: 5572   Seq: 6   FL:  3   He: 0
   52ø00'N   4ø07'E   120 km   287.5 kHz   Health 0   Tx 425   200 bps
```

This message contains parameters of the transmitting station only. Others may also tell us something about the beacons in the neighbourhood:

```
Id: 705   Msg:  7   Z: 2135   Seq: 3   FL:  9   He: 0
   55ø34'N   8ø05'E   180 km   296.5 kHz   Health 0   Tx 452   100 bps
   54ø11'N   7ø53'E   130 km   313.0 kHz   Health 2   Tx 492   200 bps
   58ø06'N   6ø34'E   160 km   301.0 kHz   Health 2   Tx 783   100 bps
```

In this example, we notice some confusion about the two kinds of identification numbers, Reference Station Number (Ref Id) and Transmit Station Number (Tx Id). Tx Id = 425 is Blaavandshuk (DNK), where this message originates from. In the header info we see that it identifies itself with its Ref Id 705. 492 is the Tx Id of Helgoland (D), and 783 is the Ref Id of Lista (NOR). Their listed Tx Id is 503, but in fact they use 783 in the header.

The type 7 message is not needed for navigation, and not all DGPS stations transmit this message. Otherwise a rate of every 10 minutes is common.

Example 3: Message Type 9 - Partial Satellite Set Differential Corrections
---

Now we get down to the nitty-gritty: The correction data itself. One of the key terms of GPS is the "pseudorange", which is the measured distance from a satellite to an observer. It is called a pseudo-, rather than a true range, because it still contains the receiver's clock offset as an unknown quantity. However, with four or more pseudoranges from different satellites, the observer can compute his true position.

Because of the various factors that degrade the accuracy of GPS, the pseudoranges are never 100% correct. The user may wish to compensate for these GPS errors, or technically spoken, to add a "pseudorange correction" (PRC) to the measured pseudorange. And to provide these PRCs is the whole purpose of DGPS! Here is a sequence of type 9 messages:

```
Id: 492   Msg:  9   Z: 3578   Seq: 7   FL:  2   He: 0
   Sat = 27    PRC =  -45.06 m  -0.138 m/s    UDRE < 1 m    IOD =  60

Id: 492   Msg:  6   Z: 3578   Seq: 0   FL:  0   He: 0

Id: 492   Msg:  9   Z: 3580   Seq: 1   FL:  5   He: 0
   Sat = 13    PRC =   26.90 m  +0.244 m/s    UDRE < 1 m    IOD =   2
   Sat = 19    PRC =  -10.32 m  -0.200 m/s    UDRE < 1 m    IOD = 156
   Sat =  4    PRC =  -45.64 m  +0.196 m/s    UDRE < 1 m    IOD = 104

Id: 492   Msg:  9   Z: 3582   Seq: 2   FL:  5   He: 0
   Sat = 18    PRC =    9.24 m  +0.198 m/s    UDRE < 1 m    IOD = 227
   Sat = 10    PRC =  -10.24 m  -0.120 m/s    UDRE < 1 m    IOD =  27
   Sat = 24    PRC =   12.72 m  -0.194 m/s    UDRE < 1 m    IOD =  13
```

```
Id: 492   Msg:  9   Z: 3583   Seq: 3   FL:  2   He: 0
   Sat = 27    PRC =  -45.44 m  - .118 m/s    UDRE < 1 m    IOD =  60

Id: 492   Msg:  6   Z: 3583   Seq: 4   FL:  0   He: 0

Id: 492   Msg:  9   Z: 3585   Seq: 5   FL:  5   He: 0
   Sat = 13    PRC =   27.64 m  + .252 m/s    UDRE < 1 m    IOD =   2
   Sat = 19    PRC =  -10.88 m  - .196 m/s    UDRE < 1 m    IOD = 156
   Sat =  4    PRC =  -45.06 m  + .214 m/s    UDRE < 1 m    IOD = 104
```

There are also some type 6 messages (null frame), which are often inserted when a type 9 message contains data for less than three satellites. We see that most PRCs are in the range +/- 50 metres. The program also displays the RRC, which is the change of the PRC in time. UDRE (User Differential Range Error) is an estimate of the uncertainty of the PRC.
As it is a 2-bit-field, there are four possible values, but most often we get "UDRE less than 1 meter". IOD (Issue of Data) reflects the satellite's current state. The value itself is meaningless, but a change of IOD indicates for example, that the ground control station has uploaded new data to the satellite.

Most of the time a DGPS beacon sends type 9 messages; all other types are comparatively rare. Type 1 is identical to type 9, except that it contains data for all the satellites in view of the reference station. In the above example, a type 1 message would contain seven data sets for the satellites 4, 10, 13, 18, 19, 24, 27. The Norwegians use type 1 instead of 9, but all others I have received so far use type 9.

Example 4: Message Type 16 - Special Message

Apart from the type 6 message, which contains no data at all, this is the simplest of all RTCM SC104 messages; it is just plain ASCII text. These ones are transmitted by the two German beacons every half an hour:

```
Id: 492   Msg: 16   Z: 3500   Seq: 4   FL: 13   He: 0
   RS Helgoland test operation monitored

Id: 491   Msg: 16   Z:    0   Seq: 3   FL: 13   He: 0      0+1 errors
   RS Wustrow test operation monitOted !
```

The second one is also an example where the program has detected an error by means of the GPS parity algorithm (0 errors in the header, 1 error in the message body). Normally the program now stops any further output from this message, since it makes little sense to print numbers with erronous bits. But in case of a type 16 message, the text will most often still be readable, even if there are a few wrong bits in it.

References

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[WUN 98] Day Watson: Differential GPS. Digital Review, WUN Newsletter, Vol. 4, June/July 1998.

Thanks for the input, Klaus. I know you got a lot of enjoyment from that.

>>....Diplo.....>

::: Danish selcalls

Recently Bert van Rij was around to pick up some current selcalls when the Copenhagen MFA was checking various embassies on 11341.9 khz circa 1230z.

As no traffic passed the ID's were not established but it's another piece in this jigsaw puzzle. Thanks Bert. I've added in the ones I have anyWUN fill the gaps? From the frequency/those listed obviously European.

tpey
tpis   Budapest
tpix
tpop   Warsaw?
tprc
tprm   Bucharest
tpzv

::: Egyptian HUXD

Also from Bert, an Egyptian Embassy changing direction of traffic flow with HUXD JZWLFK. We know the HUXD is the OVER but what of the JZWLFK which transliterates to mshkura which Bert thinks familiar, but currently can't put his finger on it - any help?

::: Bulgarian/Slovakian ARQ/IRA systems.

Following a post last month on 12208.1 khz where I had queried ownership to the Bulgarian MFA I am grateful to L in Germany for some feedback. He advised that what I had heard was the Slovakian MFA in Bratislava who typically use the 10bit IRA/ARQ system whereas the Bulgarians ALWAYS use an 11 bit frame making it easy to tell the two apart.

>>....Met.....>

::: Murmansk Met FAX

Thanks to Klaus Betke for identifying the unid FAX I logged 1900z 11/Aug. It appears to be on 8444 once a decent signal can be received. The other two frequencies available are 6446 (H24) and 7907. Note that these transmissions use a shift of 1000hz rather than the standard 800.

I asked Klaus about the widely listed 10130 khz for Murmansk which I for one have never logged. He reports

"Found in my "archive" two hf faxes copied on 10130 kHz in May 1993. One is something like a sig wx chart, the other one shows ice conditions. Both with skew as usual, but fine, sharp copies. The pictures that we get now look like low-pass filtered; if their scanner detects black, it sticks to black for a while. This widens every vertical line and makes any text unreadable.
The transmissions on 10130 from Murmansk seem to have ceased in May 1994. I wonder if they were from the same authority."

>>....Military.....>

Thanks to all posters of logs of FF stations - nice to see the circuit ID's being included plus other little titbits of information - keep up the good work :-)

::: French domestic military exercise links

My thanks to Peter Conway for a summary of his logs for the period Jan thru April of this year in respect of the French military exercise links within France. These normally run using ARQ/E 72bd/400hz. I have compiled a table of frequencies which are likely to be used, including

IDs for these frequencies together with the ID of the link return frequency. But before the table a few paragraphs from Peter himself on what has been/may be observed.

"Exercises usually begin on Tuesdays (often frequencies will be on air idling on Mondays) and usually end on Thursdays, occasionally they extend over a weekend. There is usually a long summer break and there are never any during public holidays like Christmas or Easter.
Most activity seems to take place during 0800 - 1800 utc, but often night frequencies are used (2/3/4 mhz). Daytime frequencies range from 4 - 7 mhz, with 5 mhz having the majority of frequencies as is to be expected with circuit distances involved.
The oddball frequency is 5732.5 (and there used to be 5862.5) which never seems to anything but idle - has been going for at least 5 years to my knowledge - and I have monitored it for many many days!!

The CID / RID sequences are usually UAF/UFA UBF/UFB etc...
The words Favieres and Souge presumably are some sorts of acronyms - but what ? - maybe one of our French speaking monitors can translate.
Exercise names usually contain a reference to the year and number i.e. " EXOREG 98/01" FARSIC 98" other popular names are "BRIGATRANS...." "EXEAT..." and "BOOMERANG....."

The routing indicators RFFEDFB etc..follow the normal pattern so approxiamate location areas can be worked out, but probably some stations are mobile. The exercise messages contain a wide variety of humorous, topical and historic material."

All salient remarks are gathered from a 4-month period and no attempt has been made to consolidate actual dates/times.

Freq.	Cct	Rtn	Remarks.....
2236			Idle.
2291.5	UDF	UFD	"ACTIONEX" RFFXCFD de RFFXCCS. qsy F11 F31
			Msgs - no mention of "ACTIONEX"
			Lots of 5ltr grps - no exercise named
2519	UFD	UDF	Msgs. No mention "ACTIONEX". Lots of msgs
			/5ltr groups.
			"ACTIONEX" Faviere de RFFXCFD.
3205	UDF	UFD	"MCA". RFFXCFD de RFFHAD.
3824			Idle. Off by morning.
3886			Idle. Off by morning
3898	UEF	UFE	RFFHCFE de RFFZEFG. 5ltr grps.
4438.5			Idle
4495			Idle
4875	UCF	UFC	Idle.
			Souge de Souge controle de v.
			"MCA EXTRANS" RFFEDFC de Souge
			C de v svc.
4963	UBF	UFB	Idle
			Souge de Souge C de v.
5026.5			Idle. Off air by 1010
5075			Idle. Off by 1915.
5096	UEF	UFE	"ACTIONEX". RFFZEFG de RFFHCFE
	UFC	UCF	"MCA EXTRANS". RFFEDFB de RFFEDFC. To BRIGATRANS
			UN fm BRIGATRANS DEUX.
			"PROJEX" "MCA EXTRANS" msgs.
5129	UDF	UFD	"ACTIONEX". RFFXCFD de RFFHAD. Lots msgs.
			5ltr grps.
			RFFHAD de RFFHAC. 5ltr grps.
			Msgs.
5221	UFD	UDF	RFFXCCS de RFFXCFD
			Idle.
5224	UFB	UBF	"PROJEX" msgs
			Souge de RFFEDFB. msgs. zid/zic.
5227*	UAF	UFA	RFFEDFA de RFFEDCS to RFFEDFA CENTEXPLSLI

			fm CENTRANS Favieres . "SLI".
5245	UFC	UCF	"EXPLOITEX" msg
5247			Idle. Off by 1920.
5279	UFD	UDF	Msgs
			Faviers de RFFXCFD
			Msgs but no exercise mentioned.
			Lots ssgs 5ltr grps.
5376	UDF	UFD	RFFXCFD de Favieres/RFFXCD de RFFHCFC to COMFORCE
			DEUX fm COMFORCE UN.
5420	UFC	UCF	"MCA EXTRANS" msgs
			RFFEDFC de RFFEDFC Controle de v
5428			Idle
5459	UDF	UFD	Idle. Off by 1630.
			"EXOREG 98/01" msgs.
			RFFHCFD de Marseille
5732.5			Idle. Back on after long absense. Probably H24
			but night fade.
5740			Idle
5746	UFB	UBF	Controle de v.
5754	UEF	UFE	"ACTIONEX". RFFHCFE de RFFHCCS
5797.5*	UFA	UAF	Souge de RFFEDFA zfx UAF014. "SLI"
5893	UFD	UDF	"EXOREG 98/01" msgs.
5922	UFA	UAF	RFFAAT de RFFGCFA
5933	UFE	UEF	"ACTIONEX". RFFAAT/Marseille de RFFHCFE.
			Lots 5ltr msgs.
6850	UFB	UBF	"FARSIC 98". RFFHCFC de RFFEDFB FARSIC AVANT DEUX
			de FARSIC AVANT UN. Still on 1700.
			"FARSIC 98" tfc.
6886	UCF	UFC	"FARSIC 98" RFFHCFC de RFFEDFB
			"FARSIC 98" msgs
7355	UBF	UFB	"FARSIC 98" Souge de RFFEDFB
7361	UFC	UCF	"FARSIC 98" RFFEDFB de RFFHCFC
7390			Idle.
7420	UFE	UEF	RFFAAT de RFFHCFE
7595	UCF	UFC	"FARSIC 98" RFFHCFC de RFFEDFB

Note.1: ARQ/E 72/400 except where marked * where ARQ/E 184.5/400.
Note.2: Remarks show exercise name in quotes.

::: Spanish military callsigns

Following my log

4154.0 69OSB: UNID 0518 rtty 100/R/850 Marker "p 67YTR
de 69OSB = sinclas sic svc qbf figs ry's int zbz".
Occ working/attempting work ? another stn but poor
copy. "tr de sb int qrv k k k k " (3/Aug) (DW)

I was pleased to hear from C, T and Mike to the effect that this is a style used by the Spanish military. Comment was made on the shortened version by use of the last pair of letters (see above) with another sample quoted as heard in SSB on 3.5xx Mhz of 67EOK shorted to "OK".

Mike remembers logging 67YTR being called by 66NEI some time ago using rtty on 3257 khz with 100/850. He asserts it's the Spanish Navy though one of the others considered the Army.

::: German Air Force ARQ/E links

85.71bd is a non-standard rate but the GAF has two links running ARQ/E normally weekdays until 1400z. These are on

Link #1 3288.5 3858.5

Link #2 4944 5284/4782.5/4798 (3 possibles).

Other reported frequencies for this mode have been 3922.5, 5722.5, 5781.

The locations are unknown

As one would expect these are always encrypted using the preamble
%%%%%%%%%%%%%%%%%%%%9+.&#@80)?7$+:0(#3+77

Thanks for this input, L.

>>....National Governmental.....>

::: Czech Border Patrol

Ary stuck his head round the door (email-wise) to indicate they are back.

4028 khz is the frequency in 50bd rtty. The carrier is open all day long and there are RY's and Callsigns every 15 mins. The station changes the callsign every hour at 15 minutes past. These are currently (9/Aug) ZBMH, JDP7, SL8W and T7FM. They are expected to change in September. The station is not thought to be computer controlled since the intervals are often not exactly 15 mins, especially when the callsign has to be changed - then it can take up to 20 mins.

Thanks for the update Ary.

>>....Press.....>

Just a quick run round some feed back.

Murray Lehman (Perth, WA) advises following still operating:-

KPL	Laos	14640	
VNA	Hanoi	15744	18264
YONHAP	S Korea	7868/11602.5	0030z

Jan Janssen has this month, but unfortunately no times as yet to hand, let me know via Ary that he has logged

AA	Turkey	15006.7	
VNA	Vietnam	10600	18264

Thanks guys - now everyWUN we know whose still there and on which frequencies - next step is to define the broadcast periods.

>>....Special.....>

::: Equipment problems

During my own monitoring over this last couple of months I've noted some transmissions with indications of defective or badly maintained equipment that I thought it might be interesting to give some pointers.

8515 Tripoli/5AT CW

A recent logging indicated spurios at 1 khz intervals between 8511 and 8519.

10215/17590 Jeddah Met/HZN RTTY 50/R/850

This has an unusual note. Examination of the signal shows the MARK is not clean. It appears to have degenerated from a signal tone into a group of four close together.
This suggests the terminal rather than an individual transmitter.

14639.5 KPL Vientiane RTTY 50/R/500

Monitoring this one at 0900z last couple of days gives a good example of instability in the frequency control. It demonstrate the carrier drifting, or even stepping, positively or (generally) negatively in the spectrum +/-200hz relative to the registered frequency.

16951.5 FN Dakar/6WW RTTY 75/850

The FN Dakar response channel for ship-shore tfc.
This transmission is radiating spuriously on 16947.76 and 16955.23. ie +/- 3.75 khz.
Again this has been there for some time - I wonder if they are aware - I note they are no longer identifying themselves in the marker string !!!

19048.7 FF Paris (or Provence?) ARQ/E3 192/400.

This is the French end of circuit [LFA] to Dakar. Last logged in June with same problem it is currently radiating spurious emissions every 1 khz down to 19047.67 and up to 19060.67 with gradual diminishing power as the frequency diverts from the core frequency.
All channels are 30 hz down on the listed xxxx.7. And what is the radiated core frequency? I think not 19048.7 - the adjacent frequency 19047.67 is the one with maximum power.

20426.1 MAP Rabat RTTY 50/850

Well known for spurios at various points in the band. However on Jul/17 I picked him up on this frequency. The shift is 850 but MAP uses 425 hz.
This transmission is therefore a second harmonic of the original which is 10213.1 and an assigned MAP channel.

Has anyWUN noted any others recently?

>>....Techi Tips.....>

::: Asynchronous v synchronous

Basic RTTY is an asynchronous structure. It is not necessarily continuous but may operate in a start/stop mode. Each character, usually 5 bits is encapsulated by a leading START bit, and terminated by 1 or more STOP bits. The STOP period may not be whole bit elements, 1.5 stop bits being common. Timing is achieved on individual characters, the receiver seeing the Stop/start transition and, counting off clocks, strobes the subsequent data bits midpoint (assuming the transmit and receive clocks running exactly the same rate. Timing synchronisation will be repeated on the next stop/start transition irrespective of whether the data is coming down the line nose-to-tail or randomly.

Assuming we have a 7.5 bit character frame. This is 5 bits of data, and 2.5 bits total of START and STOP elements. From this we see that 33% of the transfer time is completely wasted from an information transfer point of view.

From this we move to synchronous where the data does not have start and stop bits, and we have no half/partial length elements or bit cells. All are equal. For a given baud rate we can squeeze in more characters in a given time. But what of determining where the characters start in a continuous bit stream? The characters may be ERECT or INVERTED. This is basically the same as the NORMAL/REVERSED terminology discussed last month under data passage through a communications system. Where (under CCITT)
The low frequency represents data bit 1, data is NORMAL or ERECT
The low frequency represents data bit 0, data is REVERSED or INVERTED.

In asynchronous RTTY the signal will either be Normal, or Reversed, all the time.

In synchronous systems one discusses the aggregate signal. Say the system is ARQ/E - here there is 1 character in 4 (or 1 in 8) which is "marked". This is achieved by having 3 characters (or 7) ERECT and the

"marked" character INVERTED. With the majority of characters in the bit stream being ERECT then the aggregate signal is said to be ERECT.

The software handling the data reception will be able to sense the change between erect and inverted characters and use this as part of its synchronising procedures in determining the start of a character. Synchronisation is achieved by taking 7 bit blocks (assuming a 7 bit character structure) and testing with consecutive bits down the data stream as the start point proceed until a valid character (erect or inverted) is recognised. Thereafter checking that each subsequent 7 bit block is a valid character.

Note that the time to reach synchronisation depends on the baud rate in use and on the type of transmission - some with their inbuild error correcting being more complex than others and therefore take longer.

Two questions one can see being raised.

What happens if the data stops flowing because the operator stops typing? The system doesn't fall over - if no data is available from the source ie operator or files from a computer the transmitting modem stuffs a filling or packing character into the datastream in lieu. This is famous BETA character. Other than enabling a led or other display when there is a predominance of the BETA control character in the data stream the character is processed as any other character for the purposes of error correction, but not passed to line as data.

Burst mode systems eg Sitor/A, ARQ/S, ARQ/6, ARQ/Swed etc. These operate with synchronous data. Here the timing can be taken from the leading edge of the burst. Again use is made of a padding character as a fill to maintain the data flow in the absense of traffic.

Decoders will usually pick up automatically on whether the aggregate signal is ERECT or INVERTED and start decoding.

In HOKA products(Code3-Gold, Code3, Code30) modules decoding synchronous modes will have the label ERECT or INVERT appear in the status area when SYNC (also a label indicating sychronisation of software with signal) has been established.

In the Universal products (M7/8000) (and thanks to Murray Lehman for this information on synchronous modes ARQ & FEC)

"both models basically treat these the same way.

LEDs used : DATA, MARK, SPACE and SYNC. The SYNC LED is lit when a station is idling but goes out whilst data is being received. A DATA ERROR LED will blink if the decoder is not properly synchronised and garbage is displayed on the monitor. Can be useful - if the same block of characters is repeated, it indicates an ARQ station. Generally, synchronisation is automatic but a transmitting station or a weak signal may need to be obtained manually by the user. This does not apply to SITOR A/B where it is done automatically.

The Universals automatically detect whether a synchronous signal is normal [Erect] or reversed [Invert]. The key which selects this in RTTY ASCII or PICCOLO modes is disabled."

>>....Signoff.....>

You'll have noted a substantial part of the input is based in and around Europe this month. For your part of the the World, YOU have to supply the input - so what about it guys/gals - a few snippets are only an email away.

Whilst our friends south of the equator have their Summer to look forward to, have you folks in the northern hemisphere done your antenna maintenance before the winter rains/frosts set in? :-(

Have a month of happy digging in the spectrum Regards Day

==========

Military Channel Designators List

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 24th May 98)

USAF MYSTIC STAR:

F003 8036 (6)	F365 11059 (7)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123 (8)	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)
F054 8058 (8)	F404 7690	F703 9991.5 (6)
F058 4742 (6)	F405 6972	F706 8057 (5)
F061 23265	F406 18393 (6)	F707 10589
F063 14870	F417 4992	F708 23377
F064 11214 (7)	F419 11407 (5)	F709 9317 (7)
F066 15036	F420 7933 (7)	F713 16246 (5)
F077 ?	F432 6731 (6)	F717 10883
F078 18532	F433 20972	F722 12270
F080 15677	F435 3821	F723 18323 (6)
F084 13205.5	F437 5684 (6)	F728 11236 (5)
F085 MF 6,8,11 MHz	F441 17440	F731 6683 (8)
F086 9461	F444 19267	F732 15011 (7)
F089 13204 (6)	F448 16-18 MHz	F734 4757 (7)
F090 6716	F451 13248 (7)	F736 11494 (8)
F094 9017 (6)	F452 5026	F741 7873
F098 14585	F453 19063	F748 6756(5)
F099 13247 (7)	F461 13211 (8)	F749 15-16 MHz?
F101 12106 (6)	F463 4610 (7)	F752 8047 (8)
F102 11118 (6)	F464 16157	F754 11627
F103 11488 (6)	F465 8040 (6)	F777 3113 (6)
F108 7316	F466 14864.5 (7)	F778 18023 (8)
F114 6986 (6)	F467 9023 (7)	F784 9043 (6)
F117 6993 (8)	F476 4-6 MHz?	F785 15687 (6)
F124 11217 (6)	F481 7605	F790 16323
F128 23242	F483 18626	F803 5078?
F134 4942.5	F486 5152 (7)	F807 12103?
F136 5429.5 (7)	F487 24483	F809 5700 (5)
F146 9027 (7)	F489 5437 (7)	F814 6989 (7)
F153 8063 (6)	F496 11059.5 (6)	F821 ?
F173 14420.5	F497 5411 (7)	F823 11229 (8)
F182 3078 (6)	F498 8032 (8)	F825 19047?
F184 10648 (8)	F499 4442 (7)	F832 18267
F186 3046	F500 8989 (6)	F843 MF 6 MHz
F194 13825 (5)	F505 9006 (6)	F845 6-7 MHz?
F195 20631	F516 4645 (6)	F846 13822 (5)
F197 4982 (6)	F517 9270 (6)	F853 12 MHz?
F202 16014 (5)	F521 11484 (5)	F864 16008
F204 12057	F522 11232	F867 6830 (7)
F211 11056 (7)	F523 9215	F868 9218 (6)
F213 ?	F529 8077 (7)	F869 16090
F226 5435.5 (6)	F530 23325	F873 13248 (7)

F228	7735 (5)	F533	18675 (6)	F874	13246?
F236	15041 (7)	F538	?	F875	6717 (8)
F243	18590	F540	5404.5	F877	4721 (7)
F248	5398 (5)	F542	5431 (6)	F885	13207 (5)
F249	4731	F545	10580	F895	5710 (7)
F250	15091	F551	18331 (6)	F904	10202 (7)
F251	13217 (8)	F555	4894 (6)	F906	4524
F262	10717	F561	11052 (6)	F909	7687 (8)
F264	7693 (6)	F567	13565 (6)	F910	19671
F265	15733 (6)	F569	18387	F912	7330
F266	7997 (6)	F574	11413 (6)	F917	10205 (6)
F267	6730 (8)	F575	10427	F918	13482
F268	7325 (8)	F576	11153.5 (7)	F919	11159 (6)
F271	18320	F577	10544 (7)	F920	7927 (7)
F277	11153 (8)	F579	MF 11 MHz	F924	16317
F287	11226 (8)	F595	10877	F933	?
F290	8026 (8)	F600	13878 (6)	F935	9 MHz?
F291	13960 (7)	F611	14863	F937	?
F292	9414.5	F614	8026 (7)	F940	11445
F295	11460 (8)	F616	9320 (7)	F943	19002 (6)
F300	15707 (6)	F622	5817	F948	15038 (6)
F301	7500.5	F623	18317	F952	Night
F302	?	F624	13241 (8)	F957	6761 (8)
F310	?	F626	19343	F965	11466 (8)
F311	11220 (8)	F627	7910 (5)	F974	10586 (6)
F322	?	F631	18755 (5)	F975	MF 11 MHz night
F326	14864	F633	18290 (7)	F980	15724
F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (8)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (8)	F997	15667
F360	7919.5 (8)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

..and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F229 - ? (used 7/98), F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1
CA 6691 (7)
CB 11187 (7)
CC ?
CD ?
also check 11267 & 13240. References have been made to designators CF, CG, CK and CL.

*USAF STRATCOM 'Zulu':
Z100 3068 (8)
Z105 3116 (7)
Z110 3134?(8)
Z115 3143 (8)
Z120 3295 (8)
Z124 ?
Z125 4495 (8)
Z130 4472 (8)
Z135 4745 (8)
Z140 5026 (8)
Z145 5705 (8)
Z150 5800 (8)
Z155 5875 (8)
Z160 6715 (8)
Z165 6757 (8)
Z170 7831 (8)
Z174 ?
Z175 9016 (8)
Z180 9057 (8)
Z185 9809 (8)
Z190 10204 (8)

Z195 11104.0 (possibly?)
Z200 11181 (8)
Z205 11494 (8)
Z210 11229 (8)
Z211 12070 (8)
Z215 13242 (7)
Z220 13245 (7)
Z225 13907 (8)
Z230 15046 (7)
Z235 15094 (8)
Z240 15097 (7)
Z250 15962 (7)
Z255 17973 (7)
Z260   ? (was mentioned in 8/98)
Z270 18027
Z275 18046 (possibly?)
Z280   ?
Z285   ?
Z290 19665 (possibly?)
Z295   ?
Z300
Z305
Z310   ? (was mentioned by NW01 in 6.98)
Z315 23872
Z330   ?
We had no positive confirmation during 1997 that Z110 was 3134, but
that frequency was active with 'Nightwatch' traffic during January
1998 so it is still one of 'their' frequencies.

*USAF AFSOC
===========
FOX 1 13207
FOX 2 5732
FOX 4 9017
FOX 8 23271
FOX 9 18027
?   9018

--
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Homepage: http://home1.gte.net/dcwright/index.htm
San Angelo, TX

"There is something about going to sea. A little bit of discipline,
self-discipline and humility are required" - Prince Andrew, Duke of York

"The sea has never been friendly to man. At most it has been the
accomplice of human restlessness" - Joseph Conrad

"O rest ye, brother mariners, we will not wander more" - Alfred Tennyson
--
This is the WUN mailing list. WUN is the Worldwide UTE News Club, a
non-profit hobby club formed Jan.1995 to promote the sharing of info
about the shortwave utility hobby. WUN is not associated with any
company or group and does not require dues. For further info see
the club webpage at http://www.gem.net/~berri/wun

*US Customs/DEA/JTF
===================
 3428   Yankee Alpha   5277   Alpha (Night DEA Pri)
 5571   Yankee Bravo   5841   Bravo
 8912   Yankee Charlie   7300   Charlie
11288   Yankee Delta   9497   Delta
13312   Yankee Echo   11076   Echo (Day DEA ops)
17972   Yankee Foxtrot   7657   Foxtrot

27870	Victor Alpha
20631	Victor Bravo
18594	Victor Charlie
15964	Victor Delta
11494	Victor Foxtrot
3369	Victor Kilo
4500	Zulu Alpha
7527	Zulu Bravo
9802	Zulu Charlie
12222	Zulu Delta
15867	Zulu Echo
10242	Tango Alpha (also VE)
13907	Tango Bravo (also VG)
20890	Tango Charlie (also YG)
23214	Tango Delta (also YH)
25350	Tango Echo (also YI)
2808.5	Xray Alpha
4991	Xray Bravo
5058.5	Xray Charlie
7778.5	Xray Delta
9238.5	Xray Echo
11073.5	Xray Foxtrot
15953.5	Xray Golf
17601	Xray Hotel
19131	Xray India
5912	Whiskey Charlie
12138.5	Whiskey Delta
13658.5	Whiskey Echo
15964	Whiskey Foxtrot

14690	Golf
18666	Hotel (DEA Active)
23675	India
14350	Lima
14686	Papa (DEA day pri)
23402.5	Romeo
17171	Sierra Hotel
18171	Sierra India
19131	Sierra Hotel
7527	COTHEN Scan 1
8912	COTHEN Scan 2
10242	COTHEN Scan 3
11494	COTHEN Scan 4
13907	COTHEN Scan 5
15867	COTHEN Scan 6
18594	COTHEN Scan 7
20890	COTHEN Scan 8
23214	COTHEN Scan 9
25350	COTHEN Scan 10

*USCG "SECURE"

3A3	5422.5
3A4	4448
3A5	?
3A8	7773.5
3A9	7421
3A30	?
3E4	6234.5
3E5	10608.1?
3E6	5272
3E7	?
3E9	?
3E10	7626
3E11	7783
3E12	7845
3E13	7884
3E14	7909
3E19	10675
3E20	10759
3E21	10788
3E24	11157.5
3E25	13413

Another two frequencies may be 13809.0 and 13950.0.
For a full listing of USCG aircraft and helicopters, please 'surf' to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers

CH-1	3345
CH-2	5015
CH-3	5327.5
CH-4	5400

*U.S. ARMY TRANS CORPS

CH.1	4146
CH 2	6224
CH 3	6227
CH 4	8294

CH-5	5437.5		CH 5	8297
CH-6	6020		CH 6	12353
CH-7	6785		CH 7	12359
CH-8	9122.5	Pri	CH 8	12365
CH-9	11693.5			
CH-10	12070	Sec		
CH-11	12122			
CH-12	16077			
CH-13	16326	Ter		
CH-14	16358			
CH-15	20659			

The USACE hold a weekly Net each Friday on Ch.8 where many USACE stations 'check-in'.

*FEMA
=====
FEMA uses "Foxtrot" designations for their frequencies. There are quite a few frequencies.

FOXTROT #		FOXTROT #		FOXTROT #		FOXTROT #	
01	2320	21	6809	41	14450	61	21919
02	2360	22	7348	42	14776	62	22983
03	2377	23	7428	43	14836	63	23028
04	2445	24	9462	44	14885	64	23390
05	2658	25	10194	45	14899	65	23451
06	3341	26	10493	46	14908	66	23550
07	3379	27	10194	47	15464	67	23814
08	3388	28	11721	48	15509	68	24008
09	4603	29	11801	49	15532	69	24282
10	4780	30	11957	50	15708	70	24526
11	5211	31	11994	51	16201	71	24819
12	5378	32	12009	52	16430		
13	5402	33	12129	53	17519		
14	5821	34	12216	54	17649		
15	5961	35	12219	55	18744		
16	6049	36	13446	56	19757		
17	6106	37	13633	57	19969		
18	6108	38	13744	58	20027		
19	6151	39	13780	59	20063		
20	6176	40	13783	60	21866		

*SFOR BOSNIA
============
I2 6723
I8 6721.5 (5)
I9 2839.5 (5)
? 2841.5 (5)
PUSH 81 5788
PUSH 81A 6865
PUSH 81B 5346
PUSH 82 4450
PUSH 85 3178
PUSH 89 6932.5
PUSH 103 5110
PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312
The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.

*Update: 6865 was heard carrying 'Bookshelf' traffic in 6.98.

*'Habitat' net
==============
Jeff Jones reports that these frequencies and channel designators
have changed, and are now as follows:
4704.4   (replaced 4721.0)
5700.4   WY02B
6719.4   WY02A   (replaced 6736.0)
8978.4
9005.4
9011.4
11212.4   (replaced 11214.0)
15095.4
(the two designators listed above, WY02A and WY02B, are not yet
confirmed.)

*Belgian Air Force Designators
==============================
3131.0   YA
4745.0   YD
6745.0   YF
8989.0   YG
11187.0   YH
11211.0   YI
11268.0   YJ
15010.0   YM
18006.0   YO
18021.0   YP
20050.0   YQ
23332.0   YS

*Canadian Forces
================
A6A   4560.0
A6G   6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver
Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

CanForces CFARS
CFARS is the Canadian Forces Affiliated Radio System. CFARS stations
are located at various United Nations peace-keeping operations around
the world and operate amateur radio equipment that provides phonepatches
for service personnel to their families.

Hotel   (unid 10-meter frequency)
Lima   20976.0
Fox   20970.0
Golf   20962.0
Delta   14461.5
Charlie   14458.5
Juliet   14452.5
Kilo   14448.0
Echo   14445.0

Bravo 14385.0
Alpha 6977.0 (ex- 13971)

*French Air Force 'Circus' Net
==========
Marjolaine 2 6712
Racontar 1 8972 (not heard for years, is it still active?)
Vinaigrette 3 8992
Reconfort 3 13236
Citadelle 1 18012
Citadelle 3 ?
Verite 3 23254
Capitole/RS902 6688
143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)

*German Navy
==========

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
==========
>From a listener in Europe comes an extensive update to the German Air Force frequency list. This information comes from a very good source, and he wishes to remain anonymous.

3107 - Alpha 13203 - Oscar
3143 - Bravo 13233 - Papa
3903 - Charlie 15073 - Quebec
4721 - Delta 17973 - Romeo
5687 - Echo 17991 - Sierra
5717 - Foxtrot 18012 - Tango
6700 - Golf 23201 - Uniform
6715 - Hotel 23215 - Victor
6730 - India 23255 - Whisky
6751 - Juliet 23318 - X-ray
8965 - Kilo 23341 - Yankee
9025 - Lima 23345 - Zulu
11217 - Mike 29724 - Alpha-bravo
11265 - November

*Note: Freq 'Victor' *may* be 23231. Comments?
These frequencies are used by DHM91, which is the HQ Station of the German Air Force Air Transport Command. The other ground stations in this net are DHO23 (61st Air Transport Wing at Landsberg AB, southern Germany), DHO32 (62nd ATW at Wunstorf AB, north-central Germany) and

DHO60 (63rd ATW at Hohn AB in northern Germany).
  Other callsigns heard are DHO32, DHO75 (a collective callsign for all the three ATW's) and DHM81. Callsigns 'O5IP' (Oscar-5-India-Papa) and 'NI81' (November-India-81) seem to be other 'regular/daily' callsigns.
The Primary frequency appears to be 'E'/5687.

*NATO E-3 AWACS
==========
Ch.AA   6700.0
Ch.AB   11228.0
Ch.AC   8971.0
Ch.A4   10315.0
Ch.A5   ?
Ch.KD   6760.0
Ch.KF   6695.0
Ch.NB   3081.0
Ch.NC   3225.0
Ch.ND   ?
Ch.NE   4542.0
Ch.NF   4720.0
Ch.NG   ?
Ch.NH   4758.0
Ch.NI   6762.5
Ch.NJ   8986.5
Ch.NK   11270.5
Ch.NL   15050.0
Ch.NM   17996.5
Ch.XC   6754.0
Ch.XD   8980.0
Ch.XE   10315.0
Ch.??   12165.0
Ch.??   5691.0
Ch.??   6728.0
Ch.??   23241.2
The X-net is replacing N-net altough the N-freqs are still sometimes used.

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's (actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above). If the UKADGE circuits are active, there will be an announcement after the weather broadcast with the code-letters for the active frequencies. For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.

The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5

The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0

DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 08	4020.00 Khz#
Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#
Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 26	(uhf)
Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#
KJ 02	3357.0
KJ 04	3805.0
KJ 28	(uhf)
KJ 37	5910.0 (poss.)
TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========
(also known as 'Coastal Control')

Controlled from Whitehall ('GYA'), with standby location at Forest Moor ('GXQ') adjacent to Menwith Hill in Yorkshire.
Transmitters:- Milltown (scotland) and St. Eval (Cornwall).
Receivers:- Kinloss (Scotland) and Penhale Sands

Initial calling frequencies
Coastal ship Operating schedule

Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

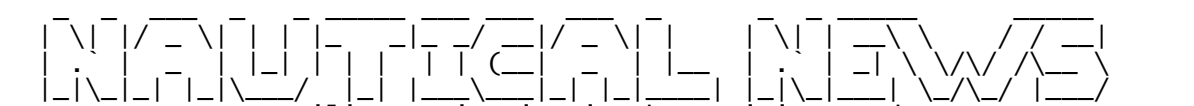
	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly use their ships name.

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========



Utility Monitoring in the Maritime Bands

Editor: Day Watson (jdwatson@cableinet.co.uk)
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Hi MariWUNners

The column is fairly short this month.

QTC list:

Greek pilots: 2320, 2361, 2949
SHIPWATCH Directory for Enthusiasts
South African maritime radio services
Antique/DYA

++++++ Greek pilots: 2320, 2361, 2949

Feedback on the Jun column Costas Krallis advises that "I have never seen a Greek pilot service boat with an MF/SSB radio on board, although I have seen the frequencies appearing in various lists. It seems they are for contact between the vessel requesting the pilot and the pilot station. All other communications are on VHF/FM marine channels.

Feedback is how we clarify the information folks. Thanks Costas.

++++++ SHIPWATCH Directory for Enthusiasts.

A new book published in the UK a couple of month's ago now resides in my bookshelf. Called "SHIPWATCH Directory for Enthusiasts" it is A4 in size with 560 pages of information, and 80 of index, on, it is claimed, 36,000 ships of all types. The information section is formatted in alphabetic order of countries, and within each county in alphabetical order of Ship owners/operators. Each of these latter sections is given a numerical section number. The index consists of a ship's name and the section number where to find its details.

Each section contains details of the ship's head office address, telephone, fax, telex etc numbers, senior personnel and related companies.
Thereafter a list of ships for that company/operator giving against each ship name, its immediate previous name, flag, type, year of build, tonnage - deadweight and gross, length/beam and draft, and service speed. Sorry no callsign or MMSI.

It is published in the UK by
Good Way Leisure Ltd.,
P O Box 54,
Daventry,
Northants,
England. Tel. +44 (0)1327 312468
NN11 5US Fax: +44 (0)1327 301404

The cost is 30 UK pounds (+ UK 2.70, Europe 4.50, Rest of World 7.0 for packing+postage.) Worth it if you're heavily into the maritime scene. I've stopped saying "peace and quiet" when birthdays come round and now suggest family group buying for things like this when asked what I want as a present.

++++++ South African maritime radio services.

I recently received a glossy by way of PB to whom thanks. This is issued by Telkom SA Ltd who are responsible for the RSA maritime radio services. Thanks also to Bob Margolis for Telkom website info but I have just received word from Telkom via Bob Hall that they consider that information currently out of date.

This organisation has recently been undergoing various changes and now is such that the coast line from the Namibian border in the northwest to the Mozambique border in the northeast involves a network of 38 radio stations. Most of these are to support the VHF service in an area within 50 miles from the coast and are remote controlled from the four main and manned stations at
Capetown/ZSC
Port Elizabeth/ZSQ
Durban/ZSD

The fourth station is at Klipeuwel. This is a transmitter site, controlled by Capetown, and using 10kW transmitters, to provide worldwide coverage on HF using RT, telex and WT.

Now for a look at the various services provided by the above three stations.

WT

On MF all keep watch continuously on 500 khz opening up 512 khz for routine call/reply working when there is a distress in progress on 500.

	Working	Tfc lists
Capetown	418/441	0030 0630 1230 1830 (on 418)
Port Elizabeth	524	0035 0635 1235 1835
Durban	438	0020 0620 1220 1820

Only Capetown provides a service on HF with traffic lists at 0030, 0630, 1230 and 1830

ZSC33	4317	H24
ZSC6	8688	H24
ZSC9	12698	0500-2000 (2200 in Summer)
ZSC7	17164	0500-1800 (2000 in Summer)

RT

On MF the three stations keep watch on 2182 khz for distress/urgency calls through various remoted transmitter and receiver sites round the coast. No working frequencies are provided in this band.

On HF the three stations call and answer on the worldwide channels provided for this purpose as follows on an H24 basis

		ZSC	ZSQ	ZSD
4417/ 4125	[421]	*	*	*
8779/ 8255	[821]	*	*	*
13137/12290	[1221]	*		*
17302/16420	[1621]	*		

Having established communication the coast station and ship will move to a working frequency selected from one of the following channels

ZS.	Ship	ITU ch	Traffic list
4363	4071	[403]	ZSQ - 0603 0803 1203 1603 2003
4369	4077	[405]	
4375	4083	[407]	ZSD - EH+03
4435	4143	[427]	ZSC - 0003 0603 0918 0948 1403 1718 1748
6504	6203	[602]	
8731	8207	[805]	
8740	8216	[808]	ZSD - EH+03
8764	8240	[816]	
8767	8243	[817]	
8794	8270	[826]	
8800	8276	[828]	ZSC - 0003 0603 0918 0948 1403 1718 1748
13101	12254	[1209]	
13110	12263	[1212]	
13146	12299	[1224]	
17263	16381	[1608]	
17338	16456	[1633]	
22705	22009	[2204]	
22711	22015	[2206]	

The above RT channels are manually operated. However Telkom employs Autolink, mainly on VHF, but the following three HF channels are also available for this service.

4426	4134	[424]	ZSC

8725	8201	[803]	ZSC
8752	8228	[812]	ZSD

Telex

Radio telex services operate with provisioning by Globe Wireless who have a node in their worldwide network located at Capetown. The channels are

ZSC	Ship	ITU chan
4214	4176	[408]
6322	6271	[617]
8431.5	8391.5	[831]
12601	12498.5	[1244]
16816	16692.5	[1619]
19692.5	18882	[1824]

Safety of Life at Sea (SOLAS)

In order to meet the RSA commitment to SOLAS Telkom's Maritime Radio Section is charged with maintaining watch on all the international distress and safety frequencies. This is done on

VHF chan16	via 26 remote controlled stations,
2182 khz	via 17 remote controlled stations
500 khz	at 3 manned stations
GMDSS DSC alert channels 4-16Mhz	at Capetown [MMSI 006010001]
HF RT calling channels 421 821 1221 1621	at 3 manned stations as outlined above.

Telkom's stations accept SAFREP (SA Ship Reporting) and AMVER messages which are passed to the South African Navy, the national MRCC being located at Silvermine.

Broadcast of nav warnings and weather forecasts.

NAVTEX (518 khz) transmitters are located at the three manned locations and operate as follows.

Capetown	[C] 0020	0420	0820	1220	1310	1620	2020
Port Elizabeth	[I] 0120	0520	0920		1320	1720	2120
Durban							

==========

NUMBERS & ODDITIES

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-::: N&O #05 :::-

Hi gang, welcome to the fifth edition of N&O. I know I have said this before, but we really need your input. Please, send us your logs, info, schedules and other findings. Thanks!

I intend to do a series of profiles of intelligence organizations in the near future. Can anyone help me to info about the ex-DDR Stasi (Ministerium fuer Staatsicherheit -MfS-), especially their history?

Besides the usual station info and logs, I have the results of the World-wide Jam Session for you and another cipher item from Toby, plus another Memory Lane story written by Simon Mason. But first a couple of short

items:

o Cherry Ripe: the location of Guam as transmitter site was confirmed by a reliable source. The station transmits Mon-Fri only.

o The Backward Music stations are still active on 5178, 6695 and 6753 kHz. They may skip a couple of days but normally come back again. Hugh copied them in the USA on 6797 kHz. I copied a -for me- new format on 4802 kHz on 14 August, this one transmitted something that sounded as a series of whistles.

o Schedules: if you follow a specific station, please send us the skeds. It is especially very useful for new N&O listeners when they know where to look for a specific station. Stations tend to use the same freqs after a while, so skeds can also be helpful to find a station after a frequency change.

* The 'Ticking station' a.k.a. 'Dashless Morse station' revisited *

Remember the ticking/clicking station that occupied 4042.4 kHz for a while during the past two months? (see N&O May 1998).

The clicks had no 'normal' pattern and it sounded like someone was practising morse by ticking with chopsticks on the table. No words were transmitted, just ticks/clicks. The station returned early August briefly on 5002 with its typical 'pock-pock-pock' sound.

Between 25 July and 3 August, I heard a morse station on this frequency transmitting the same irregular patterns but now in clear sounding morse. The signal was very good. On 2 August at ca 00.30, I copied another cw station. It transmitted the same weird irregular dots. I tried to find a pattern in the dots but couldn't find any. Again no letters or figures, just dots. There is definitely a short pause between groups of dots. I wonder if the groups represent digits. I pretended that they represent digits and jotted the numbers down. The following is the result of 18 minutes listening. Most groups consist of 1 to 4 digits. Longer groups have been copied by other listeners.

Note the huge amount of 5-dots groups. The first row states the number of characters in one group and the second row the digits formed by the number of dots, e.g. 5 dots equals the digit '5'.

group	digit	group	digit	group	digit
1	5	1	10	1	3
2	5 5	1	5	2	2 7
2	7 2	2	4 1	2	1 8
1	5	3	3 1 4	1	8
1	5	1	5	1	1
4	1 3 1 3	1	6	1	5
2	2 2	1	5	1	1
2	2 2	2	4 1	1	1
1	4	1	5	1	5
2	1 3	1	5	2	5 5
1	5	1	5	1	5
1	5	1	4	1	5
2	2 2	1	9	1	5
2	4 1	1	5	2	1 3
4	3 1 2 2	1	5	2	3 1
2	2 2	2	4 1	1	5
1	5	2	4 1	2	1 3
1	5	1	5	1	4
1	5	1	5	2	5 5
3	2 2 4	1	5	4	5 10 9 1
3	5 5 5	2	1 3	3	5 1 9
1	9	1	5	1	5

In the evening of 13 August, the station transmitted lengthy 'messages'

for hours. Here is one example:
Groups: 21
Digits: 7 5 3 4 25 23 2 10 1 14 3 77 7 42 51 17 22 17 41 2 5

Another change took place on the 14th when each group suddenly ended with a dash. This way it sounds just like a stripped Link-11 signal. Many ......- groups were transmitted.

Weird! Clues anyone?

* MORSE STATIONS by Guy Denman *

I have been trying out some of the morse practise programs, that Ary mentioned last month. The one that was mentioned Numorse 4 is very good, but I have found an even better one, MRX, the file is mrx_win.exe and can be obtained from <http://www.ozemail.com.au/~jwsamin>. The advantage of MRX is that you can practise receive with figures only, which is the main requirement for numbers stations. Numorse does not have that facility which I think is a drawback.

(You must have overlooked this option, Guy. You can use your own ASCII files -e.g. dumps from numbers stations- and play them in NuMorse. To achieve this, you have to go to 'FILE' and open the file. Now click on 'PLAY', then click on 'continuous' and 'serial' and click on 'play' to start. NuMorse will now play your file. Or, if you don't wanna use files you can force NuMorse to generate only numbers by clicking on Settings/ Filters/Numbers. -Ary-)

If any of you have tried any of the training programs, or know of any others that are good, I would be very pleased to have your comments. I still seem to have very little interest in this column, I thought that the large number of morse logs in the last newsletter might persuaded some of you to have a go at learning morse.

I have been wondering how those of you in the USA get on with copying the morse stations. I have one listener who listens every weekend, but so far he has not been able to copy anything.

Are there any others of you are able to copy any of those stations. I realise it must be very frustrating to know that there are a lot of stations on that are not audible in the USA. The same applies to us in Europe, when the FAPSI RTTY stations are mentioned, I have yet to hear one of them. Hopefully with the increased sunspot cycle, possibly conditions might improve and let you hear some of them. I have seen a log recently on WUN from Canada, reporting an M12, so some of them can be hear over there. I have also tested out that Web radio that was mentioned on Spooks. There seems to be one major problem with it as it allows 5 persons to use 1 receiver at the same time, which to me seems very confusing. I did also try it when I was the only one using it, I tried to tune it to some very strong signals that I was listening to on my own receiver, but I was unable to hear any of them.

-o-o-o-o-o-o-o-o-o-

To continue with the profile of a few more stations.....

M23::: Mode ICW. Another strange station always changing times and frequencies. Can use 2, 3 or 5 figure identical IDs. Or strings of dots, Vs or Is, and no figures.

ID variants, 2 figure even/odd, 3 figure even/odd, 3 zeros, 5 zeros, 5 fives, 5 ones, etc, Vs with gap every half minute, Is with gap every half minute, Continuous Vs, continuous Is. In some cases of 3 figure IDs if all figures are odd there is no message, if even, there will be a message sent. They do have one regular transmission, that has been going now for 19 months. It is on daily at 0800 and 1400. 2 frequencies used at same time 8307 and 9285. It just sends the ID 579 for 10 minutes. When

they do send a message they use long zeros and the format is

Call Preamble Message Repeat Ending
OOOOO R3 to 20 = 33 33 = 33x5f = IMI IMI = 33 33 = =
First and last groups are normally the same. Not all groups are random.

One frequency that has seen regular use is 6999 at 1100. Another in use at present, April 1998 is 7795 at 1500. Usually sends long messages. Is still on this frequency in July repeating the same messages from April. Has now in August started sending a new message. Many variants on this theme, some EG all 3 fig groups are 2 parallel frequencies, others not.

Frequencies used to date:
3380 4767 4825 4893 5019 5180 5349 5540 6525 5550
5665 6290 6520 6560 6870 6918 6928 6999 7647 7520
7850 7795 8307 9285 10775 11346

-o-o-o-o-o-o-o-o-o-

M24::: Modes ICW, MCW, MCW CC. The same format as M14 except that the 5 zeros at the end are sent spaced out, and the whole transmission is sent at high speed. Usually 40 WPM.

Sometimes sends very long messages. Longest so far is 431 groups which took 45 minutes to send. Has been noted to be back on same frequencies and times as in 1997. Not very easy to find as it changes frequency often, and can be on at any time in the hour.

Any reports of this station appreciated.

-o-o-o-o-o-o-o-o-o-

M26::: '98'

The station transmits irregularly with a speed of 10 WPM, and can easily be recognized because of its typical messages. The messages mostly start with '98' but other numbers were also copied, most of them in the 90's.

Format: 98 + several 5FG, continually. The first groups in the various messages often start with the same figure(s), e.g.

98 12744 13111 11111
98 07802 13111 11111
98 04742 11111 11111

The final group is almost always 11111, but other groups of the same figures have been noted (55555 and 22222).

Sometimes the station sends '98 98 98' for hours.

Speed: 10 WPM.

Freqs: 2379 3153 3146 3159 4439 4442 4445 5171 5196 kHz
often on two parallel frequencies.

Note: the station hasn't been logged for well over a year.

-o-o-o-o-o-o-o-o-o-

M29::: Mode ICW. VDE Has three formats, the first M29a, is in regular use each day. Another is not heard as often but when it is can send several messages over a period of time, changing frequency each time. The first format transmits on the same frequency for 1 month and transmits the same message for one week. The messages are usually 10 to 14 groups. Although the message is changed each week quite a lot of the same groups appear in many messages. Although the call is VVVx2 the rhythm of sending is unmistakable. Speed 12 WPM.

It favours frequencies in the lower part of the band from 3 to 6 Mhz. This time of the year at the lower end. Was on 3200 in December, and at present in January is on 3270. Will change on 1 February. 1 March on at 2000 on 5460 1 April on at 1700 on 6590, 1900 on 5709, 1 August on at 1700 on 6749, 1900 on 6569.

Call	Preamble	Message	Ending
VVVx2 de VDEx3 R5	VVVx2 de VDEx3 = =	14x5F	AR

Very strange messages, groups often repeat from week to week, and also may appear 5 times in the same message.

Second format, M29 Call as above followed by
18 18 58 58 8 8 1930 1930= 58x5F AR

Third format M29B Call as above
28 28 25 25 11 11 04 04 0800 0800 25x5F

25 is G Count 11 and 04. Extra figures 0800 Time of first transmission UTC+1. No = = signs. Repeats 30 minutes later 100 kHz HF.

-o-o-o-o-o-o-o-o-o-

M34::: 11 12345 2 Fig IDs. No ending.
Logged recently on 2 March at 0820 on 5040.

Format: Call 11 27 R5
11 11 11 13x5f single group message
11 11 11. Same message repeated

27 27 27 13x5f single group message
27 27 27. Same message repeated. No ending

Machine sent at 15 WPM, using long zeros. Note that the second and last group in the message are the same.

-o-o-o-o-o-o-o-o-o-

Round up of Morse happenings.

I have not put a lot of frequencies in the morse happenings, as you can find them in the logs column. If any of you need the logs in Date and Time order, please contact me.

M1 will make its usual change of ID and frequencies on 1 September. ID will be 463 and frequencies are:

Sunday	0700 on 6508
Tuesday and Thursday	1800 on 5474, 2000 on 5017
Saturday	1500 on 6261

The end of the Month transmissions in July were not as usual, there were none in June, and the last Saturday in July was a normal transmission. Then on Tuesday 28 July were sent 2 end of month transmissions, they have never been logged on a Tuesday before. Then on Thursday 30 July there was a short end of month at 1800 and nothing at 2000.

M1B. Still remaining the same skeds as last month. In the past they have tended to change frequency quite often but at the moment seem to be stable. Will probably change in the Autumn or Fall.

M3. Still very active from 0630, which is the earliest I have heard it, any reports of earlier skeds appreciated. Still diong the same thing, repeating transmissions exactly as in 1997, even sending the same message. The special ID has appeared again. This ID comes up from time to time. On at all different times but the same frequency 5365. heard at 1800 on Wednesday 29 July, sending a message of 40 groups. This same message was repeated at 0630 on Friday 7 August. Messages to 121 seem to be around 40 groups where the normal M3 is 50 to 59.

M4. Still only on the Second week of the Month as per last months skeds. ID for August 99516. Sends the same message for the complete week.

M7. I have not heard any this month, not to say that there are not any on, they do not stick to any regular times so it is just a matter of luck if you find them. They are still around as I caught the end of one on 10 August on 7475 at 1020.

M10. Some present skeds
Sunday 1645 on 5028, 1810 on 8191, 1920 on 10921
Monday 1500 on 6946, 1645 on 5028, 1920 on 10921, 2100 on 5028
Tuesday 1500 on 6947
Wednesday 1645 on 5028, 2100 on 5028
Thursday 1100 on 11416, 1810 on 8191
Friday 1710 on 9454
Saturday 0710 on 8191, 1645 on 5028

Remember that you will find most of these are using a second parallel frequency. If you hear any other skeds I always appreciate reports of them.

M12. Still as busy as ever, see the logs column for a list of frequencies.
They are still coming back on the same frequecies as they used last year. Using the same IDs. A recent one of these is on Sundays at 0710 on 6783 to ID 631 with a null message.

One regular sked that I have not heard since Sunday 26 July is the Sunday sked at 1840 1900 and 1920 that used to send the same message, 792 66 792 66, has anyone heard it anywhere else ?

M13. Still as unpredictable as ever. Is coming back on frequencies used a year ago, but not always. Another thing it is doing is changing Ids. You can tell this from the serial number of the messages, and the fact that the sked remains the same. The one on Friday 14 August at 1700 ID 629 was previously 228 and before that 915

M14. Still carrying on sending the strange double messages, although the DK is different, the second message is always 1 group more.

M23. Found on a new frequency recently 13450. Active on Friday 14 August at 0900 to ID 195 and 0930 to 513, you will note that as these are odd numbers there were no messages sent. Missing on 7795 for 1 week but back on there again.

M29. This Months frequencies 1700/6749 and 1900/6569. Will change again on 1st September. Still sending a new mesage each week of between 11 and 15 groups.

M51. Still churning out its endless 100 group messages. It seems to favour frequencies used by other numbers stations.

M53. Not on every night, but is easy to find as it uses the same time and frequency 2000/8231. Another station I would like any reports of as it is hardly ever a very good signal in the UK and I wonder where it might be located.

That is all for this month, any logs of morse stations are always appreciated.

73, Guy

-o-o-o-o-o-o-o-o-o-

Thanks Guy, great stuff as usual. I'd like to end the morse section with a profile of mystery station P7X. Thanks to those who sent us the logs. Comments are most welcome.

o General
P7X is a mystery CW station that is logged frequently by -mostly- N.American dxers. Who, what, where is still a mystery. It seems to be some kind of training station. Stations with the same message format but different IDs have also been heard occasionally:

Frequency	Id
4235	F3B
6456	H0E
6507	J3E
6527	F3B
6911	E3N
7549	E4I
9550	D6T (CW QRA marker repeated, no groups)
29996	N8S (CW "QRA N8S II 00 II" repeated twice then off)

On one occasion, P7X and F3B were heard simultaneously, with a total of 4 transmitters audible.

The F3B station and others mentioned haven't been heard in years and are presumably gone.

o Freqencies

3343	3344.5	4416.5	4439.5	4444.5	4829
4859.5	4869.5	5127.5	5211	5212	5215
5302	5397	5398	5423	5431.5	5779.5
5819.5	5879.5	8039.5	8048	8056	8057
8059	8158	8168	9619	9665	10692
10798	11403				

o Format
There are two bursts of FSK prior to the CW transmission; this used to be like clockwork, but has become less so in recent months, and is sometimes omitted. They used to run about 15 wpm CW, now runs 10. Operation is more irregular now than in the past few years.

Transmission times are normally at h+00, h+15, h+30 and h+45, then into typical CW "QRA DE P7X II PII 151300Z 120 GR BT" and then 120x 5LG's. There are always exactly 120 groups.

o Example
Two databursts (not always)
QRA DE P7X IIPII 101400Z GR120 BT
followed by 120 5LG's
BT AR
T T

The "T" is a long dash which occurs when P7X switches between CW and data modes, and isn't part of the message content.

The date/time group after II P II changes each cycle of course.

o Modes
CW
Sometimes high speed 850Hz FSK. The data transmission mode is one which is sometimes used by the US military.

* TWO LETTER STATIONS *
by Simon Mason

In his book 'Secret Signals', Simon wrote about the then very active stations PN, DFD21, DCF37 and the other 'two letter stations'. PN, DFD21 and DCF37 no longer exist, but there are a couple of 'two letter stations' still active. These stations and frequencies are mentioned at the end of these station profiles.

Note: I have omitted the original frequency lists. -Ary-

* PAPA NOVEMBER *

Here is a case of "where to begin?" There are over 80 callsigns on nearly 40 different frequencies, all of which indicates a very big set-up. I can recall hearing these transmissions in the early 1970's and they certainly date back further than that. I remember tuning into a station in 1971 and being almost hypnotised by the strange interval signal (it is a different one now). It consisted of a female voice repeating "Papa November" over and over continuously with a sort of snake charmer's flute playing in the background. This went on for five minutes, after which a woman would start sending messages in five figure groups.

When I started to actively listen to number stations this was one of the first I studied. It is unique in that it broadcasts on four frequencies at the same time, but not simultaneously. By this I mean that there is a time lag between the four frequencies. It is as though four different machines are started, one after the other. Until 1989 real female voices were used, that is, a woman would be giving a list of German five figure numbers and she would sit down and read the whole thing out into a tape recorder. The tape could then be transmitted at the appropriate time. At the time of eventual conversion to a voice synthesiser machine, four different women were being employed in the mind-numbing career of number reading. More about them later.

The frequencies used are 2707, 5015, 7404 and 11108. The choice of freqs is interesting as it insures that at least one will be propagated at any given time. As it happens, the schedule is designed to give a wide geographic coverage. The station transmits every day, even on Christmas, at 0000, 0030, 0600, 0630, 1200, 1230, 1800 and 1830. The transmissions on the hour are in the AM mode, whereas the broadcasts on the half hour are all in upper sideband.

These data suggest that maybe a world-wide operation is in force. After all, a station that transmits on four frequencies every six hours using both AM and USB is trying to get its messages through at any cost. On the whole this operation is very professional. The broadcasts begin precisely on the hour or half hour and very few mistakes are made. It is not totally perfect however. Here are two errors that have been noted:

(1) when the stations were being converted to auto-voice on a few occasions both live voice and auto-voice messages were being sent out on the same transmission. It was as though no one had told the female readers that they were being replaced by machines. They carried on, broadcasting on top of the auto-voice, thus making the whole transmission unintelligible.
(2) On another occasion a sister station (DFD37 which is part of the same set-up) was being sent out over Papa November frequencies instead of its normal channel of 3370. This was final proof, if any was needed, that thy are all part of the same organisation. As will be shown later there could be some doubt about this. After all, DFC37 is, on the face of it, a legitimate callsign of the Federal German Republic (formerly West Germany). Indeed, certain publications have this and its twin, DFD21, in their listings as legitimate stations.

Anyway, back to Papa November: as shown, the station is pivotal to whatever agency operates it and the format it uses reflects this.

This is unique amongst number stations. A 3 figure identifier is used, followed by a group count. The difference is in the daily workings of the station. Papa November has allocated to it a series of 3 figure identifiers which are specific to the station and are not used by any of the other stations in the network. After the callsign is sent a woman sends out the list of identifiers/group count, like this:

PN 1800 25 JUL91: 824 4 695 13 771 11 372 12 525 10 717 8

824, for example, is the identifier and 4 is the number of groups. This is said as "824 824 4 gruppen, 695 695 13 gruppen", etc. Alter the last heading the message for 824 would be sent which, in this case, is four groups of five figures, e.g. "12334, 12334, 89856, 89856, 29964, 29964, 13277, 13277 ende. Achtung! 695 695 13 gruppen" and so on.

Now, this represents one transmission (at 1800 on 25 July, 1991). The next day a new message may have appeared. It will take the first place on the rota of messages, like this:

(new message) 543 12 824 4 695 13 771 11 372 12 524 10

Note also that the last message on the previous day's rota has dropped off the bottom. If we look at the rota for several days the picture becomes clearer:

SUN	MON	TUE	WED	THU	FRI	SAT	SUN
997 11	717 12	233 17	622 10	117 11	697 9	335 12	477 12
524 8	977 11	717 12	233 17	622 10	117 11	697 9	335 12
543 11	524 8	997 11	717 12	233 17	622 10	117 11	697 9
771 22	543 11	524 8	997 11	717 12	233 17	622 10	117 11
825 7	771 22	543 11	524 8	997 11	717 12	233 17	622 10
372 16	825 7	771 22	543 11	524 8	997 11	717 12	233 17
543 11	543 11	543 11	543 11				

New messages appear daily and the old ones are discarded. This is not always the case, however. Notice the message 543 11. It is stuck on the bottom of the rota for a few days, perhaps for as long as three weeks. Also, message 233 17 joins it at the end. This sort of thing is a regular occurrence. Presumably the message is retained on the rota until the agent contacts the senders to say that the message has been copied. Then the heading will finally disappear from the rota. Certain identifiers have a tendency to stay around for a long time. For example, 543 messages can stay on a rota for several weeks. Maybe agent 543 or whomever cannot acknowledge easily so the message has to be repeated over a period of time.

Traffic analysis is easy with this station as the number of messages changes considerably. Sometimes there may be only five messages, at other times perhaps ten. Here is a selection of headings and group counts sent over the last few years. Perhaps the changes in traffic relate to events in the real world.

Note: The three figure number is the addressee, the one or two figures after the addressee is the group count.

21 MAR 90	16 APR 90	16 MAY 90	21 JUN 90	19 AUG 90	2 DEC 90
683 6	706 8	853 6	351 7	269 10	352 15
462 11	321 15	307 35	974 9	564 8	563 14
383 7	178 2	923 10	156 12	133 6	868 12
318 12	084 6	321 9	064 18	620 9	935 11
096 8	464 11	243 12	541 13	713 7	736 7
484 11	997 8	582 7	572 13		
948 5	563 4	494 8			
825 23	688 16				
307 19	825 10				

Note how the traffic varies. Also, some of the messages consist solely of two-five figure groups. For 20 APR 91 the traffic for addressee 484 was only 48285 and 36187. It is difficult to imagine what the purpose of such a brief message might be.

Addressees: Here are all of the addresses used by Papa November. The number of different addressees will give some idea of the scale of this station compared to other stations in the same organisation.

007 018 040 046 052 057 064 078 084 092 096

109 112 126 133 144 156 160 174 178 179 181 197
212 217 219 220 231 233 238 243 269 275 280 293
307 312 318 321 337 348 351 352 367 372 376 383 399
406 422 438 448 462 464 468 479 484 487 491 494
525 535 541 543 544 552 563 564 569 572 581 585 587 595
602 616 620 637 657 669 678 683 687 688 690 695
706 713 717 725 736 749 765 771 799
805 809 825 843 849 853 868 877 881 887 891
905 916 923 927 935 948 965 966 974 994 997

Of course Papa November is not listed in any available frequency list and its callsign is not issued by any telecommunications authority. However, there are two numbers stations, indeed, the only ones, that have, on the face of it, legitimate callsigns and these are discussed next.

* DFC37 and DFD2I *

These stations are on two frequencies; 3370 for DFC37 and 4010 for DFD21. They are, to all intents and purposes, the same station. However, as will be shown, the history of these stations goes back to at least the early 1970's, as does that of Papa November. The interval signal in those days was a complete musical scale of ten descending notes, after which a woman said "Hier ist DFC37" or "Hier ist DFD21". When they were converted to auto-voice in 1988 the interval signal was changed to electronic tones followed by a woman with "Delta Foxtrot Charlie Drie Sieben" or "Delta Foxtrot Delta Svo Eins".

Schedule: DFC37: 3370 - 1500-1800
DFD21: 4010 - 1500-2200

Messages begin on the hour in the AM mode and are repeated on the half hour in single sideband.

The stations have their own addressees unique to them and not used by Papa November or the other two letter stations. Here is a typical day's broadcast:

DFC37	DFD21
1500 - 036 236 450 A	1500 - 698 154 C
1600 - 387 400 832 B	1600 - 413 356 D
1700 - 698 154 C	1700 - 036 236 450 A
1800 - 413 356 D	1800 - 387 400 632 B
1900 - 036 236 450 A	1900 - 698 154 C
2000 - 387 400 832 B	2000 - 413 356 D
2100 - 698 154 C	2100 - 036 450 236 A
2200 - 413 356 D	2200 - 387 400 832 B

As noted, broadcasts are repeated in upper sideband on the half hour. I have added the letters A, B, C and D to indicate identical messages, that is, message "A" on DFC37 at 1500 is the same as on DFD21 at 2100, etc. You can see that they really are the same station and that, on any particular day, there are four opportunities in the AM mode and four in USB for addressees to receive their traffic.

As with Papa November, DFC37 and DFD21 have unique three figure identifiers. These are:

002 012 020 036 044 047 062 065 069 074 079 083 085 094 095
107 114 116 117 121 129 130 134 147 154 157
204 211 225 229 236 237 251 259 261 273 278 291 295
316 323 330 336 354 356 387 397
400 411 413 414 423 426 428 431 435 450 471 483 490
619 623 641 644 651 680
735 784 792
811 817 821 823 827 832 840 846 851 852 867 872 880 890
904 914 925 934 991

Because DFC37 and DFD21 have seemingly legal callsigns you would expect them to appear in such utility station lists as the Guide to Utility Stations by Klingenfuss and the Confidential Frequency List compiled by Geoffrey Halligay. And, indeed, they do! You might think that this is a breakthrough - two numbers stations listed in these publications, with the operator's identity exposed and transmitter locations listed. Unfortunately, the inclusion of these stations does nothing to explain the mysteries. Indeed, the opposite is true. Their inclusion only adds to the intrigue. Take the Klingenfuss Guide first. According to this book DFC37 and DFD21 are operated by the Deutsche Bundespost (the German Post Office). Fair enough. Far-fetched though the idea may be, let's suppose that a company as technically advanced as the DP has a use for a station sending numbers; the telecommunications equivalent of talking drums or smoke signals. We already know that Papa November and the other two letter stations are part of the same organisation as DFC37 and DFD21. Here is the proof:

1) The same four female operators were used (until the conversion to voice synthesisers) on DFC37, DFD21, Papa November, etc.

2) The stations do not duplicate three figure identifiers, as would be the case if they were from separate organisations.

3) Mixing errors have caused DFD37 to be transmitted on Papa November's frequency.

Now, of course, although DFC37 and DFD21 are proper callsigns, allocated to Germany, Papa November, Papa Zulu, Charlie November and all the rest are not. An organisation such as Deutsche Bundespost would not, I think, operate these illegal callsigns. The Confidential Frequency List states that DFC37 and DFD21 are part of an "internal net" and places the transmitter site at Frankfurt, Germany. Intrigued by this, I wrote to the Deutsche Bundespost but received no reply. I next wrote to Herr Klingenfuss and asked why he listed DFC37 and DFD21 but did not list PN, etc. His reply didn't really answer the question:

> ''Sorry but we do not monitor these 'number stations' for several reasons, e.g.
> - Since several decades nobody has ever succeeded in the exact location and purpose of these stations.
> - Nobody has ever been able to contact such a station or to get a verification for reception, etc.
> - All what especially those SWLs from America, etc. write and state about these stations are presumptions, guesses and nonsense. From our point of view, monitoring these stations is a waste of time and you get more from reading Bracknell Meteo's Teleprinter coded weather during 24 hours than from monitoring these number stations' for 24 seconds. Consequently, we cannot answer your questions because Klingenfuss Publications considers to give facts and not guesses."

But is it therefore a fact that DFC37 and DFD21 are operated by the Deutsche Bundespost? Almost certainly not. It would be interesting to know were, exactly, these callsigns are registered, if, indeed, they are. As mentioned earlier, before automation four distinct female operators were employed in reading out the numbers. They had their own characteristics and delivery styles. One even sounded as though she had a Welsh accent. It became possible to know when certain women were on vacation or perhaps ill. One could often hear them pausing to swallow or take a deep breath, but to their credit I never heard them cough. They were mystery ladies and I tried to imagine them outside the work environment -would anyone else have the slightest idea what they did for a living? What would they say if anyone asked? In one way their voices live on. The voice synthesiser now in use is modelled on one of the real voices. This woman's voice must have been "sampled" before technology made she and her colleagues unnecessary. Imagine being able to switch on a radio and hear your own synthesised, disembodied voice coming out of the speaker!

* TWO-LETTER GERMAN *

As we have seen, Papa November uses four frequencies and DFC37/DFD21 use one each. The other members of this set-up use many frequencies in the 2.0 to 30 MHz range. There are many different callsigns, each of which has its own three figure id, although nowhere near as many as PN. The format is similar to Papa November. The woman repeats two letters from the international phonetic alphabet four times, after which random electronic tones are played for a few seconds. This goes on for five minutes after which the woman gives the three figure identifier and then the group count.

Example: "Yankee Sierra" 4x, electronic tones (5 min repeated), "635 635 27 gruppen. 516 516 78 gruppen. Achtung, 635 63527 gruppen." Into five figure text.

There are at least 40 different frequencies used by these stations. Here is a complete list of all the stations noted on these frequencies, along with the three figure identifiers they use:

AB - 804, 299, 531
AL - 043, 969, 023
AM - 119, 791
AO - 142, 113
AU - 600, 349, 244, 385, 006, 554, 691
BE - 558, 903
BI - 191, 721
BJ - 358, 591, 152, 879
BU - 608, 073, 492
CD - 059
CI** 444, 555, 666
CN - 158, 430
CT - 884*, 465, 223, 286, 032
DB - 038, 329, 848
DF - 281, 718
DO - 167 (English)
DT - 809, 015, 503
EG - 472, 795, 267
EL - 928, 510, 063
ER - 573, 885
FB - 009, 382, 653, 361
FP - 081
FS - 099, 361, 816
GC - 082, 808, 334
GZ - 628, 803, 285
HK - 393, 621
HS - 639
IT - 139, 525
JB - 606, 995, 239
JD - 534, 802
JO - unknown
JU - 271, 667, 499
JW - 521, 081, 123
KR - 737, 171
KW - 884, 091, 908
LA - 873, 355, 363
LD - 482, 677, 146
LE - 633, 910, 262
LG - 224, 484, 761
LU - 998, 031, 456
MH - 013, 255, 604
MN - 628
NU - 264, 599, 368
NZ - 202, 649, 955
OK - 319, 617, 812
PB - 917, 263, 709
PG - 217, 424, 732
PJ - unknown
PL - 855, 131, 679
PT - 118, 551
PZ - 143, 625, 374
QL - 410, 028
RK - 104, 702 (English)
RO - 941, 098, 660
SB - 527, 962
ST - 481, 755
TE - 460, 103
TP - 004, 975, 738, 696
UF - 234, 655, 049
UG - unknown
UI - 443, 778
UL - 137, 781, 218
VB - 088, 415, 697
VO - 141, 283, 507
WL - 115, 522, 026
WP - 989, 716
XL - 381, 427, 610
YB - 042, 979, 676
YS - 635, 516, 027, 907
ZB - 589, 926, 203
ZG - 763, 405
ZO - 209, 391, 475, 681
ZP - 505, 125, 703
ZT - 250, 863

* All traffic for this identifier starts with either a 1 or a 0, e.g. 01222, 19988. This applies to 884 only, the others use random five figures.

** CI seems to have been a test broadcast. Its distinctive identifiers point to this and it was heard only once, during the changeover to voice machine.

There are, strangely enough, one or two English language versions of

these stations. Those noted so far are "Romeo Kilo", "Juliet Oscar" and "Delta Oscar". The woman announcer on these says "Message for 167, 167 88 groups. Attention!", and then goes into the five figure message. The English variant, apart from being very seldom heard (at least in Europe), is unusually faint and distant-sounding, as though the transmitter site is not on the European continent. The woman's voice has an oriental accent, not German at all. This may suggest that the activities of the organisation behind this station have a world-wide involvement. My own theory is this: DFC37 and DFD21 are aimed at personnel in Western Europe. The times of the broadcasts (afternoons and evenings in Europe), the frequencies used (3370 and 4010) and the large number of addresses seem to back this up. These signals are not readily heard outside of Europe so this would seem to be the case. The traffic is fairly substantial; each addressee has between 20 and 50 five figure groups in each message.

Papa November would seem to be a general alert broadcast. The low five figure group counts (2 to 20) mean little information can be sent to the agent. The message would seem to be on the nature of "Pick up a message at (place)" or "Tune into a broadcast at..." The real info would be sent by all the other two letter stations world-wide as their group counts are always about 100 groups in total.

The suggestion of a world-wide operation is backed up by the frequencies used. 19295 at 1400 is not a combination meant to be heard in Europe. Also, certain stations never appear below about 10 MHz, while others keep below 10 MHz. This would suggest that "Bravo Uniform", for example, which never appears below 10 MHz is meant for agents outside Europe. Similarly, Yankee Sierra", which never broadcasts above 8 MHz, is meant for agents closer to Europe.

The 2 letter stations have been heard at every hour and half hour during the 24 hours in a day. The vast majority broadcast between 1800-2000, suggesting that the recipients of the messages are located mainly in Europe.

* STILL ACTIVE IN 1998 *

The next six stations have been heard on the following times/freqs:

::: English stations (E16)

EH 1530 UTC, 19295 Wed, Fri, Sat
    1600 UTC, 19295 20240 20350 Wed, Fri, Sat

BL 0800 UTC, 12092 12210 12314 13890
    2000 UTC, 11108 11545 11617

AU ???? UTC, 4821//4888

MD 0800 UTC, 12210 19292
    0900 UTC, 12092 12314 13775 13890 16414
    1330 UTC, 11545 12092 16220
    1400 UTC, 11545 13775 16414

::: German stations (G16)

GK Sunday 1930 UTC, Jan 3262, Feb 4888, March 5732, April 7404,
    May 7404, June 8063, July 9325, Aug 7404, Sept 6853, Oct 5770,
    Nov 4888, Dec 3228

    Also noted on weekdays at 1930, 2000, 2030, 2100, 2130, 2200,
    2230 on 3262, 4543, 4594, 4821, 4888, 5015, 5182, 5284, 5732,
    5770, 6853, 7404, 7858, 8063, 8173, 9040, 9325, and 10177

WL 1000 UTC, 12092 13890 19755 20240
    1900 UTC, 10177 14622
    1930 UTC, 7404 13890

* CHERRY RIPE (E4) *

Following last month's profile and schedules, Darren and John noted a change in the station's format and its schedules. Thanks guys!

::: Here are the freqs as noted so far, please inform the group if you find a new frequency.

UTC	frequencies
1000	20474//23461
1100	20474//23461
1200	20474//23461
1300	19884//22108
2200	15624
2300	17499
0000	17499//22108
0100	21866

John reports: ''Since at least 0000 UTC on 4 August, Cherry Ripe seems to be following a new format. I've heard four broadcasts now that are following this new pattern...''

::: Format:
H+00 Cherry Ripe tune played ten times
H+01 message number repeated FOUR times (not the usual ten)
H+02 Cherry Ripe tune x10
H+03 message number x4
H+04 Cherry Ripe tune x10
H+05 message number x4
H+06 Cherry Ripe tune x10
H+07 message number x4, six chimes, and into 5FGx2

::: Sources:
Darren Riley <daz@globalnet.co.uk>
John Maky <110425.2513@compuserve.com>

* COUNTING STATION SCHEDULES *

Counting Stations (TCS) (E5 & V5) List #11 of 15 Aug, 1998
Columns with ? indicate not reported for some time and may be inactive.

Courtesy Bob Roehrig <broehrig@admin.aurora.edu>

ZULU	KHZ	M	T	W	T	F	S	S	LANG	NOTES
0000	4640.0	X	X	X	X	X	X		EE	//5046
0000	5046.0	X	X	X	X	X	X		EE	//4640
0100	15478.0			X		X			SS	//16050
0100	16050.0			X		X			SS	//15478
0200	12300.5		X				X		SS	//14421
0200	14421.0		X				X		SS	//12300.5
0300	12300.5		X				X		SS	//14421
0300	14421.0		X				X		SS	//12300.5
1100	13555.0						?		EE	//14406
1100	14406.0						?		EE	//13555
1100	16068.0		?		?				EE	//10863 ?
1200	10223.0			X			X		EE	//13518
1200	13518.0			X			X		EE	//10223
1200	13906.0			X			X		EE	
1300	7547.0		X			X	X		EE	//10529
1300	10529.0		X		X	X	X		EE	//7547
1500	4470.0			?					EE	//5046
1500	4670.0				?				EE	//5046
1500	5046.0			?					EE	//4470
1500	5046.0				?				EE	//4670

```
1500  7600.0   X     X     EE   //10597
1500  8014.0     ?       ? EE   //9274
1500  9274.0     ?       ? EE   //8014
1500 10247.0   ?     ?     EE
1500 10597.0   X     X     EE   //7600
1500 12197.0       ?     ? EE
1700  6840.0         ?     EE
1700  6891.0   ?           EE   //8085 ?
1700  7430.0         ?     EE
1700  8085.0 ?   ?         EE   //6891 ?
1800 11072.0           X   EE
1900  4640.0   ? ?         EE   //5046
1900  5046.0   ? ?         EE   //4640
1900 13451.0           ?   EE
2000  4470.0 ?   ?         EE   //5046
2000  5046.0 ?   ?         EE   //4470
2000  6780.0     ?         EE
2000  6891.0             ? EE
2100  9090.0     ?       ? EE
```

Known TCS frequencies:

```
3186  4040  4307  4470  4576  4640  4645  4670  5046  5249
5330  5407  5413  5692  5790  5812  5919  6770  6780  6784
6802  6840  6891  6955  6963  6967  6969  6976  6999  7410
7430  7473 7525.5 7547  7585  7600  7645  7709  7740  7875
8014  8078  8085  8143  8285  8418  9030  9049  9070  9074
9090  9219  9274  9785  9844  9929  9958  10191 10223 10247
10262 10324 10424 10508 10526 10529 10570 10597 10665 10723
10727 11072 11190 11415 11470 11491 11526 11532 11564 12023
12150 12156 12175 12197 12221 12300 12714 13444 13450 13555
13808 13874 13906 14358 14364 14390 14406 14421 14448 14703
14811 15450 15478 15651 15938 16050 18240
```

* CRYPTO - SIMPLE SUBSTITUTION *

by Torbjorn Andersson

Table of contents

  * Introduction
  * The Caesar cipher
  * The Checkerboard
  * Simple Substitution using an Unordered Alphabet

* Introduction

The most simple crypto systems only substitutes the cleartext letters for other letters, numbers, or, in some cases, arbitrary symbols. Usually only one cryptosymbol is allotted to each individual cleartextsymbol, but in some more complex systems, variant cryptosymbols are allotted to the more common letters of the language in question.

* The Caesar cipher

Julius Caesar is said to have used a very simple method to safeguard his communications, the so called Caesar cipher. In the Caesar cipher the letters of the cleartext are substituted for the letters found three places further down the alphabet (at the end of the alphabet, the letters "wrap around", so after Z, the letter A follows), and the key for Caesar's secret cipher looks like this:

```
Clear text:  abcdefghijklmnopqrstuvwxyz
Cipher text: DEFGHIJKLMNOPQRSTUVWXYZABC

Example: Julius Ceasar
Becomes: MXOLXV FHDVDU
```

* The Checkerboard

The Greek historian Polybios (ca 200 BC) tells us about a signalling systems, that should have been in use in Greece. The Greek alphabet of

24 letters are written in five rows of five letters each (the last row only having four letters), thus forming a square, or checkerboard. Then, according to Polybios, to send a message to a place within sight, torches are held up. First between one and five torches are used to indicate the row where the sought letter stands in the square, then the number of torches are held up, which tells the column where the sought letter is found. Needeless to say, this signalling scheme is somewhat slow, but it can be used as a cryptosystem in the following way: We first adopt the system to the Latin alphabet. Since there are 26 letters, but only 25 cells in a five by five square, one letter must be sacrificed (or we can use e.g. six rows instead of five). Usually the letters I and J are put in the same cell, and treated equally since seldom any ambiguity will arise as to which letter is meant. Here are a typical checkerboard with the Latin alphabet:

	1	2	3	4	5
1	a	b	c	d	e
2	f	g	h	ij	k
3	l	m	n	o	p
4	q	r	s	t	u
5	v	w	x	y	z

To encrypt a text with this crypto, the letters of the cleartext are substituted for two-figure numbers, the first figure of every number telling in which row the cleartext letter stands, and the last figure telling the column. The cleartext Troy has fallen will become 44 42 34 54 - 23 11 43 - 21 11 31 31 15 33 in this checkerboard key.

A number of variants to the key shown above exists. It is possible to use letters to indicate the rows and columns, instead of figures, if one likes. In some cases a different order of the numbers telling the rows and columns, are used, or each row and column is given two figures like this:

	2,6	0,3	1,5	7,9	4,8
6,8	a	b	c	d	e
1,4	f	g	h	ij	k
0,9	l	m	n	o	p
2,7	q	r	s	t	u
3,5	v	w	x	y	z

The user has to choose between one of these two variants, when deciding how to encrypt a certain letter, and it is -of course - possible to choose different cipher numbers for the same letter occuring some place else in the message, thus hiding repetitions, like this:

Message:	T	H	E	B	A	T	T	A	L	I	O	N
Cipher:	7	1	6	8	6	29	79	62	02	17	09	91
	7	5	8	3	6							

	I	S	M	O	V	I	N	G	S	O	U	T	H
	1	2	0	9	3	47	05	10	75	99	24	79	11
	9	1	0	9	2								

Commonly, one would put these numbers together to form standard five-figure groups before transmission, like this:

77156 88366 29796 20217 09911 92100 99324 70510 75992 47911

A nifty checkerboard variant exists, where some of the letters - usually the ones occuring most frequent in the language in question - receives single figure cryptosymbols, and the rest gets two-figure combinations just as above. Lets say the key looks like this:

	7	4	1	0	8	5	2	9	6	3
	A	S	I	N	T	O	E	R		
6	B	C	D	F	G	H	J	K	L	M
3	P	Q	U	V	W	X	Y	Z	.	/

The first row containing letters is formed by the mnemonic phrase A sin to err, with the last r dropped (The phrase happens to contain the eight most frequent letters of English.). Then the rest of the alphabet is listed in order in two rows of ten letters, ending with a period mark and a slash (the slash may be used to separate words when ambiguity would arise if they were written together). The figures in the top row and at the last two positions of the first column, are used as coordinates to refer to a cell in the table, containing the letter to be encrypted. The first row of letters are encrypted as single figures, the second row of letter gets two-figure numbers commencing with the number 6, and the letters of the last row gets two-figure numbers commencing with the number 3. As can be seen by looking at the table, the figures 6 and 3 can not be single-figure numbers, but must commence, or be part of, a two-figure number. Thus, there is no danger involved if one runs the numbers of a cryptogram together as a string, or in five-figure groups. It is always possible to decrypt such a cryptogram without any ambiguity as to which figures are to be read as single-figures, or which figures are to be treated as two-figure numbers. The string:

645636331016478150

can only be divided in one way, thus:

64-5-63-63-31-0-1-64-7-8-1-5-0

By referring to the table above, the cleartext communication is easily derived. As can be seen, only five out of a total of thirteen letters are encrypted as two-figure numbers, thus shortening the cryptogram and the transmission time needed substantially.

The following cryptogram uses the above table, but different order of the coordinates. Try and see if it is breakable; the cleartext is in English, military language:

13492 09610 41763 07431 46918 65737 67721 86111 11581 71559 14176 30710

* Simple Substitution using an Unordered Alphabet
In the systems described so far the normal sequence of the alphabet has been used, but one can of course use an unordered sequence of letters or numbers as cipheralphabet. The classical method uses a keyword to achieve this. Any word or phrase will do, but all repeated letters must be deleted. If the keyword is RAMSES the following cipherkey can be constructed:

```
Clear text:  abcdefghijklmnopqrstuvwxyz
Cipher text: RAMSEBCDFGHIJKLNOPQTUVWXYZ
```

A major drawback of this system, is the fact that towards the end of the alphabet the cleartext letters tend to be encrypted by themselves if the keyword doesn't contain, say, an "X", "Y", or "Z". To counter this the users can agree to start writing the keyword and the rest of the letters, at a different starting position than the letter "A". The starting position can even be varied from message to message, and this information can be hidden somewhere in the cryptogram. For instance, when starting with the keyword under the letter "f", the result will be the following key:

```
Clear text:  abcdefghijklmnopqrstuvwxyz
Cipher text: VWXYZRAMSEBCDFGHIJKLNOPQTU
```

Suppose the starting position is hidden as the third letter of the resulting cryptogram, then the following table will illustrate the use of the above key:

```
Message:  de*sperate needof supplies
Cipher:   YZFKHZJVLZ FZZYGR KNHHCSZK
```

* WORLDWIDE JAM SESSION pt.2 *

In WORLDWIDE JAM SESSION pt.1, I mentioned the 'Backward Music station' as example of a pre-recorded jamming signal. This is not correct. The BM stations no not transmit music. There are however jammers who really do transmit distorted or backward music.

-o-o-o-o-o-o-o-o-o-o-

The VOA has an interesting page about jamming; ''Jamming - a technical response to a political problem'' is the title.

There is a selection of jamming types used against various international broadcast language services. The samples are in RealAudio and Sun format (.ra and .au).

A good explanation of jamming, albeit a bit out of date, is contained in the classic VOA Monitoring presentation called "The Sounds of Jamming." You can hear all 14.5 minutes of it in RA here.

URL: http://voa.his.com/jamming.html

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New book: ''JAMMING'' by Rimantas Pleikys

'Jamming' is a comprehensive, 164-page book about the jamming system of the former Soviet Union and its allies. It includes a historical and technical review from Cuba to North Korea. The book is written in the English language.

The author of the book is fellow dx-er Rimantas Pleikys, former Minister of Communications and Informatics of the Republic of Lithuania. Rimantas is now Member of Parliament of Lithuania.

Price: US$ 14.95 (plus US$ 2.00 for airmail delivery)

Distributor:
Mr. Sigitas Zilionis, P. d. 985, LT-2300 Vilnius, Lithuania.
E-mail: dx@is.lt

A must have for everyone who is interested in the history of jamming. I read the book in one day, which should indicate how much I like it :-)

-o-o-o-o-o-o-o-o-o-o-

Thanks to the dxers who sent me their jammer logs, I was able to compile a list of jammed frequencies in the 4,5 and 6 MHz bands.

Note:
Most of the Lincolnshire Poacher and Cherry Ripe frequencies are jammed from time to time. Some even on a daily basis. The jammer is Iran.

VOA, Voice of Free Asia, Radio Free Europe and Radio Freedom also experience jamming of various Asian language broadcasts. Jammers are China, Tibet, Burma, Vietnam and N.Korea.

VOA's Farsi programs are being jammed by Iran. Cuba jams Radio Marti, Radio Miami and various other stations who transmit Cuban freedom stations.

The Voice of Mojahed operates on many frequencies and is being jammed by Iran. Lots of other clandestine stations are being jammed by various countries. Iran, Iraq and Turkey are jamming a number of Kurdish radio and tv stations.

Freq.	time/date	Jammer type + station being jammed
1566	1750	Bubble. Iran VIRI

```
3840 1000          Reverberator. Vo National Salvation
4120 1000          Reverberator. Vo National Salvation
4418 1700/160498   Chirp2 in ssb mode.
4422 1900          Bubble.
4430 1900          Bubble.
4440 1900          Bubble.
4448 1656/160498   Chirp1 in dsb full carrier. broadcaster
4450 0202/270498   Bubble.
4450 0227/290498   Bubble & Pulser.
4450 1000          Reverberator. Vo National Salvation
4461 0202/270498   Bubble.
4462 1900          Bubble.
4470 0201/270498   Bubble.
4470 1900          Bubble.
4485               Bubble.
4485 0223/260498   Bubble. Music faintly audible
4615 1900          Bubble.
4620 1900          Bubble.
4630 1900          Bubble.
4639 0209/270498   Bubble.
4639 0228/290498   Bubble.
4640 1900          Bubble.
4645               Warble.
4645 0209/270498   Bubble. (same as above)
4645 0220/260498   Bubble. (same as above)
4645 0224/280498   Bubble. (same as above)
4645 0251/240498   Bubble. Tallin ATIS audible - no sign of any cland.
4649 0210/270498   Bubble.
4650 1900          Bubble.
4660               Warble.
4670 1900          Bubble.
4679 0222/260498   Bubble.
4679 0223/280498   Pulser.
4679 1814/150498   Bubble.
4680               Bubble.
4818 1645/160498   Chirp2 (slower chirp) in dsb. broadcaster
4820 1900          Bubble.
4830 1900          Bubble.
4850 0154-0220     Bubble. VO Mojahed
4852 0212/270498   Bubble.
4860               Bubble. cland
4862 1900          Bubble.
4865 0222/280498   Bubble. OM presenter just audible under QRM
4865 0229/290498   Bubble & Pulsers.
4875 0212/270498   Bubble.
4878 1641/160498   Chirp1 in dsb no carrier. broadcaster
4880               Bubble. Mossad
4880 1816/150498   Pulser. Blank AM carrier + Single letter 'V' in CW
4945 1845          Pulse.
5120 1900          Bubble.
5125               Fast bubble.
5130 1900          Bubble.
5142 0214/280498   Bubble.
5160 0214/280498   Bubble. Carrier just detected
5160 0217/260498   Pulser.
5170 0218/260498   Bubble.
5180 0158/270498   Rapid Pulser.
5320 1900          Bubble.
5330 0219/260498   Pulser.
5330 0226/290498   Pulser & Bubble.
5340 0159/270498   Rapid Pulser.
5350               Bubble.
5350 1900          Bubble.
5351               Bubble (not the same as 5350).
5351 0159/270498   Pulser.
5358               Fast bubble.
5361 0200/270498   Bubble.
5370               Bubble. unmodulated AM carrier
```

```
5370 0216/280498  Bubble.
5422              Bubble. YL numbers stn
5617 1900         Bubble.
5618 0201/230498  Bubble. Clandestine OM presenter
5618 0225/290498  Bubble. Causing QRM to Shanwick on 5616 kHz
5620 0157/270498  Bubble. Carrier just audible
5620 0223/290498  Bubble.
5620 0255/240498  Bubble. VO Mojahed
5623 1719/160498  Chirp3 (the "frying canary').
5629 1808/150498  Rapid Pulser.
5630              Fast bubble.
5630 0205/230498  Bubble. VO Mojaed
5630 0211/280498  Bubble. Clandestine just audible with YL presenter
5630 0254/240498  Rapid Pulser.
5636 0216/260498  Bubble.
5640 0209/280498  Bubble. Blank AM Carrier
5640 0230/260498  Bubble. Blank AM Carrier
5640 0233/290498  Bubble. Clandestine clearly heard when off
5642 1900         Bubble.
5647 0211/260498  Bubble.
5648 1708/160498  Chirp1 in dsb. some arabic or farsi broadcaster
5649 1807/150498  Pulser.
5650 0156/270498  Bubble.
5650 0207/280498  Bubble. Clandestine just audible with YL presenter.
5650 0215/260498  Bubble.
5650 0223/290498  Bubble.
5650 0244/240498  Bubble.
5658              Bubble. blocking Bombay aero
5658 0214/260498  Bubble.
5658 1601/160498  Chirp. broadcaster
5660 0206/230498  Bubble. Clandestine - YL presenter
5660 0229/270498  Bubble. carrier just detected
5660 1745         Warble. Cland.? with a marching song and unid language
5668 0243/240498  Rapid Pulser.
5670 0157/230498  Pulser. Clandestine - YL Presenter
5670 0206/280498  Rapid Pulser (same as above).
5670 0223/290498  Rapid Pulser (same as above).
5670 0220         Bubble. VO Mojahed
5670 0253/240498  Bubble. Blank AM Carrier
5670 1647/160498  Bubble.
5670 1806/150498  Bubble.
5678 0242/240498  Bubble.
5678 1707/160498  Chirp1 in double side band.
5679 0212/260498  Bubble.
5680              Bubble.
5680 0149/240498  Bubble and Pulsers.
5680 0150/270498  Bubble.
5680 0201/230498  Bubble.
5680 0203/280498  Bubble. carrier just audible
5680 0203/290498  Bubble. Clandestine very clear OM presenter
5680 1633/270498  Bubble.
5680 1654/260498  Bubble. Iraqi Clandestine?
5720              Wide bubble.
5720 0241/240498  Bubble.
5730 1900         Bubble.
5734 1704/160498  Chirp1 in dsb.
5736 0204/280498  Bubble. AM Carrier detected
5740              Bubble.
5746 1706/160498  Bubble.
5747 0152/270498  Bubble.
5750 0153/270498  Bubble.
5750 0202/230498  Bubble. Clandestine
5750 0222/290498  Bubble.
5750 1707/160498  Bubble. Vo Mohajed
5754 1803/150498  Bubble.
5756 1900         Bubble.
5760 0222/290498  Bubble.
5763 1900         Bubble.
```

```
 5766 0232/260498  Bubble.
 5770 0223/270498  Bubble.
 5770 1804/150498  Bubble.
 5778 0155/270498  Bubble.
 5780 0231/260498  Bubble.
 5783 0221/270498  Bubble.
 6167 1915-1945    Bubble. Vo Mohajed
 6175 1915-1945    Bubble. Vo Mohajed
 6220 0219/280498  Bubble. AM Carrier detected
 6220 0230/290498  Bubble.
 6221 1900         Bubble.
 6230 1900         Bubble.
 6240 0227/260498  Bubble. Blank AM Carrier
 6240 0233/290498  ? Clandestine in clear with Arabic music
 6245 1900         Bubble.
 6250 0217/270498  Bubble. AM Carrier detected
 6250 1900         Bubble.
 6251 0218/280498  Bubble. AM Carrier detected
 6259 2249         ?. La Voz de La Resistencia -CLM-
 6262 1900         Bubble.
 6263 0217/280498  Bubble.
 6270 1915-1945    Bubble. Vo Mohajed
 6955 1900         Bubble.
 7070              Warble/Bubble. Vo the Palestine Islamic Revolution
 8320 1200         Diesel engine room / wind tunnel. Cherry Ripe
 9251 2200         Bubble. Lincolnshire Poacher
 9955              Pulse. Radio Miami jammed by Cuba
 9958 0200-0300    Warble. unid spanish station
11540 1900-2300    Bubble. Radio Kudriat (UDFN)
12056 1200         Diesel engine room / wind tunnel. Cherry Ripe
14487 0900-1700    Bubble. Lincolnshire Poacher
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THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens
106 Anita Drive
Madison, AL 35757-8419, U.S.A.

E-Mail: jdstephens@geocities.com

A light turnout this month, but some nice QSLs nonetheless. Where is YOUR QSL info?? With the ease of E-mail, it only takes a few minutes to type out a few lines and send it in. And for those who don't have E-mail, we still accept submissions the old-fashioned way, via "snail mail". Your fellow WUNers will look forward to hearing from you next month. Thanks to all who contributed to this edition.

Now, it's time for another plea from your trusty column editor; when submitting contributions, please try and follow the format below. Your items don't have to match verbatim, or include the abbreviations. Also, remember to include the additional pertinent data such as frequency, length of time it took to get the QSL, and of course, the all-important verification signer's name (many thanks to all of you who are already sending in the v/s names!). Saves lots of time preparing the column, and it eliminates the need for me to send, and for you to respond to, followup questions about the QSL items....which saves us both time.

Starting with this edition, I will be working on the line lengths and carriage returns to solve the wrap-around problems that have been experienced with the column lately. Eventually, I'll get it worked out. Now, on with the show...

BAHRAIN: A9M - Hamala Radio. 19725 p/d standard Globe Wireless QSL cd.

in 59 ds. after a f/up. V/s: Michael Beck.
Address: Globe Wireless, P.O. Box 1749, Slidell, LA 70452, U.S.A. (JC)

HAWAII: KEJ - Kahalelani Radio. 4200.5 & 12611.5 p/d standard Globe Wireless QSL cd. in 82 ds. after a f/up. V/s: Michael Beck.
Address: Globe Wireless, P.O. Box 1749, Slidell, LA 70452, U.S.A. (JC)

HONG KONG: VRX83 - Cape d'Aguilar Radio. 16821 "Seasons Greetings" QSL folder with three 4x6 excellent color photos of transmitter site received after 52 ds. All details except call sign. V/s: Lui Kam Chuen - Assistant Engineer.
Address: Hongkong Telecom, H.F. Radio Transmitting Stations, P.O. Box 9896, GPO, Hong Kong, China. (JC)

JAPAN: JNA - Maritime Safety Agency, Tokyo, Japan. 4305.5 f/d color QSL cd. w/PFC in 62 ds. V/s: Eitarou Nakamoto - Marine Safety Officer.
Address: Communications Operations Division,
Guard and Rescue Department, MSA. 2-1-3 Kasumigaseki, Chiyoda KU, Tokyo, Japan. (JC)

NEW ZEALAND: ZLA - Awanui Radio. 12580 p/d standard Globe Wireless QSL cd. in 82 ds. after a f/up. V/s: Michael Beck.
Address: Globe Wireless, P.O. Box 1749, Slidell, LA 70452, U.S.A. (JC)

NORWAY: LFI - Rogaland Radio. 8683.5 p/d standard Globe Wireless QSL cd. in 30 ds. V/s: Michael Beck.
Address: Globe Wireless, P.O. Box 1749, Slidell, LA 70452, U.S.A. (JC)

UNITED STATES: KPH - San Francisco Radio. 19683 p/d standard Globe Wireless QSL cd. in 82 ds. after a f/up. V/s: Michael Beck.
Address: Globe Wireless, P.O. Box 1749, Slidell, LA 70452, U.S.A. (JC)

UNITED STATES: WNU33 & WNU45 - Slidell Radio. 8570 & 17117.6 p/d standard Globe Wireless QSL cd. in 3 ds. V/s: Michael Beck.
Address: Globe Wireless, P.O. Box 1749, Slidell, LA 70452, U.S.A. (JC)

UNITED STATES: WOO - Ocean Gate Radio, Manahawkin, New Jersey. 13105 QSL cd. with AT&T logo and black & white drawing of inside and outside of the station, in approximately one month.
V/s: John R. Morgan - Station Manager. (JL)

Abbreviations used:

f/d = Full data p/d = partial data n/d = no data
PFC = Prepared Form Card V/s = Verification Signer ds = days
wks = weeks SASE = self addressed stamped envelope

A hearty thank you to this month's contributors:

Jim Cumbie - Dallas, Texas, U.S.A. (JC)
Jason Lillie - Tulsa, Oklahoma, U.S.A. (JL)

See you next month!!

73 de JDS.

==========

The WUN Logs Column
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Jason Lillie: jslillie@rogersu.edu

==========

Here we are again and as you might have seen from our column header we encountered the dropout of three members of Team Logs during the last 6

weeks which leaves us with only three guys for collecting the logs and editing this column. I urgently ask those of you who are interested to see the logs column alive to step forward and help us out. It is really not a big effort to do this job and the more people we are the easier it gets for all of us.

Those of you who won't or can't volunteer to actively help as a member of Team Logs may help us out by just sticking to the logs format which - as a reminder - I put at the beginning of the logs listing. Thanks!

Even worse, I may have to give up the editorship for this column as well as there may be (German) legal restrictions. I am currently checking on this. If the result is positive, i.e. if it is illegal in Germany to publish certain details of radio transmissions, I would have to stop immediately since for obvious reasons I do not want to be charged.

In the meantime I would like to ask all fellow WUNers to give me an impression on the legal side of our hobby in your country. Plans are to publish the information collected in one of the next WUN Newsletters. Your help would be very much appreciated.

Back to the Logs Column: This month the column appears in a slightly different (improved?) format. I left a separate column for the callsign/identifier of the stations in order to enhance readability. If two or more stations were found on a single frequency you will be able to recognize this by the ">" sign preceeding each comment part for a certain frequency or callsign. Different logs for the same station on a single frequency are separated by an asterisk. Please let me know if you find this of any help or if you would like the old "all in one block"-format back. I think the present structure improves readablity although it covers more space if you print it out. But since we are an electronic media we don't really have much to care about paper.....!?

Now, after this "admin" stuff let us look what our contributors heard on the radio waves during the last four weeks:

FREQ	CALLSIGN	STATION UTC MODE (PARMS) COMMENT (DATE) (INITIALS)
23.4	DHO38:	>Ny Ramsloh 0950 CW quick brown fox test slip. 7/Aug (KB)
111.3	SOA211:	>Warsaw Meteo, POL 1830 RTTY 50 Bd synops. 26/Jul (KB)
129.1	DCF49:	>EFR Mainflingen, D 1825 ASCII 200/340 telecontrol commands with occasional id "DCF49 TEST". 26/Jul (KB)
129.5	SOA212:	>Warsaw Meteo 1350 RTTY 50 Bd upper-level reports (TTBB); not readable during DCF49 data bursts. 6/Aug (KB)
135		>Greek navy Kato Souli 0500 RTTY 75/85 fleet broadcast (01/08/98) (ND2)
136.7	LX1PD:	>Lowfer Beacon Luxemburg 0900 CW / Message: vvv test de lx1pd repeated until 0909 (2/Aug/98) (ANE)
139	DCF39:	>EFR Burg, D 1825 ASCII 200/340 //129.1. 26/Jul (KB)
286		>UNID: 0133 31/Jul 100bps MSK, DGPS info? (MC)
287		>DGPS Koblenz, D RTTY 200/MSK, Id=3D493. Experimental station of "Wasser- und Schiffahrts-verwaltung" (WSV), not listed. 26/Jul (KB)
287.5		>DGPS Hoek van Holland, HOL 1700 RTTY 200/MSK, Id=3D425. Health field used to specify UDRE below 1 m, according to RTCM SC104 Version 2.2 and USCG standard. 26/Jul (KB)
288		>DGPS Faerder, NOR 0015 RTTY 100/MSK, Id=3D810. Type 1 msgs. 15/Jul (KB)
289		>DGPS Hammerodde, DNK 1729 RTTY 100/MSK, Id=3D700. Type 7 msg with info for Wustrow (D) and Hoburg

(SWE). 26/Jul (KB) * 2215 MSK 100BPS Danish dgps modem. Imbedded ID decoded and expected 700. Type 9 messages. (25/Jul) (DW)

289.5 >DGPS Nyhaeshamn, SWE 0015 RTTY 200/MSK, Id=3D468. 15/Jul (KB)

290 >UNID: 0156 31/Jul 100bps MSK, DGPS info? (MC)

291.5 DGPS Oerskaer, SWE 0030 RTTY 200/MSK, Id=3D463. 15/Jul (KB)

293 OB: >Locator Brussel-Zaveltem, BEL 15.13 (Aug 9) CW (AB)

293.5 >DGPS Kullen, SWE 1750 RTTY 200/MSK, Id=3D466. 26/Jul (KB)

294 >DGPS Butt of Lewis, G 0150 RTTY 100/MSK, Id=3D684. 10/Jul (KB)

296 GR: >NDB Goeree light, HOL 14.40 (Aug 9) CW (AB)

296.5 >DGPS Blaavandshuk, DNK 1729 RTTY 100/MSK, Id=3D705. Type 7 msg with info for Helgoland(D) and Lista (NOR). 26/Jul (KB)

298 >DGPS Maentyluoto, FIN 0020 RTTY 200/MSK, Id=3D401. 15/Jul (KB)

>UNID: 0200 31/Jul 100bps MSK, DGPS info? (MC)

299 >DGPS Nash Point, G 0205 RTTY 100/MSK, Id=3D689. 10/Jul (KB)

299.5 >DGPS Ameland, HOL 1730 RTTY 200/MSK, Id=3D428. Health field used to specify UDRE < 1 m according to RTCM SC104 V2.2. 26/Jul (KB)

301 >DGPS Lista, NOR 1740 RTTY 100/MSK, Id=3D783. Poor sync due to long type 1 msgs rather than type 9. 26/Jul (KB)

ER: >NDB Eierland light, HOL 14.21 (Aug 9) CW (AB)

304 >DGPS Latokari Turku, FIN, 0025 RTTY 200/MSK, Id=3D404. 1330 km distance; Sumburgh Head (G) not yet operational. 15/Jul (KB)

305 >DGPS Pt Lynas, G 0130 RTTY 100/MSK, Id=3D682. 18/Jul (KB)

306.5 >DGPS Jaernas, SWE 0015 RTTY 200/MSK, Id=3D462. 15/Jul (KB)

310 >PUNTA ESTACA DE BARES LT 2256 MSK 100BPS Spanish dgps modem. Type 9 messages. In spite poorish sig imbedded ID averaging out at 506. This and Finisterre on trial. Finisterre on 289 khz and listed 506. No ID currently listed for this. (25/Jul) (DW)

313 >DGPS Helgoland (Duene), D 0655 RTTY 200/MSK, Id=3D492. 06/Aug (KB)

314.5 >DGPS Wustrow, D 1820 RTTY 200/MSK, Id=3D491. 26/Jul (KB)

326 LLS: >NDB Lelystad, HOL 14.20 (Aug 9) CW (AB)

327 MVC: >NDB Merville, F 14.43 (Aug 9) CW (AB)

332 NV: >Locator Amsterdam, HOL 14.45 (Aug 9) CW (AB)

336.5 NIK: >NDB Nicky, BEL 14.32 (Aug 9) CW (AB)

350.5 ROT: >NDB Rotterdam, HOL 14.31 (Aug 9) CW (AB)

352.5 DD: >NDB Oostende light, BEL 15.00 (Aug 9) CW (AB)

356 SJ: >San Angelo, TX 1119 CW. (25/Jul) (DW2)

360.5 MAK: >NDB Mackel, BEL 14.23 (Aug 9) CW (AB)

363 RNB: >NDB, Millville NJ 0134 31/Jul MCW, "RNB" every 5 seconds (MC)

365 FT: >Fort Worth, TX 1117 CW. (25/Jul) (DW2)

369 PS: >Locator Heenvliet (Rotterdam), HOL 14.27 (Aug 9) CW (AB)

376 WP: >Locator Amsterdam, HOL 14.33 (Aug 9) CW (AB)

386 STD: >NDB Stad-aan-het-Haringvliet, HOL 14.25 (Aug 9) CW (AB)

387 ING: >NDB St.Inglevert, F 14.25 (Aug 9) CW (AB)

388 NPP: >NDB, 0153 31/Jul MCW, "NPP" every 5 seconds (MC)

388.5 CH: >Locator Amsterdam, HOL 14.30 (Aug 9) CW (AB)

393 DEN: >NDB Dendermonde, BEL 15.02 (Aug 9) CW (AB)

395 OA: >Locator Amsterdam, HOL 14.35 (Aug 9) CW (AB)

399.5	ONO:	>NDB Oostende, BEL 14.37 (Aug 9) CW (AB)
404	MRV:	>NDB Merville, F 14.38 (Aug 9) CW (AB)
404.5	RR:	>NDB Rotterdam, HOL 14.38 (Aug 9) CW (AB)
414.3	BC:	>NDB, 0205 31/Jul CW, "BC" every 10s (MC)
444.5	PCH:	>Scheveningen Radio, HOL 14.52 (Aug 9) CW Tfc list (AB)
447.5	LGQ:	>Rogaland Radio, NOR 14.28 (Aug 9) CW Wx forecast (AB)
2187.5		>GMDSS ALERT CHANNEL 2210 (18/Jul) DSC 100/170 67 packets in 7 hrs. No distress/urgency alerts but 46 illegal packets. (19/Jul) (DW)
2500	WWV:	>NIST, Fort Collins 0416 AM //5000/10000/15000// (26/Jul) (DW2)
2670	NMF2:	>USCG Group Woods Hole 0410 USB w/MIB. Signal was weak but readable. (26/Jul) (DW2)
	NMQ27:	>USCG Group Los Angeles 0503 USB w/MIB. (19/Jul) (DW2)
2989	IPPOKRATIS:	>Kos Airport, Greece 1710 USB / Contact with Athens, reporting damaged antennas (2/8/1998) (ND2)
3195	R:	>Ny Ustinov, RUS 1935 CW single letter R. 6/Aug (KB)
3270		>MOSSAD NO. STN. (E10) 1915 AM 2/aug KPA2 // 4665, 5230 (JRU)
3322	R:	>Ny Ustinov, RUS 1945 CW single letter R. 9/Aug (KB)
3338.9	L:	>Ny St. Petersburg, RUS 1830 CW single letter L, funny =bleep-bleep sound. 6/Aug (KB)
3410		>M17 numbers station, 20.30 (July 27) CW 66128 dots 27 27 5FG VA (AB)
3417		>MOSSAD NO. STN. (E10) 1849 AM 2/aug ongoing msg (JRU) * 1902 AM 2/aug ART2 (JRU)
3521	OSCAR KILO:	>('6_EOK') unid Spanish Military 2010 USB wkg FR, 2210 wkg RE. RE heard on 5826 kHz in 7/97 wkg TR with pp to 'Andalucia' (ALF)
3772	P:	>Ny Kaliningrad, RUS 1922 CW single letter P. 10/Aug (KB)
3840		>MOSSAD NO. STN. (E10) 1833 AM 2/aug YHF msg, groups 84, hebraeic intonation, // 3150, another msg. (61 groups) from 1847 (JRU)
3910		>M17 numbers station, 20.50 (July 27) CW 66128 dots 27 27 = 5FG VA. Repeat of 20.30 UTC (AB)
4002	YRR4:	>Bucarest Meteo 1900 RTTY 50 Bd sfc data Romania. 6/Aug (KB)
4024		>M51 numbers station, F 22.09 (July 27) CW NR 77 J 28 00:09:19 1998 BT + 5LG. Busy as ever (AB)
4025		>M51 numbers station, F 22.09 (July 27) CW NR 77 J 28 00:09:19 1998 BT 5LG. Busy as ever (AB)
4028	ZBMH:	>Czech border patrol, CZE 18.00 (Aug 9) BAUDOT 50bd Every 15 min RY + c/s (ZBMH, JDP7, SL8W or T7FM) (AB)
4030		>M51 numbers station, 18.50 (Aug 13) CW 5LG's (AB)
4031	P:	>Ny Kaliningrad, RUS 1920 CW single letter P. 10/Aug (KB)
4041		>UNID: Transmitted only 3 mins, 19.40 (Aug 5) CW Message TETINSITEEAEMNL. Over and over again (AB)
4042.4		>Dashless morse station, 22.10 (Aug 3) CW Unid station transmitting groups of dots (AB)
4154	69OSB:	>UNID 0518 rtty 100/R/850 Marker "p 67YTR de 69OSB sinclas sic svc qbf figs ry's int zbz". Occ working/attempting work ? another stn but poor copy. "tr de sb int qrv k k k k " (3/Aug) (DW)
4168		>Italian navy Augusta, I 22.59 (July 18) USB ABJ w/ICB in USB, 75bd RTTY on 4169 kHz (AB)
4253	TAH:	>ISTANBUL R. 2043 CW 11/aug channel marker. (JRU)
4261	9BDK:	>UNID 1940 CW. Sending five fig groups. Then calls "5ZLM de 9BDK qtc" and similar tfc but at much

higher speed. (10/Aug) (DW)

EBA: >SN MADRID 1945 CW. Navarea III warnings. (10/Aug) (DW)

4271 CFH: >Canadian Forces, Halifax 0154 25/Jul 75bd/850 Baudot, "rys cfh halifax cfh halifax" tape and freq list (MC)

4274 GKB2: >PORTISHEAD R. 2041 CW 11/aug channel marker (JRU)

HPP: >Panama Radio 0418 CW V/CQ marker. 1/Aug (JRC)

4283 XSV: >TIANJIN RADIO 2021 CW. Marker "cq de XSV qru? qsx 4 8 and 12 mhz bk k".(10/Aug) (DW)

ZSJ2: >SAN SILVERMINE 2148 CW. Marker "cq de ZSJ qsx amver ch 3/4/9/10 ans 4/6/8 ar k" (9/Aug) (DW)

4308 WNU41: >Slidell Radio, L 0940 CW CQ marker. 1/Aug (JRC)

4325.9 R: >Ny Ustinov, RUS 2005 CW single letter R. 9/Aug (KB)

4339 LFI: >ROGALAND RADIO 0617 CW. Chan free marker (Globe) "LFI" (24/Jul) (DW)

4372 GIANT KILLER: >USN FACSFAC Virginia Capes Fleet Area Control & Surveillance Facility 0227 USB wkg 3ER, 9YH, 3A, other trigraphs w/link-11 coordination. (RB)

4426 NMN: >USCG CAMSLANT 0349 USB w/offshore wx broadcast. //6501/8764// (26/Jul) (DW2)

4460 >Mossad, ISR 20.00 (July 27) AM FTJ2 broadcast (AB)

4463 >MOSSAD NO. STN. (E10) 1904 AM 2/aug ongoing msg. (JRU)

4465 DPQT: >UNID: -very often reported-, 21.40 (July 26) CW 5LG's (AB)

4474 >UNID: German OMs 1206 USB chat (SD)

4483 >WESTERNPORT SAFETY COUNCIL: 0650 USB calling VJ4626 (ATTILA II) with no joy (SD)

VZX: >PENTA COMSTAT 0638 UTC USB with coastal sked and posn reports for

Atara (21 36S 150 13E)
Billy Boy II (Whitehaven Beach, Qld)
Bright Morning Star (22 19S 150 37E)
Brindabella (31 26S 152 58E)
Caribbean Blue (Mooloolabah, Qld)
Challenge Again (27 31S 153 38E)
Class Action (32 50S 152 09E)
Dictator (31 12S 153 02E)
Dixie Chicken (27 51S 153 33E)
Eagle One (29 24S 153 26E)
Eagle Rock (Roslyn Bay, Qld)
Eclipse (20M SE Great Keppel Is, Qld)
Fantasy II (Thomas Is, Qld)
Far Horizons (30 47S 153 09E)
Fire Tool (33 26S 152 25E)
First Light (Coffs Harbour, NSW)
Janaway (31 21S 153 03E)
Kidnap (24 06S 151 51E)
Lady Penryn (no response)
Loki (Brampton Is, Qld)
Marchioness (Brampton Is, Qld)
Morning Mist II (Middle Percy Is, Qld)
Oasis (Big Woody Is, Qld)
Orient Express (no response)
Penallen (Roslyn Bay, Qld)
Phar Lap (22 39S 150 50E)
Rosenkavalier (Great Palm Is, Qld)
Sea Fever II (enroute Great Keppel Is, Qld)
Shirley (24 25S 153 20)
St Anna (no response)
Wild Swan (Townsville, Qld)
Wild Thing (22 12S 150 37E)
Wycinda (Pancake Ck, Qld) (SD)

4501 >UNID: 21.18 (July 26) CW transmits time in hh.mm format. UTC+4 (AB)

4524.6	SUU36:	>Cairo Meteo 1845 FAX 120/576 LSB, unid analysis chart, severe multipath distortion. 6/Aug (KB)
4562.4	BANNER:	>wkg LIMA, GOLF, and others re: link-11 comms. 0516z 1Jul (JJ)
4574	X-RAY 41:	>calling HOTEL YANKEE 5 New Zealand Army net 0720 UTC USB (24/July) having no joy contacting HOTEL YANKEE 5, going through a list of CH# designators mentioned 26 ALPHA & SIERRA CHARLIE TANGO (IJ)
4596		>UNID: Russian Navy, 0214 10/Jul 36bd/200 BEE, idle (MC)
4610	GFA22:	>BRACKNELL MET 1541 FAX 120/288/N/800 Surface analysis for 1200z. N/Atlantic and Europe. (2/Jul) (DW)
4665		>MOSSAD NO. STN. (E10) 1817 AM 2/aug KPA2 (JRU)
4675	DLH 459:	>0419 8/14 clg Montreal, no joy, got Baffin instead, position, told to call Montreal Center next on VHF. (AR3)
4739	CFH:	>Halifax Military, NS, CAN 0052 USB att to work ?-FOXTROT 14, who had been clg BLUESTAR. (RB)
4740		>M17 numbers station, 21.10 (July 27) CW 66128 dots 27 27 = 5FG VA. Repeat of 20.30 UTC (AB)
4742	ARCHITECT:	>RAF London 0100 USB w/H+00 QNH broadcast. (RB)
4880		>MOSSAD NO. STN. (E10) 1818 AM 2/aug ongoing msg. (JRU)
4905		>M1A numbers station, 20.00 (July 28) CW id 025. Unexpected end of the month transmission (AB)
4997	CFH:	>Canadian Forces, Halifax 0224 30/Jul 75bd/850 Baudot, "naws de cfh zkr f1" marker (badly distorted TX) (MC)
5002		>Ticking station, 1947 (Aug 5) MODEUNID: Transmits groups of ticks/clicks. Weird! (AB)
5028		>M10 numbers station, 21.00 (July 27) CW 555x3 783x3 32 961x3 50 (AB)
5038	FDY:	>FAF Orleans, F 0950 rtty/50 (slow rtty) test de fdy voyez le brick... 30 Jul (WP3) * 2205 (July 25) BAUDOT 50bd Test tape (AB) * 1853 ITA2 50/368 FAF with RY's, LE BRICK etc. (PT)
5040	FDG:	>0755 rtty 50 test de fdg rulscolt de fdg voyez le... ryryryry test de fdg 12 Aug (WP3)
5046		>The Counting Station 0000 AM 3/2 D numbers YL EE. 23/Jul (WCA)
		>UNID: 0808 rtty 50: r1 1007 qtc k 1 50 12 1007 = 326 t6jc then 5f hand typed 12 Aug (WP3)
5091	JSR:	>Mossad (E10): 2033 UTC USB numbers station with msg JSR (SD) * 2100 (July 26) AM JSR2 broadcast (AB)
5100	AXM31:	>MELBOURNE MET 0610 FAX Weak chart in noise. (20/Jul) (DW)
5102		>UNID: Commercial Station Australia 0635 UTC USB (24/JULY) 2 Oms with a general chit-chat (IJ)
5110		>UNID: Australian net: 0731 UTC USB with 4R0 MOBILE calling BASE with no joy (SD)
	FDG:	>FAF Bordeaux, F 1328 RTTY 50/425/R ry. 24/Jul (ALF)
5106.4		>UNID: 1410 USB, a man in RR. Sentences contain lots of figures (sounds similar to a Volmet) 01/Aug (MB3).
5116	VLR:	>School of the Air Longreach QLD, Australia 0800 UTC USB with 2 YLs talking about fund raising (11/August) (IJ)
5122		>UNID: 22.00 (July 25) RTTY ALE + high-speed data (AB)
5126.3		>UNID: Australian fishing net: 0204 USB with some colourful language (SD)
5154	C:	>Ny Moscow, RUS 1755 CW single letter C. 6/Aug (KB)
5160		>TELSTRA Sydney Skycomm NSW, Australia & QANTAS 142 0650 UTC USB with a PP to Qantas Control

(29/July) (IJ)

5153.8 P: >Ny Kaliningrad, RUS 1755 CW single letter P. 6/Aug (KB)

5178 >Backward Music station, 21.49 (Aug 3) TONES not // with 6695 and 6753 kHz (AB) * 2207 (July 25) (AB) * 2257 (July 18) same signal strength as 6753 kHz (AB)

5213 FDI8: >1056 cw vvv vvv vvv de fdi8 fdi8 fdi8 ar 11 Aug (WP3)

5219 >UNID: 0049 18/Jul 75bd/170 FSK UNID System, sync, cont, ACF=0 (MC) * UNID: 0443 UNID: 75/160 M7000/C3G Unable decode. //5221 Clues anyWUN? 11/Aug (RH2)

5227 VLH: >School of Distance Education, Charters Towers Qld: 2306 USB with YL reading "Goldilocks and the Three Bears" (SD)

5230 KPA2: >Mossad No. Stn. E10 1818 AM 23/july KPA2 (JRU) * 0219, USB, KPA2 (Marker - Female, EE - OTA 0220Z Wed) (LBJ) * 0219, USB, KPA2 (Marker - Female, EE OTA 0220Z -Wed) (LBJ)

5245 MR095: >clg MRV92 1848 USB for radio check "very weak, try again". [Air Training Corps Tournament] (DT)

MRC01: >RAF Cadets, G 10.04 (July 26) USB stations on-line: MRB01, MRC01, MRV20, MRH19, MRC28, MRU18, MRL47, MRV92 (maintaining flightwatch for RT98) (AB) * Royal Tournament London, G 10.48 (July 26) USB w/Speedbird 84 because MRV92 had antenna problems (AB)

MRQ55: >clg MRV92 1730 USB - no reply. (DT)

MRU18: >clg MRV92 1730 USB for radio check "weak but readible". (DT)

MRV92: >Royal Tournament London, G clg MRV95 1722 USB for radio check. Both stations very weak with each other, "very difficult to maintain contact". (DT) * 1924 (July 25) USB w/AMM (Air 2000), G-OBWE (BWA), MRL47 (AB) * 1946 (July 22) USB w/MRU18, MRA01, MRQ30 (AB)

RV1F: >1237 USB, (who seems to be net ctrl) exchanging signal reports with stations 2Q02 P2QJ T083 P08Q 40A6 PS8K 7ADL and others (I missed a few) 01/Aug (MB3).

5264 >UNID. Australian commercial net: 0207 USB with OM telling other station that he is just leaving Dubbo, N.S.W. (SD)

5270 >UNID: French Polynesia Stations 0640 UTC USB (24/July) with 2 Oms in FF (IJ)

5275 95 INDIA: >NZL Army Net 0720 USB calling ALPHA 8 HOTEL no contact change to CH# INDIA ZULU 4 (IJ) * 0610 UTC USB (24/July) w/radio checks asked each other if they were using dipole or whip antennas, mentioned something about deployment and some of the units were mobile. Also gave out CH# designators SIERRA OSCAR ALPHA & PAPA 4 LIMA (IJ)

A8H: >New Zealand Army net 0610 UTC USB (24/July) with radio checks (IJ)

AN3: >New Zealand Army net 0610 UTC USB (24/July) with radio checks (IJ)

DRY: >New Zealand Army net 0610 UTC USB (24/July) with radio checks (IJ)

5278 >M1A numbers station, 18.00 (July 28) CW id 025. Unexpected end of the month transmission (AB)

5293 >UNID: (France??) 22.00 ITA2 50/229 Sends RY's and LE BRICK then sits on MARK all night.(PT)

>UNID: Commercial Station New Zealand 0445 UTC USB (2/July) with 2 OMs. One of them was mobile just south of Taumaranui in the Central North Island, he was setting up pumps in the area because of flooding. (IJ)

5294.5	GOLF 20:	>(FAG20) FA Metz, F 1305 USB sx wkg FAG48 'GOLF 48': unid FA unit. 23/Jul (ALF)
5322		>UNID: 0234 81-81 81/175 w/encrypted tfc. (20/Jul) (DW2)
5335	10:	>New Zealand Army net 2100 UTC USB (22/July) mentioned about getting in contact with the STARLIGHT element (IJ)
	20:	>New Zealand Army net 0405 UTC USB with 20 advising he's using a longwire antenna (28/July) (IJ)
	ZERO ALPHA:	>New Zealand Army net 0405 UTC USB with 20 advising he's using a longwire antenna (28/July) (IJ) * 2100 UTC USB (22/July) mentioned about getting in contact with the STARLIGHT element (IJ)
5340		>UNID: NATO Mil, 0050 24/Jul 75bd/850 FSK UNID System, Revs, "vmgtcnjbh" lead-in, ACF=0 tfc, revs (MC)
5357.6		>UNID: 1135 rtty/100 Channel F8 wx in the clear in german 11 Aug (WP3)
5363	2U:	>French Military 1315 CW wkg 04? open FF txt. 23/Jul (ALF)
5365		>S6 Russian Man, RUS 21.00 (July 26) AM 826 00000 (AB)
5383	ZKCT:	>Civil Defence Palmerston North Central Zone HQ New Zealand 2115 UTC (8/July) with announcements that the national telephone system had failed for the South-west region of the Lower North Island and emergency calls were also affected (IJ)
5383.5	K7J:	>RN vessel 1250 USB Alligator co-ord; K7J is also on 5178 kHz wkg Buchan for radar-tracking. 22/JUN (JD2)
5385	HY5:	>(c/s phonetic) 0320 UTC USB (24/July) sending ALE bursts and coordinating 75 Bd CRATT link were having synch & RX problems (IJ)
5391	V:	>RUS Ny Tashkent, UZB 1755 CW single letter V. 6/Aug (KB)
5395	31:	>New Zealand Army net 2115 UTC USB with no contact you are weak & fading (12/August) (IJ)
	8IL:	>New Zealand Army net 0155 UTC USB (26/July) with ALE Bursts and all units return to SSB designator LAK & establish comms with D39 (This freq was Designator CH# 355) (IJ)
	95:	>New Zealand Army net 2115 UTC USB with no contact you are weak & fading (12/August) (IJ)
	BVM:	>New Zealand Army net 0155 UTC USB (26/July) with ALE Bursts and all units return to SSB designator LAK & establish comms with D39 (IJ)
	X-RAY41:	>0320 UTC USB (24/July) sending ALE bursts and coordinating 75 Bd CRATT link were having synch & RX problems. X-RAY 41 made a request for SUNRAY to allow him to get some spare parts and an new balun for the antenna (IJ)
5397.1	HY5:	>New Zealand Army 0330 UTC RTTY 75 Bd/850 24/July) with TESTING THE QUICK BROWN FOX... INT ZBZ KKK MHXRXIOUUCG J5! ZFEMSKRSNPEHJAT MWA ;2HF 5"53/7)403')"99'VZCZCGM BTTUZHUW RZYRAT 0000 PPPPPPAUUUU RZXMV ZNR UUU ZBZ5 0000 NNNN (IJ)
5414.5		>UNID: 0051 24/Jul 50bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
5427	VJQ727:	>Capricornian School of Distance Education, Emerald Qld: 0209 USB with YL conducting grammar lesson (SD) * 0555 UTC USB (24/JULY) with YL reading a story (IJ)
5428		>M12 numbers stations, 19.00 (July 26) CW 941 000 (AB)
5435	ART:	>Mossad (E10): 2032 UTC USB numbers station with msg ART (SD)

5436	7UP:	>Army/Police net Fiji 0835 UTC USB (24/July) OM in EE & Fijian with Discontent has broken out between the local and college students about school maintenance. Also mentioned about sending msgs to our station commander. (IJ)
	QR:	>Army/Police net Fiji 0835 UTC USB (24/July) (IJ)
		>UNID: 0104 24/Jul 110bd/1350 FSK UNID System, short burst each 20s after 5436.2kHz (MC)
		>UNID: Station Suva Fiji 0530 UTC USB (16/July) with OM in Fijian mentioned something about a gas cylinder (IJ)
5436.2		>UNID: 0104 24/Jul 110bd/1350 FSK UNID System, short burst each 20s (MC)
5450		>RAF Volmet UK 0445 UTC USB (16/July) OM with WX forecasts (excellent propogation the signal was a steady S-9 on the meter) (IJ)
5472		>M45 numbers station, 17.03 (July 28) CW 074 (R4) 296 296 296 46 46 == 5FG (AB)
5476		>UNID: 1903 CW, 'V's for 2 min. then off air. 01/Aug (MB3)
5517		>Cairo aero: 2030 USB, passing tfc information to Khartoum: SBZ 016, a B707 enrt CAI-FZQA, FL290, SML @2119 01/Aug (MB3)
5526		>UNID: 1940 LSB, 2 m chatting in FF. Pirates? 01/Aug (MB3)
5530	MIW2:	>Mossad (E10): 2016 UTC USB numbers station with null msg MIW2 (SD) * MOSSAD NO. STN. (E10) 1919 AM 2/aug MIW2 (JRU)
5536		>UNID: 1914 USB, 2 strong m in RR w/bad audio 01/Aug (MB3)
5550	TRIAINA:	>Greek AF, 353 Moira 1950 USB / working TRIAINA-441 (P3B Orion airplane) (13/Aug/98) (ND2)
	TWA33:	>0325 USB wkg New York, KATHY/0323 F390 CHAMP/0337 BERGH. 18/Jul (RB)
5580		>UNID: 1937 USB(?), encrypted voice comms. 01/Aug (MB3)
5589		>ElAl Tel-a-Viv: 2142 UWSB, (sel)calling unid flt 01/Aug (MB3)
5598		>Gander 0259 USB clg RC70448, no joy. 18/Jul (RB)
	?-017:	>0606 USB wkg SANTA MARIA w/posrep: 45N20W/0600 F290 48N15W/0624. 24/Jul (RB)
	?-1511:	>0019 USB wkg Gander, 36N60W/0053 F330 32N50W/ selcal ck DF-AJ. 18/Jul (RB)
	?-2054:	>0331 USB wkg Gander, 54N40W/0327 F350 44N30W/0417 40N20W. 18/Jul (RB)
	?-842:	>0519 USB wkg Gander w/posrep: 56N30W/0518 F280 54N40W/0606 51N50W/ fuel 70.0. 24/Jul (RB)
	?-8800:	>0602 USB wkg Gander w/posrep: 54N40W/0550 F330 54N30W/0627 54N20W/ fuel 73.0. 24/Jul (RB)
	AEA1118:	>0040 wkg Gander, 48N40W/0035 F370 47N30W/0122 46N24W. 18/Jul (RB)
	AIR-?:	>248 0633 USB wkg Shanwick w/posrep: 46N30W/0631 F330 43N20W/0722 fuel 56.6. 24/Jul (RB)
	CFG197:	>0612 USB wkg Gander w/selcal ck LM-BR. 24/Jul (RB)
	COA248:	>0557 USB wkg Gander w/selcal ck EK-JM. 24/Jul (RB)
	COA62:	>0556 USB wkg SHANWICK w/Selcal ck GJ-AF. 24/Jul (RB)
	CUB442:	>0315 USB wkg Gnader, 46N40W/0330 F350 47N30W/0346 48N20W. 18/Jul (RB)
	DAL64:	>0212 USB wkg Gander, 51N40W/0209 F370 52N30W/0253 52N20W/ fuel 63.9. 18/Jul (RB)
	DAL96:	>0112 USB wkg Gander, 48N40W/0107 F370 49N30W/0154 49N20W. 18/Jul (RB)
	IBE1023:	>0314 USB wkg Gander, 38N40W/0252 F320 40N30W/0344 48N20W. 18/Jul (RB)
	KLM626:	>0619 USB wkg Gander w/posrep: 54N40W/0616 F360

		54N30W/0654 54N20W/, selcal ck AG-RS (MD-11 reg. PH-KCH). 24/Jul (RB)
	KLM785:	>0556 USB wkg SANTA MARIA w/posrep: 43N30W/0548 F350 45N23W/0623 46N20W. 24/Jul (RB)
	LEU?-2909:	>0553 wkg Gander w/posrep: 50N40W/0532 F370 50N30W/0612 50N20W. 24/Jul (RB)
	LPU911:	>0209 USB wkg Gander, 46N40W/0207 F350 48N30W/0256 49N20W. 18/Jul (RB) [LTU.911.? - LOGS]
	LTU911:	>0305 USB wkg Shanwick, 48N30W/0256 49N20W/0348 45N15W. 18/Jul (RB)
	MPH644:	>0618 USB wkg Gander w/posrep: 54N40W/0612 F330 54N30W/0651 54N20W/, selcal ck AR-LM. 24/Jul (RB)
	SVA021:	>0624 USB wkg Gander w/posrep: 46N30W/0619 F340 45N40W/0714 45N50W/ fuel 58.6, selcal ck CF-BM. 24/Jul (RB) * 0627 USB wkg Gander w/selcal ck CF-GM. 24/Jul (RB)
	TSC248:	>0635 USB wkg Gander w/selcal ck EK-JM (L-101 reg. C-GTSZ). 24/Jul (RB)
	UAL914:	>0115 USB wkg Gander, 51N40W/0112 F370 52N20W/0156 52N20W/ fuel 72.4. 18/Jul (RB)
	UAL970:	>0208 USB wkg Gander, 49N40W/0201 F370 50N30W/0248 50N20W/ fuel 54.9. 18/Jul (RB)
5610	GXK:	>Portishead Radio 2144 USB wkg Jetset 508. 01/Aug (MB3)
5616	DAL?-36:	>0254 USB wkg Gander w/selcal ck EF-AH. 18/Jul (RB)
	DAL134:	>0301 USB wkg Gander 51N40W/0259 F330 52N30W/0344 52N20W/ fuel 58.8 (missed selcal). 18/Jul (RB)
	DAL20:	>0258 USB wkg Gander 51N40W/0256 F350 52N30W/0339 52N20W/ fuel 90.8. 18/Jul (RB)
5643		>Auckland Aeradio New Zealand & SAM 27000 1040 UTC USB SAM 27000 reported at FL330 just departed New Zealand after US Secretary of States 9 hr visit to Auckland (1/August) (IJ)
	QANTAS 42:	>0211 USB calling BRISBANE with position report and advised to contact AUCKLAND at Ogibo (SD)
5653	8N:	>UNID: greek navy ship 0619 USB / calling I4 (01/08/98) (ND2)
	FE:	>UNID: unknown greek navy ship 0401 USB / calling 25JU (Naftiki Dioikisi Aigaioy) (30/07/98) (ND2)
5655		>THE THREE NOTE ODDITY (ENIGMA G4) 2035 AM 9/aug with german YL 5 fg. sig was 58 (JRU)
5658		>Kabul Aero: 1927 USB wkg a KLM flight @ FL370. 01/Aug (MB3) * Kabul, USB, wkg KLM878 with posn reports (HK)
5680		>Kinloss Rescue, G 6.40 (July 19) USB w/Alpine 24. Wx (AB) * Kinloss Rescue, G 7.03 (July 30) USB w/Alpha 91 (AB)
		>Taupo Search Base with Team 1,2,3,4,7,8,9 & 11 New Zealand 2230 UTC USB (14/July) carrying out a grid search, trying to home into a volley of signal shots from a pair of missing hunters in the bush. (IJ)
5685	Alfa Bravo:	>UNID: 1044 USB (poss. an aircraft) clg "San Martina" (? sounds like) in Italian; no joy. (MB3)
5687	DHM91:	>GAF Muenster, D 1920 USB, keeps calling 'German Air Force 322' but gets no reply 01/Aug (MB3) * 1120 USB wkg 50-47 (GAF Transall a/c), s/c GK-BP, id as: '91'. Coord. fr RTTY. 5687 is channel ECHO. 23/Jul (ALF)
	DHO23:	>GAF Landsberg, D 1231 USB wkg DHM91 '91', id as: '23'. 22/Jul (ALF)
	DHO32:	>GAF Wunstorf, D 1345 USB wkg DHM91 '91', id as: '32'. 23/Jul (ALF)
	DHO60:	>GAF Hohn, D 1348 USB wkg DHM91 '91', id as: '60'. 23/Jul (ALF)
	NI81:	>GAF Piacenza, I 1132 USB wkg DHM91 '91', id as:

		'81'. 22/Jul (ALF)
	ZKX:	>RNZAF Auckland & IROQUOIS 309 0430 UTC USB (27/July) with IROQUOIS 309 overhead Waiouru (main army base) completed SAR role (IJ)
5696	2140:	>USCG HU-25C 1059 USB wkg CAMSLANT. "We are on final approach to Air Station Miami, request you secure my radio guard." (25/Jul) (DW2)
	6026:	>0759 USB wkg CAMSLANT w/flight ops and postion: 2710N 07511W. (21/Jul). (DW2)
	6029:	>HH-60J 0944 USB wkg COMSTA Kodiak w/flight ops and position. (22/Jul) (DW2)
	63A:	>poss USCG HH-65A #6563 1038 USB wkg CAMSLANT w/"flight ops normal." (24/Jul) (DW2)
	60036 Heavy:	>prob USAF aircraft 0950 USB clg CAMSPAC for rdo chk. (22/Jul) (DW2)
	Rescue 1503:	>USCG HC-130H 1103 USB wkg CAMSLANT w/flight ops and position (20/Jul) (DW2)
	Rescue 6031:	>0945 USB wkg CAMSLANT w/Flight Ops Normal, position: 3653N 07552W. (31/Jul) (DW2)
	Y2Q:	>1050 USB w/CAMSLANT. (28/Jul) (DW2)
5707		>UNID: NATO Mil, 0200 10/Jul 75bd/850 FSK UNID System, revs, "vmgtcnjbh" lead-in, ACF=0 tfc, revs (MC)
5716.4		>UNID: 0320 TWINPLEX weak, kept breaking synch. (RB)
5748		>UNID 1956 CW. Tfc in offline encrypt with accentuated letters. Handkeyed. (4/Aug) (DW)
5755		>THE THREE NOTE ODDITY (ENIGMA G4) 2005 AM 9/aug german, YL with 5fg, starts 67890 13248 ..... strngth 57, tx switched to 5655 at 2019. (JRU)
5804	VJQ727:	>Capricornian School of Distance Education, Emerald Qld: 0214 USB with YL conducting geometry lesson (SD)
5806.6	ZLKF:	>Auckland Meteo New Zealand 2230 UTC CW (8/July) with WX Synopsis & gale warnings (IJ)
5812		>M1B numbers station, 20.10 (July 27) CW 729 682 682 65 65 == (AB)
5816	JZG6:	>UNID: tactical 1145 RTTY 50/425/R dx, 5 FGS QTCs to V2GT, cfm-tfc, using CEST time. 28/Jul (ALF)
5820		>MOSSAD NO. STN. (E10) 1822 2/aug ongoing msg. (JRU)
5832.4		>UNID: 1148 rtty/100 Channel F9 qsy from F8 11 Aug (WP3)
5853	VLH:	>School of Distance Education, Charters Towers Qld: 2306 USB with YL conducting dental hygiene lesson (SD)
5857.5		>SEOUL MET (HLL8) ? 2041 FAX Just audible and dead zone just visible thru noise. (4/Aug) (DW)
5859		>UNID: 1155 rtty/100 channel F10 qsy from F9 11 Aug (WP3)
5887.5	IMB2:	>Rome METEO Italy 0415 UTC RTTY 50 Bd/850 with WX synopsis (4/August) (IJ)
6215		>NEA ARTAKI: 0729 USB calling MELBOURNE RADIO (VIM) advising his departure from St Helens, Tasmania with 2 pax on board (SD)
6264.5	NRCB:	>USCGC Eagle (WIX-327) 0355 ARQ USCG training 3-masted 'barque', "America's Tall Ship" wkg CAMSLANT, NMN, w/request they send nx items by sitor. (RB)
6283		>M1B numbers station, 1723 (July 28) CW 382 (R4) 214 214 214 44 44 == 5FG (AB) * 1923 (July 30) CW 382 (R4) 214 214 44 44 == 5FG (AB)
6290		>M17 numbers station, 1920 (July 28) CW 58282 (R4) dots 25 25 = 5FG (AB)
6312		>GMDSS ALERT CHANNEL 2325 (25/Jul) DSC 100/170 8 packets in 6.5 hrs. No distress/urgency alerts. 3 illegals. (26/Jul) (DW)
6337	CBV:	>Playa Ancha Zonal Radio 0154 CW V mkr. 25/Jul

(JRC) * CW V mkr 0154 25/July (JRC)

6355 ZSJ: >Ny Capetown 0150 CW CQ marker. 25/Jul (JRC)

6358 PBC: >DN Goerree 1458 rtty 75/850 carb 20 Jul (WP3)

6361.5 >UNID: 1600 rtty/75 online encr. 20 Jul (WP3)

6362.2 MGJ: >RN Faslane 1602 rtty/75 ende 1604 carb msg 20 Jul (WP3)

6382 TBA6: >TN Ankara 1552 cw vvv vvv vvv tbdj tbdj de tba6 tba6 tba6 qap qap qap 20 Jul (WP3)

6416 4XZ: >Ny Haifa, ISR 0156 CW V marker. 25/Jul (JRC)

7TF4: >Boufarik Radio, ALG 0131 CW CQ mkr "7TF". 25/Jul (JRC)

6446 >Murmansk Meteo, RUS 1845 FAX 120/576 LSB chart Labrador Sea to Barents Sea. Scan w/poor resol. and 55 ppm too fast. 31/Jul (KB)

6458.5 >AFN/AFRTS Puerto Rico 0405 UTC USB with announcements (8/August) (IJ) * 0343 USB //12689.5, 4278.5 nil. 4/Aug =(JRC)

6483 PBB: >NL Navy Den Helder 1541 rtty/75 carb msg 20 Jul (WP3)

6491.4 >BRAZILIAN NAVY ? LOC 0621 rtty 75/R/170 Poor copy. possible nav warnings in Portuguese. 10 bit frame. Mention of Buenos Aires. (12/Aug) (DW)

6491.5 JOS: >Nagasaki Radio 1145 CW fast CQ marker "CQ DE JOS QSX 4 MHZ K". 3/Aug (JRC)

6495 ZRH: >SAN Silvermine 1800 rtty 75/170 Nx & Sport in Afrikaans 02Aug (RH2)

6496.04 CFH: >Fax 120/576 Candian Forces Metoc Centre, Maritime Command, CFB Halifax,NS,Canada met map 1808-1812 (RHB)

6505.2 ZRH: >Ny Capetown 0319 CW DE marker. 2/Aug (JRC)

6507 ZRQ3: >Ny Capetown, AFS 0200 CW V mkr "ZRQ2/3/4/5". 19/Jul (JRC)

6586 ?-6523: >0131 USB wkg New York, WAYDE/0119 F330 BDA/0206. 18/Jul (RB)

AAL112: >0103 USB wkg New York, WEAVR/0050 F330 SARJE/0100 BERGH. 18/Jul (RB) * 0232 USB wkg New York, AKERS/0227 F330 FOCUS/0313 VIXUN. 18/Jul (RB)

AAL1290: >0342 USB wkg NY w/posrep: F310 JAINS/0347 OLDEY. 24/Jul (RB)

AAL62: >0104 USB wkg New York, SARJE/0050 F330 BERGH/0116 ODEAL. 18/Jul (RB) * 0120 USB wkg New York, BERGH/0116 F370 ODEAL/0134 HUBER. 18/Jul (RB) * 0158 USB wkg New York, DANER/0155 F370 CLXTN/0200 AKERS. 18/Jul (RB) * 0200 USB wkg New York, CLXTN/0200 F370 AKERS/0223 FOCUS. 18/Jul (RB) * 0226 USB wkg New York, AKERS/0222 F370 FOCUS/0310 VIXUN. 18/Jul (RB)

AAL635: >0148 USB wkg New York, SARJE/0148 F310 BROOM/0159, selcal BP-DF (A-300, reg.N-50051). 18/Jul (RB)

AAL68: >0143 USB wkg New York, AKERS/0122 F290 FOCUS/0209 45N50W. 18/Jul (RB)

AAL899: >0333 USB wkg NY w/posrep: BACUS/0329 F310 JAINS/0347 OLDEY. 24/Jul (RB) * 0352 USB wkg NY w/posrep: BERGH/0351 F290 JAINS/0412, selcal BP-EF (A-300 reg. N80058). 24/Jul (RB)

AAL935: >0308 USB wkg NY w/posrep: BERGH/ F370 NANCE/0334. 24/Jul (RB)

AEL2909: >0324 USB wkg NY w/posrep: DANER/0254 F330 FOCUS. 24/Jul (RB)

AFR095: >0153 USB wkg New York, LOUIZ/0133 F330 SARJE/0143 FLORI/ 38N60W/0350. 18/Jul (RB) * 0218 USB wkg New York, FLORI/0215 F230 HOLMA/0231. 18/Jul (RB) * 0230 USB wkg New York, HOLMA/0227 BDA (Bermuda). 18/Jul (RB) * 0250 USB wkg NY w/posrep: LOUIZ/0249 F350 \ODEAL/0306 DANER. 24/Jul (RB) * 0307 USB wkg NY w/posrep: ODEAL/0306 F250 \DANER/0325 38N65W. 24/Jul (RB) * 0319 USB wkg New York, ELTIN/0310 F350 38N60W/0342 44N50W. 18/Jul (RB) * 0327 USB

wkg NY w/posrep: DANER/0325 35N60W/0356 41N60W. 24/Jul (RB) * 0431 USB wkg NY w/posrep: 41N60W/ 0429 F350 46N50W. 24/Jul (RB) * 0623 USB wkg Gander w/posrep: 48N40W/0616 F350 49N30W/0700 49N20W/, request F370. 24/Jul (RB) * 0639 USB wkg Gander re ATC Clearance F370. 24/Jul (RB)

AMX001: >0247 USB wkg New York, SARJE/0233 F372 FLORI/0239. 18/Jul (RB)

AMX031: >0412 USB wkg NY w/posrep: 33N60W/0408 F370 35N50W/ 0518 38N40W/ fuel 31.7, selcal BC-JR (reg RXA-RVY, B-767). 24/Jul (RB)

AOE2907: >0554 wkg NY w/posrep: DOWNS/0545 LETON/0617 TANGO. 24/Jul (RB)

AOM603: >0253 USB wkg New York, 36N60W/0247 F350 43N50W/ 0405 46N40W. 18/Jul (RB)

AOM623: >0231 USB wkg New York, 36N60W/0245 F330 43N50W, selcal HJ-AF. 18/Jul (RB)

BAL116B: >0533 USB wkg NY w/Selcal CJ-BF. 24/Jul (RB)

BAW292: >0147 USB wkg New York, HUBER/0129 F330 AKERS/0205 FOCUS. 18/Jul (RB)

BAW4505: >0215 USB wkg New York, MAPYL/0213 F330 BERGH/0247 ODEAL. 18/Jul (RB) * 0252 USB wkg New York, BERGH/ 0247 F330 ODEAL/0304 DANER. 18/Jul (RB)

COA32: >0409 USB wkg NY w/posrep: STM/0348 F348 LONAS/0415 ACARI/ Selcal BL-AD. 24/Jul (RB)

CUB440: >0236 USB wkg NY w/posrep: ODEAL/0235 F330 DANER/ 0310 CLXTN. 24/Jul (RB) * 0314 USB wkg NY w/ posrep: CNY DANER/0310 F330 CLXTN/0315. 24/Jul (RB) * 0326 USB wkg NY w/posrep: CNY DANER/0310 F310 CLXTN/0315 AKERS. 24/Jul (RB) * 0556 USB wkg Gander w/selcal ck AB-CL. 24/Jul (RB) * 0607 USB wkg NY w/posrep: 50N40W/0636 F360 50N30W/0646 50N20W. 24/Jul (RB) * 0625 USB wkg Gander re ATC clearance to F370. 24/Jul (RB)

IBE6400: >0535 USB wkg NY w/Selcal DK-AR. 24/Jul (RB)

LTU417: >0157 USB wkg New York, 36N60W/0154 F370 42N50W/ 0306 46N40W. 18/Jul (RB)

MPH627: >0303 USB wkg NY w/posrep: ODEAL/0246 F310 HUBER/0258 DANER/0316. 24/Jul (RB) * 0323 USB wkg NY w/posrep: AKERS/0333. (RB) * 0325 USB wkg NY w/posrep: DANER/0303 F310 AKERS/0333 FOCUS. 24/Jul (RB)

N500AJ: >0247 USB wkg New York, SARJE/0253 F390. 18/Jul (RB)

VIK560: >0135 USB wkg New York, BERGH/0122 F290 ODEAL/0140 HUBER. 18/Jul (RB) * 0158 USB wkg New York, DANER/ 0157 F290 CLXTN/0201 AKERS. 18/Jul (RB)

6628 KLM 0718: >0409 USB 10/aug posrpt. (JRU)

6666.7 >UNID: Pacific Island Stations 0500 UTC USB 2 YLs with orders for T-shirts (10/August) (IJ)

6683 SAM 202: >wkg Andrews VIP for signal checks. 0215z 23 Jul (JJ)

6693 1 MIKE CHARLIE: >US Military 0520 UTC USB (17/July) mentioned something about getting authorization (audio was too distorted) (IJ)

4 ALPHA MIKE: >US Military 0520 UTC USB (17/July) mentioned something about getting authorization (audio was too distorted) (IJ)

6695 >Backward Music station, 22.03 (Aug 3) TONES not // with 5178 and 6753 kHz (AB) * 2255 (July 18) very strong (+20 db) (AB)

6700 >UNID Pacific Island Stations 0710 UTC USB (2/July) with 2 YLs in a Pacific Island language (IJ)

6706 >MAFF baseLondon": 0830 USB wkg GUYY (HMS Orkney) and Watchdog 93 (aircraft); Fisheries protection (MAFFbase is Ministry of Agriculture, Fisheries and Food) 23/JUL (JD2)

6715 >MCLELLAN: 1111 UTC USB clg OFFUTT co-ordinating

		data (I think it was Parkhill) (SD)
		>UNID: Number Station 1735 USB vmm QUEEN ROBERT UNION then (OSCAR?) SUSAN SUSAN and back to QRU, 1739 s/off. 30/Jul (ALF)
	WAR46:	>USB calling NIGHTWATCH 01 without reply 0830z 23 July (NJ)
6740	SXA:	>Ny Piraeus, GRC 0310 CW V marker, poor keying. 23/Jul (JRC)
6745	KPA2:	>MOSSAD NO. STN. (E10) 1718 USB 31/july KPA2 (JRU)
6753		>Backward Music station, 2204 (Aug 3) TONES not // with 5178 and 6695 kHz (AB) * 2256 (July 18) strong but weaker than 6695 kHz (AB)
6757	WAR46:	>1047z WAR46 clg NIGHTWATCH01 signal check Z165 04August (NJ)
6758	MKL:	>RAF Pitravie, G 6.00 (Aug 13) CW Cavok etc (AB)
6760	PAPA INDIA:	>UNID: French Military Net 1610 USB wkg K9T. 30/Jul (ALF)
6774.93		>UNID: Russian PTT, 0124 30/Jul 1280bps OQPSK UNID System, Paired with 6779.08kHz (MC)
6779.08		>UNID: Russian PTT, 0124 30/Jul 1280bps OQPSK UNID System, Paired with 6774.93kHz (MC)
6780		>M1 numbers station, 0700 (July 19) CW 025 (R4) 66331 46 +5FG (AB) * 0700 (July 26) CW 025 036 036 42 42 etc (AB)
		>MFA Budapest, HNG 0558 (Aug 13) DUP-ARQ 125bd Encrypted msgs (AB)
6783		>UNID: 0343 81-81 81/500 encrypted tfc. (26/Jul) (DW2)
6797		>M8 numbers station, 0800 (July 19) CW DUUUA UDNMN ATWRN == +5LG (cut numbers) (AB)
6817.5	FDG:	>FAF Bordeaux, F 2310 CW vvv. 10/Aug (ALF)
6826		>Stockholm Radio, S: 1909 USB wkg Royal Jordanian 194, qsy 6875. 15/Jul (ALF)
6830		>PETRA Amman, JOR 1704 rtty 50/400 Nx\EE 22July (RH2) * 1713 RTTY 50/425 EE press. 28/Jul (ALF)
6830.1		>PETRA AMMAN 1701 rtty 50/440 Press in English. (19/Jul) (DW)
6832.08		>UNID: Russian PTT, 0153 10/Jul 1280bps OQPSK UNID System (MC)
6837	FDG:	>FAF Bordeaux France 0540 UTC RTTY 50 Bd/425 with RYRY, VOYEZ LE BRICK GEANT QUE JEXAMINE PRES DU GRAND WHARLF 0123456789 (10/August) (IJ)
6840	EZI:	>MOSSAD NO. STN. (E10) 1601 AM 2/aug EZI, msg. (JRU) * 1700 AM 23/july EZI, 249 65 and into 5fg msg (JRU)
6840.04		>UNID: 0706 30/Jul 240bd 8 tone RS-ARQ, IRS mode (MC)
6844.5	FDC:	>FAF Metz, F 1655 CW vvv. 15/Jul (ALF)
6871	HEP7:	>1618 cw vvv vvv vvv de hep7 hep7 hep7 ar 16 Jul (WP3)
6873	RMP:	>RN Kaliningrad, RUS 1652 CW wx bull to REO. 15/Jul (ALF)
6875		>Stockholm Radio, S: 1910 USB wkg Royal Jordanian 194. 15/Jul (ALF)
6880	DORIA:	>2209 USB, Italian Navy wkg TAVOLA 1, TAVOLA 2 and DESTINO =(sounds like) w/ lat/long positions of several targets, all of which are in the Adriatic Sea. 01/Aug (MB3)
6882.5	EAD2:	>Madrid Radio 0412 CW DE marker. 24/Jul (JRC)
6893		>Russian Navy ? 0723 36-50 36/165 Unable decode 21July (RH2)
6899		>NZL Army net. Had continuous ANDVT bursts on (25/July) (JJ)
	7P7:	>NZL Army net. 7P7 & IHP re: 'New mute key goes into position 1, return cypher position 1' Into ANDVT Bursts. They came up with wrong key. 'Confirm position 1 selected in CT mode', 'Roger', 'Will turn to CT, and call you. (IJ)

	HP3:	>NZL Army net. continued until around 0140 UTC then HP3, 8IL, 3R3, D39 & I2I came up for radio checks in the clear. 8LI advised all units change to Designator 355 and establish comms. (freq was Designator CH# LAK) (IJ)
	KL2:	>NZL Army net. (26/July) 2330 UTC USB KL2 calls IHE and mentions about reload position 1 (ANDVT key) (IJ)
6900		>Lincolnshire Poacher, CYP 20.00 (July 25) USB Id 89125 (AB)
6904	RCV:	>RN Moscow, RUS 1445 CW RKZ RKZ RKZ DE RCV RCV = QTC 127 79 7 164T 127 = PROGNOZ POGODY ___3 1800 07 DO 1800 08 ___. 07/Aug (ALF)
6910		>UNID Commercial Station Australia 0710 UTC USB (13/July) YL with a request for an ambulance for a car roll over just off the freeway (IJ)
	FDG:	>FAF Bordeaux, F 1650 CW vvv. 15/jul (ALF)
6916.4		Presumed Oil rig Station 0535 UTC ARQ most of the Msg was garbled due to static & fading could only make out G32: USING EQUIPMENT: KEY: WELDING & REPAIRING (30/July) (IJ)
6916.5		>UNID: on Ch.6 re: go to Ch.3. 0510z 1 Jul (JJ)
6922		>UNID: 0047 18/Jul 81bd/500 81-81, tfc (MC)
6924.6		>UNID: 1535 81/81 20 Jul (WP3)
6934		>M12 numbers station, 20.10 (July 25) CW 658 4383 148 + 5FG 000 000 (AB)
6959		>LINCOLNSHIRE POACHER (E3), CYP 1900 USB ID: 44340, //9251, 11545 (JRU) * 2200 (Aug 4) USB Id 84176 (AB)
6970		>UNID: 1258 USB 2 formal sounding m in Italian. (MB3)
6972	YOG59:	>Rompres Bukarest 1542 rtty/50 NNNN K_ZCZC ROM0099 4 N 0000 CHECK NIL FRANCAIS ... ROMPRES 011823 0898 GMT 15 23 NNNN 1 Aug (WP3)
6980		>UNID: spanish numbers YL 0154 AM / Spanish YL Starting xnsm ATENCION 38049 82171 59801 (02-AUG 98) (CAC) * 0205 AM / YL/SS/5FG starting xnsm with ATENCION 35049 35049 35049 and (14/aug/98) (CAC)
6988		>UNID Pacific Island Station 0705 UTC USB (6/July) wth YL in a Pacific Island language (IJ)
6992.5	MFJ04:	>RN Cadets, G 10.43 (July 26) USB stations on-line: MFM01, MFJ04, MFQ39, MFJ13 (AB)
6993		>USAF Andrews AFB & SAM 676 0720 UTC USB (2/July) for a PP to Metro (IJ)
7038.8	P:	>Ny Kaliningrad, RUS 1640 CW single letter P. 9/Aug (KB)
7039	C:	>Ny Moscow, RUS 1640 CW single letter C. 9/Aug (KB)
	S:	>Ny Arkhangelsk, RUS 0650 CW single letter S. 11/Aug (KB)
7256		>M3 numbers station, 16.30 (July 28) CW 287/00 == 000 (AB)
7396.6	HSW64:	>Bangkok Meteo 1705 FAX 120/576 text w/lines in between, unreadable except "END OF SHIPPING FORECAST" at 1712. 10/Aug (KB)
7460	FDG:	>FAF Bordeaux France 0525 UTC RTTY 50 Bd/425 with RYRY, VOYEZ LE BRICK GEANT QUE JEXAMINE PRES DU GRAND WHARLF (3/August) (IJ)
7470		>UNID: Pacific Island Stations 0740 UTC USB with 2 OMs in a Pacific Island language (11/August) (IJ)
7475	VLT:	>School of Distance Education, Charters Towers Qld: 2306 USB with YL conducting lesson (SD)
7508	ZRO2:	>Pretoria Meteo (FAPR) 0501 Fax 120/576 Wonderful clear Wx charts 10/Aug (RH2)
7529		>Russian Man (S7), RUS 0500 (Aug 6) AM 549 549 549 1 (R5) 248 72 248 72 5FG 000 000 (AB) * 0500 UTC with call-up 549 (SD) * 0500 (Aug 6) AM 549 549 549 1 (R5) 248 72 248 72 5FG 000 000 (AB)
7530	VLT:	>School of Distance Education, Charters Towers Qld:

		2259 USB with YL conducting lesson (SD)
7535	NIEY:	>USNS Bold (T-AGOS-12) 1305 USB Stalwart-class ocean surveillance ship w/FSK tests for 2 xmitters. (RB)
	NKZI:	>USS Pensacola (LSD-38) 1332 USB Anchorage-class Dock, Landing Ship wkg SESEF w/HF testing. (RB)
7540		>MOSSAD NO. STN. (E10) 1603 AM 2/aug JSR, msg. (JRU)
7545	VL4CHV:	>Qld Department of Environment & Heritage: 2258 UTC USB with TOWNSVILLE BASE chatting to unid. mobile (SD)
7583		>UNID: 0236, AM, (in 5 fig tfc - Female - SS - Wed) (LBJ)
7587		>Fijian Army or PNGDF net: 0710 UTC USB with GOLF 9 self identified as SUNRAY (C.O.) advising that he is changing to GMD (SD)
7606.7	RFHI:	>FF Noumea, New Caledonia 0645 ARQ-E3 100/400 idles. Montd for 7 hours on ckt HIJ from New Caledonia to Papeete, Tahiti. CdV msgs throughout, as well as traffic (5LGs) from RFHIB (Navy, New Caledonia) and RFHIVDR (unid, New Caldonia). (26/Jul) (DW2)
7614.2		>UNID: 1521 arq-e/192 idle 16 Jul (WP3)
7632		>USAF McClellan AFB 1050 UTC USB with ALE Bursts & this is McClellan out (1/August) (IJ)
7637	VJQ727:	>School of Distance Education, Emerald (Qld): 0142 UTC USB with Mrs Collins teaching maths to Jack, Maxine and James (SD)
7642.01		>UNID: British Mil, 0045 18/Jul Piccolo, idle (MC)
7642.7	RFFVA:	>FF PARIS 20305 ARQ/342 200/400 8rc. 2chan tdm. Ch:A cct [FDXA] 2108 "RFFVAY de RFFVA cr de journee du 31 jul98 zic fdxa020 zid fkwa034". Ch:B Mixture of cct indicators FDXB/BVA/FDX UNID: msgs in ICAO format. No cr du journee svc (31/Jul) (DW) * 1554 ARQ/342 200/400 8rc. 2ch tdm. Ch:A cct [FDXA] and [BVA] encrypted tfc. Ch:B cct [FDXB] AND also [BVA]. Msgs are ICAO flight plans. Still insufficient data to assess purpose of [BVA] serials in BOTH channels. (30/Jul)(DW)
	RFFTA:	>1657 arq-m2/200 nnnnvzczcbva078 26 Jul (WP3)
7646	DDH7:	>Hamburg Meteo, Hamburg 0345 03/Jul 50bd/450 Baudot, WX for EU airports (MC)
7674	HBD20:	>MFA Bern 1544 arq 5l tfc to ? 16 Jul (WP3)
7678.5	HBD20:	>MFA Berne Switzerland 0645 UTC ARQ with 5Lgs (31/July) (IJ)
7682.4	AFA1NW:	>USAF MARS, 2332 30/Jul 300bd/200 Packet Radio, Connect attempts (MC)
	AFA3FP:	>USAF MARS, 0025 30/Jul 300bd/200 Packet Radio, NODES transmission (MC)
7693	ROYAL CROWN:	>wkg NIGHTWATCH 01 via Andrews re: White House wants to know your modem type. 0802z 25 Jul (JJ)
7716		>UNID: 1521 arq-e/192 idle 16 Jul (WP3)
7740		>TELECOM Suva Fiji 0355 UTC USB OM & YL with received payment for the boat fare back to Suva (28/July) (IJ)
7760		>Pres. US Fish & Wildlife Service KOJ 638 Tern Island Hawaii with ship WKFO or SO?
		>Tropic Cromwell? 0555 UTC USB OM & 2 YLs with a chit-chat, had been for a cruise to Midway now returning to Honolulu (30/July) (IJ)
7762	RGH77:	>Arkhangelsk Meteo 0730 FAX 60/576 surface data. 8/Aug (KB)
7822.2	RFFA:	>MoD Paris 2155 ARQ-E3 ZIC/ZID msg to RFFVAE Dhahran (no ccts shown & repeated @ 2315) to 5LGs for RFFVAE & RFFVAEA Alysse on cct FDX 11/Aug (ML2)
7831.5	5ST:	>ASECNA Antananarivo 0511 arq-e3 48/400 Aero Wx for regional airports 10/Aug (RH2)

7832.08		>UNID: Russian PTT, 0146 30/Jul 1280bps OQPSK (MC)
7883.5		>UNID: 0149 25/Jul 50bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
7915	AFA2BA:	>US Army MARS, 0122 30/Jul 100bd/170/E SITOR-B, "the forces mars digital calling all members" (MC)
7917	FDE14:	>1516 cw vvv vvv vvv fde14 fde14 fde14 ar 16 Jul (WP3)
7918		>Mossad No. Stn. E10 1804 AM 23/july YHF groups 52 first time in ages that i found two mossad fqrgs in //5820 (JRU)
7921.8		>UNID: 0123 30/Jul Clover, tfc (MC)
7960	FDG:	>FAF Bordeaux France 0425 UTC CW with VVV DE FDG (3/August) (IJ)
7993.5	NNN0MDH:	>NAVMARCORMARS HF Mailbox 1551 PACTOR 200bd being accessed by unid stn downloading waiting messages. (RB)
8002		>UNID: 0044 18/Jul 81bd/200 81-81, tfc (MC)
8012.6		>UNID: 1737 RS-ARQ 228.5/170 Unable decode. Note in my database says - DOTAOF ?? 19July (RH2)
8031.5	NNN0CWU:	>(USCG Sassafras) & NNN0HMD USN MARS Honolulu HI 0715 UTC USB (21/July) with PPs (IJ)
8035	VHA:	>School of the Air, Alice Springs NT: 0148 USB with YL conducting lesson (SD)
8035.51		>UNID: British Mil, 0118 30/Jul Piccolo, idle (MC)
8040	GFA23:	>Bracknell Meteo 0138 FAX 120/576 w/chart. Moderate fading. (25/Jul) (DW2)
		>UNID: 1443 utc ss mentioned Quito, Ecuador. (CT)
8050		>UNID: French Polynesian Station 0405 UTC USB OM in FF (4/August) (IJ)
8058	Air Force 2:	>outbound Moscow, ETA Andrews 0840z, wkg Andrews VIP on F-054 for brief signal check. 0654z 25 Jul Also found wkg Andrews VIP on: 4721.0, 6683.0, 9120.0, 9320.0, 11460.0, and 13440.0. Tried to receive FAXs. App. lost INMARSAT and the # 2 HF. (JJ)
8063		>Two Letter German numbers station 0034 USB (Tue.) w/electric tones, YL/GG, caught "Achtung", and into groups which seemed to be x 2, very weak but 1st logging of stn. (RB)
8070	FDI22:	>French Air Force, Aix 0008 31/Jul CW, "vvv vvv vvv de fdi22 fdi22 fdi22 ar" marker (MC)
8117	BMB:	>Taipei Meteo 1630 CW Weather in P/L English 07/JUL (JD2) * 1830 CW. Synops at 32wpm. On completion "qru qrx 2130z" (2/Jul) (DW) * 2130 CW. Synops. On completion "qrx 2200z". (2/Jul) (DW)
8122		>CANBERRA CONTROL: 0654 UTC USB wkg 3 ALPHA OSCAR attempting to co-ordinate data test on 8MHz and when unsuccessful advised to change to 12MHz (SD)
	BAF36:	>Beijing Meteo 1948 FAX 120/576 "TROPICAL CYCLONE WARNING", trop. storm Penny, warning no. 4. CC & EE text and map. 9/Aug (KB)
	Balikpapan:	>HMAS Balikpapan (L126) 1109 USB wkg Darwin Control. (28/Jul) (DW2)
	Bendigo:	>HMAS Bendigo Fremantle-class Patrol Boat 211 1048 USB clg Darwin Control. No joy (20/Jul) (DW2)
	Paluma:	>HMAS Paluma A01 0957 USB wkg Darwin Control w/msg servicing. (31/Jul) (DW2)
8127	CIO2:	>Mossad, 0150, USB, CIO2 (Marker - Female - EE - OTA 0150Z - Wed) (LBJ) * 0150, USB, CIO2 (Marker - Female - EE - OTA 0150Z -Wed) (LBJ)
8145	EIP:	>Shannon Aero, Ireland 0013 31/Jul 50bd/850 Baudot, "ry's de eiaayhyx eiaayhyx" marker (MC)
8146.9	IMB55:	>Rome Meteo 0750 FAX 120/576 upper air wind & temp chart, flight level not id'd, VERY narrow shift. 12/Aug (KB)
8150	NN0NNU:	>USN Mars, 0151 10/Jul 100bd/200 PacTOR, Selcals (MC)

8150.4	PBB:	>Dutch Navy, Den Helder 0152 03/Jul 75bd/850 Baudot, CARB (MC)
8152		>UNID: USB 1445utc in RR 2 om.(CT)
8166		>Russian Man (S7): 0500 AM numbers station with call-up 131 (SD)
8167		>Russian Man (S7), RUS 0500 (July 30) AM 131 131 131 1 248 72 248 72 5FG 000 000 (AB)
8191		>M10 numbers stations, 1810 (July 26) CW 555 661 38 423 22 (AB)
8192	9MR:	>Johor Bahru 1830 RTTY 50/850 "9MR 5/11 RMMJ MRB RYs SGs JULL"; 7-bit Baudot (one bit "Stop" element). 29/JUL (JD2)
8226		>UNID: Russian Mil, 0023 11/Jul MS5 12 tone vocoder (3300Hz pilot) (MC)
8240	NRPJ:	>USCGC Laurel (WLB-291) 1522 USB wkg CAMSLANT (on 8764). (RB)
8297	ZLM:	>RNZN Auckland 0937 USB YL and OM/EE w/MIB. (21/JUL) (DW2)
8300		>New Star Broadcasting Numbers Station 1102 AM w/music and YL/CC. (27/Jul) (DW2)
8303	LOR:	>AN Puerto Belgrano 0720 rtty 75/170 Navarea Warnings in SS 11/Aug (RH2)
8364	FSD5:	>0521 PACKET 300/200 wkg FSD6. Seemed to be a net, as other calls included FSD9 and FSD7. Minor chatter noted. (26/Jul) (DW2)
8381.5	C6OD8:	>MV Tudor Star 0552 ARQ w/BBXX tfc. 11,806DWT reefer. Signoff: 70138 TUDS X+ (26/Jul) (DW2)
8388.5	C6TX:	>MV Baltic Sea 0558 ARQ w/garbled msg (5FGs). (26/Jul) (DW2)
	KRPB:	>MV Oocl Inspiration 0554 ARQ w/AMVER msg. 59,810DWT container ship. (26/Jul) (DW2)
8390	SFQP:	>MV Don Quijote 0612 ARQ w/BBXX tfc. 15,150DWT vehicle carrier. (26/Jul) (DW2)
8400		>UNID: Filipino Merchant Fleet 0609 FEC w/relay of PNA news. (26/Jul) (DW2)
8414.5		>GMDSS/DSC ALERT CHANNEL 2235 (20/Jul) DSC 100/170 30 packets in 7 hrs. No distress/urgency alerts - 29 illegal packets. (21/Jul) (DW) * 1515 fec 100/170 Several packets in 1 hr. Tests, Selcall, id's, illegals, no Distress 26July (RH2)
8424.5	HEC:	>Berne Radio 0348 ARQ free channel marker. 2/Aug (JRC)
8437	4XZ:	>Ny Haifa, ISR 0350 CW V marker. 2/Aug (JRC)
8442.3	TCR:	>TURBAN ISTANBUL 1958 CW. Marker "cq de TCR tfc list as". 2003z tfc list, then gives qry's thereafter working ships. (11/Aug) (DW)
8443.1		>UNID: 1920 FAX Poor copy, not helped by rt qrm. After chart long idle period of black with white deadzone. 1940z switched to permanent idle on white tone. (11/Aug) (DW)
8444		>MURMANSK METEO, RUS 1905 FAX 120/576/N/1000 Noisy chart. Station previously logged as unid/8443.1 on 11th. Rapidly faded. (14/Aug) (DW) * 1845 FAX 120/576 LSB //6446. 31/Jul (KB)
8448	A9M:	>Bahrain Radio 0105 CW CQ marker. 25/Jul (JRC)
8473	PKE:	>Ambon Radio, INS 0945 CW CQ marker. 1/Aug (JRC)
8478	FUF:	>French Navy,Fort de France,Martinique 2203 Rtty 850/75bd test tape w/id: DE FUF (RHB) * Rtty 850/75bd French Navy Fort de France,Martinique std RY,SG, numbers,Testing tape w/id: DE FUF 1800-1808 (RHB)
8494.8	P:	>Ny Kaliningrad, RUS 1330 CW single letter P. 6/Aug (KB)
8495	C:	>Ny Moscow, RUS 1330 CW single letter C. 6/Aug (KB)
8499.7	VTH:	>IN Bombay 1607 rtty 50/850 Test tape - -RBSL BNR etc 27July (RH2)
8499.8	VTH:	>IN Bombay 1544 rtty 50/850 Starts 0291H4714 7853 + 4LG then 3LG then 4LG - RY/ID 11/Aug (RH2)

8504	XSX:	>Keelung Radio, TWN 1142 CW CQ marker. 28/Jul (JRC)
8505	HLJ:	>Seoul Radio 1058 CW CQ marker "CQ DE HLJ QSX 8 MHZ K". 27/Jul (JRC)
8511	XSW2:	>Taichung Radio, CHN 0947 CW CQ marker. 1/Aug (JRC)
8512	5AT:	>TRIPOLI RADIO 2210 CW. Marker "vvv cq de 5AT" (11/Aug) (DW)
8515	5AT:	>Tripoli Radio, LBY 0250 CW V & CQ mkr. 18/Jul (JRC)
8516	XSX:	>Keelung Radio, TWN 1140 CW CQ marker, XSW2 QRM. 22/Jul (JRC)
8530	LZW49:	>Varna Radio, BUL 0215 CW "DE LZW49 LZW49" 18 sec betw ea sequence. 25/Jul (JRC)
8551.6	HPP:	>Panama Radio 0330 CW CQ marker. 20/Jul (JRC)
8559.5	GKB4:	>Portishead Radio 0024 CW DE marker. 23/Jul (JRC)
8560	SPB:	>Szczecin Radio, POL, 0342 ARQ channel marker. 7/Aug (JRC)
8568	XSQ:	>Guangzhou Radio, CHN 1247 CW CQ marker. 8/Aug (JRC)
8570	WNU33:	>Slidell Radio, LA 1141 CW CQ marker. 6/Aug (JRC)
8571	XSW2:	>Kaohsiung Radio, TWN 1310 CW CQ marker. 19/Jul (JRC)
8573	CLA21:	>Havana Radio 1247 CW CQ mkr "CLA". 25/Jul (JRC)
8590	HPP:	>Panama Radio 0356 CW V/CQ marker "VVV CQ DE HPP QRU? =QSJ/OBS QSW 500/4,275/8,489 KHZ RTTY CHANNEL 1208/1633 ALL AMVER MSGES =WITH QSJ K". 2/Aug (JRC)
8605	HLJ:	>Seoul Radio 1058 CW "CQ DE HLJ QSX 8 MHZ K", weak. 27/Jul (JRC)
	ZRH:	>Silvermine 1845 RTTY 75/170 "NAWS S12S 591" every two minutes 30/JUL (JD2)
8632	XSW:	>Kaohsiung Radio, TWN 1225 CW CQ mkr. 25/Jul (JRC)
8636	HLW:	>Seoul Radio 1145 CW CQ mkr, poor note. 27/Jul (JRC)
8646	LPD86:	>General Pacheco Radio, ARG 0206 CW V mkr. 25/Jul (JRC)
8653	UUI:	>Odessa Radio, UKR 1250 CW V/CQ marker. Very odd as propogation this time of day favors trans pacific stations. 8/Aug (JRC)
8665	XSG:	>Shanghai Radio, CHN 1145 CW CQ marker. 9/Aug (JRC)
8682	EAD3:	>Madrid Radio 0359 CW V marker. 2/Aug (JRC)
8686	IRM:	>Roma Medico Radio 0401 CW V marker "VVV IRM FREE RADIO MEDICAL SERVICE AND AMVER SERVICE ON 8/12/16/22 MHZ COMMON K". 2/Aug (JRC)
8698	7TF6:	>Boufarik Radio, ALG 0250 CW CQ mkr "7TF". 29/Jul (JRC)
8709	JOS:	>Nagasaki Radio 1140 CW high speed CQ. 28/Jul (JRC)
8764	NMN:	>CAMSLANT Chesapeake, Va 1445 USB clg USCGC Metompkin (WPB-1325) no joy here. (RB)
8791	WOM:	>(AT&T) USB duplex Ch#826 8791 & 8267 1340-1354 utc 2 om in EE equipment problems (pumps) Pennsuco Radio,Fla. (CT)
8825		>New York Air" New York Oceanic,NY,UA 2245 USB voice Aero ATC NAT-E rec posit rpts fm unid a/c (RHB)
8855		>0320 8/9 American 906 calling Manaus (AR3)
8861		>0125 8/12 Canarias Radio wkg Paneuropa (?) flight in SS. (AR3)
		>0128 8/12 Dakar Radio wkg Spar-67 FL 390. (AR3)
		>Khabarovsk VOLMET 0947 USB YL/RR w/aviation wx. Strong signal. (29/Jul) (DW2)
8867		>Auckland Aeradio New Zealand & SAM 27000 2340 UTC USB advices SAM 27000 to contact Auckland Control on 123.9 (1/August) (IJ)
8885		>0358 8/13 Lima Radio LDOC wkg American 963, position. (AR3)
8891		>0323 8/13 Iceland Radio wkg unid flt, SELCAL check. (AR3)
		>0406 8/14 Baffin Radio wkg Lufthansa 459,

position; advised to call Montreal next on 4675. (AR3)

8894 >0151 8/12 Niamey Radio wkg Speedbird 560, FL 350. (AR3)

8906 AirEvac7X3: >0011 USB wkg New York, 41N60W/2354 F360 41N50W/ 0054 =41N40W. 18/Jul (RB)

Reach Zulu 1: >2115 USB wkg S/M. 3/Aug * Navy WV 670: 2117 wkg S/M. 3/Aug (ALF)

8930 >0151 8/13 Stockholm Radio wkg Air France flt (couldn't catch #) w/SELCAL. (AR3)

Karachi: >PAKISTAN AIR LDOC 2310 USB clg Pakistan 799. 10/Aug (ALF)

>Stockholm Radio, S: 1845 USB wkg OE-GCC of Goldeck-Flug GmbH (Ltd.) Cessna 560. 15/Jul (ALF)

A6-PFD: >Abu Dhabi Amiri Flight 2045 USB wkg Stockholm. 3/Aug (ALF)

AAR 551: >(Asiana) 1712 USB 31/july enrt. Cologne-Istanbul, msg. to company. At FL 381. (JRU)

AIR FRANCE 852: >0747 USB 1/aug s/c ck JM-Bx, missed last letter (JRU)

BISCAYNE 4068: >0712 USB 1/aug enrt. MAN-PVK, eta 1008, s/c ck DJ-BK (JRU)

NORTHWEST 58: >0751 USB 1/aug s/c ck GL-FH (JRU)

SAS 973: >0812 USB 6/aug s/c ck FL-DM with Stockholm R. (JRU)

TOWER 731: >1427 USB 9/aug clg. Stockholm R., no joy (JRU)

UNITED 955: >0739 USB 1/aug s/c ck AR-EP negative, qsy'd to 1345 and successfull there (JRU)

WORLD MAW: >0711 USB 6/aug wkg. Stockholm R. eta dtta 0657 (JRU)

8942 >Singapore Radio 1550z USB with various aircraft 12/July (GG)

8965 >RAAF net with SIERRA QUEBEC GOLF: 0600 UTC USB clg DELTA 1 CHARLIE with ops normal msg (SD)

ORION 4202: >0600 UTC USB wkg AIR FORCE AUKLAND (NZ) with posn report 26 40S 176 32E and advised that he had located 406 beacon and that fishing vessel "Fifty South" was 10M away and enroute to area to investigate but a/c could only remain in area for 20 min (SD)

8968 BLACKCAR: >prob USN E-6 TACAMO 2057 USB w/EAM. (19/Jul) (DW2)

8971 >RAAF Sydney NSW, Australia & AUSSIE 391 2315 UTC USB (25/July) for PP about DIP clearances to Hickam (IJ)

BLUE STAR: >0000z 05 BLUE STAR: unid NATO Forces wkg HUNTER 01 (ALF)

HUNTER 01: >UNID: US? NATO? Forces 0000 USB wkg BLUE STAR. 05/Aug (ALF)

S4JG: >(c/s phonetic) 0644 USB clg BLUESTAR w/no reply (SD)

WRANGLER 05: >1140 USB calling BLUESTAR who has him LC and requests him to go green. After a few ANDVT bursts both stations return to voice and decide to meet on UNIFORM (SD)

8974 ENVOY 608: >0653 USB calling AIR FORCE SYDNEY with a request for Commonwealth cars for various Members of Parliament on board (SD)

8978.5 >Reykjavik Air, ISL 2215 (July 25) ACARS 1200bd HF-Datalink squitter (AB)

8983 >CAMSPAC: 2200 USB wkg 6512: HH-65A. (19/Jul) (DW2)

NCF: >USCG Group Miami, Fl, USA 2352 USB clg CG 6002 who was on-scene at the M/S Ecstasy fire off Port of Miami. (RB)

8989 BT9P: >RAF Domine Ops, Cranwell, G 1525 USB wkg CWL88. 21/Jul (ALF)

8992 AJE: >USAF Croughton, G 1348 USB YL w/EAM PWY7R3... fm Offut. 24/Jul (ALF)

NAVY JM366: >1700 USB wkg Croughton w/wx fr LICZ. 15/Jul (ALF)

9016		>MCLELLAN: 0634 UTC USB clg NIGHWATCH 01 on Z175 and once contacted attempted to send RTTY data without success (SD)
		>UNID: 0858 UTC USB with EAM for MAILMAN on Z175 starting Z6VDXD...(SD)
		>USAF WILDMAN calling NIGHTWATCH 0645 UTC USB (31/July) (IJ)
	LIFE LONG:	>1042 UTC USB clg NIGHTWATCH on Z175 with no joy (SD)
	STARDAY:	>1048z calling NIGHTWATCH01 10 August (NJ)
	UNCLE SAM:	>0935 UTC USB clg NIGHTWATCH 01 on Z175 with no joy (SD)
	WAR46:	>USB calling NIGHTWATCH 01 radio check 0433z 27 July (NJ)
9030		>UNID: NATO Mil, 0034 18/Jul 75bd/850 UNID FSK System, sync, cont, ACF=0, tfc, revs+vmgtcnjbh lead (MC)
9031	ARCHITECT:	>0336 USB wx Akrotiri, Cyprus (SD) * 1249 USB wkg Ascot 5935 passing wx info (MB3)
9041	5YE:	>Nairobi Meteo Kenya 0420 UTC RTTY 100 Bd/850 (5/July) with RYRY, CQ CQ & then into WX synopsis (IJ)
9043		>UNID: Fax sta pos Anderson AFB,Guam,Marianas? 2305 Fax 120/576 USAF AWS met map? weak noisy sig (RHB)
9044.9	5YE:	>NAIROBI MET 2000 FAX Fax being transmitted on both sidebands of 9043 khz instead of fax/usb and rtty/lsb. (8/Aug) (DW)
9050	NSY:	>US Ny Sigonella, I 0515 FAX 120/576 very weak. 2/Aug (KB)
9093.6		>UNID: 1325 18/Jul 100bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
9098.6		>UNID: 0147 18/Jul 75bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
9100		>UNID: 2127 25/Jul 81bd/500 81-81, tfc (MC)
9122.5	WUG:	>USACE, Vicksburg Dist, Va. 1503 USB as NCS w/ weekly (Friday) check in of Corps of Engineers stns in progress. (RB)
9129.87	MGJ:	>Faslane Naval,Glasgow,Scotland,UK 2315 Rtty 850/75bd Royal Navy avail tape w/id MGJ weak noisy sig (RHB)
9130	EZI:	>MOSSAD NO. STN. (E10) 1619 AM 2/aug ongoing msg, msg ends, at 1625 a male voice transmitted ca. 10 chars, then the female mossad-voice was up and repeated EZI2 two times, tx remained on and at 1627 EZI2 was repeated 35 times. (JRU) * 1730 AM 2/aug EZI, // 6840, msg, groups 59, text. starts with wpmep ovcpi wglzg ... (JRU) * 1904 AM 2/aug EZI, msg, groups 31, starts RSYZE BVVFE RNDUZ ... (JRU) * 1750 AM ongoing msg (JRU)
	MGJ:	>Royal Navy, Faslane 0037 18/Jul 75bd/200 Baudot, CARB (MC)
9151.5		>UNID: 2340 UTC ARQ (23/July) with "YACHT3?" WRONG INFO I MUST GOTTA (rest of msg was garbled) (IJ)
9153	SNN299:	>MFA Warschau 1527 pol-arq/100 tfc to bukareszt 5f best. cw 10 Aug (WP3)
9154	D4B:	>Amilcar Air, Cape Verde Is. 0740 30/Jul 50bd/850 Baudot, "ryryry...nnnn de d4b d4b d4b testing" marker (MC)
9215		>Argentine Federal Police net 0325 UTC USB (5/July) OM in SS with advisories often would repeat the word Solicitor Commisario and giving out the names of people (IJ)
9215.2		>UNID: 0148 18/Jul 75bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
9220	VZQ:	>Dept of Primary Industry Brisbane, QLD Australia Stock Inspectors 0715 UTC USB (6/July) with a OM & YL trying to selcal a mobile unit and mentioned about closing up the office. (IJ)

9226		>High Pitched Polytone (XPH): 0600 UTC AM tonal numbers station (SD) * 0600 (Aug 12) TONES (AB) * 0600 (Aug 7) TONES (AB)
9238		>Spanish Lady (V2): 0610 UTC AM numbers station in progress (SD)
9240		>Papua New Guinea Defence Force Patrol Boat 0750 UTC USB advises he's at anchor (30/July) (IJ)
9251		>LINCOLNSHIRE POACHER (E3), CYP 1800 USB 2/aug ID: 41014, //7337 (JRU) * 2025 UTC USB in progress (SD) * 2200 (Aug 12) USB Id 41014 (AB)
9259	427:	>UNID: 2111, cw 427 (x3) TTT (Repeated - OTA 2115Z - Tue) (LBJ)
9260	616:	>UNID: 0205, AM, ATTENTION 616 01 (Cont'd) (Female - SS - Into 5 fig tfc at 0205Z - Wed) (LBJ)
9263		>Cherry Ripe Numbers Station 1100 AM w/interval signal and header (32455). //13866//. (27/Jul) (DW2)
9279		>UNID: 0043 24/Jul 75bd/190 FSK UNID System, sync, cont, ACF=0 (MC)
9285		>Backward Music station, 22.54 (July 18) weak signal (AB)
9340	RCH72:	>Tashkent Meteo, UZB 1955 FAX 60/576 surface analysis & data. A few tx =dropouts, but excellent copy. Poor on //4365 //5890. 10/Aug (KB) * 2328 Fax 90/576? met map weak signal (RHB)
9360	OXT:	>Copenhagen Meteo 1015 FAX 120/576 ice obs. S Greenland; transmission on 5850 at 0950 unusable due to bcst stn. 9/Aug (KB)
9366		>Russian Man (S7) 0520 AM numbers station with call-up 131 (SD)
9367		>Russian Man (S7), RUS 5.20 (July 30) AM Repeat of 0500 transmission (AB)
9382	YHF:	>MOSSAD No Station 0430 UTC USB (2/July) with YL repeating YHF (IJ)
9396		>UNID: ARQ-E3 sta 2336 ARQ-E3 425/192bd? unable to sync (RHB)
9429		>Russian Man (S7), RUS 0520 AM numbers station (August schedule) with call-up 549 (SD) * 0520 (Aug 6) AM 549 549 549 1 (R5) 248 72 248 72 5FG 000 000 (AB)
9441		>Polytone Stn XPH 0600 AM 22/july no msg (JRU) * 0600 AM 24/july no msg. S9 + 10db, really strong here. (JRU) * 0600 (July 24) TONES null message (AB) * 0600 (July 29) TONES (AB)
9916		>XPH - Polytone station, 2040 (Aug 11) TONES (AB) * 2040 (Aug 7) TONES (AB)
9996	RWM:	>Moscow TS, RUS 0209, cw, VVV de RWM (To Time Signal at 0210Z) (LBJ) * 0553 (Aug 13) CW Time signals / id (AB)
10000	WWV:	>NIST Boulder, USA 5.55 (Aug 13) AM/CW Time signals / announcements (AB)
10046	4XZ:	>Haifa Naval,Israel 0030 CW Israeli Navy marker (RHB) * 0511 CW. Sfc analysis in WMO FM46IV at 28wpm. Then return to marker "vvv de 4XZ ==" (6/Aug) (DW)
10060		>UNID: 0207 30/Jul 50bd/1000 FSK UNID System, idle on reversals (MC)
10072		>USB Air India LDOC - Air India 417 requesting wx. Shared with BA in London - 1st time I've heard Air India on the freq. 1649z (RP2)
10100.5	DDK?:	>Hamburg Meteo Quickborn/Pinneberg,Germany 0009 Rtty 425/50bd met data & Eng/Ger lang gale warning fm DWHA (RHB)
10100.8	DDK9:	>HAMBURG METEO, D 0522 rtty 50/400 Met tfc, very poor copy. (6/Aug) (DW) * 2305 31/Jul 50bd/400 Baudot, "ryryryryry... cq cq cq de ddk2 ddk7 ddk8 ddk9" (MC)
10102.8		>UNID: 1030 RTTY 50/175/R online encrypted, end:

....ZZZZZZZZ into duplex cfm-tfc: COR 3 20271, next msg-header: 857 357 1350 857 ; F___ (from?) 941844 FOR 941249 ; 21/Jul (ALF)

10103.7		>UNID: 1014 arq-e3/192 betas 11 Aug (WP3)
10108		>UNID: Russian Navy, 0049 30/Jul 50bd/250 BEE, short msgs (MC)
10117	BAF4:	>Beijing Meteo 1948 FAX 120/576 //8120. 9/Aug (KB)
10132		>BRAZZAVILLE AIR (TNL) 0536 rtty 50/650 Air tfc. Cct [FSA]. 130hz high. (6/Aug) (DW)
10132.1	TNL:	>ASECNA, Brazzaville 0048 30/Jul 50bd/645 Baudot, AAXX WX for African Airports (MC)
10157		>UNID: RUS Navy 2049 36-50 36/240 idling. (19/Jul) (DW2) * 0138 18/Jul 36bd/200 BEE, idle (MC)
10162.4		>INA Baghdad 1632 rtty 75/400 Tfc\AA to unk.16July (RH2)
10162.5	DOR:	>MFA Sofia 1715 rtty 75/400 Lotsa crypto in batches 27July (RH2)
10164		>UNID: 1044 81/81 11 Aug (WP3)
10165	RANGER 11:	>2138 USB wkg RANGER 10, doing test counts to check comms. Both QSYed here from 11175, are Americans. (MB3)
10171.09		>UNID: Russian PTT, 0625 30/Jul 1280bps OQPSK UNID System (MC)
10177.7		>FF PARIS 0612 ARQ/E3 192/400 8rc. Betas, nil tfc. ID assumed. (6/Aug) (DW)
10177.7	RFFBBGB:	>Gendarm. Paris 0830 arq-e3/192 tfc to rflif VZCZCLFB204 PP RFLIF DE RFFBBGB 0003 2220738 ZNR UUUUU P 100738Z AOU 98 FM GENDARMERIE PARIS TO RFFECX/LEGENDMOBIL BORDEAUX 10 Aug (WP3)
10197.2	MKK	>London Army (Stanbridge),England,UK 0019 FDM-D (USB) Royal Army ch1 170/50bd test mg's w/id MKK (RHB)
10200	MKK:	>RAF LONDON (MKK) 0620 16 chan DCN interleaved vft on ISB (8 chan per s/band) (7/Aug) (DW)
10200.7	MKK:	>RAF LONDON 0623 rtty 50/340 10200.745. Ch2 in vft "ryi's qbf figs test de MKK" (7/Aug) (DW)
10204	ARCTIC FOX:	>1909 USB wkg NIGHTWATCH 01 w/comms ck, QSY to Z-165. (RB)
	STARDAY:	>1051z calling NIGHTWATCH01 10 August (NJ)
10206		Stockholm Radio, S: 1320 USB wkg Austrian fl. 17/Jul (ALF)
10215	HZN48:	>JEDDAH MET 1528 rtty 100/R/850 Met tfc. Not a particularly clean signal, marks seems to come up at different (x4) tones. (26/Log) (DW)
10217		UNID: 2052, cw, (in 5 fig code, cut zero, OTA 2055Z TTT (x2) (LBJ)
10248	8BY:	>French Intel, Paris, F 2050, cw, 8BY 262/097/311/476 // 12075 and 14931 (LBJ) * 2052, cw, vvv 8BY 097/629/532/476 //12075 and 14931 (LBJ) * 0147 03/Jul CW, "vvv vvv vvv 8by 8by 8by" marker and tri-graphs (MC)
10251		>UNID: Russian Navy, 0148 03/Jul 36bd/250 BEE, idle (MC)
10256.7	NPN:	>USN APRA HARBOR 0748 FAX End of USN style chart. Next two charts grainy but China/Korea/Japan/Indonesia etc and NW Pacific discernable. (9/Aug) (DW)
10261.5	MKK:	>RAF LONDON 0620 Piccolo/6 tone 10261.510. ID assumed fm previous logs. On standby. Offair 0624z. (21/Jul) (DW)
10263		>CIA Counting Station 2120 UTC USB (23/July) YL with numbers (IJ)
10264.1		>UNID: 0040 18/Jul 100bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
10270	TAD:	>Turkish MFA, Ankara 0217 31/Jul 228.7bd/170 RS-ARQ, ALIS Procedure (MC)
10281.2	RFLIG ?:	>French Forces Cayenne 2330 ARQ-E3 192/400 w/idles. (26/Jul) (DW2)

10281.3	RFLIG:	>FF CAYENNE 0629 ARQ/E3 192/400 8rc. Cct [RTI] to Ft de France. Controle de voie svc RFLI de RFLI. (2/Jul) (DW)
10284	HB8GVA:	>IFRC GENEVA 0828 PACTOR 200/200 Single freq ops. Mode I1. "I call you again in 2 mins" "RC2BEL [Belgrade] fm HB8GVA". Changes to higher rate mode - Pactor II, unable to decode. (7/Aug) (DW)
10299	HSW62:	>Bangkok Meteo 1455 rtty 50/180 Wx codes AAXX etc 10/Aug (RH2)
10299.4	HSW62:	>Bangkok Meteo 1450 rtty 50/119 !! Synop 20July (RH2)
10301		>UNID Commercial Station Australia 2115 UTC USB (23/July) 2 Oms with a chit-chat (IJ)
10308.8	FDI:	>Aix, France 16.40 ITA2 50/356 FAF with RY's, LE BRICK etc. (PT)
10314		>UNID 1740 USB 12/aug comms between OM and ?, OM was accompanied by a YL who was talking in the background. language russian or polish. anywun ? (JRU)
10334.7		>MFA CAIRO 0652 arq Tfc in offline encrypt and Arabic (ATU80). Constant space btwn bursts. Fm MFA Cairo (xa---f) to Athens (kns---gk). (2/Jul) (DW)
10364	RFTJDA ?:	>French Forces Libreville 2325 ARQ-E 48/760 w/odd idle signal. Constant transmission of "HQ" in ARQ-E. (26/Jul) (DW2)
10371		>UNID: 2052 unid 50/400 encrypted (19/Jul) (DW2)
10384.6	BAA21:	>Tianjin 2100 RTTY 50/850 "CQ de BAA 2/4/9/21/23/25" but I could not find it on any other known freq; (weather). 31/JUL (JD2)
10408	427:	>UNID: 2102, cw, 427 (x3) TTT (Repeated - OTA 2105Z - Tue) (LBJ)
10408.5	LN2A:	>Norway, 2100, cw, Marker (LBJ)
10426		High Pitched Polytone (XPH): 0620 UTC AM tonal numbers station (SD) * 0620 AM / Polytone Trans-mission - Russian spy station (12/Aug/98) (ANE) * 0620 (Aug 7) TONES (AB)
10428		>UNID: 2211 unid 75/700. C3Gold id'd as ARQ-M2 during idles. (19/Jul) (DW2)
10444		>UNID: 0217 25/Jul 40.5bd/500 81-81, tfc (MC)
10484.3	DOR:	>MFA Sofia 0838 rtty/210,2 !! tfc press review "vaxington post" every line begins with "?" tfc e 0904z 15 Jul (WP3)
10493	V5G:	>MFA Bukarest 1037 roufec/164 tfc rou then in cw 1031z:v5g v5g hr qru op qsp fr all tks vy gb ar sk 10 Aug (WP3)
10493.7	RFTJF ?:	>French Forces Port Bouet 2318 ARQ-E3 48/770 w/idles. (26/Jul) (DW2)
10536	CFH:	>Canadian Forces, Halifax 0153 25/Jul 75bd/850 Baudot, Met rpts for US commerical airports (MC) * 0525 FAX 120/576 test chart. Partly spoiled by European mil. RTTY, as usual on this frequency. 2/Aug (KB)
10626	RFFXL:	>FF Naqoura, LBN 1400 arq-e/184/360 8rpt idle tfc 5l (xzl014 rffab de rffxl) 15 Jul (WP3) * 0149 03/Jul 184.6bd/400/8/I ARQ-E, idle on betas (MC)
10701.9		>UNID: 1044 fec-a/192 ends with %%%%%%%%% 10 Aug (WP3)
10705.6		>UNID: 0709 VFT white noise with around 2500 Hz bandwidth. At least 53 tones in 48 Hz steps, finished at 0711 and followed immediately =by CW: "E NFB 73 AH O JSC E". Jul/16 (BG2)
10731		>Unid 1609 81-81 81/500 Unable decode 27July (RH2)
10755		>UNID: 2136 03/Jul 75bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
10798.3	RFLI:	>FF FT DE FRANCE 0933 ARQ/E3 192/I/385 8rc. Inverted. Tfc currently vri slow transfer, stuck in rq loops. C de v svc and tfc in French with RFLIGZ (Cayenne tributory) badly broken but seems

		cfm reported cct Ft de France - Cayenne. (7/Aug) (DW)
10805		>Stockholm Aeradio Sweden w/November Alpha 0520 UTC USB with Pps (3/August) (IJ) * 1248 USB clg unid. 17/Jul (ALF)
10814.4		>UNID: 0705 VFT R39-1 with 16 channels spaced at 170 Hz, channels =4, 8, 9, 11 with mark only, all others with 75 Hz FSK. 16/Jul (BG2)
10820	CIO2:	>MOSSAD NO. STN. 1746 AM 12/aug CIO2-transmission (new freq for me, does anywun know since when it is used by mossad ? (JRU)
10822	DFZG:	>MFA BELGRADE 1043 FEC/A 144/I/400 Online encrp tfc with typ 4fig grps and "xyxyxy" entry. Bk in tfc "hbhbhb da ne gubino vremem hr nw dalje " then tfc. 1108z "82 hbpse rpt 82 hb i reci sta si primio? " etc. Ends "big 73 fm Jera" (7/Aug) (DW)
10848.6	FOXTROT WHISKEY:	>Air Defense Warning (ADW) Net 0436 USB for Pacific Rim Joint Fleet Exercise, w/DELTA, others. (RB)
10863.4		>UNID: 0659 VFT sounds like white noise with 4800 Hz bandwidth, 18 =tones 282.6 Hz apart, tones 1 and 5 unmodulated. 16/Jul (BG2)
10871.8	P:	>Ny Kaliningrad, RUS 1330 CW single letter P. 6/Aug (KB)
10872	C:	>Ny Moscow, RUS 0214, cw, Marker (LBJ) * 1330 CW single letter C. 6/Aug (KB)
	S:	>Ny Arkhangelsk, RUS 0214, cw, Marker (LBJ) * 1820 CW single letter S. 6/Aug (KB)
10873.7		>F UNID 1750 CW 12/aug continuous transmission of the letter f. info anywun ? (JRU)
10906.5	GXQ:	>RN LONDON 1542 8 chan DCN interleaved vft on usb. Hvy rt qrm. (7/Aug) (DW)
10908.455	GXQ:	>RN LONDON 1544 rtty 50/340 Chan 5 in vft. Marker "qbf figs test de GXQ ryi's nnnn" (7/Aug) (DW)
10929		>Russian Man (S7), RUS 0540 AM numbers station (August schedule) with call-up 549 (SD) * 0550 UTC AM numbers station in progress (SD) * 0540 (Aug 6) AM 549 549 549 1 (R5) 248 72 248 72 5FG 000 000 (AB)
10945	CFH:	>CF HALIFAX (CFH) 1730 rtty 75/850 Marker "NAWS de CFH zkr f1 2822 3287 4161 6254 8324 12374 16573 22194 ar" (7/Aug) (DW)
10953	HBD20:	>MFA Bern 0905 arq tfc 5l to ? then "no message" 15 Jul (WP3)
10954.8	RFTJF ?:	>French Forces Port Bouet 2314 ARQ-E 48/760 w/idles. (26/Jul) (DW2)
10955.1	RFTJF ?:	>FF PORT BOUET ? 1735 ARQ/E3 48/850 4rc. Logged May97 - no ID then cfmd. Idling on "i alpha alpha alpha". (7/Aug) (DW)
10961.7	RXFPDF:	>0937 arq-m2/200 tfc 5l bt gr429 4748 nnn "FDX" und "BVA056" 15 Jul (WP3)
10962.2	RFFVAY:	>FF SARAJEVO 1950 ARQ/342 200/400 8rc. 2 chan tdm. Ch:A and B, betas. Two msgs badly corrupt Ch:B cct [FKWB] air tfc. (7/Aug) (DW)
10963	HBD20:	>MFA Bern 0912 arq tfc 5l to ? then "no message +?" 15 Jul (WP3)
10967	HBD90:	>1006 sitor-a 5 l to hbd20 6 Aug (WP3)
10968.01		>UNID: British Mil, 0045 24/Jul Piccolo, idle (MC)
10969	HBD20:	>MFA Berne, SUI 1021 sitor-a tfc to ? 5l 6 Aug (WP3) * 0535 UTC ARQ with 5Lgs (28/July) (IJ)
10975	370:	>UNID: 2105, USB, 370 (x3)1234567890 (Cont'd) (Female) (into tfc at 2110Z) Count 93 (x2) 49530 59262 ... (3+2) (Sunday) (LBJ)
10980	RDD79:	>Moscow Meteo 0525 FAX 90/576 400 hPa analysis. 7/Aug (KB)
10987.1		>Presumed Chilian Naval Station 0425 UTC RTTY 100 Bd/425 with 5Lgs & INT QSL QSL BBB KKK (8/August) (IJ)
10990.68		>UNID: 0816 FS-1052appC 16 tone FSK with shift 110

		with extra Doppler tone at -300Hz offset (9 July) (BG2)
10991.8	RFFVAY:	>FF Sarajewo 1210 arq-m2/200 wx from lqsa ldsp 16 Jul (WP3) * 1210 arq-m2/200 fkwb001 fdxb168 zczc fkwb035 10 Aug (WP3)
11000	RIW:	>UNID: 2116, cw, RIW R 497 K (Qsl msg nr 497) (LBJ)
11016		>UNID: 0100 18/Jul 81bd/200 81-81, tfc (MC)
11016.4	GXQ:	>RN LONDON 2225 8 chan DCN interleaved vft on usb. (7/Aug)(DW)
11016.8	GXQ:	>London Army (Stanbridge),England,UK 0102 FDM-D(USB) Ch3-5 170/50bd Royal Army test msg's w/id: TEST DE GXQ (RHB)
11018.3	GXQ:	>RN LONDON 2226 rtty 50/340 11018.355. Marker "qbf figs test de GXQ ryi's". (7/Aug) (DW)
11021		>ANSETT DISPATCH: 2400 UTC USB wkg VH-HYD with METARs for various Australian cities (SD)
11023.7		>UNID: Egyptian Embassy, Havana 2236 10/Jul 100bd/170/E SITOR-B, Calling Cairo on selcal "QQUM" (MC)
11030	AXM34:	>Melbourne Meteo 0520 FAX 120/576 text page "Australian Radio Facsimile -- Future of AXM/AXI Services". 2/Aug (KB)
11034.7		>EGYPTIAN EMB Washington 2231 arq Initially irs mode. Tfc in Arabic (ATU80 fm ? (jg kdpsm [al sid?]). Msg in offline encrypt with header in English - From Bostan Washingont to Khargya Cairo.(7/Aug) (DW)
		>Egyptian Embassy, Havana 2237 10/Jul 100bd/170/E SITOR-A, ATU-80 MSGs to Cairo (MC)
11041		>Polytone Stn XPH 0610 AM 22/july no msg (JRU) * 0620 (July 29) TONES (AB) * 0620 (July 10) TONES Long message, ca 5 mins. Very loud signal (AB)
11043.58		>ARQ-E3 192bd Unid 0107 425/192bd French Forces idle
11044.5		>UNID: NATO Mil, 0817 31/Jul 2400bps PSK UNID System (MC)
11053	NAVY 515:	>inbound NAS North Is. ETAs 0005z and 0110z 7 Jul, wkg Andrews VIP for pps. 2258z 6 Jul (JJ)
	NAVY 676:	>inbound NAS North Is. ETAs 0005z and 0110z 7 Jul, wkg Andrews VIP for pps. 2258z 6 Jul (JJ)
	SAM 201:	>on the ground (DV-2 + 6 upon departure for Andrews) wkg Andrews VIP for preflight pps. 0228z 27 Jul (JJ)
11055.5	MKD:	>Akrotiri, Cyprus 10.31 Piccolo 6 Op chat to MUH.(PT)
11059	Air Force 2:	>inbound Kiev wkg Andrews VIP for pps re: Secret Service comms channel assignment (said to use "MIKE") and FAX connectivity problems. 0228z 22 Jul (JJ)
11069	NNN0MBE:	>USN Mars San Antonio TX 0415 UTC ARQ (5/July) with MARSGRAMS (IJ)
11080.2		>SANA Damascus 1711 rtty 50/400 Nx\FF 16 July (RH2)
11084	SHADOW 58:	>relaying msg from COYOTE to SHADOW 21 re: flightline shut down due to wx. 0510z 23 Jul (JJ)
11089.9	KVM70:	>HONOLULU MET 0635 FAX Satellite pix. (20/Jul) (DW)
11110.5	RFLI:	>FF Fort de France 0705 arq-e3/192 ~vzczcbfl098 oo rfli de rfli 2180703 znr uuuuu controle de voie nnnn 6 Aug (WP3)
11119		>USAF AWS: 1849 RTTY 75/800 w/synoptic wx tfc. (19/Jul) (DW2)
11123.6		>USN Link-11 Coordination Net 0312 USB for Pacific Rim Joint Fleet Exercise, w/PAPA, TANGO, KF, DH, JM, others. (RB)
11134.5		>US Tuna Fishing 0200 UTC LSB 2 OMs with a chit-chat (1/August) (IJ)
11166		>Russian Man (S7): 0540 AM numbers station with call-up 131 (SD)

>Spanish Man (V7): 0600 UTC AM with null msg 103 103 103 000 (SD)

11167 >Russian Man (S7), RUS 5.40 (July 28) AM 131 131 131 1 + 5FG 000 000 (AB)

11175 >USB voice "Mainsail" EAM bdcst's 1806-1808 EDT (RHB)

AIR GUARD 0073: >(not sure abt. #) 0825 USB 1/aug rdo. ck with Thule (JRU)

BLACKCAR: >prob USN E-6 TACAMO 1829 USB wkg Andrews w/pp: DSN 339-xxxx (Tinker AFB) to "Command Center". "I have a 369 voice msg for your station. Group count 06: I5I FKC ENI BNX DND EZB." (19/Jul) (DW2)

BLUE ANGEL 09: >USMC TC130G support a/c for Blue Angels 1915 USB clg 'mainsail', Andrews & Offutt no joy for 30 mins, also seemed to use ID "NAVY LL44". (RB)

CROWN 95: >1558 USB 6/aug wkg. Croughton with pp re. flight plan (JRU)

ELVIS 627: >1454 USB clg mainsail for maintenance radio ck. (RB)

GH02: >poss Grey Hawk 02 2235 USB wkg Andrews. Req pp to Offutt Base Ops. "My playmate, Grey Hawk 01 landed at Tinker AFB. Looking to see if he has taken off....Understand, you cannot pass this information on this net." (19/Jul) (DW2)

HERKY 871: >1025 USB calling Incirlik, no joy. (MB3)

HITMAN 04: >2123 USB wkg unid global w/pp Pope AFB base op's, needs Customs & load team upon arrival, passes ETA. (RB)

LA 286: >1806 USB 11/aug rdo ck with Thule (JRU)

LINED: (spelled) 1208 and 1404 USB passing 8 groups + authentication to Incirlik, request relay to Croughton. LINED is vy strong but fading rapidly and sounds much like a prop engine aircraft. (MB3)

Lockheed 5411: >2253 USB wkg Offutt for radio check. (27/Jul) (DW2)

N4099R: >Unid 1428 USB clg Andrews no joy repeatedly. (RB)

NAVY RU161: >1218 USB, wkg Incirlik w/ pp to European DSN #624-7607 (no answer) then 5371. ETA in 40 min. 01/Aug (MB3)

NAVY WV090: >C-130T of VR-53, Martinsburg, WV 2211 USB wkg Andrews w/pp Roosey Roads, PR base op's, passes ETA, cargo & needs. (RB)

NIEY: >USNS Bold T-AGOS-12 0112 USB clg Croughton Global for radio check. (25/Jul) (DW2)

PASSPORT: >1753 USB wkg Offutt w/pp to WALDORF, GEP Control Point, Waldorf, Md. (RB)

QUID 55: >1622 USB 12/aug wkg. Croughton, req. wx for Mildenhall (JRU)

Raleigh 41: >2250 USB clg MAINSAIL. No joy. (19/Jul) (DW2)

REACH 06: >1659 USB 3/aug wkg unid global, enrt Ramstein. (JRU)

REACH 1065: >0806 USB 1/aug wkg. Thule with rdo ck (JRU)

REACH 1819: >1023 USB a/c tail #30603 wkg Incirlik from on the ground LWSK (arrived here from LBSF), eta LHBP 1245, will fly over =Austria tomorrow. (MB3)

Reach 24: >USAF a/c clg "MAINSAIL" 0111 USB voice USAF a/c (RHB)

Reach 6002: >2328 USB wkg Andrews w/pp to Dover Command Post. (19/Jul) (DW2)

S4JG: >1016 USB clg mainsail, later 'any station this net' w/ request for rdo check, no joy. (MB3)

SAM400: >2229 USB clg MAINSAIL. (27/Jul) (DW2)

SCALP 12: >B-52H 2234 USB wkg OFFUTT w/pp to Barksdale Meteo. (27/Jul) (DW2)

SHELL 72: >0853 USB 2/aug clg. mainsail, no joy. (JRU)

SPAR 66: >0816 USB 1/aug clg. mainsail and raising croughton, pp to dsn #4809292, eta Ramstein 1005.

(JRU)

SPAR 99: >0754 USB 1/aug wkg. Croughton, enrt. Cairo-Ramstein, req, wx for Ramstein and gets it from usafe metro, posn. somewhere over italy at fl 330. (JRU)

XPH: >Thule AB,Greenland 0111 USB voice USAF GHFS answers Reach 24's "Mainsail" call for p/p (RHB)

11178 >UNID: 0812 USB 1/aug two OMs in pres. portuguese, sound military-like. (JRU)

11180 SPAR 06: >1207 USB, private pp thru Croughton between a crew member and his wife back home. A/c is 90 minutes before arr. in Spain 01/Aug (MB3).

11181 ARCTIC FOX: >1906 USB wkg NIGHTWATCH 01 w/comms ck on Z-200. (RB)

PACAF 01: >wkg Hickam Global for pp into Yokota wx. 0452z 22 Jul (JJ)

11184.45 >UNID: Newfoundland, Canada 0134 10/Jul HF DataLink System (MC)

11189.8 >UNID: 1943 USB, 2 m in Arabic language. 01/Aug (MB3)

11193 >Aeroflot Moskva: 1426 USB, wkg unid AFL flt. 01/Aug (MB3)

11220 Air Force 2: >(SAM 971): outbound New Orleans wkg Andrews VIP for pps re: arrivals at Andrews AFB. 2305z 3 July (JJ)

SAM 049: >outbound New Orleans wkg Andrews VIP for pps re: arrivals at Andrews AFB. 2305z 3 July (JJ)

SAM 202: >wkg Andrews VIP for pp to SAM Command. around 2245z 21 Jul (JJ)

SAM 27000: >wkg Andrews VIP for pp re: talking with Boeing about an aircraft and something called CMS. 2130z 25 Jul (JJ)

SAM 300: >wkg Andrews VIP re: F-646. 1630z 26 Jul (JJ)

11226 SAM 203: >wkg Andrews VIP for pps to SAM Command re: mission to Moscow delayed. 0445z 2 Jul (JJ)

11250 >USAF Anderson & McClellan AFBs 0650 UTC USB with ALE Bursts & standing by for DATA (31/July) (IJ)

11256 HOLLOWAY: >Ethiopian Airlines Addis Ababa Ethiopia 0525 UTC USB (25/July) OM with aircraft calling this is Holloway (IJ)

11291.7 >MFA Cairo 1634 arq Selcalls to QQTX (Prague) + XBVG (Paris) 22July (RH2)

11300 >Cairo Radio, EGY 0137 8/12 clg Khartoum, no joy. (AR3) * 1419 USB, passing tfc info to Aden. 01/Aug (MB3)

>Djibouti Radio, DJI 2234 8/13 passing tfc w/Mogadishu. (AR3)

>Seychelles Radio, SEY 2208 8/13 passing tfc w/Mogadishu. (I hear these two doing this almost every night. Seychelles has an outstanding signal; Mogadishu usually rather weak). (AR3)

>Tripoli Radio, LBY 0137 8/12 wkg Sabena 561 position rpt. (AR3)

OI3V: >UNID: 1353 CW wkg 7P1Z fr QST, 'OI3B = 645 K'. 22/Jul (ALF)

11306 GKX: >Portishead Radio 1151 USB wkg G-??YD w/ a pp to ops. (MB3) * 1820 USB, wkg Sobelair 557. 01/Aug (MB3)

11319.9 BR6: >UNID: 1359 CW marker: 'CQ CQ CQ DE BR6 BR6 QTC QTC', 1400z 3 LGS msg. 22/Jul (ALF)

11320 BR6: >1357z 22 BR6: unid w/CQ-marker: CQ CQ CQ DE BR6 BR6 QTC QTC 1400z msg (3 LGS) never seen this style (3 LGS) and this calling-marker (from tape) and this kind of 'Trigraph' callsign fr CW. ANY IDEAS ? (ALF)

11342 >MFA Oslo ? 1051 twinplex F7B-3 tfc norw. 6 Aug (WP3)

CONNIE 709: >0028 USB wkg NY ARINC w/pp to company op's. (RB)

11345	ECGMY:	>1943 USB 3/aug pp tp company in spanish. (JRU)
	EUROCYPRIA 814:	>0729 USB 1/aug s/c ck CR-HK, pp to ops in greek, auto-pilot mentioned several times, pp to eurocypria engineering (JRU)
	MAERSK 617:	>0734 USB 6/aug pp to company. icao-code is MAE (JRU)
	SDJ:	>Stockholm Radio, S: 1745 USB wkg GDF 8 of Polar Air Cargo s/c HK-AL: N856FT B747 from Fujairah to RTA. 1740z wkg EC-GVB, unid operator ?. 15/Jul (ALF) * 0948 USB, EC-GGE w/pp to ops. 01/Aug (MB3) * 1055 USB wkg AA 113 s/c check AP-DQ. (MB3)
	VIKING 045:	>0745 USB 6/aug s/c ck AL-ES (JRU)
	VOLARE 1700:	>1946 USB 3/aug pp to company in italian ! (ukrainian cargo company from kiev). (JRU)
	WORLD 277:	>0753 USB 6/aug qsy'd to 13342, msg. to company there. (JRU)
11350		>UNID: 2000 CW marker, cont.: 375 375 ... 375 375. 03/Aug (ALF)
11362		>UNID: 1058 USB comms between a f and several m in RR (MB3)
11387		>Sydney VOLMET 0931 USB w/aviation wx. //6676// (21/Jul). (DW2)
11412		>UNID: Royal Navy, 0220 25/Jul VFT: 2ch of 2400bps PSK UNID System (MC)
11415		>UNID: Royal Navy, 0221 25/Jul VFT: 2ch of 2400bps PSK UNID System, 600Hz guard centered on 11414kHz (MC)
11416		>XPH - Polytone station, 2020 (Aug 11) TONES (AB)
11416.7	RFFVAY:	>FF SARAJEVO 0556 ARQ/342 200/400 8rc. 2 chan tdm. Chan A: and B: betas. 0600z Chan:A cct [FKWA]. Wx (SAYG) for LQSA/Sarajevo followed by forecast (FCYG). (19/Jul) (DW)
11419.9		>MFA COPENHAGEN 0645 TWINPLEX 100bd -400/-200/200/400 F7b-1. Single freq ops. Receiving (online encrypted) tfc fm unid embassy. ID assumed fm previous logging. (29/Jul) (DW)
11436		>UNID: 0034 24/Jul 75bd/160 FSK UNID System, sync, cont, ACF=0 (MC)
11445	SAM 300:	>wkg Andrews VIP for pps to SAM Command re: write-ups and diverting to Dulles. 2220z 23 Jul (JJ)
	SPAR 06:	>wkg Andrews VIP for pp to HILDA EAST re: depart MacDill 2207z, ETA Paris 0705z, and Air refuel with MAIN-89 (sounds like an Andrews callsign?) at 0105z. 2355z 23 Jul (JJ)
11452.64	IMB3:	>Rome Meteo,Italy 0119 Rtty 850/50bd met data (RHB)
11452.8	IMB3:	>Rome Meteo 1650 rtty 50/850 Wx codes 19July (RH2)
11453	IMB3:	>ROME MET 0619 rtty 50/R/850 30 hz low. Met tfc. (19/Jul) (DW) * 1129 03/Jul 50bd/850 Baudot, "cq cq cq de imb31/32/33" (MC)
11453.5	IMB3:	>Rome Meteo 1758 rtty 50/850 Wx codes 01 Aug (RH2)
11460	NAVY 496:	>VP-3A BurNo 150496, a/c of CINCLANT (Commander-in-Chief Atlantic Fleet) 0205 USB clg Andrews w/pp tfc. (RB)
	NIGHTWATCH 01:	>wkg Andrews for data via '4 tone' modem. 0743z 27 Jul (JJ)
	SAM 202:	>DV-2 + 7, wkg Andrews VIP for pp to SAM Command re: 0325z ETA Andrews. 0152z 23 Jul (JJ)
	SAM 203:	>wkg Andrews VIP re: 2010z ETA Andrews. 1853z 25 Jul (JJ)
	SAM 375:	>DV-2 + 7, wkg Andrews VIP re: 0520z ETA Spangdahlem. 1810z 19 Jul (JJ)
11466	SAM 201:	>C-20B tail 86-0201 0354 USB Special Air Mission VIP flt, wkg Andrews VIP on '965' w/pp tfc. (RB)
11468		>FAPSI 1550 rtty 75/500 Unable decode & missed Link No. 11/Aug (RH2)
11482.2		>UNID: 0622 fec 100/I/170 End of signals "54s -- -- " then offair till 0632z " 2 2 2 30 3030 30 30 30

		- 07h30m54s". This is alpha time (UK BST). Transmission always 2.5 min after stated time. Rpts evry 10mins fm H+00. (19/Jul) (DW)
		>UNID: French Gov't, Paris 2123 25/Jul 100bd/170/I SITOR-B, Time info in CBRS mode (MC)
11484.5		>UNID: 0224 25/Jul 16 tone modem, tones @ 120Hz from 950 to 2580Hz, pilots 600 & 2900Hz (MC)
11487		>UNID: Australian net: 0516 USB with chit chat and selcals (SD)
11494	RESTRAIN:	>2059 USB wkg NIGHTWATCH on Z205 for radio ck, QSY Z225. (RB)
11524		>UNID: Russian Navy, 0039 24/Jul 36bd/250 BEE, idle on reversals (MC)
11545		>LINCOLNSHIRE POACHER (E3) 1604 USB ID: 41836, tx-problems during call-up, //10426, 8464 (JRU) * 1708 USB 10/aug //6959 ID: 41836 (JRU)
11598		>UNID: Russian Navy, 0142 18/Jul 36bd/200 BEE, idle (MC)
11602.5	6MK64:	>YONHAP Seoul RTTY 50/400 w/sta id & nx EE,id also showed 7868 - nil heard, 0030 31/Jul (ML2)
11647.9		>UNID: 1745 195.3 bd Four tones spaced 200Hz - daily after 1745 UTC 28/JUN (JD2)
12066		>Spanish Man (V7): 0611 UTC AM with null msg 103 103 103 000 (SD)
12075	8BY:	>UNID: 2050, CW, vvv 8BY 097/629/532/476 //10248 and 14931 (LBJ)
12125		>UNID: 1526z F1 Baudot 500Hz FAPSI in progress, 11177 70037 65392 22875 04349 and after off air (IE)
12126		>High Pitched Polytone (XPH): 0640 UTC AM tonal numbers station (SD) * 0640 AM / Polytone Tranmsission - Russian spy station (12/Aug/98) (ANE) * 0640 (Aug 7) TONES (AB)
12134		>UNID: 1609 Crowd 36 Unable decode 28July (RH2)
12140		>University of the South Pacific Suva Fiji 2125 UTC USB (23/July) YL with handing over to our guest in the studio (IJ)
	HWN:	>FN PARIS 1511 rtty 150/850 Marker "FAAA de HWN testing ry's sg's ry's sg's nnnn" (19/Jul) (DW)
12141		>XPH Polytone station, 6.40 (July 10) TONES Long message, ca 5 mins. Very loud signal (AB) * 0640 (July 29) TONES (AB)
12160.3		>UNID: 2327 Corduroy noise bw 2777Hz 24 PSK carriers shift 110 sagging at 46Hz/s rapid fading rising at 3666Hz per second with a constant length of 0.36 seconds; 4+4 recorded here previously (28 July) (BG2)
12190.2	RFVI:	>FF Le Port 1650 arq-e3 100/400 Idling 19July (RH2)
12208.1		>MFA SOFIA ? 1141 ARQ/IRA 212.9/R/550 Pseudo random characters. 10bit frame. Occasionally "TELEGRAMAJoF5cVdt$'yqEac" repeated four times. (20/Jul) (DW)
12212.5	PWH33:	>Brazil Navrad 1231 rtty 75/850 RY/ID/Foxes + Boletin de Ordones (Daily Orders) in PP 16July (RH2)
12214		>Boaties cruising the South Pacific 2340 UTC USB (23/July) 2 Yls with a chit-chat one of them mentioned they wouldn't be going to the Solomon Islands after that crocodile attack happened. (IJ)
12227	FOG4:	>UNID 0635 CW. QRM reduces -now series "vvv's" followed by "OY6N de FOG4 qrv" "qtc" then tfc in offline encrypt 5ltr grps inc accentuated letters. (21/Jul) (DW)
	OMZ66:	>MFA BRATISLAVA 0631 CW. Hvy qrm. to ? but "de OMZ66" (21/Jul) (DW)
12229		>UNID: 0128 10/Jul 81bd/500 81-81, tfc (MC)

12239		>UNID: 1900 RTTY 75/500 "+030" repeated indefinitely; no CR or LF; Figure-shift after each "030" 30/JUN (JD2)
12240	CHARLIE-32:	>wkg unids. 0505z 26 Jul (JJ)
12245	WBZ7735:	>Sailing-sloop Retriever 1933 USB wkg WOM: AT&T High Seas Radio Miami w/ship-shore pp. //13092. (19/Jul) (DW2)
12274.4	MW:	>UNID Italian 1710 USB/J2B 75/850 ? Warship? wkg similar callsign on voice, and RTTY at +2000 Hz offset 23/JUN (JD2)
12352	WYF4487:	>Unid MV 2256 USB wkg unid. (19/Jul) (DW2)
12353	WBN3013:	>Tug Century 1712 USB (Crowley Maritime) wkg WPE, Jacksonville w/status report. (RB)
	WQUE:	>UNID: WBWE 6251 USB wkng Long Beach no joy.(CT).
12359		>UNID: two ships on this simplex maritime channel, 1834 USB 30/july, OM talks abt. engine test and a shock generator, crew arrives on monday, store on wednesday, another ship with the name stafford-shire mentioned. (JRU)
12376.9		>UNID: 1635 195.3 bd 4 tones spaced 200 Hz - no detectable ACF - any ideas, anyWUN? 27/JUN (JD2)
12394		>UNID: 0043 18/Jul 81bd/200 81-81, tfc (MC)
12416.5		>UNID: 2320 30/Jul PacTOR-2, PSK tfc (MC)
12513	SXRY:	>M/V Angelic Faith 0029 ARQ w/tlx re sailed Lake Charles bound Houston, sitor ID 16728 SXRY. (RB)
12550.5	P3FD7:	>Blue L 0307 CW clg USU, may have gotten c/s wrong. (RB)
12577		>GMDSS/DSC ALERT CHANNEL 0901 DSC 100/170 43 packets in 6.5 hrs. Nil distress/urgency alerts, 20 Safety/TEST and 23 illegals. (29/Jul)(DW) * 1100 fec 27 Packets filed over 6.5 hrs - Routine 18; Safety 2; Errors 6; Test 1 01Aug (RH2)
12580	GKE5:	>Portishead Radio,England,UK 0135 Sitor-? Marine idle w/cw id: GKE5 (RHB)
12590	EAD:	>MADRID R. 1726 CW 10/aug channel marker (JRU)
12602.5	IAR:	>ROMA R. 1738 CW 10/aug channel marker (JRU)
12607.5	WNU:	>Slidell Radio 1856 FEC w/tfc list. (19/Jul) (DW2)
12610.5		>Copenhagen R. 1637 fec Nx\Dansk & Wx forecast. Not listed and not heard here before ! 01Aug (RH2)
12634	TAH:	>ISTANBUL R. 1742 CW 11/aug channel marker (JRU)
12639.5	OST:	>OOSTENDE R. 1742 CW 10/aug channel marker (JRU)
12649.5	XSG:	>SHANGHAI R. 1751 CW 10/aug channel marker (JRU)
12662	7TF8:	>Boufarik Radio, ALG, CW CQ mkr "7TF", 02:55, 29/Jul (JRC)
12666.9	PWZ:	>RIO DE JANEIRO NAVAL 1755 FAX Weak charts. a. Sea water temperature b. sfc analysis 1200z. (24/Jul) (DW)
12673.4	CLA33:	>Havana Radio 1315 CW CQ marker "CLA". 1/Aug (JRC)
12678		>PENANG RADIO (9MG) 1613 CW. Marker partially obscured by Rogaland Radio/LFI chan free marker. (29/Jul)(DW)
12684	PKE:	>Ambon Radio, INS, 1141 CW "CQ DE PKE QRU? K". 29/Jul (JRC)
12689		>AFN feeder, USA? 6.21 (July 30) USB News (AB) * NPR news in USB, 11:45, 29/July, Heard often. Reminds me of the "good old days" when AT&T fixed stations sent programs overseas. Why is it in the marine band? (JRC) [AFRTS broadcast for the US Navy - LOGS]
12689.5		>AFN/AFTRS Puerto Rico 0630 USB 3/Aug (BC3) * 1138 UTC USB with music, CNN news and message about sexual harassment on duty (SD) * 0727 USB beginning to be audible in =Philippines. Some "co-channel" interference from other unid SSB users. (SD2) * bdcst of Yankees-Rangers Baseball game 0210 id' as AFN Network. (RHB)
12698	XSQ:	>Guangzhou Radio, CHN 1244 CW CQ marker. 8/Aug (JRC)

12702	XSQ:	>Guangzhou Radio, CHN 1315 CW CQ mkr. 25/Jul (JRC)
12718	SPH:	>Gdynia Radio, POL 2205 CW CQ marker. 6/Aug (JRC)
12719.5	ZLO:	>Waiouru Radio, NZL 1144 CW DE mkr, weak. 29/Jul (JRC)
12727.5	LGJ:	>Rogaland Radio 1903 CW w/CQ tape. (19/Jul) (DW2)
12738.5	PPR:	>Rio de Janeiro Radio 0337 CW V marker. 7/Aug (JRC)
12748	IRM:	>CIRM ROME 1503 CW. Marker "vvv IRM free radio medical service and amver service on 8/16 mhz common k" (1/Aug) (DW)
12750	NMF:	>USCG Boston 1904 FAX 120/576 w/fax schedule. (19/Jul) (DW2)
12780	D3E61:	>Luanda Radio, AGL 0048 CW CQ marker. 7/Aug (JRC)
12790	NMG:	>USCG New Orleans 1913 FAX 120/576 w/end of chart. New chart at 1915. (19/Jul) (DW2)
12808.5	VTG7:	>IN MUMBAI 1613 CW. Signal not clean keyed tone but very broad rasping note. Marker "VTG 4/5/6/7" (9/Aug) (DW)
12811.48		>UNID: 2342 broadband noise bw 3000Hz no banding, fade slope at 2100Hz/sec (28 July) (BG2)
12826.5	WNU34:	>Slidell Radio 1923 CW w/CQ tape. (19/Jul) (DW2)
12829		>UNID: Russian(?) 17.35 FAX 60/576 Long news sheet (I think) in cyrillic lettering. I'm not sure how to pronounce all the Russian letters, but part of the header looked like "VYIPUSK-12".(PT)
12835.4	GKB5:	>Portishead Radio 0108 CW DE marker "GKB". 7/Aug (JRC)
12840	JMC5:	>TOKYO MET ? 1658 CW. End of bulletin in English - reports? Ends "ar va" but no ID. (9/Aug) (DW)
12847	WCC:	>CHATHAM RADIO 1511 CW. Marker "cq de WCC qsx 4 6 8 12 16 mhz k". (1/Aug) (DW)
12851	ZSJ:	>Ny Capetown 1308 CW CQ marker. 25/Jul (JRC)
12855		>UNID: 1515 CW. End of qso and signoff. No ID. No return to marker. (1/Aug) (DW)
12865	XSW:	>Kaohsiung Radio, TWN 1255 CW CQ marker. 1/Aug (JRC)
12877.5	UIW:	>KALININGRAD RADIO 2213 CW. Bulletin in Russian at 26 wpm. (11/Aug) (DW)
12887.5	EAD44:	>Madrid Radio 1927 CW w/call tape. (19/Jul) (DW2) * 0101 CW DE mkr "EAD3/EAD44". 7/Aug (JRC)
12891	UFN:	>NOVOROSSIYSK RADIO 1506 CW. Marker "de UFN 4". Band indicator increments every couple of passes. (11/Aug) (DW)
12919.3	MGJ:	>RN FASLANE 1438 4 chan fleet broadcast vft on USB. (9/Aug) (DW)
12921.1	MGJ:	>RN FASLANE 1440 rtty 75/340 Chan 3 in vft. CARB. (9/Aug)(DW)
12937	HLG:	>Seoul Radio 1300 CW "CQ DE HLG QSX 12 MHZ K". 25/Jul (JRC)
12942	RKLM:	>ARKHANGELSK RADIO 1414 CW. Marker "4LY de RKLM qsx 12551.5/16735.5 k" (9/Aug) (DW)
12942.14		>UNID: 2353 broadband noise 9dB-bw 3027 1dB-bw 1770Hz (probably a single tone wave form) (28 July) (BG2)
12948	JFF:	>JN TOKYO 1400 CW. Marker "cp de JJF fb3" few times. Final transmission possibly serial "nr 89" corrupt as weak. (9/Aug) (DW) * 1430 CW. Marker "cp de JJF fb3" ends with "zic nr8950 ar". Transmission only on H/H+30. (9/Aug) (DW)
12970	SUH4:	>ALEXANDRIA RADIO 1349 CW. Marker "cq de SUH qru?"(9/Aug)(DW)
12973.5	PKX:	>Jakarta Radio, INS 1249 CW "CQ DE PKX QRU? K".25/Jul (JRC)
12984	VNG:	>Llandilo TS, AUS 1300 AM time ticks, CW multiple ID on =hour. 1/Aug (JRC)
12989	LPD88:	>General Pacheco Radio, ARG 0058 CW V marker. 7/Aug (JRC)
13015.6	IAR:	>ROME RADIO 1343 CW. Marker "vvv de IAR k 4 8 12 16 22 mhz = we lsn 22 and reply on 17206.1 kh"

(9/Aug) (DW)

13020.4 VRX60: >Hong Kong Radio 2250 CW CQ marker "CQ DE VRX60 QSX CHANNEL 3/4/5/6". 1/Aug (JRC)

13042.5 FUV: >FN DJIBOUTI 1340 rtty 75/850 Marker "FAAA de FUV ry's sg's int zbz kkkk kilo" (9/Aug) (DW)

13069.5 JOS: >Nagasaki Radio 1932 CW w/call tape. (19/Jul) (DW2)

13235 >UNID: 2121 30/Jul 75bd/850 FSK UNID System, revs, ACF=64 lead-in, ACF=0 tfc, revs (MC)

13242 PACOM 01: >inbound NAS North Is. ETA 0145z wkg Hickam Global for pps on this discrete freq. 0030z 7 Jul (JJ)

13247 >UNID: Thought I heard SAM 375, but too weak to be sure. 2215z 25 Jul (JJ)

13267 >Khabarovsk VOLMET 0745 USB YL/RR w/aviation wx. (21/Jul). Also at 0945. (29/Jul). (DW2)

13282 >Auckland VOLMET 0751 USB w/aviation wx. //8828/6679//. (21/Jul). (DW2)

>Honolulu VOLMET 0735 USB w/aviation wx. (21/Jul). (DW2)

>Tokyo VOLMET 0741 USB w/aviation wx. (21/Jul). (DW2)

13330 FALCON 77CE: >1229 USB "over Detroit" clg Houston, Houston responds but is not heard. (RB)

13342 SDJ: >Stockholm Radio 1050 USB wkg MSR775 s/c check HM-LQ. (MB3) * 1229 USB, MSR672 w/pp to ops. 01/Aug (MB3)

13397 DFZG: >MFA BELGRADE 0611 rtty 75/R/400 Tfc in offline encrypt. End of sked (broadcast) at 0613z (27/Jul) (DW)

13405.9 >UNID: 0203 25/Jul 100bd/700 FSK UNID System, sync, cont, ACF=0 (MC)

13416 >XPH - Polytone station, 2000 (Aug 11) TONES (AB) * 2000 (Aug 7) TONES (AB)

13440 >USAF Andrews w/Hickam AFB 2245 UTC USB with Andrews wanting the phone No of the Hickam Security Police (1/August) (IJ)

Air Force 2: >on the ground (maybe Shannon?) wkg Andrews VIP re: 2325z block time and refuel prior to departure for Kiev. 2324z 22 Jul (JJ)

SAM 300: >DV-3 + 4, wkg Andrews VIP for pp to SAM Command re: departed 1605z, ETA Andrews 1855z. 1632z 26 Jul (JJ)

13459.05 ZLO: >NZ 2359 VFT Barrie 7 channels all the same with time delays of 1 or 2 secs, order of channels 371462 5 (28 July) (BG2)

13463.3 >UNID: 0319 crowd36 40/40 11+11+10 tones encrypted (28 July) (BG2)

13479.7 RFFTC: >France 12.20 ARQM2 200/353 AIR SECSOULOGMATSOL ISTRES with tfc to RFFVAY, Sarajevo via "FDXA" circuit.(PT)

13488.5 MKD: >Akrotiri, Cyprus 11.39 Piccolo 6 Op chat to MUH.(PT)

13499 EAD: >MADRID RADIO 0659 arq Chan free marker "EAD". Tfc list - "next list 0900z - now qsx channels 826 1222 1606" returns to marker. This is spurious emission captured on two rx - sig weak - assigned freq (12590) strong. (27/Jul)(DW)

13502.51 GXQ: >British Army, London 0143 03/Jul VFT: 2ch of Piccolo-6, eng ch "de gxq pse to qsy fb055 fb055 kkkk" (MC)

13502.91 GXQ: >British Army, London 0143 03/Jul VFT: 2ch of Piccolo-6, crypto (MC)

13510 CFH: >CANFORCE Halifax 1945 FAX 120/576 w/chart. (19/Jul) (DW2)

13527.8 P: >Ny Kaliningrad, RUS 1320 CW single letter P. 6/Aug (KB)

13528 C: >Ny Moscow, RUS 1320 CW single letter C. 6/Aug (KB)

S: >Ny Arkhangelsk, RUS 1320 CW single letter S. 6/Aug (KB)

13528.2	F:	>Ny Vladivostok, RUS 1425 CW single letter F. 9/Aug (KB)
13530	VTP37:	>Indian Nvy Vishakhapatnam RTTY 50/850 clg VTR29 Port Blair w/RYs foxes 1-0 1040 24/Jul (ML2)
13542		>UNID: (Denmark??) 1115 ITA2 75/850 Station sending metars etc for Icelandic locations. Some text (RX poor) mentions Keflavik and RDFKEC/FSN VAER. Little bit of text looks Danish but I'm no linguist. Meteo tfc ends "met office ekch 12/8/1998 qqmpi utc ofelia".(PT)
	ZRO3:	>Pretoria, S. Africa 1900 ITA2 75/402 Meteo tfc for southern Africa.(PT)
13543.7	RFTJD:	>FF Libreville GAB ARQ-E3 192/400 5LGs to Paris cct HAI 0850 25/Jul (ML2)
13551.8	RFGW:	>MFA Paris 1726 fec-a 192/400 Pages of 5LG to Embassies 02Aug (RH2)
13555		>UNID: 0145 03/Jul 81bd/500 81-81, tfc (MC) * 1946 30/Jul 81bd/200 81-81, tfc (MC)
13560	BMB:	>Taipei Meteo, TAI 1630 CW Weather in P/L English 07/JUL (JD2) * 1558 CW. Marker "vvv de BMB freq 3461/5909/8117/13560 khz hr wx as" then starts weather forecasts but qrm5 fm FDI8. (20/Jul) (DW) * 1619 CW. Wx forecast. (19/Jul) (DW)
	FDI8:	>FAF NICE 1602 CW. 80hz high. Marker "vvv de FDI8 ar". (20/Jul) (DW)
13568		>UNID: 1000 CW sent "XXX RGT77 37230 METANOLIZ 6029 8665 BEREZOZOL 5597 7236 MOLLANIN 8627 6940 K" several times 21/JUL (JD2)
13570.3	DFN57:	>PIAB Bonn 1100 FEC-A 96 Idle/Sync. 5/Aug (BC3)
13572.5	RFFAAHK:	>Paris, France 1820 ARQ-E 184/373 DICOD PARIS with news tfc in FF to AIG2260 c/o RFFXL Beirut via "XXL" circuit.(PT)
13597	JMH4:	>Tokyo Meteo 1520 FAX 120/576 surface analysis. 9/Aug (KB)
13665	6VU73:	>Dakar Meteo, SEN 0710 RTTY 50 Bd surface and upper-wind =reports from Niger, Togo, Bourkina Faso, etc. 9/Aug (KB)
13699	IMB56:	>Rome Meteo 1500 FAX 120/576 LSB chart Mediterranean Sea (lower end of it). QRM-infected frequency in BC band. 9/Aug (KB)
13765	VTR29:	>Indian Nvy Port Blair Andaman Islands RTTY 50/850 clg VTP37 Vishakhapatnam w/RYs foxes 1-0 1100 24/Jul (ML2)
13780	HME28:	>KCNA Pyongyang 1005 RTTY 50/170 EE nx. 5/Aug (BC3)
13840.74	GXQ:	>Royal Navy, London 0634 18/Jul VFT: 5ch of 50bd/170 Baudot, "ryiryi... test de gxq" DCN VFT (MC)
13846.68		>UNID: 0340 arq-E3 400/100 alpha idle (28 July) (BG2)
13870		>UNID: 0034 18/Jul 50bd/850 FSK UNID System, ACF=0 (MC)
13875.8	HGX21:	>MFA BUDAPEST ? 0826 ARTRAC 125/N/170 Tfc in Hungarian. (20/Jul) (DW)
13900		>TAIPEI MET (BMF) 0720 FAX 120/576/N/800 Weak sigs. Satellite pix. Short two-line-text notice. (29/Jul) (DW)
13907	RESTRAIN:	>2100 USB wkg NIGHTWATCH on Z225 for radio ck, QSY back to Z205. (RB)
13920	AXM35:	>Melbourne Meteo 0515 FAX 120/576 text //11030. 2/Aug (KB)
13927	AFA1JW:	>USAF MARS, Shelbyville, IN 2045 USB wkg pp for unid aircraft. (19/Jul) (DW2)
	AFA5OA:	>USAF MARS, Utah 2212 USB wkg attempting to enter the MARS net. AFA18N: Net Control reports that "AFA5OA is not on the list, and this net is a closed net." This net is the USAF Atlantic/ Central America/South America-area phone patch net.(19/Jul) (DW2)

13947		>Tashkent Meteo 0810 FAX 90/576 sig wx chart. 12/Aug (KB)
13960	SAM 27000:	>DV-2 + 38, outbound Japan with Secretary of State Madeleine Albright, wkg Andrews VIP for pps re: arrivals at Elmendorf and Andrews. 0524z 4 Jul (JJ)
14339.6	BAF:	>Beijing Meteo 0941 RTTY 50/170 5FG's wx. 5/Aug (BC3)
14363		>UNID: FAPSI station 0915 RTTY 75/500 prefix 70060 22/JUL (JD2)
14373.3	LEIOIA:	>(Spain??) 09.06 G-TOR 100/200 Traffic in Spanish, signs off "TXEMA LEIOIA". "LEIOIA" then disconnects from "SANT" and "TGTA" connects with "LEIOIA". (Did I read before that this is a Spanish refugee aid operation?). (PT)
14373.4		>Unid 1720 G-TOR Good synch but signed off just as I was tuning C3G !! 26 July (RH2)
14375		>UNID FARPSI Station 0500 UTC RTTY 75 Bd/500 with 4646 & 5Lgs (11/August) (IJ)
14381		>UNID: Italian Stations probably pirates 2120 UTC USB (17/July) with Mario calling Fabrizzio in EE & II (IJ)
14441.5		>USN Mars Net NNN0COL (USNS TRUCKEE) 0110 UTC USB with standing by for traffic (10/August) (IJ)
14444	MKK:	>Royal Air Force, London 0150 30/Jul VFT: 7ch of 50bd/170 Baudot, "iry's qbf test de mkk" marker (MC)
14456.7		>UNID: Egyptian MFA, Cairo 1941 30/Jul 100bd/170/E SITOR-A, Calling selcal "IPTX" (Embassy Havana) (MC)
14481		>Russian Navy ? 1701 36-50 36/200 Must be Russky naval manouevres near here ! Sigs very strong ! (RH2)
14481.7	RFTJ:	>FF Dakar 1930 ARQ-E3 48bd circuit ID TJF (to "RFTJF", Port Bouet) 07/JUL (JD2)
14486	P6Z:	>MFA Paris 0530 fec-a 192/400 Calling D4B (Damascus) - then 5LG 11/Aug (RH2)
14487		>Lincolnshire Poacher, CYP 12.00 (July 26) USB Id 47658. //15682 // 16084 kHz. All freqs heavily jammed by a pulse jammer (AB) * 1400 (July 26) USB Id 89125. //15862 kHz (AB)
14494	6JH5:	>UNID 16.24 ITA2/USB Sounds like British OM trying to set up circuit with S71L. Tries RTTY but has some problems with fading. Eventually goes off air.(PT)
14512.31		>UNID: British Mil, 2311 31/Jul Piccolo-6, crypto (MC)
14530	AFA2FK:	>USAF MARS, Lakeland FL 0208 25/Jul 300bd/200 Packet Radio, Crypto to AFA2GN (MC)
	AFA2ZS:	>USAF MARS, Alexandria VA 0209 25/Jul 300bd/200 Packet Radio, Beacon (MC)
	AFA4GN:	>USAF MARS, Oklahoma 0209 25/Jul 300bd/200 Packet Radio, Receiving tfc from AFA2ZS, FK (MC)
14535	GYU:	>RN GIBRALTAR 1310 Two channel piccolo vft on usb (3/Aug) (DW)
14535.51	GYU:	>1418 "test qbf de gyu int zbz k". Nr calls - no answer. Tries idling tones 1+6 instead 3+4 (3/Aug) (DW) * 1437z finally qso "and plse to qjb5" (I will use telephone). Period of testing, alternating qbf and ry's with burst of tones 1+6. Two permanent spell errors - bronw (brown) and dosg (dogs) (3/Aug) (DW) * 1312 PICC Eng chan in vft. Stby (3/Aug) (DW)
14535.9	GYU:	>RN GIBRALTAR 1311 PICC 14535.910. 6 tone online encrypted tfc channel in vft. (3/Aug) (DW)
14536	GYU:	>Gibraltar 09.04 Piccolo 6 RN station with op chat to unknown station. (PT)
14541.5		>MFA Cairo 0650 ARQ w/ATU-80 msgs to Paris 11/Aug

(ML2)
14544 GXQ: >RN Forest Moor, UK 1600 Picc-6 Four channels; Ch 1, test tape; Ch 2, 3, and 4 idling. 23/JUN (JD2)
14545 BAF: >Beijing Meteo 1340 FAX 120/576 LSB Tropical cyclone =warning, trop. storm Penny, warning no. 3, CC & EE text + map. 9/Aug (KB)
14581 >UNID: Russian Navy? 1736 36-50 50/240 Unable decode./ V. good sigs ! 10/Aug (RH2) * 1751 03/Jul 36bd/250 BEE, idle (MC)
14585.1 JFT23: >MFA Ulan Bator, MNG 0638 RTTY 75/850 Ry's. 25/Jul (BC3)
14585.12 JFT23: >MFA Ulan MNG Rtty 57/850 Ry's 0638 25July (BC3)
14619.7 >UNID: 2314 Corduroy noise bw 2690Hz 24 PSK carriers shift 110 rising at 177 Hz/s mottle period 0.2 s (28 July) (BG2)
14620.37 >UNID: 0349 Corduroy noise bw 2690Hz 24 PSK carriers shift 110 rising at 177 Hz/s mottling at 0.2 sec (28 July) (BG2)
14645 SDJ: >Stockholm Radio, S: 1324 USB wkg Paric 8. 31/Jul (ALF) * 1135 USB wkg Sterling 262 pp to ops. (MB3)
14654 SPW: >Warsaw Radio, POL 2120, cw, de SPW QSX 12573,0 khz azim 11 (LBJ)
14654.5 SPW: >Warsaw Radio, POL 0900 FEC Warsaw Radio with traffic list.(PT)
14664 >Russian Navy ? 1733 36-50 50/200 Unable decode. Good synch & sigs ! 10/Aug (RH2) * 1755 36-50 50/170 Unable decode 02Aug (RH2)
14692.5 JMJ4: >Tokyo Meteo 1951 FAX 120/576 w/chart. (19/Jul) (DW2)
14693 >UNID: Russian Navy 1811 36-50 36/200 w/moderate fading. (26/Jul) (DW2) * 1834 03/Jul 50bd/250 BEE, tfc (MC)
14722.17 >UNID: 0130 03/Jul 150bd/850 UNID FSK System, sync, No ACF (MC)
14750.5 >UNID: 2123 03/Jul 2400bps PSK UNID System (MC)
14759.2 RFQPA: >French Forces, Djibouti 2258 30/Jul 200bd/400/8/E ARQ-E3, MSG ID "djk481" in FF to Villacoublay (MC)
14761.5 NNN0NZW: >USCGC Legare ARQ w/Marsgrams to NNN0MDE 0510 20/Jul (ML2)
14822.51 MUH: >British Mil, 1255 03/Jul VFT: 2ch of Piccolo-6, eng ch "de muh go for resynch pal kkilo" (MC)
14822.91 MUH: >British Mil, 1255 03/Jul VFT: 2ch of Piccolo-6, crypto (MC)
14842.3 ATV65: >New Delhi Meteo 1245 FAX 120/576 500 hPa F/C. 6/Aug (KB)
14931 8BY: >French Intel, Paris, F 2056, cw, vvv 8BY 097/629/532/476 //12075 and 10248 (LBJ) * 1955 CW /vvv mkr. QRT at 2000. Again at 2047. (19/Jul) (DW2)
14982.5 >Tashkent Meteo 0635 FAX 90/576 "FUXX 850 700 500 MB". 8/Aug (KB)
14996 RWM: >TSS Moscow, RUS 5.50 (Aug 13) CW Time signals / id (AB)
15000 WWV: >NIST Boulder, USA 5.48 (Aug 13) AM/CW Time signals / announcements (AB)
WWVH: >NIST Kihei, HWA 5.49 (Aug 13) AM/CW Time signals / announcements (AB)
15011 SAM677: >wkg ANDERSON test 1-2-3-3-4-5 0446 USB 04 August (NJ) * wkg ANDREWS test 1-2-3-3-2-1 0448 USB 04 August (NJ) * wkg BLADERUNNER 0450 USB 04 August (NJ)
SAM973: >wkg Andrews VIP for pp. 1533z 30 Jun (JJ)
SPAR 06: >wkg Andrews VIP for signal checks. 0058z 24 Jul (JJ)
15026.44 >UNID: 2314 31/Jul HF Datalink, "squitter" every 24s (MC)
15043 >USAF Andrews & Offut AFBs 0740 UTC USB with ALE

		Bursts & radio checks (30/July) (IJ)
15318.5	BAF:	>Beijing Meteo 0930 RTTY 50/170 5FG's wx. 5/Aug (BC3)
15716.7		>EGYPTIAN EMB ? LOC 0755 arq irs mode then brief opchat/signoff (in ATU80). (20/Jul) (DW)
15793.9		>UNID: 1635 195.3 bd 4 tones spaced 200 Hz - no detectable ACF - any ideas, anyWUN? 27/JUN (JD2)
15858.6		>UNID: 0421 bw 3000Hz 28 PSK tones shift 102 rising (28 July) (BG2)
15861.625		>UNID: 0423 MFSK 125/125 6.6 sec burst ?ale (28/July) (BG2)
15883.51	MKK:	>Royal Air Force, London 0131 03/Jul VFT: 2ch of Piccolo-6, eng ch "muh de mkk qsy fco25 fco25 kkilo" (MC)
15883.91	MKK:	>Royal Air Force, London 0131 03/Jul VFT: 2ch of Piccolo-6, crypto (MC)
15885		>UNID: Russian Navy, 2125 25/Jul 36bd/200 BEE, idle (MC)
15898	RFGW:	>MFA PARIS 0615 FEC/A//192/400 Tfc in offline encrypt to Tel Aviv emb [W5E] (10/Aug) (DW)
15961.7	RFLI:	>FF Fort de France 2306 arq-e3/192 VZCZCBFL516 OO PROVENCE DE __OVENCE 9027 2122336 ZNR UUUUU CONTROLE DE VOIE 9027 NNNN 31 Jul(WP3)
16022		>UNID: 1901 30/Jul 81bd/200 81-81, tfc (MC)
16025	BAF8:	>BEIJING MET 0543 FAX Weak pix (polar projection ?) in noise. (20/Jul) (DW)
15937.85	ZLO:	>NZ 0424 VFT Barrie 7 channels all the same with time delays of 1 or 2 secs, order of channels 371462 5 (28 July) (BG2)
16077.7		>UNID: 0431 arq-E3 400/200 alpha idle (28 July) (BG2)
16087.7	RFVI:	>FF Le Port, REU 1515 arq-e3/100 VZCZCREI986 20 Jul (WP3) * 0432 arq-E3 400/100 alpha idle (28 July) (BG2)
16096.5		>UNID: 0212 25/Jul 110bd/1350 FSK UNID System, Short burst every 20s (MC)
16098	HBD20:	>Swiss MFA, Berne 1748 03/Jul 100bd/170 SITOR-A, 5LGs with ID "hbd20/8" (MC)
16101	HBD20:	>MFA Berne 1105 ARQ 5-ltr groups to unid. embassy; NOT parallel with 18269 kHz. 18/JUN (JD2)
16105		>UNID: 2113 ALE pulses. (19/Jul) (DW2)
16125.2	RFQP:	>FF Djibouti 0719 arq-m2/200 CHN B VZCZCQPC007 CHN A ZCQPB010 1 Aug (WP3) * 0435 arq? 400/200 ITU3 alpha idle with pattern 000101 and 2 char pause repeated in bursting pattern 280 ms long (28 July) (BG2)
16134.9	KVM70:	>HONOLULU MET 0629 FAX End of satellite pix, followed by second pix. (20/Jul) (DW)
16143.7	RFLI:	>FF Fort de France 1930 ARQ-E3 192bd cct ID BFL; C de V msgs from both RFLI and Provence 15/JUL (JD2)
16149		>UNID: 0747 Crowd 36 Unable decode 28July (RH2)
16155.2		>UNID: 1535 Crowd 36 Unable decode 08/Aug (RH2)
16160.52		>UNID: British Mil, 0834 03/Jul Piccolo-12, crypto tfc (MC)
16167.7		>FF PARIS ? 1125 ARQ/E3 200/400 8rc. Little sync. Brief burst of offline encryption (10/Aug) (DW)
16170.51		>UNID: British Mil, 0140 10/Jul Piccolo, idle (MC)
16202.6		>UNID: Philippines Station 2225 UTC USB OM with Suction, Kilovolts, Oil Pressure, Foxtrot 1, 31 degrees Charlie, Remarks, 0730 hrs open Alpha Echo No 1, Oil coolers, start pump out bilge water at 0015 hrs and flush sea water for 10 minutes. (9/August) (IJ)
16208		>UNID: 1902 30/Jul 228.7bd/170 RS-ARQ, ALIS Procedure (MC)
16218	to HZW:	>SOUD Station, 2015 03/Jul 75bd/500 Baudot, 5LGs on link 11177 00117 00000 03084 01831 (MC)

16234		>Russian Navy ? 1549 36-50 50/240 Logged on 08/Aug, & again on 11/Aug @ 1612 hrs (RH2)
16235.8		>FAPSI 0743 rtty 75/500 5LG. Link 50035 21July (RH2) * 0800 rtty 75/500 RR words Tx v. slowly ending QRU TS GB SK 73. Sounds like Op training ! 21July (RH2)
16240		>UNID: 1513 81-81 81/500 Unable decode. Marvellous signal ! 22July (RH2)
16255		>UNID: FAPSI RTTY 100/500 5LGs link 00190 0700 29/Jul (ML2)
16261.7	RFTJD:	>FF Libreville GAB ARQ-E3 192/400 clear msg & 5lgs to Paris cct HAI 0650 27/Jul (ML2)
16264.5		>UNID: 2324 03/Jul 75bd/850 FSK UNID System, ACF=0 (MC)
16268.35	VKI:	>Australia 0438 FS-1045 125/125 sending LQA of BER=6 to VKC 28 July FS1045 is aka mil-std-188-141 or ALE uses 8 tones in groups of 49 (BG2)
16278.6		>MFA Algiers ? 1623 Coq. 8 26.67 Good synch but gbge on screen !! 27July (RH2)
16304.1		>UNID 1515 (Aug. 6) ITA5 75/173 RY and 5 fgps (PLOO)
16310.2	RFFA:	>MOD Paris 1715 arq-e3 200/400 5LG to unk 15July (RH2) * 0440 arq-E3 400/200 alpha idle (28 July) (BG2)
16316		>Russian Navy ? 1544 36-50 50/180 Unable decode 10/Aug (RH2) * 1655 36-50 36/188 This freq. seen often active lately !! 22July (RH2) * 1702 36-50 36-50/180 15July Picked this one up again next day 16July at 1655 with 500hz shift! (RH2)
16317		>Polish Emb., Kinshasa 0950 Pol-Arq 100/240 Sigs test with MFA Warsaw 03Aug (RH2)
16324.6	RFTJ:	>FF Dakar 1227 arq-e3 192/400 CdeV on JDJ cid 16July (RH2)
16331.9	P:	>Ny Kaliningrad, RUS 1325 CW single letter P. 6/Aug (KB)
	S:	>SLHFB 0013 11/Jul CW, "S" continuously (MC)
16332	C:	>RUS Navy, Moscow, RUS SLHFB 0827 11/Jul CW, "C" continuously (MC) * 1325 CW single letter C. 6/Aug (KB)
	P	>UNID: 2125, cw, Marker (LBJ)
	S	>RUS Navy Arkhangelsk, RUS 2125, cw, Marker (LBJ) * 1325 CW single letter S. 6/Aug (KB)
16333.2	FDI22:	>French Air Force, Nice 0013 11/Jul CW, "vvv vvv vvv de fdi22 fdi22 fdi22 ar" marker (MC)
16352		>UNID: Russian Mil, 0828 11/Jul 200bd/500 FSK UNID System, sync, cont, ACF=0 (MC)
16353		>MFA Rome (tent) 1310 rs-arq 228/170 Unable decode 03Aug (RH2)
16357	OLZ:	>MFA Prague 0751 rtty 100/400 Nx\Czech 22July (RH2)
16386.7		>MFA Islamabad (tent) 1501 arq Calling MBKC - no response 21July (RH2)
16635		>UNID: 'Voyager' Net 1745 ARQ w/sc: TVXM. (26/Jul) (DW2)
16688.5	OXWW2:	>MV Melbridge Force 1834 ARQ w/AMVER msg. (26/Jul) (DW2)
16690.5	UFSS:	>TH Artnes 1717 ARQ wkg WLO: Mobile Radio (sc: XVSV). 6,262DWT dry cargo vsl from Kamchatka Shipping Company. Vsl listed as MV Artem in ITU, but id'd in msg as MV Artnes. Signoff: "55951 ufss x". (26/Jul) (DW2)
16736	C6JT5:	>Smit-Lloyd 118 0020 CW clg LGX, Rogoland Radio, NOR & then responds w/"SW Pacific" as to QTH. (RB)
16791	JJC:	>Tokyo, Japan 17.30 FAX 60/576 KYODO news agency with news-sheet in Japanese.(PT)
16801	LYEH:	>RTMS Toras 1714 RTTY 50/170 Lithuanian-flagged 2,118 DWT Super fishing trawler/Super freezer, w/RYRY to LYL, Klaipeda Radio, Lithuania, then

		into admin TG's. (RB)
	V3WL6:	>BMRT Orka-1 1723 RTTY 50/170 fishing trawler w/RYRY to LYL, Klaipeda Radio, Lithuania, then w/crew TG's. (RB)
16801.5	UHOB:	>STM Atlantniro 1550 USB Srednij Trauler Morozil'nyj or "Medium or Super Freezer/Fishing Trawler" w/crew TG's to Kaliningrad. (RB)
16804.5		>GMDSS/DSC 1622 fec 100/170 Multiple packets rec'd over 4 hrs; popular freq. these parts!!. No distress ! All new to me; must learn MMSID's etc 28July (RH2)
	UHLW:	>MB-0015 (Leonid Novopassiki) 1015 rtty 50/170 Wx report to UDK-2 Murmansk 03Aug (RH2)
16807.5	GKE6:	>Portishead Radio 2225 ARQ free channel mkr. 2/Aug (JRC)
16809.5	EAD:	>Madrid Radio 2222 ARQ free channel marker. 2/Aug (JRC) * 2235 ARQ Free Chnl mkr. 18/Jul (JRC)
16814.5	HEC17:	>Berne R. 1630 fec Admin msgs & Tfc List 02Aug (RH2)
16829	HEC:	>Berne Radio, Free Chnl mkr, 22:37, 18/July (JRC)
16830	HEC:	>Berne Radio 2220 ARQ free channel marker. 2/Aug (JRC)
16841.5	8PO:	>Barbados Radio, Bridgetown, BRB 2118 ARQ free channel marker. 2/Aug (JRC)
16905	FUVv:	>FN Djibouti 2211 rtty/75 faaa faaa de fuv fuv testing ryr sgs 31 Jul (WP3)
16909.7	USO5:	>IZMAIL RADIO 0843 CW. Hispd cw bdcast as sig improves fair copy fm Code30 at 42wpm. Then at slower spd "qss/qsx 525.8/468 4277/4182.5 6386.5/6277.5 8586/8366.5 12965/12550.5 USO6/USO5 k" (8/Aug)(DW)
16914.5	CBV:	>Playa Ancha Zonal Radio 2240 Free Chnl mkr. 18/Jul (JRC)
16920		>US Fishing 0430 UTC USB 2 OMs with a chit-chat, one of them mentioned about going through the Panama and trying fishing in the Atlantic, also he was getting good prices for shark fishing. (7/August) (IJ)
16921	CLS:	>Flota de Pesca Radio, CUB 2246 CW CQ marker "CLA". 1/Aug (JRC)
16927	UIW:	>KALININGRAD RADIO 0916 3SC//50/R/170 Tfc in 3sc. Working various ships. (8/Aug) (DW)
16932	7TF10:	>Boufarik Radio, ALG 2133, cw, 7TF QSX 12551/ 12551,5/12553,12553,5 khz tks k (LBJ) * 2116 CW CQ marker. 2/Aug (JRC)
16941	9AR:	>Rijeka Radio, HRV 2114 CW V marker. 2/Aug (JRC)
16942.5	9AR:	>Rijeka Radio, HRV 2135, cw, vvv de 9AR 2/3/7 ch 3/4/7 k (LBJ) * 2135, cw, vvv de 9AR 2/3/7 ch 3/4/7 k (LBJ)
16961.5	FUF:	>French Navy, Ft de France 2142 03/Jul (MC) * 2203 rtty/75 de fuf testing ryr sgs 31 Jul (WP3) * 0926 ITA2//75/R/850 Marker "de FUF testing ry's sig's figs testing" (8/Aug) (DW)
16974	SPE81:	>SZCZECIN RADIO 0930 CW. Marker "de SPE42/ SPE61/ SPE81 qsx 8367.7 12551.7 16735.7" (8/Aug) (DW)
16974.8	SPE:	>Warsaw Radio 2243 CW DE marker. 1/Aug (JRC)
16975	LSD836:	>Argentina Radio, Buenos Aires 2245 ARQ free channel mkr. =1/Aug (JRC)
16979.7	PWZ:	>RIO DE JANEIRO NAVAL 1800 FAX Sfc analysis for S America and western S Atlantic. (19/Jul) (DW)
16981	CLA40:	>Havana Radio 2223 CW CQ mkr "CLA", RTTY QRM. 6/Aug (JRC)
16984	PPR:	>RIO DE JANEIRO RADIO 0934 CW. Marker "vvv de PPR qsx 4183 8368 12552 16736 22280 khz k" (8/Aug) (DW) * 2221 CW V marker. 6/Aug (JRC)
17005	ZRH:	>SAN SILVERMINE 1555 rtty 75/170 Marker every 2 mins "NAWS S12S291" Idles on mark. Offair 1607z. (8/Aug) (DW)

17024	SAB83:	>GOETEBORG RADIO 1612 arq Chan free marker (Maritex) "erererer". Selcalls MBCC 1613z working ship qsl 0.6 mins duration. Selcalls YPBQ. 1616z worked second ship 0.6 min duration. Selcalls EAPQ. (8/Aug) (DW)
17045.6	LPD46:	>General Pacheco Radio, ARG 2219 CW V marker. 6/Aug (JRC)
17049.8	4XZ:	>IN HAIFA 1623 CW. Marker "vvv de 4XZ ==". Normally logged on 17050 (8/Aug) (DW)
17053.3	MGJ:	>RN FASLANE 1627 4 chan fleet broadcast vft on usb. (8/Aug) (DW)
17055.1	MGJ:	>RN FASLANE 1630 rtty 75/340 17055.1. Chan 3 in vft. CARB. (8/Aug) (DW)
17069.5	JJC:	>Tokyo, Japan 17.30 FAX 60/576 KYODO news agency with news-sheet in Japanese.(PT)
17077.4		>UNID: 0445 multicarrier full bw 3220Hz 1dB-bw 2700 Hz over 40 carriers. (28 July) (BG2)
17113	GKB6:	>Portishead Radio 2110 CW DE marker. 2/Aug (JRC)
17117.6	WNU45:	>Slidell Radio, LA 1433 CW CQ marker. 8/Aug (JRC)
17147	URL:	>SEVASTOPOL RADIO 1750 CW. Marker "cq de URL ans 12458.5/16658.5 pse k" (8/Aug) (DW)
17160.4	IAR:	>ROME RADIO 1752 CW. Last logged as 17159.9, listed 17160.8. Nav wngs in Italian. (8/Aug) (DW)
17165.7	ZSC7:	>CAPETOWN RADIO 1758 CW. Wx forecast. 20wpm. Freq listed as 17164.8 and 17164. (8/Aug) (DW)
17204	LFI:	>ROGALAND RADIO 0724 CW. Chan free marker (Globe) "LFI" (24/Jul) (DW)
17206.1	IAR:	>Rome Radio, CW V marker, 22:19, 1/Aug (JRC)
17231.2	CWA:	>Cerrito Radio, URG 2215 CW V/CQ marker. 6/Aug (JRC)
17421		>FAPSI 1643 rtty 100/500 5LG. Link 00099 15July (RH2)
17421.9		>FAPSI Moscow 1648 rtty 75/500 5LG. No Link seen but opchat/RR from "OLEG" in Moscow ! 16July (RH2)
17422		>UNID: 1303 rs-arq 228/170 Unable decode (RH2)
17422.6	RFFVAEA:	>FAF Comelef, Alysse 1605 arq-e3 200/400 5LG to RFFC, RFFVI, RFFXOC, RFFUB, RFFVH. Had SAM here with frequent Swed-Arq in recent times ! 16July (RH2)
17422.7	RFFVAEA:	>FF Dhahran, ARS 1035 arq-e3/200 1855z zic fkw012 zid fdx022 7 Aug (WP3)
17425		>FAPSI 1520 rtty 75/500 5LG Link 00054 09/Aug (RH2)
17428.7	SAM:	>MFA Stockholm 0535 Swed-Arq 100/400 SIDA tfc\Swede to Rabat Embassy 11/Aug (RH2)
17428.8	SAM:	>MFA Stockholm 0930 Swed-Arq 100/400 Press Nx\Swede (Pressbyran) 23July (RH2)
17445.5	5YE3:	>Nairobi Meteo 0825 FAX 120/576 signif. wx chart. 9/Aug (KB)
17461		>MFA Ankara (tent) 1613 RS-ARQ 228.5/170 Unable decode. Lotsa CW QRM on top !! 15July (RH2)
17461.5		>Minrex Havana 0901 rtty 50/400 Nx\SS. Not listed and not logged here before. 03Aug (RH2)
17499		>Cherry Ripe (E4): 2300 UTC USB with new format, id 80715 also tx on 22108 (SD)
17550	RFTJT:	>Dakar, Senegal 09.20 ARQ-E3 192/383 "AFL" circuit with tfc from Datrans Cap Vert to Paris.(PT)
17550.7	RFTJ:	>FF Dakar, SEN 2145 arq-e3/192 VZCZCAFL900 RFTJ DE RFTJ 2122229 ZNR UUUUU CONTROLE DE VOIE NNNNVZCZCAFL901 OO PROVENCE DE PROVENCE 8956 2122236 ZNR UUUUU 31 Jul (WP3)
17911.7		>MFA Cairo ARQ 5LGs to Abu Dhabi, QSX was 18211.7 0540 23/Jul (ML2)
18003.7		>Egyptian Emb Jakarta (JG QKWFHK) ATU msgs 0900 23/Jul (ML2)
18012.8	CLP:	>Cuban MFA, Havana 1853 30/Jul 50bd/500 Baudot, NX in SS signed "prensa minirex habana" (MC)
18014	CLP1:	>MFA Havana Cuba 2215 UTC RTTY 75 Bd/500 with NX in SS (9/August) (IJ)

18015	AUSSIE412:	>0123 UTC USB clg AFDAR who was good readable (SD)
18046.7		>EGYPTIAN EMB ? LOC 1220-21 arq Brief run of selcalls QEMP (MFA Cairo). No subsequent qso. This freq used in past by MFA Lisbon. (14/Aug) (DW)
		>MFA Lisbon 1549 arq Tfc\FF to unk 08/Aug (RH2)
18064	SNN299:	>MFA Warsaw, POL 1652 Pol-Arq 100/240 Nx\Pol 22July (RH2) * 1830 03/Jul 100bd/240/5/I POL-ARQ, Claris MSGs & 5LGs to Embassy Brasilia (MC)
18152	RJH25:	>UNID: RUS Navy ? 0927 21 (duplex?) to RMSB fr QSA? QRR3 QLS RMSB any Russian Vessel ?? (ALF) * 0930 CW clg RMSB fr QSA? QRR3 QLS. 21/Jul (ALF)
18183.4		>ALGERIAN EMB NAIROBI 0807 COQ/8 26b d Tfc in French (28/Jul) (DW)
		>MFA ALGIERS 0800 Co/8 26bd Exchanging tfc with Embassies. Tfc in French and Arabic (ATU80) (28/Jul) (DW)
18183.5		>Ambalg Rabat 0912 Coq8 26.67 Tfc\AA to MFA Algiers, cc all Ambalgs Pays Arabes et Islamiques 03 Aug (RH2)
		>MFA Algiers 0845 Coq8 26.67 Tfc\FF to Ambalg Lagos (wjgxs ?) re Subject 73164 ? 03Aug (RH2)
18220	JMH5:	>TOKYO METEO, J 1521 FAX Surface analysis for 1200z. NW Pacific. (2/Jul) (DW) * 1400 FAX 120/576 typhoon forecast. 9/Aug (KB)
18236.9	BAF33:	>BEIJING MET 0554 FAX 300/500 hpa charts. (20/Jul) (DW)
18264.4	XVN48:	>VNA Hanoi 0558 rtty/50 nx e 8/Aug (WP3)
18270.5	HBD20:	>MFA Berne 0822 arq 5LG to unk 27July (RH2)
	HBD39:	>SWISS EMB Nairobi 1123 sitor-a tfc to hbd20 7 Aug (WP3)
18271.7		>MFA Kairo ? 0603 sitor-a hjkj tys ths 222 huxd xykb kdlfm rgk wdsf huxd 8 Aug (WP3)
18308.5	P6Z:	>Paris, France 15.08 FEC-A 192/394 Calling Y9I, location unknown.(PT)
18331.8		>FAPSI 0750 rtty 75/500 5LG - Link 10042 27July (RH2)
18332		>FAPSI 0750 rtty 75/500 5LG No Link seen. 16July (RH2)
18380.2	RFFAAC:	>MOD Paris? 1256 arq-e3/100 zczcire270 oo rfvi de rfvi 2191219 znr uuuuu controle de voie nnnn 7 Aug (WP3)
18441.2	JMJ5:	>Tokyo Meteo 1155 FAX 120/576 FL340 prognosis. 11/Aug (KB)
18447	MKK:	>Royal Air Force, London 0138 03/Jul VFT: 8ch of 50bd/170 Baudot (DCN Config), "iry qbf figs test de mkk" (MC)
18483	DMK ?:	>MFA Bonn (tent) 1610 RS-ARQ 228.5/170 Unable decode. 17July (RH2)
18493.5		>UNID: 0156 30/Jul 100bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
18506.7		>MFA CAIRO 1121 arq Tfc in (ATU80) Arabic and offline encrypt. Poor copy, unable find addressee. Constant mark between bursts. Changes to irs mode. (9/Aug) (DW)
18560	BMF:	>Taipei Meteo, TAI 1950 FAX 120/576 //13900 01/JUL (JD2) * 0731 FAX Satellite pix. (9/Aug) (DW)
18597.5	EAE220:	>MFA MADRID 0738 TWINPLEX 100bd -200/-85/85/200 f7b-1. Tfc offline encrypt 10 ltr grps signed Ministerio Asuntos Exteriores. Tfc to Luanda signs off "da mas de mom. qap hl". S/cal TQXC "Buenos dias 216 de 220" tfc to Kinshasa (21/Jul) (DW)
18648		>UNID: 0157 30/Jul 75bd/140 FSK UNID System, sync, cont, ACF=0 (MC)
18655.7	RFFVAE:	>FF DHAHRAN 1448 ARQ/E3 200/400 8rc. Weak, little sync. 1605z cct [DET]., Tfc in offline encrypt to RFFUGI. Some opchat further offline encrypted tfc. (9/Aug) (DW) * 1509 arq-e3/200 tfc to rffugo bonjour a paris det02 rr rffugo de rffvae

#0001 2201007 znr uuuuu r 081007z aou 98 bt bbbb ypsou pdhcb ypsou pdhcb ypsou pdhcb iabra iabra iabra neyls 8 Aug (WP3) * 1130 ARQ/E3 200/400 Fading in/out eventually disappearing completely. (9/Aug) (DW)

18734.5 CLP: >Cuban MFA, Havana 0023 18/Jul 75bd/400 Baudot, Ibero-american sport NX in SS (MC)

18757 >UNID: wkg ANDVT. 2345z 19 Jul (JJ)

18757.8 SAM58: >Swedish Emb Jakarta SWED-ARQ 5LGs 0730 31/Jul (ML2)

18762.1 V5G: >MFA, Bucharest 1115 ROU-FEC 164.5 bd "circulars" broadcast 10/JUL (JD2)

18781.2 >UNID: NATO Mil, 0201 30/Jul 300bd/340 FSK UNID System, revs, "vmgtcnjbh" lead-in, ACF=0 tfc, revs (MC)

18940 BDF2: >Shanghai Meteo 0750 FAX 120/576 sfc data 0700. 9/Aug (KB)

18974 TAD: >MFA ANKARA 0701 FEC/A 144/850 Tfc in offline encrypt. Tfc in Turkish with English insert (letter). Tfc to Kinshasa "kins de TAD gelince qsl rica pse k" (20/Jul) (DW)

19003.5 MKK: >RAF Bampton, UK 1300 Picc-6 working MTS, Falkland Is 03/JUL (JD2)

19004.01 MKK: >Royal Air Force, London 1718 03/Jul VFT: 2ch of Piccolo-6, eng ch "mts de mkk we see greens now pal kilo" (MC)

19004.41 MKK: >Royal Air Force, London 1719 03/Jul VFT: 2ch of Piccolo-6, crypto (MC)

19013.5 >OOSTENDE RADIO (OST63) 0820-23 SITOR/B//100/E/170 Tfc list, poor copy. (5/Aug) (DW)

19047.65 RFFAAR: >Paris, France 10.26 ARQ-E3 192/383 News bulletins from DIRCENPROSECURDEF PARIS to AIG2038, c/o RFTJD Dakar via "LFA" circuit.(PT)

19058.01 MKD: >Royal Air Force, Akrotiri 0141 03/Jul VFT: 2ch of Piccolo-6, eng ch "de mkd rgrg pal qsy f1249 kilo" (MC)

19058.41 MKD: >Royal Air Force, Akrotiri 0141 03/Jul VFT: 2ch of Piccolo-6, crypto (MC)

19101.5 RFLV: >FF Fort De France MRT ARQ-E3 192/450 F.D.F /Paris [BFL] C De V 6thAug (BC3)

19139 >UNID: SOUD Station, 1305 03/Jul CROWD-36, 5LGs and opchat (MC)

19145.7 >FF DAKAR (RFTJ) 0730-0803 ARQ/E3//200/E/400 8rc. Cct [DKJ]. Tfc (x8) in offline encrypt originating in France (RFFINDI/RFFISOM/RFFMSYR) passing thru - cct to Djibouti. 0802z svc "RFQPCS de RFTJCS zah djk920 fin anormale" (5/Aug) (DW)

RFFAAS: >Paris, France 10.15 ARQ-E3 200/356 GUERRE DIPMAT PARIS with tfc in FF to AIG 1955 c/o RFQPT via "DKJ" cicuit.(PT)

19204.7 >UNID: French Forces, 2040 19/Jul 192bd/400/8/E ARQ-E3, idle (MC)

19210 >UNID: Russian Navy, 1240 18/Jul 50bd/250 BEE, tfc (MC)

19216.57 RFLI: >FF Fort de France ARQ-E3 96/425 Idle mode. 0114 26July (BC3)

19216.6 RFLI: >FF Fort de France, MRT 0114 ARQ-E3 96/425 idle mode. 26/Jul (BC3)

19216.7 >FF FT DE FRANCE [RFLI] 0824-0917 ARQ/E3//96/E/400 8rc. Betas. ID assumed fm previous logs. (5/Aug) (DW) * 1941 arq-e3/96 contole de voie VZCZCLIH005 OO RFLI DE RFLI 2121947 ZNR UUUUU CO_TROLE D__ROLE DE VO_E NNNN 31Jul (WP3)

19287.8 CLP: >Cuban MFA, Havana 2050 30/Jul 50bd/500 Baudot, NX in SS (MC)

19288 CLP1: >MFA Havana Cuba 2150 UTC RTTY 75 Bd/500 with 5Lgs & Msg to EMBACONGO (9/August) (IJ)

19462.9 STS22: >SUNA KHARTOUM 1605 rtty 50/100 Press in French.

		Stopped 1611z. (21/Jul) (DW) * 1700 rtty 50/100 Press in English. Odd word every few lines. Tx no good. Shift barely discernable. Carrier moved down 70 hz since previous log at 1605z. (21/Jul) (DW)
19498.5	RFHI:	>FF Noumea NCL 0710 ARQ-E3 100/425 Noumea/Papeete (HIJ) 5th Aug (BC3)
19498.7		>UNID: French Forces, 0122 10/Jul 100bd/400/8/E ARQ-E3, idle on beta (MC)
19667		>UNID: FAPSI RTTY 75/500 5LGs link 30055 1000 29/Jul (ML2)
19680.5	L2V:	>COMODORO RIVADAVIA 1830 fec Wx fcst in Spanish. Poor copy (24/Jul) (DW)
19687	KHF:	>UNID: 1535 sitor-a/marker 11 Aug (WP3)
19692.5	ZSC:	>Cape Town Radio 1533 sitor-a globe wireless traffic to ship 11 Aug (WP3)
19707		>UNID: 2312 30/Jul 75bd/850 Baudot, Long strings of mixed numbers and letters (MC)
19747.5	6VU79:	>Dakar Meteo, SEN 0720 RTTY 50 Bd sfc data W Africa. 9/Aug (KB) * 2042 19/Jul 50bd/400 Baudot, AAXX WX for Cameroon land stations (MC)
19751.5	6VU79:	>Dakar Meteo 1700 FAX 120/576 LSB, chart NW Africa; too weak to identify subject. 9/Aug (KB)
19860	MGJ:	>RN Faslane 1513 rtty 75/390 availability 11 Aug (WP3)
19897.51		>UNID: British Mil, 1334 03/Jul VFT: 2ch of Piccolo-6, eng ch (MC)
19897.91		>UNID: British Mil, 1334 03/Jul VFT: 2ch of Piccolo-6, crypto (MC)
20041.7		>EGYPTIAN EMB ? LOC 1532 arq Tfc in offline encrypt. Some opchat in (ATU80) Arabic but no ID. (11/Aug) (DW)
20048.2	F:	>Ny Vladivostok, RUS 1420 CW single letter F. 9/Aug (KB)
20179.7	RFFMVB:	>France 1526 ARQ-E3 100/390 CELENV TOULOUSE with meteo traffic to RFVIC, COMAR LE REUNION, (ships' callsigns mentioned), "IRE" circuit.(PT)
20184.3	ZLO:	>RNZN Auckland 0433 Rtty 75/170 De ZLO Int ZBZ5 go to data now KKKK 5th Aug (BC3)
20192		>UNID: Royal Navy, 2118 25/Jul VFT: 2ch of 2400bps PSK UNID System, centre of 600Hz guard band (MC)
20236.6	RFHI:	>FF Noumea NCL ARQ-E3 100/425 HII 596 Noumea/La Port (HII) 26July (BC3)
20286.5	SPW:	>Warsaw Radio, Poland 1858 30/Jul 100bd/170/E SITOR-B, MSGs in PP ends "de spw qtc blind nil gb sk" (MC)
20326.6	RFVI:	>FF Le Port, REU 0700 ARQ-E3 100/425 HII597 to Noumea (HII). 26/Jul (BC3) * ARQ-E3 100/425 HII597 La Port/Noumea (HII) 0700 26July (BC3)
20326.7	RFHI:	>FF Noumea, NCL ARQ-E3 100/425 HII534 RFHI 2032236 Cde V Noumea/Le Port (HII) 0150 23July (BC3) * 0150 ARQ-E3 100/425 HII534 RFHI 2032236 Cde V Noumea/Le Port (HII). 23/Jul (BC3)
20336.5		>UNID: 2043 19/Jul 100bd/850 UNID FSK System (MC)
20426.2	CNM:	>MAP Press, Rabat 1236 18/Jul 50bd/850 Baudot, Athletics NX in EE (MC)
20539	MKD:	>Akrotiri, Cyprus 13.10 Piccolo 6 Single channel idling, then op chat to GEP46 then shut down.(PT)
20556.5	RFGW:	>MFA Paris 1315 fec-a 192/400 5LG to TJN/Beijing, L4N/Sofia, J5W/Rabat & K4X/Tunis 02Aug (RH2)
20613	HBD22:	>Swiss Emb New Delhi 0710 w/NO MESSAGE HDB22/2 11/Aug (ML2)
20721.3		>UNID: 1338 03/Jul PacTOR-2 (MC)
20777.7		>UNID: Italian Diplo/Mil, 1237 18/Jul 1200bps FSK UNID System, opchat mode (MC)
20816.15	CLP:	>Cuban Embassy, Lagos 1353 03/Jul 75bd/400 Baudot, 5LGs and MSGs in SS signed "embacuba nigeria" (MC)
20853	G7M:	>French Emb Bangkok 0850 FEC-A 192/850 5lgs 11/Aug (ML2)

20856.65	RFQP:	>Djibouti 19.34 ARQ-E3 200/253 CONTROLE DE VOIE via "DJK" circuit.(PT)
20862	G7M:	>French Emb Bangkok FEC-A 192/850 5LGs 1020 22/Jul (ML2)
20933.5	SOV293B:	>Warsaw Radio, POL 1345 FEC Comes on as SOV293b with transmission schedule, then changes to SPW, Warsaw Radio with traffic list before changing back at 14.00 with PAP news.(PT)
	SPW:	>Warsaw Radio, POL 1355 03/Jul 100bd/170/E SITOR-B, Traffic lists (MC)
20946	8BY:	>French Intel, Paris 1356 03/Jul CW, "vvv vvv vvv 8by 8by 8by" marker and tri-graphs (MC)
20946.3	LN2A:	>Norwegian PTT, Sveieo 0028 18/Jul 100bd/850 FSK and CW "ln2a" marker (MC)
20960		>MFA Stockholm 1303 swed-arq tfc 5 l to ? 11 Aug (WP3)
22447	FUV:	>FN DJIBOUTI 0935 rtty 75/850 Marker "FAAA de FUV ry's sg's int zbz kkkk kilo" (9/Aug) (DW)
22461.5	FUJ:	>FN Noumea, NCL 0500 RTTY 75/170 Ry's. 5/Aug (BC3)
22537	FUF:	>F Navy Fort de France, MRT 1530 ITA2 75/836 RY's, SG's "TESTING" and ID.(PT) * 2112 25/Jul 75bd/850 Baudot, "de fuf de fuf de fuf ryryry... sgsgsg..." marker (MC)
22542	JJC:	>Tokyo Radio 1130 FAX 60/576 KYODO semiweekly EE nx page, //16971 (also excellent) //12745.5 //17069.5 (weak). 11/Aug (KB)
22628.5	VTG9:	>IN Mumbai, IND 0659 cw vvv vvv vvv vtg 4/6/7/9 clg vwgz zbo nil 7 Aug (WP3)
22678.6		>UNID: 2113 25/Jul 150bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
23053.7		>UNID: Kinshasa, ZAI 15.40 ARQ Five letter group traffic then short op chat in what looks like Portuguese. His intro was "boa tarde daqui kinshasa". Could it be MFA? (PT)
23370	HZN50:	>Jeddah Meteo, ARS 1545 ITA2 100/800 Jeddah Meteo with wx tfc. Still using strange sounding tones.(PT) * 0642 rtty 100/770 wx aus 02xxx 06xxx 7 Aug (WP3)
23412		>UNID: Royal Navy, UNID: 2100 30/Jul VFT: 2ch of 2400bps PSK UNID System (MC)
24240		>UNID: Royal Navy, UNID: 2109 30/Jul VFT: 2ch of 2400bps PSK UNID System (MC)
25240		>UNID: 2110 30/Jul 75bd/850 FSK UNID System, sync, cont, ACF=0 (MC)

List of Contibutors:

(AB)	Ary Boender, NLD	(JRC)	Jim Cumbie, USA
(ALF)	Anonymous, EU	(JRU)	Jascha Ruesseler, D
(ANE)	Anonymous, EU	(KB)	Klaus Betke, N. Germany, D
(AR3)	Andrew Robbins, USA	(LBJ)	Jean-Paul LeBlanc, CAN
(BC3)	Bryan Curtis, AUS	(MB3)	Markus Buttinger, AUT
(BG2)	Graeme Bartlett, AUS	(MC)	Mike Chace, G
(CAC)	Camilo A., Castillo	(ML2)	Murray Lehman, AUS
(CT)	Clarence Thompson, USA	(ND2)	Nick Dendrinos
(DT)	David Traynor, G	(NJ)	Noel Jones, NZL
(DW)	Day Watson, G	(PLOO)	Anonymous, NE America
(DW2)	David Wright, USA	(PT)	Peter Thompson, G
(GG)	Gary Glaze, USA	(RB)	Rick "RD" Baker, USA
(HK)	K. M. Haywood, G	(RH2)	Robert Hall, AFS
(IE)	Iron Eagle, C. EU	(RHB)	Richard H. Brown Jr., USA
(IJ)	Ian Julian, NZL	(RP2)	Roger Preston, G
(JD2)	John Doe, G	(SD)	Simon Denneen, AUS
(JEB)	Jason Berri, USA	(SD2)	Sheldon Daitch, PHL
(JJ)	Jeff Jones, USA	(WCA)	W. Charles Alexander, USA
		(WP3)	Wolfgang Palmberger, D

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\\\\\ WORLDWIDE UTE NEWS Club ////
\\\ An Electronic Club Dealing Exclusively in Utility Stations ///
\\\\ WUNNEWS Vol. 4, No.8 Sep., 1998 /////
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If you have problems in this, or need further information contact Dave Wright at: dcwright@usa.net

If you are reading this newsletter from another source, such as a BBS, please let us know!

Check out the WUN web site at: http://www.gem.net/~berri/wun

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From your Electronic Editor:

* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.
* We would like to welcome two new editors into this month's newsletter. First, John Svendsen has taken over for Tony Orr as the editor of the International Civil Aero column. Secondly, Bob Margolis has brought back the Products and Book Review column. Welcome aboard, to both! Please support these new editors with your input.
* In addition to our two new editors, we have a "guest editor" this month. Alex Wellner has compiled a survey of 5MHz frequencies active in the South Pacific region. This region is FULL of interesting utility stations. Be sure to check this section out.
* We are still looking for someone to take over the Nautical News column for Day Watson. In addition, we are once again looking for an editor for the WUN Logs column. Unfortunately, Klaus D. Buschmeier-Stein had to resign after only a couple of months on the job. If you are interested in either of these positions, please send me an email at dcwright@gte.net. Remember, this newsletter is kept going only through the efforts of the group as a whole. Step forward and do your part.

WHAT'S INSIDE:

o International Civil Aero by John Svendsen
o Digital Review by Day Watson
o Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o Numbers and Oddities by Ary Boender, Chris Smolinski, and Jascha Ruesseler
o The QSL Report by J.D. Stephens
o Utility Round-up by Ary Boender
o Products and Book Review by Bob Margolis
o The Military Newsreel by David C. Wright
o The WUN Logs Column by TEAM LOGS

o SPECIAL: 5 Megahertz Pacific Survey by Alex Wellner

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INTERNATIONAL CIVIL AERO
Editor: John Svendsen
jsvendse@c2i.net

Hi all !
Received this from Bob Margolis <rttyman@wwa.com>

Philippine Airlines announces it will shut down

Nation's president to intercede in pilots' strike

September 18, 1998
Web posted at: 1:39 p.m. EDT (1339 GMT)

MANILA, Philippines (CNN) -- Philippine Airlines announced Thursday it is shutting down, but the nation's president plans to meet with management and the striking pilots' union in a last-ditch effort to keep it afloat.

Asia's oldest airline, Philippine Airlines started in 1941 with one plane that carried five passengers on a 125-mile (200-kilometer) flight from Manila to Baguio. Fifty-seven years later, it is shutting down its fleet of 54 aircraft that fly routes to 36 domestic destinations and 28 world cities.

In June, the airline's 600 pilots staged a 22-day strike over pay and working conditions. PAL already was beset by troubles and had been struggling through five years of financial troubles when the Asian economic crisis hit this past year.

The airline laid off 5,000 of its 13,000 workers in response to the pilots' strike. Last week, the union rejected management's final offer, opening the way for PAL Chairman and majority shareholder Lucio Tan to shut down the country's only major airline.

On his way to Thursday's final board meeting, Tan said that it was all over: "No more. Closed. They don't like it," he said, referring to the union's rejection of the airline's latest settlement offer.

Philippine President Joseph Estrada called a meeting with PAL management and union representatives in an attempt to keep the airline open, warning that its closure will further damage the nation's crippled economy. Estrada said he would meet with management on Friday and hold a joint meeting with both sides on Monday to try to reach a compromise solution.

"I am keeping my fingers crossed. I am going to do all I can do so that PAL will not close down," Estrada said.

In a press conference Friday morning, Union leaders said Estrada is the only hope for resolving the labor problems and that they are keeping the doors open for a settlement.

PAL also said Estrada is the only hope for saving the airline.

However, the government itself is under a severe financial crunch and has made it clear it will not use its own scarce financial resources to save the airline.

Reuters Limited contributed to this report.

That's about all for this edition, and I will appreciate loggings etc. directly to me at the mail address jsvendse@c2i.net.

About me:

My Name is John Svendsen, and I live at Sandtorg, just outside Harstad in the Northern part of Norway. I have been into dxing since 1976 and utilitydx since 1986. My main interests are CivAero, maritime(mostly 2182), milaero and some QSL hunting.

73 es gud dx de...JSV

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DIGITAL REVIEW

- Editor: Day Watson E-mail: jdwatson@cableinet.co.uk

- Nickname on IRC channels #wun & #monitor DayW

Hi digi WUNners

The menu

dgps	Canadian CG website
	List of dgps stations (planned)
	dgps receiver
Diplo	MFA Lisbon
Int. agencies	Aid agency on 14373.3
Met	Moscow Met FAX withdrawn
Military	FF Le Port/Dazaoudzi link update
	FF Ft de France/Pt. a Pitre link withdrawal
Press	AA Ankara + GNA Bahrain
	INA Baghdad
	JANA Tripoli
	MAP Rabat
	PETRA Amman
	ROMPRES Bucharest
	SANA Damascus
	SUNA Khartoum
Special	Timestamp station
Techi Tips	F1B, J2B, offsets and assignments.
	Computer noise with active antennae

>>....dgps.....>

::: Canadian CG website

Mike Chace has been decoding/logging the US/Canadian dgps transmitters from his base in Philadelphia and reporting some good dx - these transmissions are generally designed with a range of 150-170 nm in mind. He's even highlighted a Canadian one not in my book - Cardinal, Ontario on 306 khz - and passes on the Canadian CG website relating to these
www.ccg-gcc.gc.ca/tosd-dsto/awtj/DGPS/main.htm

::: List of dgps stations (planned)

Mike suggests a universal list might be useful - a good reminder to me as I had intended doing this and next month should see the start. Over the next few months I'll be covering Australia, Canada, Europe, Japan, New Zealand, USA. In the meantime if you're interested in a particular region email me direct with your position and I'll pass on those you might hear.

::: dgps receiver

David Eastlake has just sent me details of a couple of websites wherein one can find information on how to receive these transmissions either by modifying a cheap Radio Shack radio or by building a fully synthesised dgps receiver.

web.abnormal.com/dgps www.eskimo.com/~archer/gpsframe.html

Therein are also a number of useful related links on the subject.

Thanks for the input David - it'll be interesting to see if any WUNners take one of these routes.

>>....Diplo.....>

::: MFA Lisbon

Not the easiest station to hook these days but although somewhat rare is still operating arq on HF and recent logs by Bob Hall, Peter Thompson and myself attest.

The logged frequencies have been 23053.7 and 18046.7 (in that popularity order) - one might also keep an ear open on 16348.7 18343.7 19181.7 and 19221.7 kHz.

ZPZP is the selcall for Lisbon - any selcalls for the embassies worked (usually Kinshasa) welcome.

>>....International Agencies.....>

::: Aid agency on 14373.3

First noted by Mike Chace a few weeks ago and appearing in the Jul Logs there is a possible aid agency operating GTOR (though I have copied once in standard Pactor). This agency seems to be Spanish going by the use of that language. The following list of IDs in use are

BATI	
LEOIA	
LOME	Lome
LUNSAR	
MNRV	Monrovia
SANT	
TARO	
TGTA	

and seem to be operating as a W African net with two obvious locations.

Can anyWUN else add to the information pool?

>>....Met.....>

::: Moscow Met FAX withdrawn

Recent corrections to ALRS Vol.3 has resulted in the Moscow Met Fax sections (x3 broadcasts) being deleted. The amendment was sourced on data received from the Russian Federal Service for Hydrometeorology and Environmental Monitoring. However I have copied Moscow subsequently on 7670 or 10980 but not together. Whether this is part of a rundown or not remains to be seen.

>>....Military.....>

::: FF Le Port/Dazaoudzi link update

Many thanks to Murray Lehman in Perth, WA for this observation.

The French Forces link between RFVI Le Port and RFVITT Dzaoudzi is now using ARQ-E3 192 baud replacing ARQ-E 96. First noticed on 9 September 98, current frequencies are :

RFVI	7945.7	14731.7
RFVITT	7585.7	14844.7

A reminder of circuit IDs ITT Le Port, Reunion to Dzaoudzi
TTT Dzaoudzi, Mayotte to Le Port.

::: FF Ft de France/Pt. a Pitre link withdrawal

My apologises to our man in Florida. I seem to have mislaid his email. However it appears the circuits IRA/ARI are no longer in use judging by the lack of loggings by him of that link over the past couple of months. He was bemoaning the fact that there appears to be no ute HF coming out of Guadeloupe now.

>>....Press.....>

This is a summary of some of the few press stations still operating. This list does not cover press broadcasts in fec by certain maritime coast stations - these are covered as appropriate in the Nautical News column. Next month I'll cover the four Far East broadcasts. Does anyWUN know if there are still Indian broadcasts on 14785/18255 ?

::: AA Ankara + GNA Bahrain

Both of these agencies appear to have ceased HF operations.

::: INA Baghdad

75/400

Only 10162.5 (YIL71) appears to have operated recently (Jul/16 - Bob Hall) with intermittent Arabic and no English. This month only a carrier seems to be present.

The last English logged was on 14699 (YIX70) back in March. This frequency has not been heard since then.

::: JANA Tripoli

50/400 Sat/Sun included

14573 (5AQ70) is the standard Arabic (ATU70) transmission broadcasting start/stop throughout the day at least over period 0715 - 1700

12186 logged 1545 with French to end at 1603z

15462 logged in Jun starting English at 0820 and on another occasional at 0854z. Recently starts 1730 with English until 1742 followed with French from 1815-1910z.

::: MAP Rabat

50/425 Sat included

In spite of the prebroadcast schedules MAP seems only to radiate on two frequencies these days.
10213.1 and 18496.1.

Arabic was logged at 0930z, French at 1025 and English starting circa 1200z.

::: PETRA Amman

50/400 Sat/Sun included

6830 is the main frequency with Arabic (ATU70) at 1600, English at 1700z.

::: ROMPRES Bucharest

50/500

There seems to be an amended schedule with the operator and one considers a remote technician not keeping in step.
9797 0900-40 English

```
        0945-1030   French
12110   1030-1130   English
```

During recent monitoring the pre-session ID/Freq broadcast was indicating use of 12110 whilst still continuing to transmit on 9797 - then mid stream the transmission would change frequencies.

```
 6972   1515-1600   French.
        1600-45     English
```

::: SANA Damascus

50/400 - Normal/Arabic, Reversed/EE+FF - Sat/Sun included

```
11080   Monitoring indicates following listed table is correct
        0700-0900   Arabic
        0900-1100   EE+FF
        1300-1400   EE+FF
        1400-1700   Arabic
        1700-1800   EE+FF
```

::: SUNA Khartoum

50/200 - Sat/Sun included

```
19462.9 0900, 1600  French
        1000, 1700  English.
```

>>....Special.....>

When the posts were flying about recently on the timestamp station Ary promised me some notes on the fruits of his labours over a number of years. As this month's Special this is it.

::: Timestamp station

The mysterious timestamp station is around for several years now. The station transmits from a spot approximately 60 km NE of Paris. According to a usually reliable source, they are a series of observatories that are fed correctional (geophysical??) data from the transmitter site, which, too is an observatory just outside Paris. It sends a summary once a day, too. There are a number of freqs in use, though not usually any more than 3 per 18-hour period - probably for coverage redundancy and reliability in changing propagation conditions.

o Frequencies: 5112.2 5127.2 5725.2 7639.2 7762.2
11482.2 13967.2 15741.5 19013.5 20962.5 20966.2

o Modes: Sitor-A, Sitor-B

o Format and operational notes
The station is supposed to be on the air for 18 hours a day, but during a three weeks listening session the off air period varied from 2 to 6 hours.

Every 10 minutes a string of figures followed by the time being UTC or UTC+1 is transmitted in Sitor-B. This is the weird part of the story. Why would a French station stick to British time (UTC = British winter-time and UTC+1 = summertime), unless the data that is being transmitted is destined to British users.... It certainly looks that way because the language used is English. The freqs are duplex freqs but I haven't found any QSX freq. Communications with the other stations are in Sitor-A and the messages are encrypted except for the callsigns and a few words in plain English. After each line of on-line encrypted stuff follows +? The other stations apparently have to react. The second line of the Sitor-B 'time stamp' messages changes after each Sitor-A message.

[Note that the actual time difference was in the past UTC(+1) + 8 mins,

but they changed it now to UTC(+1).]

Example:
-26 -26 -26 -30 -30 -30 -24 -24 -24   - 19h30m54s
-- jn jn jn jn 7j 7j   --

There are three parameters in the first line, each one is repeated three times, followed by the time stamp. The parameters are always even numbers, both negative and positive in the range of 2-30.

The character groups in the second line follow a specific pattern. As I said, the pattern changes after each Sitor-A message. During a listening period of three weeks late last year, I noted the following pattern:

```
-- --
-- JN JN --
-- JN JN JN JN --
-- JN JN 7J 7J --
-- JN JN JN JN 7J 7J --
-- 7J 7J --
-- --
-- JN JN --
etc
```

When the Sitor-A transmissions take place, the next Sitor-B transmission is often skipped. Sometimes, if they finish their conversation in time, the transmitter stays on and they change from Sitor-A to B and go on with the normal routine.

It seems that other stations are replying because I noted Sitor-A to PAVI119 and others consisting of encrypted one-line messages followed by +? after which (I think) the other stations are replying. Often also AAA+?, NNN+? and OK+? is transmitted.

Station id's or callsigns(?) noted so far are:
PAVI 118, PAVI 119, PAVI 120, PAVI 121, VIPA 230, and VIPA 231.

o Examples

Sitor-B transmission

-26 -26 -26 -30 -30 -30 -24 -24 -24   - 19h30m54s
-- jn jn jn jn 7j 7j   --

-16 -16 -16 12 12 12 -26 -26 -26   - 19h40m54s
-- jn jn jn jn 7j 7j   --

Sitor-A transmission

```
 ok+?
 3
 pavi118
 pavi119
 vipa230
 @
 +?
 ftxisqjmhdmebnkebsjdpftxisqjmhdndbrnjfengjbsrpjuxaaflj
 +?
 qjmhdmebnkebsjdpftxisqjmhdndbrnjfengjbsrpjuxaaflj
 +?
 tlmunpcojsdbfvdojtdxhymnghgfgwovlnjlmhpmoviwxrmdjaoa
 +?
 qznaxgrhylmfolqvtgwsfvqzllxvtzlaipimycgbovriknbwcppo
 +?
 suekutyzwarhhuvnhoeofhcicvcauudbycpwedorqhdxmabdnomn
 +?
 lbhoyahhmgyncfzclqpknrlemixmvjcvukyobtmhhtvhiwdglghe
```

```
 +?
 fpyrdfqlmyqpctgrslpbyfenlhtkjjmzeiehxgvsukiipyujlbjh
 +?
 jatnashkkbresmggwkephndxazchahnjqvezpsoufnmwrsckiiaf
 +?
 gasqpkegoekmfgiokivemqvmyenhsqqohlqbgxaibfrbfbtcnpgj
 +?
 ohdaupjkljmvbkmfhblmczjsbxwhshvrvqwqcjukdqenjnmpb
 +?
 acpltuitaidxacpgznpvgkzobzdsbbaahkcfqsgypcrqkfpyeipm
 +?
          <clip clip clip>
 +?
 wlvvozgaxkovlbkatrxeomki
 +?
 nnn+?
```

....and back to Sitor-B again. Note the change in the second line

```
-28  -28  -30  -30  -30  30  30  30   - 09h00m54s
-- jn jn  jn jn   --

-24  -24  -30  -30  -30  30  30  30   - 09h10m54s
-- jn jn  jn jn   --
```

Another example. Sitor-B into Sitor-A. Note the addresses pavi120, pavi121, then 'pavi120 deleted'. The second line changes again after the Sitor-A message.

```
-30  -30  -30  30  30  30  -16  -16  -16   - 18h00m54s
-- jn jn  jn jn   --

  +?
 2
 pavi120
 pavi121
 @
 +?
 pavi120 deleted +?
 ftxjapdcspwxmtlhspkezftxjapdcspysdhftszzqbdjdghvdbcdgd
 +?
 xjapdcspwxmtlhspkezftxjapdcspysdhftszzqbdjdghvdbcdgd
 +?
 ~pbgempnbuwahudmgxivrzlgodrozkzrdkbxjpzkakcnaqhyimpl
 +?
 mfbcowcejenncbfkwcnzbzcedfapqvdfvimqulayztwjdfzwpiag
 +?
 bflqjrvydmvvzpkcgvuvxqsczrnbqydsfnxqbgaztkycjacnkgcp
 +?
 aappicbgdtasb~zhtkmsbfglekeojdmeecndfsmzpjumedv~~cdh
 +?
 jsganljmxeegobfffqzkufleyxysjzwotndekhfrmdirfxmbphng
 +?
 ygbeitlscrcvvfdjlijjlminwhpbkzhgvkmsvvoyrcabr~umhlgn
 +?
           <clip clip clip>
```

```
-26  -26  -26  -20  -20  -20  -2  -2  -2   - 18h50m54s
-- 7j 7j   --
```

>>....Techi Tips.....>

::: F1B, J2B, offsets and assignments.

The basic digital signal one monitors can be generated as follows.

Take two rf's in the spectrum say 17208.5 and 17208.9. The midpoint is 17208.7. 17208.7 is the assigned frequency. With a nominal there the carrier is shifted (in this case) -200 hz for a MARK and +200hz for a SPACE.

This generation of a teleprinter signal is designated F1B by the ITU;
- F frequency modulation
- 1 single channel containing digital information but with no modulating subcarrier.
- B telegraphy for auto reception ie machine telegraphy as against hand telegraphy (morse code).

But it is not the only way of generating this signal. The above is fine if one is supplying DC signal lines into a transmitter. What is more likely to be happening is that the transmitter is an rt one being supplied with a pair of tones.

Prior to the transmitter will be a modem (modulator-demodulator) which has taken the raw input data from the terminal and merged it into the user's data format (Sitor/A, ARQ/E, FEC/A etc) supplying the transmitter with a pair of tones.

Let's say these tones are (respectively MARK and SPACE) 1500 and 1900 hz, 400hz apart, and the transmitter operates on 17207 in USB mode.

Mixing in the rt transmitter of the tones and carrier (17207 kHz) results in plus and minus components as well as the originals. The circuitry will ensure the carrier and minus components (LSB) are suppressed, and the tones being audio cannot radiate. Filtered and passed to the power amplifier and antenna will be the sum components. In our example

17207 + 1.5	=	17208.5
17207 + 1.9	=	17208.9

So again we end up with the same two rf's in the spectrum. This method of generation is designated by the ITU as J2B;
- J Single sideband, suppressed carrier
- 2 single channel containing digital information with a modulating subcarrier.
- B telegraphy for auto reception ie machine telegraphy as against hand telegraphy (morse code).

In the case of our example the modulating subcarrier is 1700 hz ie the midpoint of the two tones. 17207 (the suppressed carrier) plus 1.7 kHz (the subcarrier) = 17208.7 khz which is once again the assigned frequency.

This method is also known in some circles as
a. AFSK (audio frequency shift keying), or
b. FEK (frequency envelope keying).

Can we tell which method (F1B or J2B) produced a particular transmission? The answer is no. Only in the case of a J2B where the transmitter was faulty causing a degree of carrier leakage could the method be ascertained.

Why use J2B instead of F1B? The advantages seen are
a. the same transmitter can be used for SSB and data applications simplifying the logistics in the area ie confined spaces (ships, embassies), portability (aid agencies, exploration companies), spares, training.
b. the transmitter can be in a remote site - easier to transmit tones than DC levels between sites.
c. ease of implementation when modes of four tones (Twinplex) and multitone VFT for example are employed.

A modem designed for a particular organisation will operate with a pair of tones based on a specific subcarrier eg 1700hz being common example as used by the Egyptian diplo service, the French military and the maritime

community. Let's look at each of these in turn.

The operator always uses a whole khz point for the (suppressed) carrier frequency (often known as the "display" or "window" frequency from the display on the transmitter control panel). The transmitter will produce an RF signal on the assigned frequency which will be offset from the (suppressed) carrier by the value of the subcarrier which is why all Egyptian diplos operate on xxxx.7 Khz. Occasionally one might find MFA Cairo running in fec (Sitor/B). I recently logged Cairo in this mode repeating the figs 53071 a number of times. This indicated that (having converted to 17035 as ATU80 reads right to left) they were listening (using the receiver in USB) to the assigned frequency of 17035 + 1.7 = 17036.7 khz and this was exactly where the embassy (Washington) was found.

One might point out that the French military does not always transmit on xxxx.7. This is correct. In fact there are four possibilities since the suppressed carrier may be on a half or a whole khz point and the transmitter may be employing LSB instead of USB. To summarise:

Supp. carrier.	J2B mode	Offset	--> Assign freq.	Signal	
xxxx.0	USB	(+1.7)	xxxx.7	Erect	/Normal
xxxx.0	LSB	(-1.7)	xxxx.3	Invert	/Reversed
xxxx.5	USB	(+1.7)	xxxx.2	Erect	/Normal
xxxx.5	LSB	(-1.7)	xxxx.8	Invert	/Reversed

Modems used for Sitor/A + /B (arq/fec) in the maritime bands use a subcarrier of 1700hz. As the assigned frequencies are currently either half or whole khz points then the RO has to offset the transmitter suppressed carrier frequency downwards by 1.7 khz as his/her dial-up value (the J2B transmitter always being used in USB).

One has to make a certain amount of assumptions in ute monitoring where one doesn't actually know the offset or subcarrier value. The Danish and Norwegian Diplos both have assigned frequencies of xxxx.9. Making the assumptions that they both use whole khz points and the sub carrier lies in the central section of the sideband ie approximately between 1000hz and 2000hz for optimum signal handling one might say the subcarrier is 1900 hz. There again they might be using xxxx.5 for the suppressed carrier and using a subcarrier of 1400hz the assigned frequency would still be xxxx.9. Food for thought. Whatever the case the modem will be set accordingly.

Receiving F1B/J2B with different receiver modes is a subject for another article as it also involves the decoder characteristics. But not this month.

::: Computer noise with active antennae

"Not sure if it is really a good idea to put it in WUN.
And note that it isn't digital at all..." says Klaus Betke but everyone has their fair share of this problem. And as WUN is about sharing information this seems the appropriate corner to insert it. Those digital buffs with PC based decoders who must keep the PC running know only too well the problem and each person's experience may just help someone else.

Active antennas: Reducing computer noise

Everybody knows this nuisance. Thousands of humming and cheeping signals as soon as the computer is turned on. If you use an active antenna, you may have noticed that it doesn't matter how far away it is placed from the computer or even from the house; the nasty noise floor remains. This is because the electric noise from computers and TV sets is picked up by the antenna cable, not by the antenna itself. It travels along the cable to the antenna circuit, is being amplified there, and returns as a "signal" to the receiver.

In this case, a so-called common-mode choke will help. There are various styles of common-mode chokes; for our purpose we need a toroidal ferrite core that is large enough to wrap about 10 turns of coaxial cable around it. FT82-77 (Amidon Associates; outer diameter 0.82 inch, material #77), FT114-77 or FT140-77 are good choices. Although the 1998 ARRL Handbook recommends not to use surplus cores (page 28.7), a core from an old light dimmer may work as well. I use such a toroid with 9 turns of thin RG174 coaxial cable. This device is inserted in the antenna feed line at the place where the cable leaves the house (the antenna is mounted on the garage roof).

It does not cure everything, but the effect is remarkable. For example, without this common-mode choke, I cannot get a clean fax copy from Hamburg Meteo on 3855 kHz (an almost "local" station to me), because of a hum signal from my computer. With the choke inserted, this noise is no longer audible. For some strange reason, it is less efficient between 7 and 11 MHz, especially against the tweets caused by my RTTY decoder, but it still helps a lot. The method does not cause signal loss and may also lead to an improvement at similar problems with passive antennas.

Active antennas: Improving longwave performance

Below 50 kHz, the noise floor caused by all kinds of electrical and electronic devices is usually quite strong, and its intensity increases towards lower frequencies. But with active antennas, the noise may also be caused by the circuitry itself. Usually these antennas are fed with 12 to 24 Volts DC through the antenna cable. If this supply voltage is not absolutely clean, the signal-to-noise ratio at low frequencies will suffer. The major noise source is the voltage regulator circuit in the power supply.

Recently I felt that time had come to replace my 6-year-old homebrew active antenna by something more professional. The new one is a Rhode and Schwarz HE-011. Not bad on HF, but first disappointing on VLF. The signals commonly found in the 20 kHz range had reasonable strengths, but were rather noisy, compared to the old antenna. Although the manufacturer does not guarantee the antenna's specifications below 50 kHz, an improvement seemed to be possible.

The 24 V power supply, not an orginal Rhode & Schwarz part, but made by the dealer (Boger Funk, Germany, part labeled PS-24V), contains a common LM317 three-terminal voltage regulator. Adding a 470 uF electrolytic capacitor to the regulator's output reduced the noise considerably. The VLF band sounds more "quiet" now, and - when the local noise is low enough - some of the Russian Alpha navigation signals (on 11.9, 12.6 and 14.9 kHz) are audible, which are burried in noise again if the capacitor is removed.

Thanks Klaus - I hope he's given you food for thought.

>>....Signoff.....>

Trust you've found something of interest in there - look forward to your comments and contributions - thanks to all who've helped this month irrespective of the amount.

Regards   Day

==========

Military Channel Designators List

There are only a few very minor changes this month, so consider it your 'mission' this month to locate-and-investigate them!
I am under the impression that the Australian Navy use designators for their frequencies. I would like to include a copy in this Listing, so

if anyone knows of a copy of such a list, please forward it to me.

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 21st Sept 98)

USAF MYSTIC STAR:

F003 8036 (6)	F365 11059 (7)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123 (8)	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)
F054 8058 (8)	F404 7690	F703 9991.5 (6)
F058 4742 (6)	F405 6972	F706 8057 (5)
F061 23265	F406 18393 (6)	F707 10589
F063 14870	F417 4992	F708 23377
F064 11214 (7)	F419 11407 (5)	F709 9317 (7)
F066 15036	F420 7933 (7)	F713 16246 (5)
F077 ?	F432 6731 (6)	F717 10883
F078 18532	F433 20972	F722 12270
F080 15677	F435 3821	F723 18323 (6)
F084 13205.5	F437 5684 (6)	F728 11236 (5)
F085 MF 6,8,11 MHz	F441 17440	F731 6683 (8)
F086 9461	F444 19267	F732 15011 (7)
F089 13204 (6)	F448 16-18 MHz	F734 4757 (7)
F090 6716	F451 13248 (7)	F736 11494 (8)
F094 9017 (6)	F452 5026	F741 7873
F098 14585	F453 19063	F748 6756(5)
F099 13247 (7)	F461 13211 (8)	F749 15-16 MHz?
F101 12106 (6)	F463 4610 (7)	F752 8047 (8)
F102 11118 (6)	F464 16157	F754 11627
F103 11488 (6)	F465 8040 (6)	F777 3113 (6)
F108 7316	F466 14864.5 (7)	F778 18023 (8)
F114 6986 (6)	F467 9023 (7)	F784 9043 (6)
F117 6993 (8)	F476 4-6 MHz?	F785 15687 (6)
F124 11217 (6)	F481 7605	F790 16323
F128 23242	F483 18626	F803 5078?
F134 4942.5	F486 5152 (7)	F807 12103?
F136 5429.5 (7)	F487 24483	F809 5700 (5)
F146 9027 (7)	F489 5437 (7)	F814 6989 (7)
F153 8063 (6)	F496 11059.5 (6)	F821 ?
F173 14420.5	F497 5411 (7)	F823 11229 (8)
F182 3078 (6)	F498 8032 (8)	F825 19047?
F184 10648 (8)	F499 4442 (7)	F832 18267
F186 3046	F500 8989 (6)	F843 MF 6 MHz
F194 13825 (5)	F505 9006 (6)	F845 6-7 MHz?
F195 20631	F516 4645 (6)	F846 13822 (5)
F197 4982 (6)	F517 9270 (6)	F853 12 MHz?
F202 16014 (5)	F521 11484 (5)	F864 16008
F204 12057	F522 11232	F867 6830 (7)
F211 11056 (7)	F523 9215	F868 9218 (6)
F213 ?	F529 8077 (7)	F869 16090
F226 5435.5 (6)	F530 23325	F873 13248 (7)
F228 7735 (5)	F533 18675 (6)	F874 13246?
F236 15041 (7)	F538 ?	F875 6717 (8)
F243 18590	F540 5404.5	F877 4721 (7)
F248 5398 (5)	F542 5431 (6)	F885 13207 (5)
F249 4731	F545 10580	F895 5710 (7)
F250 15091	F551 18331 (6)	F904 10202 (7)
F251 13217 (8)	F555 4894 (6)	F906 4524

F262	10717	F561	11052 (6)	F909	7687 (8)
F264	7693 (6)	F567	13565 (6)	F910	19671
F265	15733 (6)	F569	18387	F912	7330
F266	7997 (6)	F574	11413 (6)	F917	10205 (6)
F267	6730 (8)	F575	10427	F918	13482
F268	7325 (8)	F576	11153.5 (7)	F919	11159 (6)
F271	18320	F577	10544 (7)	F920	7927 (7)
F277	11153 (8)	F579	MF 11 MHz	F924	16317
F287	11226 (8)	F595	10877	F933	?
F290	8026 (8)	F600	13878 (6)	F935	9 MHz?
F291	13960 (7)	F611	14863	F937	?
F292	9414.5	F614	8026 (7)	F940	11445
F295	11460 (8)	F616	9320 (7)	F943	19002 (6)
F300	15707 (6)	F622	5817	F948	15038 (6)
F301	7500.5	F623	18317	F952	Night
F302	?	F624	13241 (8)	F957	6761 (8)
F310	?	F626	19343	F965	11466 (8)
F311	11220 (8)	F627	7910 (5)	F974	10586 (6)
F322	?	F631	18755 (5)	F975	MF 11 MHz night
F326	14864	F633	18290 (7)	F980	15724
F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (8)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (8)	F997	15667
F360	7919.5 (8)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

...and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F229 - ? (used 7/98), F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1

CA	6691 (7)
CB	11187 (7)
CC	17982 (8)
CD	?

also check 11267 & 13240. References have been made to designators CF, CG, CK and CL.

*USAF STRATCOM 'Zulu':

Z100	3068 (8)
Z105	3116 (7)
Z110	3134?(8)
Z115	3143 (8)
Z120	3295 (8)
Z124	?
Z125	4495 (8)
Z130	4472 (8)
Z135	4745 (8)
Z140	5026 (8)
Z145	5705 (8)
Z150	5800 (8)
Z155	5875 (8)
Z160	6715 (8)
Z165	6757 (8)
Z170	7831 (8)
Z174	?
Z175	9016 (8)
Z180	9057 (8)
Z185	9809 (8)
Z190	10204 (8)
Z195	11104.0 (possibly?)
Z200	11181 (8)
Z205	11494 (8)
Z210	11229 (8)
Z211	12070 (8)
Z215	13242 (7)
Z220	13245 (7)

Z225 13907 (8)
Z230 15046 (7)
Z235 15094 (8)
Z240 15097 (7)
Z250 15962 (7)
Z255 17973 (7)
Z260   ? (was mentioned in 8/98)
Z270 18027
Z275 18046 (possibly?)
Z280   ?
Z285   ?
Z290 19665 (possibly?)
Z295   ?
Z300
Z305
Z310   ? (was mentioned by NW01 in 6.98)
Z315 23872
Z320   ?
Z325   ?
Z330   ?
We had no positive confirmation during 1997 that Z110 was 3134, but
that frequency was active with 'Nightwatch' traffic during January
1998 so it is still one of 'their' frequencies.

*USAF AFSOC
==========
FOX 1 13207
FOX 2 5732
FOX 4 9017
FOX 8 23271
FOX 9 18027
?   9018

*US Customs/DEA/JTF
==================

3428	Yankee Alpha	5277	Alpha (Night DEA Pri)
5571	Yankee Bravo	5841	Bravo
8912	Yankee Charlie	7300	Charlie
11288	Yankee Delta	9497	Delta
13312	Yankee Echo	11076	Echo (Day DEA ops)
17972	Yankee Foxtrot	7657	Foxtrot
		14690	Golf
27870	Victor Alpha	18666	Hotel (DEA Active)
20631	Victor Bravo	23675	India
18594	Victor Charlie	14350	Lima
15964	Victor Delta	14686	Papa (DEA day pri)
11494	Victor Foxtrot	23402.5	Romeo
3369	Victor Kilo		
		17171	Sierra Hotel
4500	Zulu Alpha	18171	Sierra India
7527	Zulu Bravo	19131	Sierra Hotel
9802	Zulu Charlie		
12222	Zulu Delta	7527	COTHEN Scan 1
15867	Zulu Echo	8912	COTHEN Scan 2
		10242	COTHEN Scan 3
10242	Tango Alpha (also VE)	11494	COTHEN Scan 4
13907	Tango Bravo (also VG)	13907	COTHEN Scan 5
20890	Tango Charlie (also YG)	15867	COTHEN Scan 6
23214	Tango Delta (also YH)	18594	COTHEN Scan 7
25350	Tango Echo (also YI)	20890	COTHEN Scan 8
		23214	COTHEN Scan 9
2808.5	Xray Alpha	25350	COTHEN Scan 10
4991	Xray Bravo		
5058.5	Xray Charlie		
7778.5	Xray Delta		
9238.5	Xray Echo		
11073.5	Xray Foxtrot		
15953.5	Xray Golf		

17601   Xray Hotel
19131   Xray India

 5912   Whiskey Charlie
12138.5   Whiskey Delta
13658.5   Whiskey Echo
15964   Whiskey Foxtrot

*USCG "SECURE"
==============
3A3   5422.5
3A4   4448
3A5   ?
3A8   7773.5
3A9   7421
3A30   ?
3E4   6234.5
3E5   10608.1?
3E6   5272
3E7   ?
3E9   ?
3E10   7626
3E11   7783
3E12   7845
3E13   7884
3E14   7909
3E19 10675
3E20 10759
3E21 10788
3E24 11157.5
3E25 13413
Another two frequencies may be 13809.0 and 13950.0.
For a full listing of USCG aircraft and helicopters, please 'surf' to
'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers
============================
CH-1   3345
CH-2   5015
CH-3   5327.5
CH-4   5400
CH-5   5437.5
CH-6   6020
CH-7   6785
CH-8   9122.5 Pri
CH-9 11693.5
CH-10 12070   Sec
CH-11 12122
CH-12 16077
CH-13 16326   Ter
CH-14 16358
CH-15 20659
The USACE hold a weekly Net each Friday on Ch.8 where many USACE
stations 'check-in'.

*U.S. ARMY TRANS CORPS
======================
CH.1   4146
CH 2   6224
CH 3   6227
CH 4   8294
CH 5   8297
CH 6 12353
CH 7 12359
CH 8 12365

*FEMA
=====
FEMA uses "Foxtrot" designations for their frequencies. There are
quite a few frequencies.

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008

09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*SFOR BOSNIA
============
I2   6723
I8   6721.5 (5)
I9   2839.5 (5)
 ?   2841.5 (5)
PUSH 81 5788
PUSH 81A 6865
PUSH 81B 5346
PUSH 82 4450
PUSH 85 3178
PUSH 89 6932.5
PUSH 103 5110
PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312
The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.
*Update: 6865 was heard carrying 'Bookshelf' traffic in 6.98.

*'Habitat' net
==============
Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:
4704.4   (replaced 4721.0)
5700.4   WY02B
6719.4   WY02A   (replaced 6736.0)
8978.4
9005.4
9011.4
11212.4   (replaced 11214.0)
15095.4
(the two designators listed above, WY02A and WY02B, are not yet confirmed.)

*Belgian Air Force Designators
==============================
3131.0   YA
4745.0   YD
6745.0   YF
8989.0   YG
11187.0   YH
11211.0   YI
11268.0   YJ
15010.0   YM

18006.0   YO
18021.0   YP
20050.0   YQ
23332.0   YS

*Canadian Forces
==========
A6A   4560.0
A6G   6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver
Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

CanForces CFARS
CFARS is the Canadian Forces Affiliated Radio System. CFARS stations
are located at various United Nations peace-keeping operations around
the world and operate amateur radio equipment that provides phonepatches
for service personnel to their families.

Hotel   (unid 10-meter frequency)
Lima   20976.0
Fox   20970.0
Golf   20962.0
Delta   14461.5
Charlie   14458.5
Juliet   14452.5
Kilo   14448.0
Echo   14445.0
Bravo   14385.0
Alpha   6977.0 (ex- 13971)

*French Air Force 'Circus' Net
==========
Marjolaine 2   6712
Racontar 1   8972 (not heard for years, is it still active?)
Vinaigrette 3 8992
Reconfort 3   13236
Citadelle 1   18012
Citadelle 3   ?
Verite 3   23254
Capitole/RS902 6688
143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)

*German Navy
==========
Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB

 8335.5   DHJ59 GNy Wilhelmshaven   D   USB
10192.5   DHJ59 GNy Wilhelmshaven   D   USB
10197   DHJ59 GNy Wilhelmshaven   D   USB
10722   DHJ59 GNy Wilhelmshaven   D   USB
11256   DHJ59 GNy Wilhelmshaven   D   USB, RTTY 75
12178   DHJ59 GNy Wilhelmshaven   D   USB
12415.5   DHJ59 GNy Wilhelmshaven   D   USB
15929   DHJ59 GNy Wilhelmshaven   D   USB
16129   DHJ59 GNy Wilhelmshaven   D   USB
17544   DHJ59 GNy Wilhelmshaven   D   USB
17994   DHJ59 GNy Wilhelmshaven   D   USB, RTTY 75
22238.5   DHJ59 GNy Wilhelmshaven   D   USB
23744   DHJ59 GNy Wilhelmshaven   D   USB
DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
==========
>From a listener in Europe comes an extensive update to the German Air Force frequency list. This information comes from a very good source, and he wishes to remain anonymous.

3107 - Alpha   13203 - Oscar
3143 - Bravo   13233 - Papa
3903 - Charlie   15073 - Quebec
4721 - Delta   17973 - Romeo
5687 - Echo   17991 - Sierra
5717 - Foxtrot   18012 - Tango
6700 - Golf   23201 - Uniform
6715 - Hotel   23215 - Victor
6730 - India   23255 - Whisky
6751 - Juliet   23318 - X-ray
8965 - Kilo   23341 - Yankee
9025 - Lima   23345 - Zulu
11217 - Mike   29724 - Alpha-bravo
11265 - November

*Note: Freq 'Victor' *may* be 23231. Comments?
These frequencies are used by DHM91, which is the HQ Station of the German Air Force Air Transport Command. The other ground stations in this net are DHO23 (61st Air Transport Wing at Landsberg AB, southern Germany), DHO32 (62nd ATW at Wunstorf AB, north-central Germany) and DHO60 (63rd ATW at Hohn AB in northern Germany).
  Other callsigns heard are DHO32, DHO75 (a collective callsign for all the three ATW's) and DHM81. Callsigns 'O5IP' (Oscar-5-India-Papa) and 'NI81' (November-India-81) seem to be other 'regular/daily' callsigns.
The Primary frequency appears to be 'E'/5687.

*NATO E-3 AWACS
==========
Ch.AA   6700.0
Ch.AB   11228.0
Ch.AC   8971.0
Ch.A4   10315.0
Ch.A5   ?
Ch.KD   6760.0
Ch.KF   6695.0
Ch.NB   3081.0
Ch.NC   3225.0
Ch.ND   ?
Ch.NE   4542.0
Ch.NF   4720.0
Ch.NG   ?
Ch.NH   4758.0
Ch.NI   6762.5
Ch.NJ   8986.5
Ch.NK   11270.5
Ch.NL   15050.0

Ch.NM   17996.5
Ch.XC   6754.0
Ch.XD   8980.0
Ch.XE   10315.0
Ch.??   12165.0
Ch.??   5691.0
Ch.??   6728.0
Ch.??   23241.2
The X-net is replacing N-net altough the N-freqs are still sometimes used.

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's (actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above). If the UKADGE circuits are active, there will be an announcement after the weather broadcast with the code-letters for the active frequencies. For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

  The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.
  The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5

401E - 8500.5
  The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 06	4020.00 Khz#
Kilo 09	4920.00 Khz

Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#
Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 24	4779.0 Khz
Kilo 26	(uhf)
Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#
KJ 02	3357.0
KJ 04	3805.0
KJ 28	(uhf)
KJ 37	5910.0 (poss.)
TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)

(also known as 'Coastal Control')

Controlled from Whitehall ('GYA'), with standby location at Forest Moor ('GXQ') adjacent to Menwith Hill in Yorkshire.
Transmitters:- Milltown (Sccotland) and St. Eval (Cornwall).
Receivers:- Kinloss (Scotland) and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618

14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly use their ships name.

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========

Utility Monitoring in the Maritime Bands
Editor: Day Watson (jdwatson@cableinet.co.uk)
14, Gardens Road
CLEVEDON, North Somerset
BS21 7QG United Kingdom

Hi MariWUNners

In spite of being still "off season" qsx-wise in the N Hemisphere I seem to have gathered together a goodly amount to keep you interested.

QTC list:

Med weather from Portishead on telex
Scheveningen/PCH withdraws 22 mhz
Pin Oak Digital
Varna Radio/LZW
Italian coastal reorganisation
Bob Dixon's marine radio page

++++++ Med weather from Portishead on telex

In addition to the broadcast on telex at 0930z and 2130z Portishead Radio has started (1/Sept) broadcasting a weather bulletin at 0800z on the same frequencies (3615.7, 4211, 8417, 12580, 16807.5, 22377) to cover the Mediterranean and Black Sea areas. This broadcast is repeated at 0900z on RT on the frequencies of 13146 and 17245.

Thanks Peter.

++++++ Scheveningen/PCH withdraws 22 mhz

Scheveningen Radio in Holland has recently withdrawn the 22mhz components from its WT, RT and Telex services. In addition so also the telex components on 12585 and 16839 khz. No doubt this is part of the run-down prior to the final closure of all services on 31/Dec.

++++++ Pin Oak Digital

Towards the end of August, 26th to be exact, I came across a periodic marker on the USB of 4153 khz between 0530 and 0610z. Every 4 minutes or so there was a short data burst at +1500hz (shift 170hz) followed immediately by the CW ID of "WHW462" at +700hz. This turns out to be Pin Oak Digital of Gladstone, New Jersey and led to finding their website at www.pinoak.com.

At first reading one might suspect a system similar to the Globe Wireless network from the 19 points dotted round the map suggesting nodes at these points and satellite linked back to New Jersey. However the links in the website have referals to sites dealing with HF propogation and thereby introducing PODProp (Pine Oak Digital propagation charts for clients) and others bestowing the virtues of PACTOR II under rough longhaul conditions. Further enquiries of Capetown (Radio) shown on the map by Bob Hall (to whom thanks) for me reveals no known POD equipment operational down there.

Everything is pointing to a longhaul HF system using PACTOR II (with some bespoke structural mods to ensure client confidentiality of traffic from casual monitoring).

Which brings me to the final point. A list of POD channel frequencies and IDs, and associated ship frequencies. At the time of closing the column for this month no reply to an email has been received from POD.

However David Wright found a website and culled it for me under the licensee "Pin Oak Communications Inc" after using WHW462 as the search word. This produced the following list:

	2070.5		2072.5		2651.4
WHW462	4154.5		4169.5	WHW462	4551.4
	5851.4		6235.5		6259.5
WHW462	7951.4	WHW462	8302.5	WHW462	8338.5
	12159.5	WHW462	12370.5	WHW462	12418.5
WHW462	16551.5	WHW462	16614.5	WHW462	18847.5
	18262.5	WHW462	22181.5		22238.5
	25123.5				

Note these are the assigned frequencies. Those with a callsign have been ID'd and logged here in the UK. Actually the centre of the tones seems to be generally 50hz above these frequencies. The communication seems to single frequency ie Pin Oak and ship on the same frequency. At this time I've not finished my reading up of the technical description of this mode and its variants.

Their transmission site information:

2440 Larger Cross Rd.
Gladstone, NJ 07934
404245N 0744136W
55' antenna at an elevation of 450'.

Thanks for the assistance, David, appreciated. AnyWUN got Pactor II capability? I doubt if one can copy with "standard" modem but WUN never knows.

++++++ Varna Radio/LZW

Jim Cumbie from Dallas in Texas has just received a QSL from Varna with a large amount of information which he's kindly preformatted in the station overview format for insertion in the column . Thanks Jim - more the merrier.

Location: Bulgaria at 43.04N 27.46E

WT service

Watchkeeping - 24 Hours on 8370 and on 4184, 12554 and 16737.5 at times shown below.
Marker: "de LZW51 LZW51"
Traffic list is sent at
Every Odd hour at OH+05 24 hours a day on 8532 and during the times indicated below for 4314, 12940 and 17145.
Weather & Meteo warnings on 4350.4 @ 06:30 and 18:30.

	LZW	Ship	Watchkeeping
LZW26	4314	4184	15:00-11:00
LZW49	8532	8370	24 Hours
LZW51	12940	12554	04:00-21:00
LZW72	17145	16737.5	11:00-15:00

Telex service

Stn nr 0810 ---> Selcal VFXV
Marker: "de LZW LZW" at 40-50 second intervals.
Traffic list is sent (fec) on 4218.5 6330 8421.5 12587 16879
every EH+45.

	LZW	Ship	
LZW23	4212.5	4174.5	[Ch 405]
LZW24	4218.5	4181	[Ch 418]
LZW32	6321	6270	[Ch 615]
LZW33	6325.5	6274.5	[Ch 624]
LZW34	6330	6284	[Ch 633]
LZW44	8421.5	8381.5	[Ch 811]
LZW45	8432.5	8392.5	[Ch 833]
LZW54	12587	12484.5	[Ch1216]
LZW55	12594	12491.5	[Ch1230]
LZW56	12616	12513.5	[Ch1274]
LZW57	12635.5	12533.5	[Ch12114]
LZW63	16815	16691.5	[Ch1617]
LZW64	16825.5	16702.5	[Ch1639]
LZW65	16837.5	16714.5	[Ch1663]
LZW66	16860.5	16742.5	[CH16109]
LZW67	16879	16761	[Ch16146]
LZW68	16887	16769	[Ch16162]
LZW69	16901.5	16783.5	[Ch16191]
LZW76	19683	18872.5	[Ch1905]
LZW77	19689.5	18879	[Ch1918]
LZW83	22386.5	22294.5	[Ch2221]
LZW84	22390	22298	[Ch2228]
LZW85	22407.5	22315.5	[Ch2263]
LZW86	22426	22334	[Ch22100]
LZW91	26105	25177	[Ch2609]
LZW92	26117	25189	[Ch2633]

DSC (Digital Selective Calling)

	LZW	Ship	
LZW22	4207.5	4207.5	[GMDSS alert channel]
LZW25	4220	4208.5	[Ship-shore dsc calling]

RT service

Traffic list is sent on 3740 8746 13125 and 13191 every EH+10.
Weather & Meteo warnings on 3740 @ 07:30 13:03 19:03

	LZW	Ship	
LZW17	3740	4115.7	
LZW28	4408	4116	[Ch 418]
LZW	6504	6203	[Ch 602]
LZW	8746	8222	[Ch 810]
LZW	8770	8246	[Ch 818]
LZW	8812	8288	[Ch 832]

LZW	13125	12278	[Ch1217]
LZW	13131	12184	[Ch1219]
LZW	13191	12344	[Ch1239]
LZW73	17332	16450	[Ch1631]
LZW74	17344	16462	[Ch1635]
LZW75	17386	16504	[Ch1649]
LZW79	19782	18807	[Ch1810]
LZW89	22702	22006	[Ch2203]
LZW	22717	22021	[Ch2208]
LZW	22822	22126	[Ch2243]
LZW94	26151	25976	[Ch2503]

Address:
    Navigation Maritime Bulgare
    Varna Radio BG02
    1 Primorski Blvd
    9000 Varna, Bulgaria

++++++ Italian coastal reorganisation

The Italian coaststation organisation has changed recently. The country, including Sardinia, Sicily and Isole Pelagie is now divided into two operating areas. Each has a single operating centre remotely controlling the previously manned stations round the coasts.

Rome controls the northern area whilst Palermo controls the south. Rome is the only station in the Italian network with HF facilities covering WT/RT/Telex modes. All 17 stations below, barring Rome, have 2 mhz rt provisioning but only six have mf wt. VHF coverage is via equipment at some of these stations or intermediate tx/rx sites, again remotely controlled.

A constant watch is kept on 500 khz (wt), 2182 khz (rt) and Chan 16 (VHF) via all sites which are provisioned with the particular facilities.

First a summary of the two areas. Those stations suffixed with an asterisk "*" are those with mf wt capability.

Rome/IAR * controls	Palermo/IPP controls
Porto Torres/IZN	Augusta/IQA
Cagliari/IDC *	Mazara del Vallo/IQQ
Genova/ICB *	Messina/IDF
Livarno/IPL	Napoli/IQH
Civitavecchia/IPD	Crotone/IPC
S. Benedetta del Tronto/IQP	Bari/IPB *
Ancona/IPA *	Lampedusa/IQN
Trieste/IQX *	

Now for an update on the mf details of these stations.

WT (all)

IAR 440.5/521.5	Tfc list	521.5	0000 0400 0800 1200 1600 2000
	Wx	521.5	0050 0650 1250 1850
	Wx	521.5	0830 2030
	Navs	521.5	0948 1318 1748 2118
IDC 429/444/520	Tfc list	444	Every OH+20
	Navs	444	0918 1248 1648 2048
ICB 447/524	Tfc list	447	Every EH+20
	Navs	447	0848 1348 1748 2148
IPA 511.5	Tfc list	511.5	Every EH+30
	Wx	511.5	0148 0748 1348 1948
	Navs	511.5	0948 1248 1718 2118

IQX 512.5	Tfc list	512.5	Every EH+30
	Navs	512.5	0848 1218 1648 2048
IPB 514.5	Tfc list	514.5	Every OH+00
	Wx	514.5	0125 0725 1325 1925
	Navs	514.5	0848 1218 1648 2048

RT (Northern stations)

Rome/IAR	Nil		
Porto Torres/IZN	Answers on	2719	ship calls on 2023 2222
	Alt. freq	2182	
	Tfc lists	2719	0535 1035 1435 1835 2235
	Wx	2719	0135 0735 1335 1935
	Navs	2719	0303 0803 1203 1603 2003
Cagliari/IDC	Answers on	2680	ship calls on 2023 2056 2182
	Alt. freq	2182 2683	
	Tfc lists	2680	0535 1035 1435 1835 2235
	Wx	2680	0135 0735 1335 1935
	Navs	2680	0303 0803 1203 1603 2003
Genova/ICB	Answers on	2722	ship calls on 2023 2182
	Alt. freq	1667 2182 2642	
	Tfc lists	2722	0405 0905 1305 1705 2105
	Wx	2722	0135 0735 1335 1935
	Navs	2722	0333 0833 1233 1633 2033
Livarno/IPL	Answers on	2591	ship calls on 2023 2182
	Alt. freq	1925 2182	
	Tfc lists	2591	0415 0915 1315 1715 2115
	Wx	2591	0135 0735 1335 1935
	Navs	2591	0333 0833 1233 1633 2033
Civitavecchia/IPD	Answers on	1888	ship calls on 2023 2182
	Alt. freq	2182 2710 3747	
	Tfc lists	1888	0545 1045 1445 1845 2245
	Wx	1888	0135 0735 1335 1935
	Navs	1888	0533 0933 1333 1833 2333
S. Benedetta/IQP	Answers on	1855	ship calls on 2023 2182
	Alt. freq	2182	
	Tfc lists	1855	0535 1035 1435 1835 2235
	Wx	1855	0135 0735 1335 1935
	Navs	1855	0433 0933 1333 1733 2133
Ancona/IPA	Answers on	2656	ship calls on 2023 2182
	Alt. freq	2182	
	Tfc lists	2656	0535 1035 1435 1835 2235
	Wx	2656	0135 0735 1335 1935
	Navs	2656	0433 0933 1333 1733 2133
Trieste/IQX	Answers on	2182	ship calls on 2023 2182
	Alt. freq	2624	
	Tfc lists	2624	0535 1035 1435 1835 2235
	Wx	2624	0135 0735 1335 1935
	Navs	2624	0433 0933 1333 1733 2133

RT (Southern stations)

Palermo/IPP	Answers on	1852	ship calls on 2023 2182
	Alt. freq	2182	
	Tfc lists	1852	0435 0935 1335 1735 2135

```
                    Wx          1852    0135 0735 1335 1935
                    Navs        1852    0333 0833 1233 1633 2033

Augusta/IQA         Answers on  2628    ship calls on 2023 2182
                    Alt. freq   1643 2182
                    Tfc lists   2628    0435 0935 1335 1735 2135
                    Wx          2628    0135 0735 1335 1935
                    Navs        2628    0333 0833 1233 1633 2033

Mazara/IQQ          Answers on 2211/2600    ship calls on 2023 2182
                    Alt. freq   1833 2182
                    Tfc lists   2600    0435 0935 1335 1735
                    Wx          2600    0135 0735 1335 1935
                    Navs        2600    0333 0833 1233 1633 2033

Messina/IDF         Answers on  2789    Ship calls on 2023 2182
                    Alt. freq   2182
                    Tfc lists   2789    0435 0935 1335 1735 2135
                    Wx          2789    0135 0735 1335 1935
                    Navs        2789    0333 0833 1233 1633 2033

Napoli/IQH          Answers on  2632    ship calls on 2023 2182
                    Alt. freq   1675 2182 3735
                    Tfc lists   2632    0435 0935 1335 1735 2135
                    Wx          2632    0135 0735 1335 1935
                    Navs        2632    0333 0833 1233 1633 2033

Crotone/IPC         Answers on  2663    ship calls on 2023 2182
                    Alt. freq   1715 2182
                    Tfc lists   2663    0435 0935 1335 1735 2135
                    Wx          2663    0135 0735 1335 1935
                    Navs        2663    0333 0833 1233 1633 2033

Bari/IPB            Answers on  2579    ship calls on 2023 2182
                    Alt. freq   1771 2182
                    Tfc lists   2579    0435 0935 1335 1735 2135
                    Wx          2579    0135 0735 1335 1935
                    Navs        2579    0333 0833 1233 1633 2033

Lampedusa/IQN       Answers on  1876    ship calls on 2023 2132 2182
                    Alt. freq   2182
                    Tfc lists   1876    0435 0935 1335 1735 2135
                    Wx          1876    0135 0735 1335 1935
                    Navs        1876    0333 0833 1633 2033

Wx/Navs generally in Italian followed by English.

Research: ALRS vols.1 and 3 with thanks

++++++ Bob Dixon's marine radio page

Thanks to Richard Brown for a reminder on this site
    www.users.zetnet.co.uk/rdixon/marradio.htm

This was mentioned in the column back in JAN97 but a look now shows it's
been substantially enlarged.

++++++ signoff

qru folks - hopefully by the time this is published you'll being reading
it on the new server - and raring to go with reports and contributions.

73s  Day

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\\\\\\\\\\\\\\\\\\\\\\\\\\\\ ////////////////////////////

[- N&O #06 -]

Hello spooks hunters. First of all, I have sad news: Guy has left us. Lack of feedback is the main reason. I said it a number of times before, we CANNOT put N&O together without your help. We really need your input, no matter what, logs, schedules, info, etc.

Than the good news. Thanks to FAS we have a real nice agency profile this month. The 'AGENCY PROFILE' series is new and starts this month. I intend to include a number of profiles from now on.

As a special surprise I have the location of a number of Numbers Transmission Sites for you. I have to thank Rimantas Pleikys and also other sources -who prefer to remain anonymous- for all their help. Note that all stations were df'ed more than once by professionals!

Backward Music Stations	: location of the transmitters of the transmissions on 4706, 5178, 6695, 6753 kHz and probably also other frequencies is Palermo, Sicily, Italy. As far as I know it is a NATO communications device. I don't know what it exactly does, but when you listen very carefully, you can often hear traces of voice and rtty signals.
Lincolnshire Poacher	: Cyprus
Cherry Ripe	: Guam
M18	: Ust'Kamenogorsk, Kazakhstan
XPH	: west of Smolensk, Russia
M1	: Kaliningrad, Russia
M12	: Murom, Russia
The Buzzer (4625 kHz)	: between Kholm (NW of Moscow) and Moscow
Nancy Adam Susan	: near Alexandria, Egypt. Several hundreds df's were conducted. The df's pinpoint the station on the coast near Alexandria or maybe even offshore just off the Egypt coast
E10	: Tel Aviv (other locations in the past included Eilat and an offshore spot NW of Tel Aviv)
M51	: just north of Paris
M21	: various locations in European Russia
M63	: various locations in Roumania

* ENIGMA CONTROL LIST - UPDATE *

As you know, in N&O we use the designators assigned by 'ENIGMA' to the various numbers stations. I received the following update from Mike of the ENIGMA group. As the new list is not ready yet, we only publish the updated info. When the new Control List is ready to roll, it will be published here again.

Note that M57-M62 and M66 are reserved and are subject to re-appriasal. The deleted stations have been found to be variants of stations already included in the list and will appear on the new issue of the Control List with their primary station, the deleted numbers will probably NOT be reused.

E08	Deleted
E22	Arabic Man 2L/F (FD7,FD9)
S22	Deleted
S24	Deleted

S27	Czech Lady II, M1C variant
S28	Buzzer, formerly XB
V03	Deleted
V04	Deleted
V11	Deleted
M09	Deleted
M11	Deleted
M30	Deleted
M35-38	Deleted
M53	747.3F ends "= = AR AR VA VA"
M54	V89T, only null format known
M55	3F (x6) 000 000 long zero, null format only
M56	5F long zero
M57-62 & M66	Reserved, subject to re-appraisal
M67	ends 0000, possibly Turkish
M67A	variant, 3F 2F 7777
XB	See S28
XX	Pip, 3757 or 5450 kHz
XXX	Fast CW pips 3595 kHz

* CUBAN SPY RING RELATIONS??? *

The following is a snippet from a article in the Miami Herald from a couple of weeks ago:

> ''After nearly four decades of Cold War with Cuba, the FBI said Monday that it broke up the biggest spy ring in years from the communist island, alleging that a dozen operatives sought to infiltrate U.S. military bases in South Florida and sow discord among exile groups in Miami.''

Could this be the reason of the cut-back of Spanish and Cuban CW numbers transmissions?? About a week after the arrests Andy Bell sent us a note that the S7 Russian Man transmissions starting at 0500 UTC have been transmitted daily for at least a week. It sent the same message day after day. Normally, this station transmits on two days per week as does its sister station V7. Hence, the extra transmissions started just after the arrests. COINCIDENCE???

The frequencies used were: 5937 kHz at 0500z; 7737 kHz at 0520z; 9337 kHz at 0540z.

The following message has been repeated every day:

Frequency ID = 973
Call = 1
Message ID = 168
GC = 111
Followed by 111 5fg.

Andy sez ''I'm wondering if this daily duplicate message is a test transmission, training transmission or maybe the intended recipient is just not responding?''

* AGENCY PROFILE: ISRAELI INTELLIGENCE *

Israeli intelligence agencies are/were very active on HF. Most of the RTTY stations however are gone now and have probably have moved to satellite. The voice numbers station (E10) is still there and is very active.

Although I always call them 'Mossad stations', it is not clear which agency/agencies is/are actually transmitting these messages. The two major candidates are Mossad and Shin Beth, but also the military Aman is a possibility. The RTTY stations were almost certain Mossad stations.

In this edition of the 'Agency Profile' series I'd like to introduce you to the various Israeli intelligence agencies and the numbers station(s) related to these agencies: E10.

Official name: Ha-Mossad le-Modiin ule-Tafkidim Meyuhadim
Popular name : Mossad
Translation : Institute for Intelligence and Special Tasks

Official name: Sherut ha-Bitachon ha-Klali
Popular name : Shin Bet
Translation : General Security Service

Official name: Agaf ha-Modi'in
Popular name : Aman
Translation : Military Intelligence

Official name: Leshkat Kesher Madao
Popular name : Lekem
Translation : Bureau of Scientific Relations

Name: Ministry of Foreign Affairs, Center for Political Research

* MOSSAD *
Mossad has responsibility for human intelligence collection, covert action, and counterterrorism. Its focus is on Arab nations and organizations throughout the world. Mossad also is responsible for the clandestine movement of Jewish refugees out of Syria, Iran and Ethiopia. Mossad agents are active in the former communist countries, in the West, and at the UN.

Mossad is headquartered in Tel Aviv. The staff of Mossad was estimated during the late 1980s to number between 1,500 to 2,000 personnel, with more recent estimates placing the staff at an estimated 1,200 personnel. The identity of the director of Mossad was traditionally a state secret, or at least not widely publicized, but in March 1996 the Government announced the appointment of Major General Danny Yatom as the replacement for Shabtai Shavit, who resigned in early 1996.

Formerly Popular name: the Central Institute for Coordination and the Central Institute for Intelligence and Security, Mossad was formed on 01 April 1951. Mossad was established by then Prime Minister David Ben Gurion, who gave as Mossad's primary directive: "For our state which since its creation has been under siege by its enemies. Intelligence constitutes the first line of defence...we must learn well how to recognise what is going on around us."

Mossad has a total of eight departments, though some details of the internal organization of the agency remain obscure.

* Collections Department is the largest, with responsibility for espionage operations, with offices abroad under both diplomatic and unofficial cover. The department consists of a number of desks which are responsible for specific geographical regions, directing case officers based at "stations" around the world, and the agents they control.

* Political Action and Liaison Department conducts political activities and liaison with friendly foreign intelligence services and with nations with which Israel does not have normal diplomatic relations. In larger stations, such as Paris, Mossad customarily had under embassy cover two regional controllers: one to serve the Collections Department and the other the Political Action and Liaison Department.

* Special Operations Division, also Popular name: Metsada, conducts highly sensitive assassination, sabotage, paramilitary, and psychological warfare projects.

* LAP (Lohamah Psichlogit)Department is responsible for psychological warfare, propaganda and deception operations.

* Research Department is responsible for intelligence production, including daily situation reports, weekly summaries and detailed monthly reports. The Department is organized into 15 geographically specialized sections or "desks", including the USA, Canada and Western Europe, Latin America, Former Soviet Union, China, Africa, the Maghreb (Morocco, Algeria, Tunisia), Libya, Iraq, Jordan, Syria, Saudi Arabia, the United Arab Emirates and Iran. A "nuclear" desk is focused on special weapons related issues.

Israel's most celebrated spy, Eli Cohen, was recruited by Mossad during the 1960s to infiltrate the top echelons of the Syrian government. Cohen radioed information to Israel for two years before he was discovered and publicly hanged in Damascus Square. Another Mossad agent, Wolfgang Lotz, established himself in Cairo, became acquainted with high-ranking Egyptian military and police officers, and obtained information on missile sites and on German scientists working on the Egyptian rocket program. In 1962 and 1963, in a successful effort to intimidate the Germans, several key scientists in that program were targets of assassination attempts. Mossad also succeeded in seizing eight missile boats under construction for Israel in France, but which had been embargoed by French president Charles de Gaulle in December 1968.

In 1960, Mossad carried out one of its most celebrated operations, the kidnapping of Nazi war criminal Adolph Eichmann from Argentina. Another kidnapping, in 1986, brought to Israel for prosecution the nuclear technician, Mordechai Vanunu, who had revealed details of the Israeli nuclear weapons program to a London newspaper. During the 1970s, Mossad assassinated several Arabs connected with the Black September terrorist group. Mossad inflicted a severe blow on the PLO in April 1988, when an assassination team invaded a well-guarded residence in Tunis to murder Arafat's deputy, Abu Jihad, considered to be the principal PLO planner of military and terrorist operations against Israel. Gerald Bull, a Canadian scientist who developed the famed "Super Gun" for Iraq was killed by the Mossad at his Brussels apartment in March '90, effectively halting the development of the Supergun project.

Egyptian security services reported the discovery of a total of seven Israeli espionage networks during 1996, which is a significant increase compared to the 20 similar networks discovered in the previous 15 years.

And Mossad's record has also been blemished by a few embarrasing failures. In in Lillehammer Norway on 07 January 1974 Mossad agents mistakenly killed Ahmad Boushiki, an Algerian waiter carrying a Moroccan passport, who they mistook for PLO security head Ali Ahmad Salameh, believed to have masterminded the 1972 massacre of Israeli athletes at the Munich Olympics [Salameh was killed in a 1979 car-bomb explosion in Lebanon]. Following the attack, the Mossad agents were arrested and tried before a Norwegian court. Five Israeli agents were convicted and served short jail sentences, though Israel denied responsibility for the murder. In February 1996 the Israeli government agreed to compensate the family of Ahmad Boushiki.

On 15 November 1995, Prime Minister Yitzak Rabin was assassinated by Yigal Amir, an Israeli citizen. Following the controversy over the failure of intelligence to protect Rabin, and the embarrassment over the mistaken assassination of a Swedish national, the Director Geneneral of Mossad, known only as 'S', was forced into retirement. On 24 March 1996 Prime Minister Shimon Peres appointed Major General Danny Yatom as the new Director General of Mossad, the first Director of Mossad to ever be publically identified.

On 24 September 1997 Mossad operatives attempted to assassinate Khalid Meshaal, a top political leader of the Palestinian group Hamas. The assassins entered Jordan on fake Canadian, and injected Meshaal with a

poison. Jordan was able to wring a numbar of concessions out of Israel in the aftermath of the fiasco, including the release of the founder of Hamas, Shaykh Ahmad Yasin, from an Israeli jail.

* SHIN BETH *
Shin Bet, the Israeli counter-intelligence and internal security service, is believed to have three operational departments and five support departments.

* Arab Affairs Dept is responsibile for antiterrorist operations, political subversion and maintenance of an index on Arab terrorists. Shin Bet detachments, Popular name: HENZA, worked with Aman undercover detachments [known as: Mista'arvim (Marauders)] to counter the uprising. This Department has also been active in countering the military wing of Hamas.

* Non-Arab Affairs Department, formerly divided into communist and noncommunist sections, concerned itself with all other countries, including penetrating foreign intelligence services and diplomatic missions in Israel and interrogating immigrants from the Former Soviet Union and Eastern Europe.

* Protective Security Dept is responsibile for protecting Israeli government buildings and embassies, defense industries, scientific installations, industrial plants, and the El Al national airline.

Shin Bet monitors the activities of and personalities in domestic right-wing fringe groups and subversive leftist movements. It is believed to have infiltrated agents into the ranks of the parties of the far left and had uncovered a number of foreign technicians spying for neighboring Arab countries or the Soviet Union. All foreigners, regardless of religion or nationality, are liable to come under surveillance through an extensive network of informants who regularly came into contact with visitors to Israel. Shin Bet's network of agents and informers in the occupied territories destroyed the PLO's effectiveness there after 1967, forcing the PLO to withdraw to bases in Jordan.

Shin Bet's reputation as a highly proficient internal security agency was tarnished severely by two public scandals in the mid-1980s. In April 1984, Israeli troops stormed a bus hijacked by four Palestinians in the Gaza Strip. Although two of the hijackers survived, they were later beaten to death by Shin Bet agents. It appeared that the agents were acting under orders of Avraham Shalom, the head of Shin Bet. Shalom falsified evidence and instructed Shin Bet witnesses to lie to investigators to cover up Shin Bet's role. In the ensuing controversy, the attorney general was removed from his post for refusing to abandon his investigation. The president granted pardons to Shalom, his deputies who had joined in the cover-up, and the agents implicated in the killings.

In 1987 Izat Nafsu, a former IDF army lieutenant and member of the Circassian minority, was released after his 1980 conviction for treason (espionage on behalf of Syria) was overturned by the Supreme Court. The court ruled that Shin Bet had used unethical interrogation methods to obtain Nafsu's confession and that Shin Bet officers had presented false testimony to the military tribunal that had convicted him. A judicial commission set up to report on the methods and practices of Shin Bet found that for the previous seventeen years it had been the accepted norm for Shin Bet interrogators to lie to the courts about their interrogation.

Shin Bet's reputation was further compromised by the assassinate of Prime Minister Yitzak Rabin in November 1995 by a right-wing Israeli extremist. In the aftermath of the ensuing scandal, the head of Shin Bet [Karmi Gillon] resigned in January 1996 and was succeeded by Rear Admiral Ami Ayalon.

* AMAN *
Military intelligence, or Aman, produces comprehensive national intel-

ligence estimates for the prime minister and cabinet, daily intelligence reports, risk of war estimates, target studies on nearby Arab countries, and communications intercepts. Aman also conducts across-border agent operations.

Aman is an independent service, co-equal with the army, navy and air force. Aman's estimated staff of 7,000 personnel is currently led by Brigadier General Moshe Ya'alon. His immediate predecessor was Major General Yehoshua [Uri] Saguy.

Aman's Foreign Relations Department is responsible for liaison with foreign intelligence services and the activities of Israeli military attaches abroad. The Sayeret Maktal General Staff Deep Reconnaissance Unit is Israel's primary counter-terrorism and intelligence-gathering entity.

Small air force and naval intelligence units operatedas semi-autonomous branches of Aman. Air force intelligence primarily uses aerial reconnaissance and radio intercepts to collect information on strength levels of Arab air forces and for target compilation. In addition to reconnaissance aircraft, pilotless drones are used extensively to observe enemy installations. Naval intelligence collects data on Arab and Soviet naval activities in the Mediterranean and prepares coastal studies for naval gunfire missions and beach assaults.

A number of electronic intelligence collection and observation facilities are located on the Golan Heights, including a facility at Har Avital which monitors Syria, and another at Mount Hermon which monitors both Lebanon and Syria.

Aman was held responsible for the failure to obtain adequate warning of the Egyptian-Syrian attack that launched the October 1973 War. Many indications of the attack were received but faulty assessments at higher levels permitted major Arab gains before the IDF could mobilize and stabilize the situation.

During preparations for the invasion of Lebanon in 1982, Aman correctly assessed the weaknesses of the Christian militia on which Israel was depending and correctly predicted that a clash with the Syrian garrison in Lebanon was inevitable. The chief of intelligence, Major General Saguy, made these points to the general staff and privately to the prime minister. But, although he was present at cabinet meetings, he failed to make his doubts known to avoid differing openly with Begin and Sharon. Saguy was forced to retire after the Kahan Commission found that he had been delinquent in his duties regarding the massacres at the Sabra and Shatila Palestinian refugee camps.

* LEKEM *
Until officially disbanded in 1986, the Bureau of Scientific Relations (Leshkat Kesher Madao--Lekem) collected scientific and technical intelligence abroad from both open and covert sources. Lekem was dismantled following the scandal aroused in the United States by the arrest of Jonathan Jay Pollard for espionage on behalf of Israel. Pollard, a US naval intelligence employee in Washington, received considerable sums for delivering vast quantities of classified documents to the scientific officers (Lekem agents) at the Israeli embassy. Pollard was sentenced to life imprisonment. Although the Israeli government asserted that the operation was an unauthorized deviation from its policy of not conducting espionage against the United States, statements by the Israeli participants and by Pollard himself cast doubt on these claims.

Some sources assert that open and covert collection of scientific and technical information formerly conducted by Lekem is now conducted by a unit of the Ministry of Foreign Affairs.

* MINISTRY OF FOREIGN AFFAIRS, Center for Political Research *
The Foreign Ministry formulates, implements and presents the foreign policy of the Government of Israel. It represents the state vis-a-vis

foreign governments and international organizations, explains its positions and problems throughout the world, endeavors to promote its economic, cultural, and scientific relations, and fosters cooperation with developing countries. Israel currently maintains diplomatic relations with 160 countries. The Ministry promotes relations with Diaspora communities and safeguards the rights of Israeli citizens abroad.

The Center for Political Research, which has ten departments, monitors events, developments and political processes, mainly in the Middle East, including international involvement therein. The Center's main tasks include gathering, analyzing and evaluating political information, as required by the Ministry; regular political briefings and guidance to Israel's missions throughout the world; and assisting the political information network, in Israel and overseas, with its expertise in Middle East affairs.

* E10 STATION PROFILE *

Mode : Female voice in AM
Language : English
Alphabet : Standard NATO phonetic alphabet

Id/callsign: Three letter phonetic callsign
ART, CIO, EZI, FTJ, GBZ, GPO, HNC, JSR, KPA, MIW, NDP, OEM, PCD, ROV, SYN, TMS, ULX, VLB, YHF, ZWL

Note: there are different opinions re the id's. Are they the id/callsign of the receiver or the sender? Some say that the id represents the agency or department that is responsible for the message. Others think that the id indicates the target area and that the standard messages are for every agent in that area, while the special messages are for individual agents.

Suffixes : 1 = test message
2 = no message (QRU)
Other suffixes have been noted. Meaning unknown.

Schedule : 24 hours a day, on the hour, h+15, h+30, h+45
H+00 : FTJ (off-air 0100-0300 UTC)
H+30 : YHF
H+00 & H+30 : ART, PCD, ULX
H+00 & H+30 : EZI, JSR (off-air 2230-0100 UTC)
H+15 : KPA, MIW
H+45 : CIO, SYN, VLB

Location : Worldwide locations including Tel Aviv and other places in Israel. It is believed that host countries include South Africa and the USA.

Message types
* standard message:
Callup e.g. "Echo Zulu India" for three to five minutes
"Message, Message"
"Group xxx Group xxx"
"Text text"
xxx 5 letter groups
"End of Message"
"Repeat repeat"
Repeated message
"End of message"
"End of transmission"

* suffix message:
Id + suffix, e.g. CIO2, YHF1, FTJ4, etc.

* special message:
Apart from the 'suffix-messages' and normal 5LG messages, other

character strings are transmitted. A number of them are listed below. SYN and VLB are quite active in this field.

- CIO0A, CIO4, CIOT145Z0900Z21, CIOX2, CIOZ
- FTJ9
- HNCU
- KPA26L53
- MIW18D16F44, MIW22B16P56, MIW56L44T26
- ROV5, ROVE, ROVG, ROVH
- SYN13161915, SYN162212, SYN175515, SYN26P15B38, SYN26T15P12D38, SYN7Z6, SYN90124
- VLB14B88, VLB18L36T46, VLB18P14L36R52, VLBG11071500, VLBL11081400S3081700Q11081530, VLBO69081600Y56081800 VLBR11080830D5081400, VLBN11071000

Schedules:
Each id has its own unique set of frequencies. You may hear other id's on these frequencies. Most of them are faulty transmissions and stop after a minute or so.

ART	CIO	EZI	FTJ	JSR	KPA
3415	5170	6840	(2626)	2270	3270
5435	7811	9130	4436	5091	4665
		11565	(4461)	7540	5629
		13533			6745
		17410			
		19715			

MIW	PCD	SYN	ULX	VLB	YHF
3640	3150	4360	2743	8127	3840
5530	4165	3485	2844	10352	4560
6658	4270		3880	12750	5820
	6498		4880	14750	7918
				17170	10648

Notes:
Most transmissions are on 2 (sometimes 3) parallel frequencies. Frequencies between brackets are normally used by FTJ but are sometimes also used by other id's. This is apparently no mistake.

Other frequencies outside the normal schedules:

ART	EZI	FTJ	KPA	PCD	ULX	VLB
3417	2626	2626	4465	6270	2741	12747
5437	2628	2628			6270	
	4463	4461			7760	

Note that all frequencies have a 'width' of -2 kHz to +2 kHz. In case of interference they can shift 2 kHz up and down. When the interference or jamming is too severe they often change to alternative frequencies as 2628, 2741, 3417, 4463, 5437, 12747 kHz. The fact that alternative freqs are being used means that the transmissions are being monitored. Someone must inform the sender that the signal is not audible in the target area

Remarks:
1) You can quite often hear faulty transmissions due to a switching error or because the computer starts the transmission before the new frequency is set. The id's are then transmitted without a pause between the id's, e.g. JSR2JSR2 instead of JSR2 JSR2.
2) When the messages are too long, the transmission often ends in the middle of a message. During the next transmission the unfinished message is repeated.

Example (copied on 8 Sept 1998):
EZI starts on 21.30 with id + 102 groups of 5LG. Transmission stops

during the repetition of the message at 21.55.
21.56: JSR2JSR2
21.57: EZI2EZI2EZI2EZI2
21.58: JSR2JS
22.00: EZI2 EZI2 for 3 minutes then off the air
22.00: JSR2 on its own freq for 3 mins, then off the air
The interrupted message was not repeated.

Later that evening a similar event happened. This time however the interrupted message was repeated during the next transmission.

Sources and resources:
:: FAS -Federation of American Scientists-
:: Spy Encyclopedia
:: IntelWeb
:: "Inside Israel's secret organisations"
   JANE'S INTELLIGENCE REVIEW October 1996
:: Israeli Defense Forces Official Homepage
:: Justice for Jonathan Pollard the official Web Site authorized by
   Jonathan and Esther Zeitz-Pollard.
:: Internet Association for the Liberation of Jonathan Pollard The
   Citizen's For Justice campaign headed by Carol Pollard
:: What The Jerusalem Post wrote on Pollard (August 1992 - May 1996)
:: Jonathan Pollard @ BETAR - TAGAR Zionist Youth Movement
:: Israeli Foreign Ministry Official Homepage
:: RTTY stations: see WUN vol.1 no.9 and WUN vol.2 no.6
:: Special thanks to the WUN members who helped me with the schedules
   and info!

-o-o-o-o-o-o-o-o-o-o-

* NANCY ADAM SUSAN (E15) *

A station similar to E15 was heard on 28000 kHz on 05 Sept 1998, at 1700 UTC. A male voice said: GOLF 12 and Queen Thomas London or Queen Thomas Charly. Very similar to "Friend Young Peter" on 14000 in USB daily at 1700 UTC. The signal was very weak. Was it an harmonic from 14000 or a new one? Please observe this frequency and let me/us know what you heard.

-o-o-o-o-o-o-o-o-o-o-

* CZECH / SLOVAK STATION *

Andy Bell and Darren Riley reported a new Slovak station on 10642 kHz. It is however more likely that it is one of the Czech stations (S3, S18 or S19), especially because CW guru Guy Denman noticed that the messages that the station transmitted were identical to the ones transmitted by CW station M10, also transmitting from the Czech Republic!!!

Comments are most welcome! Thanks for the sound sample, Darren and same to you Andy for the transcriptions of the transmissions. One of them follows:

Friday, 28 August 1998, 1300 UTC, 10642 kHz, Slovak/OM - S19

111 111 111
70212 70212 70212 20 20 20
55529 55529 55529 16 16 16
36382 36382 36382 18 18 18
58645 58645 58645 19 19 19
111 111 111
70212 70212 70212 20 20 20
55529 55529 55529 16 16 16
36382 36382 36382 18 18 18
58645 58645 58645 19 19 19
111 111 111
70212 70212 70212 20 20 20

55529 55529 55529 16 16(((((Header interrupted by message here.

70212 70212 70212 98 98 20 20
POZOR POZOR
68114 68114 27826 27826 17391 17391 53652 53652 60334 60334
83655 83655 93272 93272 12737 12737 53435 53435 04990 04990
51241 51241 21452 21452 15642 15642 21816 21816 88651 88651
81865 81865 82670 82670 19220 19220 77304 77304 13242 13242
POZOR POZOR
98 98 20 20

55529 55529 55529 62 62 16 16
POZOR POZOR
68177 68177 61283 61283 09367 09367 79983 79983 28844 28844
82765 82765 59148 59148 90320 90320 37228 37228 18240 18240
63143 63143 01625 01625 72552 72552 44893 44893 89323 89323
77339 77339
POZOR POZOR
62 62 16 16

36382 36382 36382 66 66 18 18
POZOR POZOR
56922 56922 37363 37363 18824 18824 52346 52346 57216 57216
53543 53543 65722 65722 50499 50499 80755 80755 18395 18395
45234 45234 30086 30086 32760 32760 25065 25065 16991 16991
61141 61141 66554 66554 73647 73647
POZOR POZOR
66 66 18 18

58645 58645 58645 88 88 19 19
POZOR POZOR
50045 50045 91501 91501 68968 68968 57041 57041 34252 34252
75043 75043 45550 45550 18518 18518 14247 14247 68125 68125
56600 56600 00990 00990 14351 14351 88290 88290 52619 52619
89696 89696 69471 69471 20499 20499 02606 02606
POZOR POZOR
88 88 19 19

000

-o-o-o-o-o-o-o-o-o-o-

* THREE NOTE ODDITY (G4) *

Preamble   : 3-note increasing scale repeated for 5 minutes
Times   : Summer 2005, 2035. Winter 2105, 2135 UTC
Mode   : AM
Language   : German
Freqencies : 01/95 3227 3127   02/95 3409 3309   03/95 3419 3319
             04/95 4581 4481   05/95   06/95 5281 5181
             07/95 5422 5322   08/95 5233 5133   09/95 4484 4384
             10/95 3389 3289   11/95 3176 3076   12/95 3199 3099

             01/96 3227 3127   02/96 3409 3309   03/96 3419 3319
             04/96 4581 4481   05/96 4165 4065   06/96 4340 4240
             07/96 3935 3835   08/96 4165 4065   09/96 3930 3830
             10/96 3280 3180   11/96 3270 3170   12/96 3285 3185

             01/97 3230 3130   02/97 3245 3145   03/97 3275 3175
             04/97 3936 3836   05/97 4245 4145   06/97 4376 4276
             07/97 3930 3830   08/97 3935 3835   09/97 3915 3815
             10/97 3315 3215   11/97 3265 3165   12/97 3255 3155

             01/98 3255 3155   02/98 3265 3165   03/98 4435 4335
             04/98 4745 4645   05/98 5410 5310   06/98 5730 5630
             07/98 5840 5740   08/98 5755 5655   09/98 5310 5210

Message   : 3-note raising scale (5 mins)

"Achtung Achtung"
32587 32587 05458 05458 32125 32125 etc
"Ende Ende"
"Achtung Achtung"
Repetition of message(s)
"Ende Ende"

Hans-Friedrich Dumrese sent us the above frequency review of the '3-note oddity'. He also passes on his comments about one of the September messages. Thanks a lot HF!

Message: 32587 05458 32125 45214 65212 85458 65458 65458 54120 45210
45200 45158 65425 54214 74548 35458 62102 84502 78521 84522
14520 87458 32125

Note the "... 65458 65458 ..."
05458 62102 A lot of 32###, 45###, 65###, and
14520 54120 ##458
32125 32125
125 32
587 45158
35458 45200
45158 45210
200 65212
210 45214
214 54
54120 65425
214 05458
62102 35
65212 65
425 65
458 85
458 87
74548 84502
78521 14520
84502 78521
522 84522
85458 74548
87458 32587

* MORSE STATIONS *

Without Guy, the morse section will be shorter than it used to be. I have the profiles of M51 and M63 on the shelf, but that's it. So if you have additional profiles, news or info, please send them to me for the column. Thanks!

::: M21: Russian Air Defense

Another type of 'mystery' station that is around for quite some time, is in fact not one single station but a network of stations belonging to the Russian forces. To the Russian Air Defense Forces to be more precise.

This is a typical message that can be best described as a QRV message: 'BT990457??8?????'. The digit after the first two question marks [8 in this example] may be different on the various frequencies. Each message starts with BT -...- followed by 99 and the time, being UTC+X. Then two question marks ?? ..--.. followed by a digit and again five question marks.

Besides 99, also other pairs of equal numbers have been logged like 44 and 66. In the past the other combinations were followed by messages of 13 characters, while the QRV messages consisted of 16 characters. Nowadays the normal messages may start with any combination after 'BT'. The length of all messages is now always 16 characters including 'BT'.

The timestring can vary from station to station from UTC+3 to 6 or even up to +12 hours, depending on the geographical area that the station services.

The stations have been heard on many frequencies. Here is a list: 2316, 2360, 3825, 3839, 4402, 5053, 5181, 5205, 5214.5, 5278.5, 5369.5, 5446, 5471.5, 6635, 6800, 7530, 7821, 8084 kHz.

Examples:

```
BT992T17??8?????
BT1TT654T7564312
BT1674788393212T

BT1TT63464491218
BT1TT6346449132T
BT1TT6446449292T
BT2TT25T11TT9T8?
```

In the early 90's a similar station transmitted on 5416 kHz. It sent the following QRV message in 50bd RTTY: VV99+1804+0++++++
The timestring was UTC+1. Just like the CW stations, this also was a military station. Probably belonging to the Russian forces in Eastern Germany or the East German forces.

-o-o-o-o-o-o-o-o-o-o-

::: M18: 'time station'

Location: Ust'Kamenogorsk, Kazachstan

Frequencies: 3803, 4073 and 4503 kHz, probably on more freqs.

The transmission is in CW and consist of 4 digits. This represents the time in -presumably- Russia. Time given is UTC+2 to UTC+6. The station's clock is between one minute behind to one minute ahead of DCF77. Each time block is repeated 8x.

Example: 0317 (R8) 0318 (R8) 0319 (R8) etc.
indicating 03 hrs, 17, 18, 19 mins....

The time difference on various frequencies follows the same pattern as the Russian Air Defense stations (M21), where the time given depends on the area that is serviced. Is this its sister station???

-o-o-o-o-o-o-o-o-o-o-

::: XPH frequencies

Two months ago I asked for a frequency list in order to find out if there is a pattern. I compiled a bunch of frequencies but there are still a lot of gaps. Although there seems to be no fixed pattern, frequencies do return over the years.

o Wednesday and Friday morning sessions:

Month	Freq.	UTC	Freq.	UTC	Freq.	UTC
03-95	10167	0600	?	0620	?	0640
01-96	5436	0750 (?)				
06-96	12099	0600	10399	0620	?	0640
07-96	12099	0600	10399	0620	?	0640
08-96	?	0600	?	0620	8172	0640
11-96	5413	0700	5131	0720	4031	0740
12-96	5754	0700	5254	0720	4454	0740
01-97	5754	0700	5245	0720	4454	0740
10-97	5463	0540 (?)				
12-97	?	0600	?	0620	10140	0740

05-98	9218	0600	?	0620	?	0640
06-98	9394	0600	11494	0620	13394	0640
07-98	9441	0600	11041	0620	12141	0640
08-98	9226	0600	10426	0620	12126	0640
09-98	9303	0600	10503	0620	12203	0640

o Tuesday and Friday evening sessions:

Month	Freq.	UTC	Freq.	UTC	Freq.	UTC
??-95	?	2000	10372	2020	?	2140
11-95	5431	2100	5131	2120	?	2140
12-95	5754	2100	5254	2120	4454	2140
01-96	5754	2100	5234	2120	4454	2140
02-96	5754	2100	5334	2120	4454	2140
03-96	6959	2100	5859	2120	4259	2140
04-96	?	2000	9125	2020	7525	2040
06-96	13442	2000	11542	2020	10242	2040
07-96	12219	2000	11019	2020	9919	2040
08-96	10830	2000	?	2120	?	2140
11-96	5413	2100	5131	2120	4031	2140
12-96	5754	2100	5254	2120	4454	2140
01-97	5754	2100	5245	2120	4454	2140
02-97	5754	2100	5245	2120	4454	2140
03-97	6959	2100	5869	2120	5259	2140
04-97	10423	2000	9123	2020	7523	2040
05-97	12219	2000	11019	2020	9919	2040
06-97	13442	2000	11542	2020	10242	2040
07-97	12219	2000	11019	2020	9919	2040
08-97	10830	2000	?	2020	?	2040
11-97	5431	2100	5131	2120	4031	2140
12-97	5754	2100	5254	2120	4454	2140
08-98	13417	2000	11417	2020	9917	2040
09-98	10657	2000	9357	2020	7857	2040

* NUMBERS ON THE INTERNET *

Name : Worldwide Utility News
URL : http://www.gem.net/~berri/wun
Note : The N&O column in the WUN newsletters on our own home page

Name : QTH.Net archives
URL : http://www.qth.net/archive/spooks/
Note : Archive of messages sent to the Spooks mailing list (6 months)

Name : Spooks Newsletter
URL : http://www.rtcom.us-inc.com/nsnl/
Note : The N&O column a.k.a. Spooks Newsletter on the site of RTCOM

Name : 'Spy Centre' (Chris Smolinsky)
URL : http://www.access.digex.net/~cps/numbers.html
Note : Interesting photo's of Warrenton Training Center sites

Name : 'Numbers station on shortwave' (Mike Chace)
URL : http://itre.ncsu.edu/radio/numbers.html
Note : Includes info about the ENIGMA group

Site : 'Shortwave Radio' (Simon Mason)
URL : http://www.btinternet.com/~simon.mason/page30.html
Note : Includes Simon's book 'Secret Signals, the Euro Numbers Mystery'

Site : 'NSLog' (Leendert Combee)
URL : http://www.geocities.com/Area51/Dimension/1087/nslog.html
Note : Logs collected from the Spooks list. Not updated since February

Site : Irdial: Conet On-line
URL : http://www.ibmpcug.co.uk/~irdial/coneline.htm

Site : Irdial: the Conet project
URL : http://www.ibmpcug.co.uk/~irdial/conet.htm
Note : Irdial released a 4-cd box with numbers stations recordings

Site : 'Mysteries Of ShortWave Radio!' (C-RS Mag)
URL : http://members.tripod.com/~Thrashinc/nbrstn1.htm
Note : Item about numbers stations. Links should be updated though

Site : 'New Star Broadcasting Station' (Hans van den Boogert)
URL : http://www.swl.net/radiochina
Note : Interesting site about this active station

Site : Numbers Stations
URL : http://www.clinet.fi/~peral/numbers.html
Note : Lots of info but in Finnish only

Site : Spy Centre Chat Room
URL : http://pluto.beseen.com/chat/rooms/c/10116/Login.html
Note : Chat room for spooks fans

Site : Hugh Stegman's timeskeds
URL : http://www.primenet.com/~rfwatts/uteworld/timesked.txt
Note : Numbers stations schedules

Site : ENIGMA Newsletter
URL : http://www.ibmpcug.co.uk/~irdial/enigma.htm
Note : The ENIGMA group is not on the WWW. This page is on Irdial's
       web site. Additional info can be found on Mike Chace's page

* THE VENONA PROJECT *

On 1 February 1943, the U.S. Army's Signal Intelligence Service, a forerunner of the National Security Agency, began a small, very secret program, later codenamed VENONA. The object of the VENONA program was to examine and possibly exploit, encrypted Soviet diplomatic communications. These messages had been accumulated by the Signal Intelligence Service (later renamed the U.S. Army Signal Security Agency and commonly called "Arlington Hall" after the Virginia location of its headquarters) since 1939 but had not been studied previously. Miss Gene Grabeel, a young Signal Intelligence Service employee, who had been a school teacher only weeks earlier, started the project.

The accumulated message traffic comprised an unsorted collection of thousands of Soviet diplomatic telegrams that had been sent from Moscow to certain of its diplomatic missions and from those missions to Moscow. During the first months of the project, Arlington Hall analysts sorted the traffic by diplomatic mission and by cryptographic system or subscriber.

Initial analysis indicated that five cryptographic systems, later determined to be employed by different subscribers, were in use between Moscow and a number of Soviet overseas missions. It also became apparent that one system involved trade matters, especially Lend-Lease. The other four systems appeared to involve the Soviet Foreign Ministry in Moscow in communication with its missions abroad.

:::: the complete information, including hundreds of real messages, can be found on the site of the National Security Agency. Interesting stuff! Check URL http://www.odci.gov/ic/usic/nsa.html

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WUN-v04
P.O. Box 11522
Huntsville, AL 35814-1522, U.S.A.

E-Mail: jdstephens@geocities.com

Another good turnout this month. Glad to see that WUN is up and running smoothly on QTH.Net. With the new listserver up and going strong, I look for contributions to increase to not only the QSL Center, but to WUN as a whole. Thanx to those who answered ye ed's plea and sent their contributions in a similar format to that which is used in the column - sure makes my job easier. And now, on with the show....

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AUSTRALIA: VIP - Perth Radio. 12951 p/d Globe Wireless cd. in 5 ds. V/s: Michael Beck. (JC)

BAHRAIN: A9M - Capetown Radio. 16816 p/d "Globe Wireless" cd. in 2 wks. for an E-mail rpt. V/s: Michael Beck. (BVR)

BARBADOS: 8PO - Barbados Radio. 6330.5 p/d "Globe Wireless" cd. in 4 wks. for an E-mail rpt. V/s: Michael Beck. (BVR)

BULGARIA: LZW - Varna Radio. 2182 ltr. in 6 wks. for a rpt. with return postage. No V/s listed. (BVR)

BULGARIA: LZW49 - Varna Radio. 8532 PFC and 12-page color booklet with station facts and photos in 47 ds. V/s: Stefan Dimitrov - Chief Officer. Address: Navigation Maritime Bulgare, Varna Radio BG02, 1 Primorski Boulevard, 9000 Varna, Bulgaria. (JC)

CANADA: Gander Aero, Newfoundland. 5616 ltr. and info in 17 ds. V/s: Glenn Locke. (JS)

FRANCE: FDG - French Air Force, Bordeaux. 6871.5 f/d ltr. w/ sticker in 13 ds. for a French rpt. via Orleans and 1 IRC. Illegible V/s. (JDS)

GERMANY: Glucksburg Rescue. 5680 ltr. and folder in 2 wks. for a rpt. with return postage. No V/s listed. (BVR)

GUAM: KHF - Guam Radio. 12629 p/d "Globe Wireless" cd. in 2 wks. for an E-mail rpt. V/s: Michael Beck. (BVR)

GUAM: NRV - U.S. Coast Guard, Agana. 12584 ltr., Pacific Communications System broadcast schedule and QSL cd. with all details except call sign in 104 ds. V/s: L. R. Obanion - Senior Chief Petty Officer. Address: Commanding Officer, USCG Communications Area Master Station Pacific, 17000 Sir Francis Drake Blvd, P.O. Box 560, Point Reyes Station, CA 94956-0560. (JC)

IRELAND: Irish Marine Emergency Service, Dublin. 518 ltr. in 2 wks. No V/s listed. (BVR)

INDONESIA: PKX - Jakarta Radio. Bekasi City, West Java. 12970.5 f/d ltr. in 37 ds. V/s Drs. Tatang S.W. (?) - Head of Sub Directorate of Marine Telecommunications. Address: Departemen Perhubungan, Direktorat Jenderal Perhubungan Laut, Direktorat Kenavigasian, JL. Merdeka Barat No. 8 LT. 13, Gedung Karya, Jakarta, Indonesia. (JC)

POLAND: SPB62 - Szczecin Radio. 12597 f/d cd. & transmission sked in 69 ds. after 2 f/ups with 1 IRC. Illegible V/s. Address: Trzeszczyn, 72-004 Tanowo Szczecinskie, Poland. (JDS)

POLAND: SPC - Gdynia Radio. 2182 ltr. in 13 wks. for a rpt. with return postage. No V/s listed. (BVR)

PORTUGAL: CTP - NATO, Lisbon. Received a letter which stated the following: "Due to security regulations regarding information on military equipment, I am, regrettably, unable to complete a QSL card with the information you have requested. For the same reason I am unable to enter

into any correspondence on the subject." Signed: Jao Martins dos Rios - Comms Ops Supervisor. (JC)

SOUTH AFRICA: ZSC - Capetown Radio. 16816 p/d "Globe Wireless" cd. in 2 wks. for an E-mail rpt. V/s: Michael Beck. (BVR)

SPAIN: EAD - Aranjuez Radio. 8429 PFC in 26 ds. plus 40-page 1996 Booklet on stations, services,and tariffs for a report in Spanish. V/s: Iillegible and covered by official stamp. Address in booklet: Telefonica de Espana S.A., Departamento Centro Nacional de Supervision y Operacion, Seccion Maritimo, C/ Beatriz de Bobadilla 2 - 28040 Madrid. (JC) (NOTE: This station has its own pre-printed QSL cd. - ed.)

SPAIN: Machichaco Radio. 2182 ltr. with info in 3 wks. for a rpt. with return postage. No V/s listed. (BVR)

SWEDEN: Gotland Rescue. 5680 cd. in 2 wks. No V/s listed. (BVR)

SWEDEN: SAB - Goteborg Radio. 4259 p/d "Globe Wireless" cd. in 2 wks. for an E-mail rpt. V/s: Michael Beck. (BVR)

UNITED KINGDOM: Falmouth Coast Guard. 2182 ltr. in 2 wks. for a rpt. with return postage. No V/s listed. (BVR)

UNITED KINGDOM: Shetland Coast Guard. 2182 ltr. & QSL card in 3 wks. for a rpt. with return postage. No V/s listed. (BVR)

UNITED STATES: NMC - U.S. Coast Guard, Pt. Reyes, California. 12579 ltr. and schedule in 6 wks. No V/s listed. (BVR)

UNITED STATES: WCC - Chatham Radio, Massachusetts. 16825 p/d "Globe Wireless" cd. in 2 wks. for an E-mail rpt. V/s: Michael Beck. (BVR)

UNITED STATES: WNU - Slidell Radio, Louisiana. 12607.5 p/d "Globe Wireless" cd. in 2 wks. for an E-mail rpt. V/s: Michael Beck. (BVR)

UNITED STATES: WOM - Fort Lauderdale, Florida. 17242 QSL cd. & information packet in about two wks. Cd. shows a color outline of Florida with the location of WOM indicated. Also received the "AT&T High Seas Radiotelephone Service Fingertip Guide" and a VERY nice laminated 8x11 chart of the AT&T frequencies & transmission information for all stations. My SASE was returned. V/s: Frank Beecheu. (JL)

UNITED STATES: KMI - Dixon Radio, Dixon, California. 13083 PFC, f/d QSL cd., 8 1/2 x 11 laminated KMI/WOM/WOO fact sheet, & propogation chart in 11 ds. V/s: George W. Greenway. Address: AT&T Station KMI, P.O.Box 9, Inverness, CA 94937. (JC) 13083kHz. f/d cd. in about two wks. Card is postcard size with a picture of the station on it.
V/s: George Greenway. (JL)

AIRCRAFT

Coast Guard OC (Helo), U.K.. 5680 ltr. in 2 wks. for a rpt. with return postage. No V/s listed. (BVR)

Royal Air Force: SRG-131 (Helo). 5680 ltr. in 2 wks. for a rpt. with return postage. No V/s listed. (BVR)

Royal Air Force: SRG-138 (Helo). 5680 ltr. in 4 wks. for a rpt. with return postage. No V/s listed. (BVR)

SHIPS, CUTTERS, & OTHER SEA VESSELS

NNN0CBB - U.S. Navy MARS Station, USNS Capable (T-AGOS-16). 14441.5 f/d PFC w/ ship seal, plus Military Sealift Command patch, and friendly info ltr. in 76 ds. after a f/up. V/s: Richard G. Kilgore - OS2 (SW). (JDS)

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Abbreviations used:

f/d = Full data p/d = partial data n/d = no data
cd.= QSL card ltr = letter PFC = Prepared Form Card
V/s = Verification Signer ds = ds wks = weeks
SASE = self addressed stamped envelope

This month's Famous Five:

Jason Lillie - Tulsa, OK. U.S.A. (JL)
John Svendsen - Oslo, Norway (JS)
Jim Cumbie - Dallas, TX, U.S.A. (JC)
Bert van Rij - Naaldwijk, The Netherlands (BVR)
Your Editor - Madison, AL, U.S.A. (JDS)

Let us hear from YOU next month!!

73 de JDS.

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
- -
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

Hello all! We start this edition of the Ute Round-up with a message from our CD-ROM editor, Rick Baker. Over to you, Rick....

''Howdy all. Work is underway on the 1999 WUN CD-ROM Vol.2 project. Projected release date will be in Jan. or Feb. 1999.

I am seeking some assistance from WUN members in obtaining any interesting .wav files, including digital modes that run 1-1/2 to 2 mins; voice transmissions of commonly heard or unique stations; numbers stations; jammers; or other common HF sounds not included on Vol.1. We are greatly expanding the CD's sound library, but check with me first before sending as we already have some files we are keeping from Vol.1 and some which have been added already. Digital modes all need to be replaced and this is one area we need help pretty badly.

Also, I am looking for your favorite utility station/hobby related web sites to be included. I need the site name and url.

Last, any interesting info files or logs (excluding logs posted over WUN) that members wish to contribute. Logs can be listed anonymously if desired, which I did for Vol.1.

If you can help in any of these areas, please drop me an e-mail for more information.

Also, those who did not get a WUN Vol.1 CD-ROM and would like one, contact me as I have about a dozen left I'd like to get cleaned out. Kind of like a clearance sale to help get you through the next 5 months -hi!

Thanks in advance...''

Rick Baker <CommConf@concentric.net>
WUN CD-ROM Project

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Well, you know what to do now. Send everything you have to Rick B. :-)
Right, back to our regular schedule. Aeronautical editor John Svendsen, will include military aero news whenever it is available. When the former military column folded, I sort of inherited the military aero stuff. Because I seldom listen to these stations and the input was next to nothing, I hardly ever covered it in my column. Anyway, if you want to share any info on the subject, write to John!

During the past years I got frequent requests for a general article about propagation. We once published a very good article by Simon Collins, but apparently there is a need for another article about the subject, hence the following article....

* HF RADIO COMMUNICATIONS *
is an article original published by Racal. Racal kindly permitted us to reprint it in the WUN newsletter.

o General
HF radio communications frequently uses the upper layers of the earth's atmosphere as a propagation medium. This offers a number of advantages and disadvantages when compared to other forms of radio communication.

The primary advantage is the ability of HF radio to support voice and data communications over long distances, frequently in excess of 2000 km. HF radio avoids the need for repeaters or satellites which are required by microwave, UHF and VHF 'line of sight' systems for long range communications. HF radio provides a viable means of communication to or from remote locations without depending on, or paying for, access to a public or commercial communications infrastructure.

The primary disadvantage is that the atmosphere fluctuates continuously, which means that the radio propagation conditions continually change. Traditionally, this has meant that skilled operators have been required to alter the communications parameters to match the changing conditions.

Modern techniques, such as ALE (Automatic Link Establishment), adaptive modems and ECC (Error Control Coding), combined with frequency agile radios and suitable antenna systems, mean that reliable and high quality communications can be achieved without the need for skilled operators. Indeed, many modern HF radio systems require no operator intervention after initial installation.

o The Ionosphere
The portion of the atmosphere which has the most effect on HF radio propagation is the ionosphere. The gas molecules in the ionosphere are continually undergoing a process of ionisation and recombination which alters the ionosphere's HF propagation characteristics.

o Ionisation
Ionisation is the process whereby gas particles in the atmosphere become positively charged by the removal of negatively charged electrons. These particles are called ions and when present in sufficient quantity, they affect the velocity of radio wave propagation. The principle source of energy to produce ionisation in the ionosphere is electromagnetic radiation from the sun, extending over the ultra-violet and X-ray portions of the spectrum. Ionisation of the atmosphere is counter-balanced by recombination of positive ions and electrons principally due to collisions. Thus in the absence of ionising energy, the ionised particles die away.

o Ionisation Layers
As the solar radiation penetrates the earth's atmosphere, it encounters an increasing density of air to ionise. This leads to the formation of a number of different ionised layers, at different heights above the earth's surface, which exhibit different characteristics; these are known as the D, E and F layers.

The D layer: The D layer has an altitude of 50 - 90km and is only evident during daytime. It has the effect of absorbing power from the radio wave as it passes through it. Therefore during the day, radio waves (both wanted and unwanted) experience much more attenuation than at night. This explains the commonly noted phenomenon that AM broadcast stations appear much stronger at night but are also subject to much more interference from unwanted stations.

The E layer: The E layer has an altitude of 90 - 130km. It is the lowest layer which is always present and is important for daytime communications in the 1000 - 2000km range.

The F layer: The F layer extends above 130km and in the daytime splits into two separate layers: F1, between 130 and 210km, and F2, between about 250 and 400km. At night, the F1 layer merges into the F2 layer at an altitude of around 300km. The F2 layer is most frequently responsible for long range HF radio communications.

o Ionospheric (Skywave) Propagation
HF radio propagation which results from radio waves travelling into the ionosphere and returning to earth is called skywave. The radio waves appear to be reflected by either the E or F layer back to earth but, in fact, the process is due to refraction which results from the changes in the velocity of the radio wave as it passes through the ionised layer of the ionosphere. For any given frequency of wave, the amount of refraction depends on the ionisation density and the angle of incidence which are normally outside the user's control. Importantly, the amount of refraction also depends on the frequency of the wave. This means that an operator (or an automated HF radio system) can optimise communications to a given point on the earth by adjusting the frequency of operation to match geographical situation and the prevailing ionospheric conditions.

Frequencies which are too high will not be refracted sufficiently and will escape into space. Lower frequencies suffer more absorption as they pass through the D layer, thus frequencies which are too low will be attenuated below usable levels.

For any given two stations there is therefore a band of frequencies which will propagate successfully. This band of frequencies depends on the geographical location, time (i.e. ionospheric state), transmitter power, receiver sensitivity and antenna properties. The lowest and highest frequencies are known as the Operational LUF (Lowest Usable Frequency) and the Operational MUF (Maximum Usable Frequency).

o Multi-Hop Propagation Modes
Skywave propagation between two radio stations sometimes consists of a 'multi-hop' path whereby the radio wave is reflected several times by the ionosphere and/or the earth on it's way from transmitter to receiver.

o Groundwave Propagation
Groundwave propagation consists of two components: the Surface Wave and the Space Wave.
When the transmitting antenna is close to the ground (less than one wavelength), HF radio waves travel by the Surface Wave which flows along the earth's surface supported by currents induced into the ground. Depending on the ground conductivity, the Surface Wave can propagate beyond the horizon. On land, ranges are typically 50 -100km but over the sea ranges of several hundred kilometres are achievable and Surface Wave propagation is extensively used for ship-ship and ship-shore communications.

With antennas high above the ground, propagation becomes conventional 'line-of-sight' Space Wave propagation. This is rarely used at HF.

o Skywave and Groundwave Interactions
As explained earlier, a radio station can communicate with nearby stations using groundwave propagation and with distant stations using skywave propagation.

o 'Skip Distance'
Depending on the prevailing conditions and the frequency in use, there may be a region which is too far away for groundwave propagation and too close for skywave propagation. This region, if it exists, is called the Skip Zone. The shortest range which can be reached at a particular frequency using Skywave propagation is frequently referred to as the Skip Distance.

o Factors Affecting Communications
There are a number of factors which affect HF radio communications: Ionospheric variations (both predictable and unpredictable), Signal Dispersion/Distortion, Noise and Interference from other users.

o Predictable Ionospheric Variations
The level of ionisation in the ionospheric layers clearly depends on the amount of solar radiation to which it is exposed. This leads to predictable variations based on:
* Geographic Location - Obviously, there is more solar radiation at the equator than at the poles.
* Season - Winter and summer propagation are different not just due to the greater solar radiation during the summer but also due to changes in the shape of the ionosphere. This leads to the surprising fact that midday propagation is often better in the winter than in the summer.
* Daily Cycle - Since ionisation stops at night but recombination continues, there is a daily cycle of ionisation levels.
* Sunspot Cycle - Sunspots are dark patches on the surface of the sun which emit large quantities of UV radiation. Clearly, greater sunspot activity leads to higher ionisation levels. Sunspot activity increases and decreases with a fairly regular 11 year cycle with the last sunspot maxima occurring in 1990.

o Unpredictable Ionospheric Variations
As well as the predictable changes in the ionosphere, a number of unpredictable events cause changes to ionospheric radio propagation. These changes can last for minutes, hours or even days.

* Solar Flares - A sudden emission of X-ray energy from the Sun which causes abnormally high ionisation of the D layer. This results in additional attenuation of HF radio waves, often causing loss of communication.
* Magnetic Storms - Cause turbulence in the ionosphere which change the propagation conditions. They can last from a few hours to several days.
* Sporadic E - Clouds of dense ionisation form in the E layer and radio waves. They can be utilised for high-quality communications but are unpredictable.

* Auroral Effects - HF propagation in the Auroral regions is subject to several unpredictable disturbance mechanisms, making reliable HF communications in these regions particularly difficult.

o Signal Dispersion/Distortion
During its travel through the ionosphere, the radio wave is subject to disturbances and distortion which mean that the signal received by the receiver is not the same as transmitted by the transmitter. The most significant effects are:

* Multipath - The radio signal travels by more than one path to the receiver, causing several versions of the signal to be received with different time delays. The paths can be completely different (for example, a groundwave signal being received along with a skywave signal) or very similar (for example, two signals refracted in adjacent parts of the ionosphere). Multipath leads to fading as the two, or more, received signals interfere with each other.

* Doppler Shift - The layers of the ionosphere move and the level of ionisation changes (which causes the refraction point to move). Thus the path length changes with time causing a Doppler frequency shift

of the received signal. Normally the frequency shift is less than 1Hz but during disturbed conditions can reach a few Hz.

o Noise and Interference
* Noise - Noise limits the effectiveness of all communications systems since when the received signal is too weak to provide a usable signal/noise ratio the communications fails. There are many sources of natural noise which affect HF frequencies including, Atmospheric Noise and Galactic Noise (noise received from space). However, in many locations it is man-made noise from electrical machines, power lines and ignition systems which dominates and determines the effectiveness of HF radio communications.

* Interference - Since HF propagates for long distances, a perfectly legitimate user in one country, or even continent, can inadvertently interfere with a user in another country or continent. In some parts of the world, spectral congestion is so bad that at night over half of all the available frequencies are occupied.

o Traditional HF Communications
Over the years, skilled system designers and skilled radio operators have developed techniques for establishing and maintaining effective HF radio communications:

* Frequency Prediction - Frequency prediction tables, and more recently prediction software packages, forecast which frequencies are workable between two particular stations at various times day, year and sun-spot cycle. However, frequency prediction is not an exact science. The optimum frequency for HF communications between two specific stations at a given time cannot be predicted reliably because of the unpredictable ionospheric changes.

* Frequency Diversity - HF communication systems should have a wide range of HF operating frequencies to permit communications even as propagation conditions change with time.

* Antenna Diversity - HF communication systems often have a range of antennas to take advantage of different propagation paths at different times.

* Brute Force - Many 'traditional' HF systems have employed large, high gain, antennas and extremely high power transmitters to ensure communications during difficult propagation periods.

* Schedules - Often the best that can be achieved with non-automated systems are frequency management schedules that are agreed to in advance between the system operators. These will generally assume the use of low frequencies during the night, high frequencies during the day, with frequencies in the mid range for use at dusk or dawn. The choice of these frequencies is usually a compromise based on actual user experience over the particular HF path (historical data) and calculations made from the using propagation predictions.

* LIGHTHOUSE ACTIVITY WEEKEND *

The Lighthouse Activity Weekend on 22 and 23 August was a success. Some 149 lighthouses/ships from +/- 30 countries were on the air.

The conditions were not good enough for real dx -at least not here- and I only copied lighthouses/ships from Europe. Most of them from the UK and Scandinavia.

Here is the list:

Freq.	UTC	date	ctry	c/s	station
7058	08.58	22-08-98	G	GB2LAY	Ayr Lighthouse

3736	22.30	22-08-98	G	GB2LBN	Barns Ness Lighthouse
7058	21.53	22-08-98	D	DL0EM	Campen Lighthouse
14222	11.37	23-08-98	GBR	ZB2LGT	Europa Point Lighthouse
14249	11.02	22-08-98	S	7S0SFJ	Finngrundet Lightship, Stockholm
7049	09.05	22-08-98	S	SK6FL	Fladen Lightship
14225	13.00	23-08-98	DNK	OZ1LFA	Gedser Lighthouse
14257	12.49	22-08-98	NOR	LA6OP	Grytoey Lighthouse
14206	12.09	23-08-98	DNK	OZ3EVA	Hirtshals Lighthouse
14220	11.31	23-08-98	S	SM1NVW	Hoburg Lighthouse, GOTLAND
14220	12.58	23-08-98	HOL	PI4NW	Hoek van Holland Lighthouse
14200	12.13	23-08-98	NOR	LA5D	Jomfruland Lighthouse
14278	11.57	23-08-98	NOR	LA6LI	Lista Lighthouse
3731	23.34	22-08-98	G	GB2LNG	Mull of Galloway Lighthouse
7049	21.49	22-08-98	G	GB2LNP	Nash Point Lighthouse
14248	10.38	22-08-98	HOL	PA6NH	Noordhinder Lightship, Hellevoetsluis
14218	09.03	23-08-98	FNL	OH0AA	Nyhamn Lighthouse
14216	10.44	22-08-98	SVN	S53EO	Piran Lighthouse, Portoroz
7090	21.29	22-08-98	F	F6KUM	Pointe d'Ailly Lighthouse
7065	22.47	22-08-98	G	GB2PB	Portland Bill Lighthouse
3721	23.51	22-08-98	G	GB2RL	Roker Pier Lighthouse
14268	11.47	23-08-98	DNK	OZ5V	Sprogoe Lighthouse
7091	19.57	23-08-98	G	GB2SLS	Spurn Lightship, Hull marina
14266	11.18	22-08-98	FNL	OH6AI	Tankar Lighthouse
3734	23.59	22-08-98	G	GB2LTN	Tarbot Ness Lighthouse
14225	13.03	23-08-98	DNK	OY6FRA	Torshavn Lighthouse, Faroer Isl.
14203	12.31	23-08-98	LTU	LY1CM	Vente Lighthouse

Next year the Lighthouse/lightship Activity Weekend will be from 0001 UTC on Saturday 21 August until 2350 UTC on Sunday 22 August 1999. A Coastal station activity weekend is planned for March. We'll keep you posted.

* UTILITY ROUND-UP *

Markus Buttinger watched a program on German "Phoenix" TV, about an Antarctica expedition that 88-year-old Mr. Norman undertook some time ago. He writes ''I don't know when that expedition was, but when they showed the HAM short wave radio they were using to communicate with the base and the aircraft involved, I saw it tuned to 13025 kHz. Comms heard were in English and definitely SSB.''

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Joachim Stiller was one of the many dxers who listened to the RAF ATC (Air Trainings Corps) Royal Tournement station in London. The station made contact with many other ATC stations, and commercial and military aircraft. It seems that we were listening at the same times Joachim, as I logged most of the stations as well. WUN's own reporter and editor Graham Tanner operated MRV92 for a while on 31 August.

Frequencies: 4925 and 5245 kHz

Here is a summary of the stations copied by Joachim and others: 2EV British Midland, 6EH British Midland 63 ,AMM 606/Speedbird, Antec 754, Britannia 361B, Britannia 413A, Caledonian 046, Caledonian 334, Caledonian 42, G-OBWB British World Airlines, Jetset 417, Jetset 607, Kestrel 202, Kestrel 392, Midland 154, Midland 176, MRA01, MRB20, MRB25, MRC01, MRC28, MRH19, MRK83, MRL47, MRO02M1, MRO95, MRQ32, MRS46, MRU18, MRV92, MRW34, MRW92, MRW97, Speedbird 1498, Speedbird 1606, Speedbird 242, Speedbird 48LM

The ATC Competition took place on Sunday 6 September between 0930-1145 UTC on the same freqs. Lots of mobile stations checked in that day. The conditions were poor and I heard a number of stations that were too weak to identify. A couple others were quite good readable here and were also very active. These are the stations that I could identify: MRL51, MRH06, MRH06M1, MRW92, MRC28M1, MRA01, MRA01M1, MRH57M1, MRB01M1, MRL47, MRC01,

MRW87, MRH19. Note that the suffix 'M1' indicates a mobile station. Most of the stations were copied on both 5245 and 4925 kHz. The stations had to change frequency after three contacts.

Note: ATC stations can be heard on Sunday mornings between ca 0900 and 1200 UTC. Most comms are in USB, sometimes (before 0900) also in CW.

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The Intruder messages from Wolfgang reached us again via Costas. Here is the report:

Freq: 7030 kHz Mode: USB Time: 10 to 16 UTC
Male voice calling an ident existing of numbers only. Language could be serbo-croatic. Anyway the signals are coming from South-East-Europe.

Freq: 18100 kHz Mode: USB Date: daily Time: 11 - 13 utc
Far East net; phonepatch, mentioning Sri Lanka.

Freq: 28045-28305 kHz Mode: AM/SSB
French CB'ers and Spanish Language CB'ers

Freq: 28025 kHz Mode: FM/AM/SSB Time: 12:30 UTC
Arabic (?) or Turkish language "PIRATAR, CRIMINAL, ???" + calling "RENE" multi-tone roger beep.

Freq: 14000 kHz Mode: USB and Pactor 2 Date: daily Time: 10-14 utc
Male and female voices in Arabian language, also traffic in Pactor 2 (encrypted)

Freq: 28000-28400 kHz Mode: AM/FM Date: daily Time: from 18 utc on
Lots of CBs from Poland, very obscene. Using QRGs ending on Zero, like 28100 and so on ...

Freq: 24925 kHz Mode: LSB Date: 04-09-1998 Time: 1900 utc
CB-like traffic in Portuguese language from Brazil.

And finally....
The 10m band is not only a lovers band, but also a commercial band, especially in Eastern Europe. Hot frequencies are 28065, 28225, 28255, 28620 FM. You can find new commercial users every day.

Thanks for relaying these messages, Costas.

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Frequencies to check for Mexican Navy activity, noted randomly in August 4880, 4905, 5745, 7515, 8030, 8336 kHz. Check +/- 20 kHz, XBxx callsigns on voice, CW and ARQ-100/400.

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A unid GREEK STATION can be heard all over the 4 & 5 MHz bands. The station transmits from Corfu and is believed to be owned by the Greek military. It transmits nothing but 5-character callsigns, 24 hours a day on a large number of frequencies. The callsign usually changes every day while it changes its frequency every hour. Sometimes however it uses the same frequency for several hours. What its purpose is??? I have no idea.

Callsigns: IRII6, QC8AS, CHG9R, NRTL5, STO4G, NETA3, SI4AD, FAN4P, CD4NH, 6OFGH, CT8TE, ONC5I, J4JPT, EESE2, HGI9R, 6QFGE to name just a few... The callsign always consist of 1 digit and 4 letters.

Frequencies: 4600-4900 kHz, 5100-5900 kHz and during the winter it uses also 3 MHz frequencies during the night. I logged the station on the following frequencies during August and September: 4032, 4629, 4660, 4666, 4686, 4703, 4706, 4713, 4726, 4728, 4729, 4733, 4736, 4738, 4748,

4749, 4753, 4756, 4758, 4801, 5115, 5440, 5588, 5771, 5820, 5826 kHz.

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NEW ZEALAND & SOUTH PACIFIC STATIONS

John Doe sent us info in reaction to Ian Julian's list of New Zealand ute stations in this column. He sez ''Until very recently, ZLO had a three-channel FDM transmission in each of the coast-station bands, with two encrypted RTTY channels and one CW channel, as follows:

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 4261.1  ZLO  200/75  Pseudo-random encryption
 4262.5  ZLO  850/75  Pseudo-random encryption
 4263.3  ZLO  CW      "de ZLO  ZAY A1A 4 8 12" etc.
 6337.6  ZLO  200/75  Pseudo-random encryption
 6339.0  ZLO  850/75  Pseudo-random encryption
 6339.8  ZLO  CW      "de ZLO  ZAY A1A 4 8 12" etc.
 8599.1  ZLO  200/75  Pseudo-random encryption
 8600.5  ZLO  850/75  Pseudo-random encryption
 8601.3  ZLO  CW      "de ZLO  ZAY A1A 4 8 12" etc.
12717.6  ZLO  200/75  Pseudo-random encryption
12719.0  ZLO  850/75  Pseudo-random encryption
12719.8  ZLO  CW      "de ZLO ZAY A1A 4 8 12 ZNI1A 4 8 +"
17225.4  ZLO  200/75  Pseudo-random encryption
17226.8  ZLO  850/75  Pseudo-random encryption
17227.6  ZLO  CW      "de ZLO  ZAY A1A 4 6 8 12" etc
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However, when I checked yesterday and again today, the 200-Hz-shift channel had disappeared - whether this is permanent or merely due to lack of traffic I don't know - but the 850-Hz- shift is still there, 800 Hz below the CW freq.

ZAY A1A = I am listening for morse on ...
ZNI1A = I am listening for [presumably encrypted] RTTY on ...

There are many more encrypted 6028 freqs than the three that Ian mentions. During the current year I have heard - 7991, 9495, 10616, 11010, 13458.2 and 15937 kHz; during the last solar maximum a few years ago, I also heard 6800, 13678.5, 14370, 15780, 18185, 19609.9, 20355, 23166, and 27338. These are all carrier freqs - the centre freq of the xmsn is 1.5 kHz higher.''

Thanks for the comments, John. Ian updated his NZ ute info with the following data:

::: NZ Civil Defence.
ZKST Christchurch Southern Zone HQ also uses 2024 CH# Delta, 2030 CH# Lima & 5392 CH# Charlie as additional Alternative channels.

Also the NZCD have just implemented a nationwide UHF link crossband linked to HF, for remotely calling up their Codan radios. Ian heard a databurst on 5387.5 kHz, then he heard ZKST Christchurch call ZKHQ Wellington National HQ for radio checks on the national calling & emergency channel 5386 CH# Alpha.

Ian also provided an extensive HF ute list of South Pacific countries. Thanks a million, Ian!

::: Cook Islands

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Aero    : ZKS Rarotonga Air
          SP-RDARA 3425, 6553, 8846 & 11339
          AFTN 4940, 7740 & 14500 (For backup purposes)
          LDOC 9265 Air Rarotonga (Note appears to be a LDOC or
            secondary Inter-Island net freq)

Marine  : ZKO Aitutaki Radio 2012
          ZKR Avarua Radio 2207, 8791 (QSX 8267)
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& 13140 (QSX 12293), CW 8449
ZKJ Penrhyn Radio 2012
ZKRT Rarotonga Radio; FEC 6934, 10128 & 12216
FAX 120/576 12215.5

Inter-Island Net : Rarotonga 14900 (Note could now be used by Air Rarotonga for LDOC purposes)

::: Fiji Islands

Aero : Nandi Air - SP-MWARA 3467, 5643, 8867 & 13261
SP-RDARA 3425, 6553, 8846 & 11339
AFTN - To Auckland New Zealand 9080 (For backup purposes)
To Honolulu Hawaii 7607 (For backup purposes)
To Kiribaiti 7595
LDOC Air Pacific 6637, 9026, 10072 & 13333

Marine : 3DP Suva Radio; 2111 (QSX 2162), 2182, 4372 (QSX 4080), 6215, 6504 (QSX 6203), 8746 (QSX 8222) & 13080 (QSX 12233), CW 500 kHz (Calling), 521KHz (Working), 8690 & 12700

Telecom : Suva 5090, 5258 (QSX 5270), 6894, 7740, 7770, 8000 & 8070
Note according to the 1998 Fijian Telephone Book there are 30 Outpost Stations connected by HF Radio Telephone
University of the South Pacific Suva 12140 (Used for backup purposes)

Possible Police/Miltary Inter-Island net: 5400 & 5436

::: French Polynesia

Aero : Papeete Air - SP-MWARA 3467, 5643, 8867, 13261 & 17904
SP-RDARA Bora Bora, Huahine, Manihi, Mururoa, Nuka Hiva, Papeete, Raiatea, Rangiroa, Rurutu, Tubuai & Ua Huka Air 5680

Gendarme Net : LSB 5300 & USB 14850

Marine : FJA Papeete Radio; 1755, 2620, 2845, 4402 (QSX 4110), 8803 (QSX 8279) & 17254 (QSX 16372) CW 4298, 8461 & 17040.8

Military: French Forces RFHJ ARQ-E3 96 Bd 8001.7, 12196.7, 18966.7 & 24871.7 ARQ-E3 100 Bd 7309.7, 9376.7, 14925.7 & 19498.7
French Navy FUM RTTY 75 Bd/850 6462, 8625, 12664.5 & 16959

Telecom : LSB 5308

Other : Papeete 8100 & 13970
UNID 5229 & 6945

::: Kiribati

Aero : Tarawa Air - SP-RDARA 3425, 6553, 8846 & 11339
Kiribti (Christmas Island) Air - SP-RDARA 3425, 6553, 8846 & 11339
AFTN Kiribaiti to Nandi Fiji 7595

Marine : T3C Takaronga Radio Tarawa Atoll 2217 (QSX 2210), 4387 (QSX 4095) & 8758 (QSX 8234)

Ministry of the Line & Phoenix Islands (MILIPI)
T3F6 Bairiki Tarawa Atoll 7678
T3L3 Tabuaeran 3200 & 6200
T3L4 Teraina 3200 & 6200

Ministry of Health
T3G2 Bairiki Tarawa Atoll 7312
Public Works & Developement

T3T5 Bairiki Tarawa Atoll 7490

Telecom : T3T Bairki Tarawa Atoll 8143.5
Tabuaeran & Teraina 8143.5

Catholic Missions : T3F9 Kirimati 7301
Tabuaeran & Teraina 7301

::: New Caledonia

Aero : Noumea Air - SP-RDARA 5680

Gendarme Net : Noumea LSB 5300 RTTY 100 Bd/425 5298.5

Marine : FJP Noumea Radio; 2197.5, 4366 (QSX 4074), 6501 (QSX 6200)
& 8731 (QSX 8207), CW 8698 & 12709

Military: Airforce "CIRCUS NOIR" Noumea 13236
French Forces RFHI ARQ-E3 100Bd 7606.7, 8341.7, 11112.7,
12134.3, 14606.7, 14718.3 & 19498.7
French Navy FUJ Noumea RTTY 75 Bd/850 4271, 8646, 16958
& 22461

::: Samoa

Aero : Apia Air - SP-RDARA 3425, 6553, 8846 & 11339
LDOC Apia Polynesian Airlines 9035 (Primary) & 11319
Note can be used for cyclone emergency relief comms

Marine : 5WA Apia Radio; 2206, 4357 (QSX 4065), 6507 (QSX 6206),
8776 (QSX 8252), 13113 (QSX 12266) & 17311 (QSX 16429)

::: Solomon Islands

Aero : Honiara Air - SP-RDARA 3425, 6553, 8846 & 11339

Marine : H4H Honiara Radio 2167

Other : H4C Honiara 5826
Honiara 5757 (Unid Commercial User)
Many Stations 5846 & 5898

::: Tonga

Aero : Fua'amotu Air - SP-RDARA 3425, 6553, 8846 & 11339

Marine : A3A Nuku'alofa Radio; 2080, 6215 & 6230

Tongan Defence Services: 6823 (Primary) & 10412

Other : A3A30 Nuku'alofa 4042
A3E Ha'afeva 4042
A3F Ha'apai 4042

::: Tuvalu

Aero : Funafuti Air - SP-RDARA 3425, 6553, 8846 & 11339

Marine : Funafuti Radio; 4387 (QSX 4095), 8758 (QSX 8234), 13098
(QSX 12251) & 17260 (QSX 16381)

::: Vanuatu

Aero : Port Vila Air - SP-RDARA 3425, 6553, 8846 & 11339

Marine : YJM Port Vila Radio, 2168, 4384 (QSX 4092) & 8770 (QSX 8246)
CW 4343, 6344, 8502 & 12678

Telecom : Port Vila 4644

Other : 4552.5

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* 4WD RADIO NETWORK & COASTLANDS MINISTRY *

Steve Johnston informs us about a couple of major upgrades to the Australian National 4WD Radio Network (VKS-737). A new base has been added at Sandstone in Western Australia, and the Network now has a new Website at http://4wdclubs.sofcom.com/au/an4wdrn/

The Network is presently expanding rapidly with around 60 new operators (read members) joining every month. There is usually a large amount of traffic between 0800 and 0930 UTC on 5455 & 8022 kHz during the regular daily Voice Schedule sessions.

Plans are under way to have another two bases up and running by the end of the year, we will announce the details via WUN closer to the time.

Here is the current list of base stations:

::: ADELAIDE

Voice Call Schedules:	Central Standard Time (April to October)
	8022 kHz: 1730 - 1800 hrs (local time)
	5455 kHz: 1745 - 1815 hrs
	Daylight Saving Time (November to March)
	8022 kHz: 1830 - 1900 hrs
	5455 kHz: 1845 - 1915 hrs

::: ALICE SPRINGS

Voice Call Times	0800, 1300 and 1730 hRs (NT Time)
Voice Watch Times	listening watch
	0800 to 0900 hrs 5455 & 8022 kHz (NT Time)
	1300 to 1400 hrs 8022 kHz
	1730 to 1830 hrs 5455 & 8022 kHz
Selcall Watch Times	0600 to 0800 hrs All Freq (NT Time)
	1000 to 1300 hrs All Freq
	2000 to 2359 hrs All Freq
Base Station Closures	1400 to 1800 hrs(NT Time)
	0000 to 0600 hrs

::: BOWEN

Regular daily schedules	0800 to 0845 hrs (Queensland time)
	1600 to 1645
VKS-737 members	Are requested to keep traffic to a minimum on 8022 kHz during these periods to ensure that essential traffic such as weather warnings etc can be passed onto to vessels at sea.

Members listening on 8022kHz would no doubt have heard conversations taking place between users with callsigns such as "Grace II", "Born Free", "Island Mercy" etc. These callsigns belong to sailing vessels and vehicles involved with the Coastlands Ministry which operates out of Bowen in Far North Queensland.

:: What is Coastlands Ministry?
Coastlands is a Christ Centred Maritime Ministry committed to reaching the remote island nations of the world.

There are many isolated communities in the island nations of this world that can only be reached by sea or air. The churches and leadership in these places are often overlooked when it comes to receiving visiting

ministry and assistance. Most churches in Australia enjoy regular visiting ministry with the Pastors being able to pick up a phone and call their peers when needing advice or encouragement.

Coastlands is a facilitating organisation networking with those who have the common goal of ministering in these island communities. They provide support to the missionaries who travel to these communities by ocean going boats and yachts. The primary aim of these missionaries is preaching ministry, bible distribution, humanitarian aid, practical projects and generally encouraging the churches in the island nations.

One key is being able to maintain a good relationship with skippers and crew through their communications station set up at Bowen. They have a selection of HF frequencies which are scanned 24 hrs a day. Through the use of Selcall as well as a telephone interconnect they are able to provide continuous communication. When the base is not manned the inter-connect automatically connects through to the duty operator.

The base provides position reporting and weather forecasts and is an excellent time for people to share and deal with any difficulties they are having. As well as providing the vital communications link, they, as an organisation, have networked together various people with skills in electronics, communications, engineering, medical and pastoral care skills to help with needs as they arise.

Every member of Coastlands is sent from a local church and is encouraged to continue to relate to their own pastor and congregation while out on outreach. Because of their telephone interconnect they are able to do so freely.

::: FIRE FLY
The base provides the same features as our other bases ie Position Reporting, Message Handling, Medical Traffic (via RFDS Base at Broken Hill) and Telephone Interconnect Services. At the present time the base is not providing regular Voice Contact Schedules, however members can arrange schedules with the operators to suit their own needs.

Selcall Watch Times	0700 to 2200 hrs.(NSW time)
Emergency Selcall Service	24 hrs a day
Tone Call	(RFDS Emergency Call):0700 - 2200 hrs

::: PERTH

Voice Watch Times	listening watch 0800 & 1700 hrs Monday to Friday The base operates in limited voice scanning mode between 0800 & 1700 Monday to Friday, if you do not get through please try again later.
Selcall Watch Times	0800 to 2100 hrs For genuine Emergency Calls the base operates 24 hrs a day

Voice Call Schedules	
Monday to Friday	0730 to 0800 hrs (WA) time
from base	1630 to 1700 hrs
Sat, Sun, Holidays.	0730 to 0800 hrs
via interconnect	1630 to 1700 hrs

Skeds initially commence on 5455kHz then move to the other Network frequencies. During heavy traffic periods the sked may extend past the published time and/or may be assisted by the other bases.

::: SANDSTONE

Voice Call Schedules	07:00 to 7:30 am (WA Time) 12:00 to 1:00 pm 07:00 to 7:30 pm
Voice Watch Times	The base operates in limited voice scanning mode

between 07:00 am & 07:30 pm. (WA Time)

Selcall Watch 07:00 am to 09:00 pm (subject to operator availability) (WA Time)

::: ST. MARYS
Voice Call Schedules 1900 to 2030 hrs (Tasmanian Time)

Skeds initially commence on 8022 kHz then move to the other Network frequencies. During heavy traffic periods the sked may extend past the published time and/or may be assisted by the other bases.

-o-o-o-o-o-o-o-o-o-

On 29 August the historic Swedish station SAQ in Grimeton was on the air again on its usual LF frequency 17.2 kHz. Alan Gale jotted the text down for us. The message was repeated 4 times, but with a different operator each time. The message was:

CQ CQ CQ de SAQ SAQ SAQ with a speacial transmission to
SWL all over the world from the participants of the EDXC
in Goteborg. We send u all our best 73 QSL via SK6RM
73 and GL in dx de SAQ/SK6RM = op SM4GUJ/Rolf AR VA

-o-o-o-o-o-o-o-o-o-

That's all I have time for. Don't forget to send me your findings.
CU next month!

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||||| PRODUCTS and BOOKS Review ||||||

Editor.....Bob Margolis
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Confidential Frequency List (11th edition)

The long-awaited 11th edition of Oliver P. Ferrell's Confidential Frequency list has just been published, with updates and revisions to the 10th edition which came out 21 months ago.

An improvement made in the latest (1999) edition is the way in which digital-data stations are listed. In the 10th edition digital modes were listed only as "Dig." (Digital). Now they are identified by individual names, such as ARQ-E3, ROU-FEC, Piccolo-6, and CROWD-36, making for quicker tuning by the listener of digital-data stations. Another change is by showing the RTTY mode in baud speed/shift in Hertz, instead of shift/bauds that was the manner in past editions. This is in keeping with how the majority of RTTY monitors notate their intercepts.

The spiralbound 7-inch by 10-inch, 450-page book uses listings compiled by Geoff Halligey, a retired radio officer for British European Airways. He used various sources, including individuals, the Admiralty List of Radio Signals, Aerad, International Telecommunications Union (ITU) publications, and our own Worldwide Utility News club. These sources help provide CFL with unique listings found nowhere else, including the Australian National 4WD Radio Network, an Australian Truckers and Fishing station, South African fishing communication nets and game wardens, and American transport nets.

This book covers the CW, digital data, and voice transmissions of aero, coastal, embassy, fixed, military, NAVTEX, news agency,

radiofacsimile, time and VOLMET stations between 1605 and 30,000 kHz. Excluded are amateur radio, broadcast, pirates, "numbers" stations, and ships and aircraft mobile stations.

There is a reverse listing section arranged by callsign; a list of International Allocation of Callsigns; location indicators for International Civil Aviation Organization and World Meteorological Organization stations; a frequency spectrum allocation page; common and alternative names for digital data modes, a listing of NAVTEX stations arranged by broadcast times; frequency allocations for the maritime service; GMDSS frequencies, and ICAO HF Area Network frequencies and maps.

The only complaint I have is that some listings are old information and should have been deleted from the present edition. But this complaint also applies to all other utility station frequency guides and even to the listings of the ITU in Geneva, Switzerland, which receives official frequency information from the telecommunications authority in each country. If information is not provided to delete that which is outdated, then they remain in print for years or even decades.

One example in CFL-11 is the American Federal Communications Commission Grand Island, Nebraska, station on 5372.5 kHz. In the February 1997 issue of Popular Communications magazine it was reported that the FCC had closed 12 of its High Frequency Spectrum Monitoring stations, including the one in Nebraska. It should be realized that with 346 pages of frequency listings stored on computer it is very difficult to check each entry to see if it still is valid at the time of publishing. That is why the publisher, PW Publishing Ltd., invites readers to mail in corrections, as well as contributions, to its office, or by sending e-mail to cfl@pwpublishing.co.uk.

CFL-11 is a very useful directory to have. It should be kept close at hand whenever you twirl the dial on your shortwave radio receiver.

It is obtainable from the publisher, PW Publishing Ltd., Arrowsmith Court, Station Approach, Broadstone, Dorset BH18 8PW, United Kingdom. The cost from the publisher is UKPD 19.95 plus UKPD 1 for mailing within the U.K., and UKPD 2 for mailing overseas. Most overseas payments can be made by credit card (MasterCard, Visa, Switch, or American Express) and they charge in sterling, while the credit card company makes the monetary exchange in its billing.

If U.S. customers wish they can ask the publisher at time of purchase for a dollar price. CFL-11 is expected to be in radio hobby shops in the U.S. later this year and to sell supposedly for around $25.00.

The Numbers Racket CD-ROM

Romanian Gypsy violin music. A Czech military march. Hugo Alfven's orchestral piece, "Swedish Rhapsody." An old English folk song.

These melodies are some of the assortments of sounds that have been heard over shortwave radio for decades and serve to alert intelligence agents in the field that a coded transmission of groups of letters or numbers is about to be sent to them.

Over 100 of these sounds and coded transmissions have been gathered together for listening and studying on The Numbers Racket: A Compilation of Shortwave Spy Numbers Stations, collected on CD-ROM by Chris Smolinski of Maryland, who has concentrated on these transmissions for many years.

The Numbers Racket serves as an excellent reference guide to "numbers stations" for first-time listeners as well as those who have heard them for years.

Many of the broadcasts have never been heard in North America as they were tape recorded mostly in Europe at times when propagation would not carry the signals across the ocean. Now the North American listener can share in the enjoyment of hearing these stations by the samples provided on the CD.

Upon loading the CD-ROM into the disc drive, the program looks for an Internet Web browser to read its hypertext-marked pages. The disc is readable on Macintosh computers and PC's using Windows. In the reviewer's case, the program opened in Netscape Communicator 4.5. The first page of The Numbers Racket gives a brief introduction to spy numbers stations, telling what they are, and a general description of their broadcasts.

The next page is the Table of Contents, which shows the "book" to be

divided into three sections. Section One is "The Basics." It consists of eight chapters. Chapter 1 is an Introduction that goes into more detail in describing the numbers stations that were introduced on page one. Chapter 2 is Why Numbers Stations? Chapter 3 is How are Messages Sent?, and talks about codebooks, one-time pads, bogus messages, using Morse Code, voice, and tone series for transmitting coded messages in formats of 3-2-, 4- and 5-figure-groups. Strangely omitted from this chapter were 5-letter-grouped messages, and transmissions that use digital-data or RTTY for sending coded messages from, for example, the Russian FAPSI, the French military and diplomatic stations, the Cuban foreign ministry, and the Argentine Navy.

Chapter 4 gives Terminology used to describe numbers broadcasts, including the sex of the reader, the language used, and formats of the messages. Chapter 5, How to Listen, tells when to tune in the numbers stations and in which frequency ranges they are found. Chapter 6 classifies the stations as identified by the European Numbers Information Gathering and Monitoring Association (ENIGMA), a club that was formed in 1992 to learn more about spy number stations. The breakdown is by languages and non-voice transmissions.

Chapter 7 talks about Morse Code stations, and chapter 8 is Station Families, which is chapter 6 sorted into family groupings.

Chapters 9 through 44 are in Section Two and describe individual number stations. The chapters are devoted to "The Babbler," "The Bored Man," "Bulgarian Betty," "The Buzzer," "The Cherry Picker," "The Counting Station--The CIA," "Cuban Atencion Stations," "Czech Drums and Trumpets," "Czech Lady," "DFC37 and DFD21," "Fife Free," "Four Note Rising Scale," "High Pitch Polytone," "KKN50," "The Lincolnshire Poacher," "Magnetic Fields," "MOSSAD--Israeli Intelligence," "Mystery Beeper," "New Star Broadcasting Station," "NNN Station," "Oblique," "Old Phonetic Alphabet Stations," "OLX," "The Rasper (LINK-11)," "Ready Ready," "The Russian Man," "The Skylark," "Single Letter High Frequency Markers," "Six Tone Station," "Strich," "Swedish Rhapsody," "Three Note Oddity," "Two Letter Phonetic," "Whales/Backwards Music," "The Woodpecker," and "Station YT."

Section Three consists of chapters 45 through 51, and discusses numbers stations parodies and the Warrenton Training Center; provides other sources of information, a language guide, and a bibliography that lists books and magazines with articles about numbers stations; a tribute to "Havana Moon," who wrote extensively during the 1980's about numbers stations for hobby magazines; and a list of persons who contributed their information to the CD-ROM.

If you have any interest in spy numbers stations, then The Numbers Racket is a "must buy" for you. You'll find yourself referring to it often.

The CD-ROM can be purchased with credit card, check, or money order. If purchasing by credit card, the disc costs $25, which includes a credit card processing fee, postage and handling. Those living outside the United States who wish to use credit cards, can use the Kagi Online Order Processing system. Payment by check drawn on a U.S. bank, or a money order in U.S. funds, is $20, including postage and handling within the U.S., and $22 outside the country. Send checks or money orders to Chris Smolinski, 4708 Trail Court, Westminster, MD 21158-1146, U.S.A. Online credit card users are asked to include their complete postal address for proper shipping, and an e-mail address, in case Chris needs to get in touch with you.

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TenTec RX-320 Computer-controlled receiver
Review by David C. Wright (dcwright@gte.net)

--Introduction to the RX-320

Over the next two months we'll be reviewing the new RX-320 computer-controlled receiver from TenTec. This receiver is a dedicated LF-HF receiver covering 100KHz-30MHz. While most reviews tend to focus on broadcast monitoring, we will be focusing on this receiver's ability to perform for the UTE monitor. This month's part of the review will cover an introduction to the radio and software operation.

--System Requirements:
    The RX-320 receiver has a modest set of requirements. While not capable of running in MS-DOS, the software fully support operation in either Windows3.1 or Windows95/98. Besides the Windows operating environment, the RX-320 requires access to a 9-pin serial port (25-pin w/adapter) for communication with the receiver.
    For the purposes of this review and evaluation, the RX-320 software was installed and tested on a AMD K6300MHz system running Windows98, as well as on a IBM Thinkpad 750P with a 486DX/25MHz running Windows95.

--Installation:
    The software for the RX-320 was delivered on one 3.5" floppy. Upgrades to the software are available on the TenTec website and are free. Installation of the software was flawless, with a total time from unpacking to "on the air" of approximately 5 minutes.

--The Radio
    The RX-320 is of a small "black box" receiver which is connected via serial cable to the computer. The radio itself is solidly constructed from an aluminum chassis with steel top and bottom casings. The dimensions of the receiver are 3"x6.25"x6.5" (7.5x15.6x16.2cm) and the receiver weighs approximately 2.5 lbs. (1.14kg). There are no external controls on the receiver except for the power switch, which is somewhat inconveniently located on the rear of the box. While not a major nuisance, the placement of the switch of the front of the box would make for better ergonomics. In addition to the power switch, the back panel of the receiver boasts several external connections.
    1) A standard DB9 serial interface is used for the connection of the receiver to the computer.
    2) The power is supplied through a wall transformer (supplied) delivering the required <500mA, 13.5-15VDC power. It seems that this power range may also be delivered "on the move" via a DC adapter, although there is no mention of this capability in the documentation.
    3) The RX-320 comes with a removable telescoping whip antenna designed for use with the receiver. This antenna is connected through a high-impedance "screw-in" connector on top of the radio. When the use of an external antenna is desired, the user may use the 50ohm unbalanced connector on the rear of the receiver. This connector is a RCA jack instead of the standard SO-239 jack found on most HF receivers. The connection of an external antenna automatically switches the whip connection out of line.
    4) The RX-320 has two audio output jacks. The first provides output sufficient to drive a computer sound card, allowing easy connection to the computer's sound system via the included mini-plug cable. The second connection is designed for the use of an external speaker (there is no internal speaker). Both of these connections work independently from each other, allowing the use of the computer for listening/digital recording, while providing a second output for other uses; such as connection to a digital decoder.

--The Program
    The software is the heart of this receiver. The actual receiver box itself contains minimal electronics. The receiver software, described as a "true Digital Signal Processing-based receiver," contains all of the operating controls and filters for this receiver...much like the Hoka-series of digital decoders.
    The RX-320, like the WinRadio and the ICOM PCR-1000, utilizes the graphics capabilities of the Windows environment to deliver a receiver-look-alike control panel. All controls are accessible from this radio panel. The display includes access to all modes, step sizes, selectivity settings, a volume slider control, memories, local and world time, and the frequency readout (tunable to 10hz, displays to 1hz). A signal strength meter may be turned on and off, as desired by the user. A large tuning knob is present in the center of the radio

panel but the use of the numeric keypad on the computer is fully supported, and is, in my opinion, quicker and easier to use. Besides the radio panel, the display can also include a list of memories and a spectrum sweep module. Both of these, as well as the radio panel, may be turned on or off as desired.

The memory system used by the RX-320 is relatively simple. Users can input the name of the station, the frequency, mode, filter, country, language and any notes about the station. While there was a problem with the storage of memories in the original version of the software delivered (v1.25), the newest version (v1.26) corrected this problem and is now available. The radio may be automatically tuned to the presets by clicking on the memory slot. There is virtually no limit on the number of memories that may be stored in a file, and multiple memory files can be made to cover all different types of targets. While there is no "step" or "memory scan" function available for the RX-320 yet, the addition of such a feature would be a relatively simple process with the software-based control system of this receiver.

The receiver's spectrum sweep module is an interesting feature on a receiver of this price range; although of limited use. The sweep range can be defined from a series of selections ranging from 3KHz-1.5MHz. The center frequency may be based on that of the receiver, or may be programmed in separately. While the receiver is conducting a sweep search, the spectrum is displayed on a graph showing the "peaks" of active signals. After one sweep of the defined spectrum is complete the receiver switches back to it's original frequency. This may be useful for finding a constant signal, but is generally of limited use to many UTE listeners whose targets utilize Push-to-Talk technology. However, if digital monitoring is your interest, this feature is of somewhat greater utility.

--Specifications

The following specifications are quoted from the TenTec RX-320 website (www.tentec.com/pcradio) or the TenTec RX-320 Manual and help files where changes have been made.

Modes: AM, LSB, USB, CW
Frequency Range: 100KHz-30MHz (degraded performance below 500KHz)
Frequency Accuracy: +/- 100Hz at 25 degrees C
Memories: Limited only by available RAM in PC
Sensitivity:

Mode	Bandwidth	Sensitivity
AM mode	6KHz	.64microvolts for 12db S+N/N
CW/SSB	2.5KHz	.3microvolts for 10db S+N/N

Selectivity: 8KHz, 5KHz, 2.5KHz, 1.8KHz or 500Hz, all independent of mode; all 1.5:1 shape factor or better.
Third Order Intercept: +10dBm
I-F Frequencies: 1st I-F: 45MHz, 2nd I-F: 455KHz, 3rd I-F: 12KHz
I-F Rejection: >60dB
Image Rejection: >60dB

And most importantly, cost: $295 USD.

--Closing Comments

After three weeks of "playing" with the RX-320 I am suitably impressed. The TenTec company has a reputation for building solid equipment and this receiver is no different. While suffering from some QRM caused by the nearby computer, (varies with different screen resolutions) the amount noticed is far less than that on my ATS-909 and other receivers. This receiver is well equipped, for the price, and with a few exceptions comes with all of the features one would expect from a good radio.

Two features that would be of major benefit are the addition of Synchronous AM detection (especially for those AM numbers stations) and the ability to search through the memories. Synchronous AM detection would benefit not only the UTE monitor, but also the average SWL looking for the best audio available. A memory search option, with adjustable dwell times, would allow for more thorough monitoring of the user's favorite frequencies. The addition of these two features would greatly increase the value of the RX-320, and would undoubtedly

attract even more attention from UTE listeners interested in an HF-only receiver.

--Next month's review
    The review next month will take a more in-depth look at the capabilities of this receiver. We will cover the use of this receiver to intercept a variety of targets, as well as a head-to-head comparison with a comparably-priced receiver: Sangean's ATS-909.

Until next month, 73 de Dave
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THE MILITARY NEWSREEL

---- Military Information of use to the UTE monitor ----

David C. Wright, Editor

email: dcwright@gte.net or dcwright@usa.net
#monitor id: DaveWUN ----- AIM ID: DCWUN ----- IChat ID: Davewun
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- Military News -
Hello, everyWUN! Welcome to another month's edition of the military newsreel. I apologize for the absence of the column last month, but between the pressures of work and family, I simply did not have the time to put together any information. However, this month we're back with a variety of topics. First we'll begin with some updates to the Focus Article on the Royal Australian Navy...

Notes from the Royal Australian Navy

The HMAS Mellville, the 2nd of the new hydrographic ships was launched on 23 June, 1998. Meanwhile, the keel laying ceremony for the HMAS Diamantina, the 5th of the new coastal mine hunters, was held on 6 July, 1998. From August through November, the HMAS Adelaide and HMAS Hobart are deployed to Southeast Asia, while the HMAS Sydney and HMAS ANZAC are deployed to Northeast Asia. Lastly, the HMAS Torrens, the last of the River-class frigates was decommissioned on 11 September 1998 following its return from a "paying off deployment" in August.

Request for information

It has been reported in the world press recently that the Russian Air Forces (PVO, Strategic Aviation, Strategic Airlift, and Tactical Aviation) have been combined into one Russian Air Force. I am looking for any OPEN SOURCE information to confirm this. Idealy, I am looking for any Russian language resources (Russian newspaper articles, etc) addressing this topic. If you have anything like this, please email me a copy, or send me an email for my snail mail address. I am looking at doing a possible Focus Article on the status of the Russian Air Forces in a future edition of the Military Newsreel. Thanks.

Here is an article bound to affect military monitoring. Only time will tell if it will be beneficial or harmful to our hobby...

981467. Air Force awards $6 million contract to improve AMC capabilities
ROME, N.Y. (AFNS) -- The Air Force Research Laboratory Information Directorate has awarded a more than $6 million contract to TASC Inc. of Chantilly, Va., for research to improve the global information infrastructure of Air Mobility Command

Under terms of the three-year contract, "Information for Global Reach," TASC will develop hardware and software to improve AMC's capabilities for worldwide, near real-time, multimedia information exchange, including voice, data, video and imagery.

"AMC's Tanker Airlift Control Center at Scott Air Force Base, Ill., would like to have visibility of all airlifters and cargo while they are in transit around the world," said Dr. John Evanowsky, program manager in the directorate's Information Grid Division. "TASC will develop and demonstrate the technology to support a global infrastructure that will provide the command control and communications for in-transit visibility and situation awareness."

"The situational awareness portion of the research will provide the airlifter crew with accurate and timely in-flight information regarding such vital areas as air traffic control, weather conditions and intelligence data," said Evanowsky. "The goal of this technology is to provide the required information both on the ground and in the cockpit." (Courtesy of AMC News Service)

Secretary of the Navy names New Attack Submarine class by DOD Public Affairs

WASHINGTON (NNS) -- Secretary of the Navy John Dalton announced Sept. 10 his decision to name the lead ship and class of the New Attack Submarine after the state of Virginia.

A formal naming ceremony for USS Virginia (SSN 774) on the U.S. Capitol grounds is scheduled for Sept. 23.

"I can think of no other state that so embodies the maritime heritage of this great nation than the Commonwealth of Virginia," Secretary Dalton said. "I am also most grateful to the Virginia delegation for their strong support of the Navy Department. The submarines of the Virginia-class will silently roam the world's oceans for decades to come, carrying the spirit of America and Virginia with them wherever they go."

The Navy's next-generation attack submarine, the Virginia class, will provide the U.S. Navy with the capabilities it requires to maintain the nation's undersea supremacy well into the 21st century. Virginia will have improved stealthiness, sophisticated surveillance capabilities and Special Warfare enhancements that will enable it to meet the Navy's multi-mission requirements.

"For the past several years, the Senate Armed Services Committee has taken the lead in Congress to obtain the authorization for this new class of submarine, whose mission will be to deter aggression and preserve freedom," Sen. John Warner said. "Generations of Virginians, beginning in the early 1600s, have likewise been in the forefront for the cause of freedom. So our state, with pride and humility, accepts the Navy's decision to have these ships bear the name Virginia."

Sen. Chuck Robb said, "I'm pleased that the U.S. Navy has honored the Commonwealth by bestowing the name Virginia on the new attack submarine class. As the sixth ship of the U.S. Navy to carry the name Virginia, this new submarine continues the tradition, started by the original USS Virginia in 1777, of recognizing Virginia's indispensable role in defending our nation's freedom."

Virginia will be able to attack targets ashore with highly accurate Tomahawk cruise missiles and conduct covert, long-term surveillance of land areas, littoral waters or other sea forces. Other missions Virginia will conduct include anti-submarine and anti-ship warfare, special forces delivery and support, and mine delivery and minefield mapping. With enhanced communications connectivity, Virginia also will provide important battle group and joint task force support, with full integration into carrier battle group operations.

The Virginia class of attack submarines surpasses the performance of any current projected threat submarine, ensuring U.S. undersea dominance well into the next century.

-USN-

The following comments were posted by Ken Windyka on the MILCOM list following his attendace at the Westover AFB Open-house and are reprinted here with his permission.

It was interesting to talk with the pilot of the CG HU25 Guardian (CG 2107), since it appears that NO more of these aircraft will be retired since the CG hasn't found a replacement aircraft for them. Also the back section of the aircraft was not accessible & I asked why..... guess they were afraid that folks would play with the various electronic gear knobs!! She (BTW there's three female HU25 pilots assigned to Cape Cod CGAS) was also very interested when I told her that I normally monitored the CAMSLANT check ins every 1/2 hour on 5696/8984 as well as their UHF freq.... Also she stated that at time they did call MAINSAIL to Air Force GHFS but at times had problems with the HF gear because of it's age.

Thanks, Ken, for the update on the USCG HU-25s.

From Bob Margolis...

WASHINGTON, Sept 17 (AFP) - The Pentagon is considering a scrub down of the myriad of US military websites on the Internet to make sure they do not become a helpful source of information to terrorists and other malefactors, Pentagon officials said Thursday.

Maps and floorplans of military facilities, contract specifications for new weapons, and certain information about military personnel are the types of things that are likely to start disappearing from military websites, Pentagon spokesman Kenneth Bacon said.

Military websites have proliferated in recent years. The Pentagon estimates there are 1,000 of them, but is not sure of the exact number because there is no central registry.

The Department of Defense has an official site, but so do each of the services, virtually every military base, and even units have their own webpage.

USA Today reported that among the items that have been removed from military websites recently is the floor plan of the official residence of the chairman of the Joint Chiefs of Staff, General Henry Shelton.

"I think that web sites bring out creativity and a desire to disclose information to people," said Bacon.

"All we're asking commanders to do or we will ask commanders to do is to review the web sites with a couple of basic principles that deal with personal and other types of security, and to make sure that they don't give out information that could compromise our very legitimate security needs," he said.

Until next month, 73 de Dave

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The WUN Logs Column

Team Logs: Klaus Betke: klaus@itap.de
Jason Lillie: jslillie@rogersu.edu

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* CORRECTIONS AND ADDENDA

(ALF) sends the following corrections and amendmends to his logs from our last issue:

5785 Magic 88 NATO E-3D AWACS Aircraft of RAF 8/23 Sqn

based Waddington (UK) (used by the Mission/ Radar crew)
5687 81 NI81: German Air Force, Piacenza, Italy
5687 50-47 GAF Transall Aircraft, reg.: 50-47 based ??
6760 PAPA INDIA FPI: French Navy St. Assise, F working
6760 K9T an MPA 'Maritime Patrol Aircraft'
8906 NAVY WV 670 US Navy C-130 Hercules aircraft of VR-53 NAF Washington, based Andrews AFB, MD
8971 BLUE STAR HUNTER 01 USN NAS Roosevelt Roads, PR, PTR working a RAF Nimrod aircraft
11300 EGY 1901 Egypt Air Force aircraft wkg Cairo MWARA

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(KB) noted several mysterious '=3D' signs in front of the identifiers of DGPS stations he reported last month. These of course are not part of the ID but have been caused by the email-client used here. Apologies for that!

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And finally: The Logs

FREQ	CALL/ID	STATION UTC MODE PARMS COMMENT (DATE) (INI)
17.2	SAQ	Grimeton Radio, S 0930 CW Tests of Alexanderson Generator VVV/CQ DE SAQ + brief msg (29/AUG) (CK)
25	RJH63	Krasnodar TS 0806 CW id (20/AUG) (KB)
	RJH66	>Bishkek TS, KGZ 0306 CW id. Same at 0906 (20/AUG) (KB)
	RJH69	>Molodecno TS, BLR 0606 CW id. Nil in Sept (24/AUG) (KB)
	RJH77	>Arkhangelsk TS 0206 CW id (18/AUG) (KB)
	RJH99	>Nizhniy Novgorod TS 0406 CW id. Was off air during August (12/SEP) (KB)
38		SN RUDA? 1140 CW Very weak tfc in offline encrypt - 5ltr grps (10/Sep) (DW)
53	DHJ59	Ny Wilhelmshaven 1630 RTTY 75 undecodable (13/SEP) (KB)
66.7	RBU	Moscow TS 1625 AM (but audible here in narrow CW mode only) beeps (13/SEP) (KB)
68.9	DHJ58	Ny Gluecksburg 1630 RTTY 75 undecodable (13/SEP) (KB)
135.7	SXV	Greek Navy Spatta 0500 BAUDOT 75/85 Test tape RYs/VVV DE SXV (07/Sep) (ND2)
518	NMG	USCG Group New Orleans 0328 FEC w/NAVTEX tfc (17/Aug) (DW2)
2182		Palma Radio 2033 USB ann (??/???) (BVR)
	PBK	>Dutch CG 0633 USB ann gale wrng at 3673 khz (??/???) (BVR)
2285.5	IDR	It navy 2020 USB w/IAZC (??/???) (BVR)
2670	NMA10	USCG Group Mayport 0620 USB w/MIB (30/Aug) (DW2)
	NMG	>USCG Group New Orleans 0553 ??? w/end of MIB and signoff (30/Aug) (DW2)
2687	G5Y	???? ??? (NN vessel) w/JWT (04/AUG) (AN)
2743	ULX	Mossad (E10) 2300 AM (01/AUG) (DR1) * 2300 AM (28/JUL) (DR1)
2753	NAVY 267	1847 USB w/padg Hrms Bloys van Treslong (??/???) (BVR)
	PARD	>HRMS Rotterdam 1847 USB clg PFC radiocheck no contact was made (??/???) (BVR)
	PFC	>Navy De Kooy 1841 USB clg PADG for radiocheck (??/???) (BVR) * 1843 USB w/navy 267 endurance 1.3 hrs 3pob (??/???) (BVR)
3047.0	RESCUE 314	CANFORCE helo 0314 USB until 0330 p/p to Halifax RCC "dropping flares from 1500 ft over debris field". Also advises RCC that

		Preserver Commander in on scene. Secondary freq. was 5717.0 (??/???) (PS)
3144.4	2HQ	UNID presum. US Navy 1810 USB rpt clg 5LP, no reply (25/Aug) (ANE)
	Charlie	>UNID US Military 1815 USB rpt clg "Echo", "Kilo", no reply (25/Aug) (ANE)
3150	PCD	Mossad (E10) 2300 AM (01/AUG) (DR1)
3270	KPA2	MOSSAD (E10) 1915 AM //4665,5230 (02/AUG) (JRU)
3314.4	2HQ	UNID presum. UN Navy 1810 USB calling 5LP, no reply (25/Aug) (ANE)
	CHARLIE	>UNID US Military 1815 calling ECHO and KILO, no reply (25/Aug) (ANE)
3329		Atencion (V2) 0100 ??? YL/SS rptg "A 02002 26832 65593". At 0103, into 5FG (28/JUL) (JM4)
3389		Atencion (V2) 0100 ??? YL/SS 5FG in progress (11/AUG) (JM4)
3410		M17 1900 CW 70269 24 (19/AUG) (GD2) * 2030 ??? 66288 28 (20/AUG) (GD2) * 2030 ??? 66335 26 (06/AUG) (GD2) * 2030 ??? 66627 21 (03/AUG) (GD2) * 2030 CW 66128 dots 27 27 = 5FG VA (27/JUL) (AB)
3417	ART	MOSSAD (E10) 1849 AM ongoing msg (02/AUG) (JRU) * 1849 AM ongoing msg (2/AUG) (JRU) * 2130 ??? (25/JUL) (DR1) * 2130 AM (06/AUG) (DR1) * 2130 AM (27/JUL) (DR1) * 2130 AM (28/JUL) (DR1) * 2130 AM (30/JUL) (DR1) *
	ART2	>2130 AM (31/JUL) (DR1) * 1902 AM (02/AUG) (JRU) * 1930 ??? (29/JUL) (HFD) * 1902 AM (2/AUG) (JRU)
3485	SYN2	Mossad (E10) 2045 ??? (25/JUL) (VM1)
3615.7	GKY1	PORTISHEAD RADIO 0700 FEC Tfc list and svc bulletin "Fm 1/Sep Med/Black Sea wx on radio telex 0800z bdcast rptd on rt chans 1224/1602 at 0900z" (2/Sep) (DW)
3652	GYA	RN Northwood 0624 FAX 120/576 charts (??/???) (BVR)
3782	CTP	POR Navy Oeiras, POR 2109 CW VVV DE CTP QSX 4 8 12 16 MHZ (17/AUG) (ANE)
3824		M10 2000 ??? 111x3 13071x3 30x3 (02/AUG) (GD2)
3840	YHF	Mossad (E10) 2009 AM In progress (06/AUG) (DR1) * 1833 AM groups 84, hebraeic into-nation, //3150, another msg. (61 groups) from 1847 (02/AUG) (JRU)
3910		M17 numbers station 2050 CW 66128 dots 27 27 = 5FG VA. Repeat of 2030 (27/JUL) (AB)
4015		M3 0630 ??? 033/52 Very weak signal (03/AUG) (GD2) * 0630 ??? 035/00 (19/AUG) (GD2) * 0630 ??? 035/00. Same as 1997 (17/AUG) (GD2)
4024		M51 numbers station, F 2209 CW NR 77 J 28 00:09:19 1998 BT + 5LG (27/JUL) (AB)
4024.3		UNID 1810 36-50 50bd/200hz (??/???) (BVR)
4025		M51 numbers station, F 2209 CW NR 77 J 28 00:09: BT + 5LG (27/JUL) (AB)
4027		M8 Cut no's stn 0300 ??? (07/AUG) (BR)
4028		SPANISH LADY (V2) 1142 AM in progress (13/JUL) (SD)
4036		Atencion (V2) 1100 ??? 5FG, ended with three "final" (05/AUG) (JL1)
4041		UNID 1940 CW Transmitted only 3 mins. Message TETINSITEEAEMNL. Over and over again (05/AUG) (AB)
4042.4		UNID Dashless morse station 2210 CW transmit-ting groups of dots (03/AUG) (AB)
4043	FDI8	FAF NICE 0722 RTTY 50/R/400 Marker "test de

		FDI8 voyez le brick ry's" (7/Sep) (DW)
4044	ZBMH	CZECH BORDER GUARDS 2100 RTTY 50/R/500 20hz high. Marker "ry's T7FM ry's". 2118 and 2133 callsign is ZBMH (17/AUG)(DW)
4057		UNID 1820 ??? 75.0bd 863hz no acf (??/???) (BVR)
4130		E15 1900 ??? Phonetic Alphabet Pre-NATO PAR (29/JUL) (HFD) * 2102 USB Phonetic alphabet -pre NATO id unintelligible (22/AUG) (DR1)
4153	WHW462	Pine Oak, Newark, NJ 0529 USB occasional marker. Short data burst 170hz channel at +1500 Hz followed by CW ID "WHW462" at +700hz (26/AUG) (DW)
4211	GKE2	PORTISHEAD R. 1854 CW channel marker (13/AUG) (JRU) * 0800 FEC Wx for Mediterranean and Black Sea (2/Sep) (DW)
4232	FUF	F Ny Fort de France, MRT RTTY 75/800 w/call-tape (20/Aug) (DW2)
4253	TAH	ISTANBUL R. 2043 CW channel marker. (11/AUG) (JRU)
4253.6	DHJ59	Ny Wilhelmshaven 1600 carrier with irregular crackling sound; just this signal for weeks. Id'd on the spot (14/SEP) (KB)
4259	SAB	GOETEBORG RADIO 0627 CW Chan free marker (Globe) "SAB". Selcalls KRYFVVV (27/AUG) (DW)
4260	TBA2	TN ANKARA 1857 CW Marker "TBDJ de TBA 2/4 T13A" (27/AUG) (DW)
4262	LFI	ROGALAND RADIO 0610 CW Chan free marker (Globe) "LFI" Occ qrm5 due second stn sending with selcalls PQYR (27/AUG) (DW)
4263.3	ZLO	RNZN WAIOURU 0622 CW Marker (full) "de ZLO zay A1A 4 ar" alternates with short lengths of this string "de Z ar" "de ar" "de ZLO ar" Also listed as Auckland and Irirangi (27/AUG) (DW)
4270	PCD	Mossad (E10) 1900 ??? (29/JUL) (HFD) * 2033 AM (31/JUL) (DR1) * 2130 AM (27/JUL) (DR1) * 2130 AM (28/JUL) (DR1) * 2131 ??? (25/JUL) (DR1)
4274	GKB2	PORTISHEAD R. 2041 CW channel marker (11/AUG) (JRU)
	HPP	>Panama Radio 0848 CW V/CQ marker (19/AUG) (JRC)
4317.9	NMG	USCG NEW ORLEANS? 0641 FAX Weak chart under rtt. Seems to be outputting lines of text? Listed indications point to USCG New Orleans 4316/usb. This is an "old" NMG freq. Opr prblm? (19/AUG) (DW)
4325.8	R	CISN USTINOV 2249 CW SLHFB "R" (20/AUG) (DW)
4328	JOS	NAGASAKI RADIO 1926 CW Marker "cq de JOS qsx 4mhzk". 1930z tfc list (15/AUG) (DW)
4343	WLO	Mobile Radio 0039 FEC w/end of tfc list, freq info, and info about communications courses (21/Aug) (DW2)
4360	SYN2	Mossad (E10) 1945 ??? //6370 (29/JUL) (HFD) * 2245 AM (22/JUL) (DR1)
4372		GIANTKILLER net 0408 USB, players include G1Y 6G, and G45C. Much "coded" comms (20/AUG) (JH2)
4426	NMN	USCG CAMSLANT Chesapeake, VA 0508 USB w/MIB //6501/8764 (1/Aug) (DW2) * 0340 USB Hurricane Bonnie advisory (23/AUG) (JRC)
4460		Counting Station (E5) 0003 USB id 248 count 90 (22/AUG) (DR1)
	FTJ	>Mossad (E10) 2101 AM (29/JUL) (DR1)
	FTJ2	>Mossad (E10a) 2132 AM (28/JUL) (DR1) * 2000

		AM (27/JUL) (AB)
4463	FTJ	MOSSAD (E10) 1904 AM ongoing msg (02/AUG) (JRU) * 2110 AM In progress (25/JUL) (DR1) * 1904 AM ongoing msg. (2/AUG) (JRU) * 0102 AM (22/AUG) (DR1) * 1900 ??? (29/JUL) (HFD) * 2032 AM group 145 (19/AUG) (DR1) * 2203 AM group 44 (19/AUG) (DR1) * 2244 AM In progress (22/JUL) (DR1)
	FTJ2	>Mossad (E10a) 0002 AM no message (20/AUG) (DR1) * 0002 AM no message (22/AUG) (DR1)
4478		M8 Cut no's stn 0300 (08/AUG) (BR)
4479		V2 Atencion 0300 ??? YL/SS rptg "A 09041 80089 64833" and into 5FG (12/AUG) (JM4) * 0300 ??? strong carrier, but regular Atencion broadcast didn't materialize (05/AUG) (JM4) * 0400 ??? YL/SS 5FG in progress (07/AUG) (JM4) * 0300 ??? 5FG. End at 0345 with three "final". ?//6826? (12/AUG) (JL1) * 0300 ??? vy weak audio (05/AUG) (BR) * 0400 ??? had started before the hour (07/AUG) (BR)
4503		UNID 1838 CW 4-digit pseudo time signal "2238 2238...2239...2240..." (=UTC+4 hrs) (17/AUG) (ANE)
4506		M8 Cut no's stn 0100 CW (23/JUL) (BR) * 0300 ??? (05/AUG) (BR) * 0400 ??? (07/AUG) (BR)
4509		M1 2000 ??? 025 R4 503 503 43 43 = = (04/AUG) (GD2)
4551.4	WHW462	PIN OAK NEW JERSEY 0650 CW Occ marker, short data burst followed by cw ID "WHW462" (13/Sep) (DW)
4562		IRKUTSK MET(?) 1957 FAX 90/576/N/800 very weak fax under numbers (YL) station and periodic data bursts. RPM and side of chart obtainable, nothing else. ID based on tent. log by KB 15/Aug (11/Sep) (DW)
4598	FDI8	FAF Nice 1820 CW V-marker (17/AUG) (ANE)
4602		UNID I Ny (tentative) 1930 ASCII 100/850 4-character (+2 control chars) bursts like PD95 SR84 etc. Repeats after 24 groups. Weak reply from another stn (sounds like) after certain groups (7/SEP) (KB)
4615		M13 2100 ??? 751 R5 = 169 23 = (20/AUG) (GD2)
4640		Counting Station (E5) 0001 USB id 026 count 90 //5046 (18/AUG) (DR1) * 0001 USB id 248 count 90 //5046 (21/AUG) (DR1) * 0002 USB id 248 count 90 //5046 (19/AUG) (DR1) * 0002 USB id 248 count 90 //5046 (20/AUG) (DR1) * 0000 AM with msg 888 count 85 //5046 (28/JUL) (BR) * 1900 ??? msg 912 count 109 //5046 (??/???) (BR) * 1900 AM very weak //5046 (28/JUL) (BR) * 0000 ??? Callup for 888 and 85 groups (so its not *always* count 215) //5046 (01/AUG) (TM) * 0000 ??? with 888/85 msg //5046 (31/JUL) (BR) * 0000 ??? with 888/85 msg //5046 (04/AUG) (BR) * 0000 ??? with 888/85 msg //5046 (07/AUG) (BR) * 0000 ??? with 888/85 msg //5046 (01/AUG) (BR) * 1900 AM Msg to 888, Count 85 (rpt of 1900z) //5046 (12/JUL) (CS) * 0011 ??? In progress //of 5046? Count: 109 3/2 FG. Repeated the count at 0021. "End" 0030 (11/AUG) (JL1)
4665	KPA2	MOSSAD (E10) 1817 AM (02/AUG) (JRU) * 1915 ??? (29/JUL) (HFD)
4675		BAFFIN RADIO 0419 USB wkg Lufthansa 459. position. Had called Montreal, but no joy. Advised to call Montreal Center next on VHF (14 AUG) (AR3)

4718		NEATISHEAD ???? ??? wkg Y9A w/trackreporting (22/JUL) (AN)
4724		Andrews AFB 0642 USB w/26-character EAM (21/Aug) (DW2)
4740		M17 numbers station 2110 CW 66128 dots 27 27 = 5FG VA. Repeat of 20.30 UTC (27/JUL) (AB)
4742	KIN 514	???? ??? (RAF Nimrod) w/ARCHITECT (04/AUG) (AN)
	RFR 7220	>???? ??? w/ARCHITECT (03/AUG) (AN) *
4787		UNID Rus 2036 81-81 81.1bd/233hz encrypted tfc (??/???) (BVR)
4840	ULX2	Mossad (E10a) 2200 AM (22/JUL) (DR1)
4877.5	FDG	FAF Bordeaux 2140 RTTY 50/400 w/TEST DE FDG bricks 0-9 RYs (20/AUG) (ML2)
4880		MOSSAD (E10) 1818 AM ongoing msg (02/AUG) (JRU)
	ELX2	>Mossad (E10a) 2132 ??? (25/JUL) (DR1)
	ULX	>Mossad (E10) 0102 AM group 54 (22/AUG) (DR1) * 0200 AM group 54 (20/AUG) (DR1) * 1900 ??? gr 48 (29/JUL) (???) * 2131 AM (31/JUL) (DR1) * 2302 AM group 80 (20/AUG) (DR1)
	ULX2	>Mossad (E10a) 0300 AM no message (20/AUG) (DR1) * 2131 AM (27/JUL) (DR1) * 2131 AM (28/JUL) (DR1) * 2132 USB? (30/JUL) (DR1)
4904		M1 2000 ??? 025 R4 456 456 33 33 = = (20/AUG) (GD2) * 2000 ??? 025 R4 517 517 40 40 = = (18/AUG) (GD2)
4905		M1 2000 ??? 025 R4 072 072 43 43 = = (06/AUG) (GD2)
		>M1A numbers station 2000 CW id 025. Unexpected end of the month transmission (28/JUL) (AB)
4906		UNID 1836 ??? 220.02bd 236 hz no acf (??/???) (BVR)
4937.5		UNID RUS 1832 81-81 81bd 200hz encrypted tfc (??/???) (BVR)
5002		UNID Ticking station 1947 ??? Transmits groups of ticks/clicks (05/AUG) (AB)
5027		S17 Czech Lady Control 1355 ??? 70038 //4485 (31/JUL) (HFD) * 1355 ??? 70041 //4485 (03/JUL) (HFD)
5028		M10 1645 ??? 555x3 571x3 10 275x3 45 049x3 39 435x3 30 (03/AUG) (GD2) * 1645 ??? 555x3 571x3 10 275x3 45 049x3 39 435x3 30 (02/AUG) (GD2) * 1645 ??? 555x3 571x3 10 275x3 45 049x3 39 435x3 30 (05/AUG) (GD2) * 1645 ??? 555x3 571x3 13 275x3 25 049x3 15 435x3 20 (17/AUG) (GD2) * 1645 ??? 555x3 571x3 13 275x3 25 049x3 15 435x3 20 (16/AUG) (GD2) * 1645 ??? 555x3 571x3 13 275x3 25 049x3 15 435x3 20 (19/AUG) (GD2) * 1645 ??? 555x3 571x3 19 275x3 12 049x3 13 435x3 31 (22/AUG) (GD2) * 1645 ??? 555x3 571x3 38 275x3 18 049x3 29 435x3 16 (08/AUG) (GD2) * 2100 ??? 555x3 783x3 11 961x3 41 (03/AUG) (GD2) * 2100 ??? 555x3 783x3 11 961x3 41 (05/AUG) (GD2) * 2100 ??? 555x3 783x3 44 961x3 40 (17/AUG) (GD2) * 2100 ??? 555x3 783x3 44 961x3 44 (19/AUG) (GD2) * 2100 CW 555x3 783x3 32 961x3 50 (27/JUL) (AB)
5038	FDY	0950 RTTY/50 (slow rtty) 'test de fdy voyez le brick' (30/JUL) (WP3)
5040	FDG	0755 RTTY 50 test de fdg rulscolt de fdg voyez le.ryryryry test de fdg (12/AUG) (WP3)
5046		Counting Station (E5) 0000 AM EE 3/2 D #'s 1234567890 888 (23/JUL) (WCA) * 0001 USB id

		912 count 109 //4640 (17/AUG) (DR1) * 0000 AM 3/2 D YL EE Numbers station (??/???) (WCA) * 0006 ??? In progress, very noisy signal. Preamble: 912 Count: 109 3/2 FG. "End" at 0030 (11/AUG) (JL1)
		>UNID 0808 RTTY 50: r1 1007 qtc k 1 50 12 1007 = 326 t6jc then 5f hand typed (12/AUG) (WP3)
5073		M13 2100 ??? 378 R5 = 202 18 = (03/AUG) (GD2)
5090		M3 0700 ??? 040/00 (03/AUG) (GD2) * 0700 ??? 040/00. Same as 1997 (17/AUG) (GD2)
	JSR	>Mossad (E10) 2131 AM (27/JUL) (DR1) * 2132 AM? (30/JUL) (DR1)
5091	JSR	Mossad (E10) 1930 ??? (HFD) * 2131 AM (28/JUL) (DR1)
	JSR2	>Mossad (E10a) 2133 ??? (25/JUL) (DR1) * 2100 AM (26/JUL) (AB)
5116		M8 0212 ??? ?gmgrn? In progress (14/AUG) (JL1)
5120		M3 0700 ??? 3 Groups = = 000 (06/AUG) (GD2) * 0730 ??? 018/00 (06/AUG) (GD2) * 0730 ??? 041/00 (18/AUG) (GD2)
5154	NNN0RFM	0353 PACTOR tfc w/NNN0GKI w/Navy MARS tfc (1/Aug) (DW2)
5178		Backward Music station 2149 ??? TONES not // with 6695 and 6753 kHz (03/AUG) (AB) * 2207 ??? (25/JUL) (AB) * 2257 ??? same signal strength as 6753 (18/JUL) (AB)
5180		Cherta (S12) 2103 ??? 971/00 (05/AUG) (VM1)
		>M3 0730 ??? 010/57 R10 Same as 1997 (03/AUG) (GD2) * 0730 ??? 018/00 (17/AUG) (GD2) * 0730 ??? 018/00 (20/AUG) (GD2) * 0830 ??? 044/00 (17/AUG) (GD2) * 0930 ??? 018/00 (17/AUG) (GD2) * 1400 ??? 045/53 (04/AUG) (GD2)
		>M51 0700 ??? NR 58 To NR 72. Ended 0830 (05/AUG) (GD2)
5190		M3 0830 ??? 043/50 (03/AUG) (GD2)
5213	FDI8	FAF Nice, F 1819 CW V marker (22/Aug) (ANE) * 1056 CW vvv vvv vvv de fdi8 fdi8 fdi8 ar (11/AUG) (WP3)
5214.5	FDG	FAF BORDEAUX 1934 CW Marker "vvv de FDG ar" (4/Sep) (DW)
5220		M1B 1718 ??? 719 R4 061 061 42 42 (17/AUG) (GD2) * 1718 ??? 719 R4 061 061 42 42 = = (19/AUG) (GD2) * 1718 ??? 719 R4 974 974 46 46 = = (03/AUG) (GD2) * 1718 ??? 719 R4 974 974 46 46 = = (05/AUG) (GD2)
5221		UNID 0541 RTTY 75/135 Unable decode. Changed up to 5221.5 after 5 min (19/AUG) (RH2)
5230	KPA2	Mossad (E10) 0219 USB (Marker - Female, EE - OTA 0220) (??/???) (LBJ) * 1915 ??? (29/JUL) (HFD) * 1818 AM (23/JUL) (JRU)
5246		M14 1800 ??? 491 R4 195 195 32 32 = = (07/AUG) (GD2) *
5278		M1 1800 ??? 025 R4 031 031 46 46 = = (18/AUG) (GD2) * 1800 ??? 025 R4 216 216 42 42 = = (04/AUG) (GD2) * 1800 ??? 025 R4 731 731 44 = = (06/AUG) (GD2) * 1800 ??? Nil heard (20/AUG) (GD2)
		>M1A numbers station 1800 CW id 025. Unexpected end of the month transmission (28/JUL) (AB) * 1800 CW id 025. Unexpected end of the month transmission (28/AUG) (AB)
		>M1B 1723 ??? 382 R4 426 426 43 43 = = (06/AUG) (GD2)
5290		Russian Lady (S21) 1945 AM id 491? (20/AUG) (DR1)

5298.5		UNID RUS 1639 81-81 81/??? encrypted tfc no acf (??/???) (BVR)
5301		M10 1610 ??? 555x3 107x3 28 859x3 13 (02/AUG) (GD2) * 1610 ??? 555x3 553x3 43 859x3 24 (17/AUG) (GD2)
5313	P-123	GRC CG boat 1930 USB in contact with HQ in SAR operation for crashed F4 Phantom (20/AUG) (ND2)
5320	1XUM	UNID greek navy tactical 0810 USB ANDVT voice connection to L6BP (01/Sep) (ND2) *
5325		M1B 2102 ??? 871 R4 128 128 43 43 = = (21/AUG) (GD2) * 2102 ??? 871 R4 682 682 65 56 = = (07/AUG) (GD2)
5342	FDY	FAF ORLEANS 2234 CW Marker "vvv de FDY ar" (4/Sep) (DW) * 1820 CW V marker (22/Aug) (ANE)
5350		M1B 1605 ??? 053 R4 528 528 43 43 = = (08/AUG) (GD2) * 1605 ??? 053 R4 618 618 40 40 = = (22/AUG) (GD2)
5357.6		UNID 1135 RTTY/100 Channel F8 wx in the clear in german (11/AUG) (WP3)
5360		M3 0830 ??? 043/50. Same as 1997 (05/AUG) (GD2) * 0630 ??? 121/40. Same message sent 29 July 1800 (29/JUL) (GD2) * 0800 ??? 041/00 Same as 1997 (07/AUG) (GD2) * 1500 ??? 046/00 (05/AUG) (GD2) * 1700 ??? 121/45 (05/AUG) (GD2)
5365		S6 Russian Man, RUS 2100 AM 826 00000 (26/JUL) (AB)
5416		M8 cut no's stn 0300 ??? (05/AUG) (BR)
5417		V2 0705 ??? SS/YL/5FG In progress; there was what seemed to be ?interference? from a data? transmission. Ended at 0746 with three "finals'" (??/???) (JL1)
5419		M8 Cut no's stn 0200 CW (03/AUG) (BR)
5422		LP (E3) 1700 ??? ID: 82534 (31/JUL) (???) * 1700 USB //6485 8464 (30/JUL) (DR1) * 1700 USB id 04242 //6485 8464 (06/AUG) (DR1) * 1700 USB id 73110 //6485 8464 (20/AUG) (DR1) * 1800 USB 82534 callup //6484 8464 (24/JUL) (DR1) * 1800 USB id 04242 //6485 8464 (07/AUG) (DR1) * 1803 USB id 73110 //6485 8464 (21/AUG) (DR1) * 1809 USB id 82534 //6484 8464 (31/JUL) (DR1) * 1900 USB 82534 callup //6485 8464 (25/JUL) (DR1) * 1900 USB id 04242 //6485 8464 (01/AUG) (DR1) * 1902 USB id 73110 //6485 8464 (22/AUG) (DR1) * 1906 USB id 04242 //6485 8464 (08/AUG) (DR1) * 2207 USB id 04242 //6485 8464 (02/AUG) (DR1) * 2207 USB id 73110 //6485 8464 (16/AUG) (DR1) * 1600 USB / Message for 73110 (20/AUG) (ANE)
5428		M12 1900 ??? 941x3 000 (05/AUG) (GD2) * 1900 ??? 941x3 000 (19/AUG) (GD2) * 1900 CW 941 000 (26/JUL) (AB)
5434	V5G	MFA Bucharest, ROU 1800 CW Op id U39 relay tfc to "PALL GE" (21/AUG) (ANE)
5435		Mossad 0300 AM 5LG in progress (03/AUG) (JM4)
	ART	>Mossad 0300 AM YL/EE 5LG (07/AUG) (JM4) * 0300 AM YL/EE 5LG (12/AUG) (JM4) * 0300 AM YL/EE weak (10/AUG) (JM4)
	ART2	>Mossad (E10) 1930 ??? (29/JUL) (HFD) * 0300 AM YL/EE down at :03 (16/AUG) (JM4)
5437		Mossad (E10) 1814 AM In progress (22/JUL) (DR1)
	ART2	>Mossad (E10a) 1800 AM (28/JUL) (DR1)
5447		LP (E3) 1900 ??? id 99843 (29/JUL) (???)
5472		M45 0703 CW 074 (R4) 296 296 296 46 46 == 5FG

(28/JUL) (AB) * 1703 CW 074 (R4) 296 296 296 46 46 == 5FG (28/JUL) (AB)

>UNID I Ny (tentative) 1935 ASCII 100/850 4-char bursts like AL18, VC58 etc. Not // but similar to 4602 kHz (7/SEP) (KB)

5473 M1B 1510 ??? 745 R4 375 375 44 44 = = (22/AUG) (GD2) * 1510 ??? 745 R4 375 375 44 44 = = (05/AUG) (GD2) * 1510 ??? 745 R4 385 385 44 44 (19/AUG) (GD2)

5474 M45 1702 ??? 074 R4 134 134 42 42 = = (20/AUG) (GD2) * 1702 ??? 074 R4 134 134 42 42 = = (18/AUG) (GD2) * 1702 ??? 074 R4 296 296 46 46 = = (06/AUG) (GD2) * 1702 ??? 074 R4 296 296 46 46 = = (04/AUG) (GD2)

5478 UNID 1642 ??? 100.38bd 206hz, no time for classification, s/off after 30 seconds (??/???) (BVR)

5520 M3 0630 ??? 041/59 (18/AUG) (GD2) * 0630 ??? 041/59 (20/AUG) (GD2) * 0630 ??? 044/56 Repeat of 4/AUG (06/AUG) (GD2) * 0630 ??? 044/56 Same as 1997 (04/AUG) (GD2) * 0730 ??? 040/00 Same as 1997 (07/AUG) (GD2) * 0730 ??? 041/00 (21/AUG) (GD2) * 0800 ??? 016/50. Same as 1997 (06/AUG) (GD2) * 0800 ??? 017/00 (20/AUG) (GD2) * 0900 ??? 011/00 (20/AUG) (GD2) * 0900 ??? 015/58. Same as 1997 (06/AUG) (GD2)

5530 MIW Mossad (E10) 1815 AM (22/JUL) (DR1) * 1824 AM (23/JUL) (DR1) * 1819 AM 11 groups msg, repeated (JRU)

MIW2 >MOSSAD (E10) 1919 AM (02/AUG) (JRU) * 1915 ??? (29/JUL) (HFD) * 1919 AM (2/AUG) (JRU)

5550 M3 0830 ??? 019/00 (06/AUG) (GD2) * 0830 ??? 019/00 (20/AUG) (GD2)

16 >GRC Army tactical network 0715 USB in contact with 17, 18, 19, 20 (19/AUG) (ND2)

TRIAINA 747 >GRC AF Orion P-3 0740 USB in contact with TRIAINA 353 MNAS (19/AUG) (ND2)

5625 M3 0830 ??? 017/00 (21/AUG) (GD2)

5629 KPA2 MOSSAD 2118 ??? Woman reading KPA2 (28/AUG) (PV)

VLB2 >Mossad (E10) 1945 ??? (29/JUL) (HFD)

5649 Rescue 11 R11, AP6Y, Shanw.,Gander&Islnd 2300 USB R11 was looking for an Aurora!! Aircraft AP6Y at 56N 35W (28/Aug) (GL)

5653 25JU Aegean Sea Command, GRC 0556 USB working SZFY (patrol boat "Panagopoulos 2") (17/Aug) (ND2)

5655 3-note oddity (G4) 2036 USB? id? 67890 tx finished at 2049 (16/AUG) (DR1) * 2035 AM german YL 5fg. sig was 58 (9/AUG) (JRU)

5680 Kinloss Rescue 2118 ??? looking for the balloon, Kinloss advises frequencies are 4718, 5680 and 6766 (28/AUG) (PV)

RESCUE 12 >???? ??? (RAF Nimrod) w/Kinloss RCC (03/AUG) (AN)

RESQUE 169 >1726 USB w/Kinloss airborne,4 pob (??/???) (BVR)

5687 NO80 ???? ??? (GAF Tornado) w/DHM 91 (07/AUG) (AN)

5696 CAMSLANT 0034 USB wkg Group Ft. Macon re: comms problems on 2MHz (27/Aug) (DW2) * 0117 USB wkg 6009: HH-60J (17/Aug) (DW2)

>CAMSPAC 0401 USB wkg 1704: USCG HC-130H7 (16/Aug) (DW2)

>COMSTA Kodiak 0530 USB wkg 6017: HH-60J. At 0549, COMSTA Kodiak requested QSY to and radio check on 11201 (not 11202). No joy. QSY back to 5696. At 0553, QSY to 3120. Nil heard (30/Aug) (DW2)

	GSK	>(c/s spelled): 0358 USB reporting flight ops normal (20/AUG) (JH2)
5699	3TE	???? ??? wkg BUCHAN (29/JUL) (AN)
5705		M10 1000 ??? 111x3 57295. Other 3 IDs Unreadable (06/AUG) (GD2)
	NCG 03	>???? ??? wkg PBV (30/JUL) (AN) * ???? ??? wkg PBV (31/JUL) (AN)
5709	MAGIC 58	???? ??? wkg JWT (31/JUL) (AN)
5717		Halifax var USB I have recorded audio from S&R SR111 +elt (3/Sep) (PV)
5737		M1B 2032 ??? 931 R4 128 128 43 43 (20/AUG) (GD2) * 2032 ??? 931 R4 682 682 65 65 (06/AUG) (GD2)
5740		3-note Oddity (G4) 2035 ??? 36589 12147... (05/JUL) (HFD)
5746		LP (E3) 1800 USB 99843 callup //6959 9251 (21/JUL) (DR1) * 1803 USB id 99843 //6959 9251 (28/JUL) (DR1) * 1820 USB In progress //6959 9251 (04/AUG) (DR1) * 1900 USB 99843 callup //6484 8464 (22/JUL) (DR1) * 1905 USB id 77350 //6484 8464 (19/AUG) (DR1) * 1908 USB id 99843 //6484 8464 (29/JUL) (DR1) * 2019 USB In progress //6484 8464 (19/AUG) (DR1) * 2100 USB 99843 callup //6959 9251 (23/JUL) (DR1) * 2100 USB id 75506 //6959 9251 (26/JUL) (DR1) * 2104 USB id 99843 //6959 9251 (30/JUL) (DR1) * 2106 USB id 77350 //6959 9251 (20/AUG) (DR1) * 2106 USB id 84176 //6959 9251 (03/AUG) (DR1) * 2106 USB id 94454 //6959 9251 (02/AUG) (DR1) * 2107 USB id 41836 //6959 9251 (06/AUG) (DR1) * 2108 USB id 10118 //6959 9251 (21/AUG) (DR1) * 2108 USB id 66269 //6959 9251 (16/AUG) (DR1) * 2200 USB id 77350 //6959 9251 (21/AUG) (DR1) * 2200 USB id 99843 //6959 9251 (31/JUL) (DR1) * 2202 USB id 41836 //6959 9251 (07/AUG) (DR1) * 2205 USB 99843 callup (24/JUL) (DR1)
5750	P-108	Greek CG vsl PLS-108/SX4055 0601 USB contact with LSY (Greek Coast Guard station Syros Island) (05/Sep) (ND2)
5755		THE THREE NOTE ODDITY (ENIGMA G4) 2005 AM german YL 5fg, starts 67890 13248 ... strngth 57, tx switched to 5655 at 2019. (9/AUG) (JRU)
5758		M8 cut no's stn 0300 ??? (08/JUL) (BR)
5762		V2 0200 ??? Atencion barely audible due to faulty transmitter. (08/AUG) (JM4) * 0200 ??? Atencion YL/SS 5FG in progress. (15/AUG) (JM4) * 0200 ??? (01/AUG) (BR)
5777		M1B 1855 ??? 127 R? Rest U/R (16/AUG) (GD2)
5779.5	P7X	0712 CW w/5LGs. At 0715 into UNID 267/660 FSK signal. At 0719 into CW call and 5LGs (30/Aug) (DW2)
5795		UNID Mexican Military 0439 USB w/simplex comms letter/number groups (1/Aug) (DW2)
5797	X6Q1	UNID 0630 CW Radio checks w/4graph c/s: 1BMT, XD5M, M4ML etc (22/AUG) (ANE)
5807	A2A	ROU Mil 0503 CW clg 3graphs and switch to UNID digital FSK mode (22/AUG) (ANE)
5812		M1B 2010 ??? 729 R4 128 128 43 43 (17/AUG) (GD2) * 2010 ??? 729 R4 682 682 65 65 (03/AUG) (GD2) * numbers station 2010 CW 729 682 682 65 65 (27/JUL) (AB)
5820		MOSSAD (E10) 1822 ??? ongoing msg (02/AUG) (JRU)
5832.4		UNID 1148 RTTY/100 Channel F9 qsy from F8 (11/AUG) (WP3)

5840		3-note Oddity (G4) 2005 ??? 36589 12147... (05/JUL) (HFD)
5859		UNID 1155 RTTY/100 channel F10 qsy from F9 (11/AUG) (WP3)
5865		M17 1600 ??? 53263 ?? Poor Signal (19/AUG) (GD2) * 1600 ??? 53263 25 (05/AUG) (GD2)
5915	KAWN	USCG Saddlebunch Key 0557 RTTY 75/850 Wx (28/AUG) (RH2)
5928		Edna sednitser (G22) 2206 ??? GG/YL 5FG in progress. Id 186 = groups 24 (06/AUG) (VM1)
6200		Swedish Rhapsody (E23) 0957 USB preamble (20/AUG) (DR1)
6270	ULX2	Mossad (E10a) 2202 AM (04/AUG) (DR1)
6283		M1B 1723 ??? 382 R4 214 214 44 44 (04/AUG) (GD2) * 1723 ??? 382 R4 426 426 43 43 (20/AUG) (GD2) * 1723 ??? 382 R5 426 426 43 43 (18/AUG) (GD2) * 1723 CW 382 (R4) 214 214 44 44 5FG (28/JUL) (AB) * 1923 CW 382 (R4) 214 214 44 44 == 5FG (30/JUL) (AB)
6290		M17 1920 ??? 58392 24 (18/AUG) (GD2) * 1920 CW 58282 (R4) dots 25 25 = 5FG (28/JUL) (AB) >M8 0800 ??? 06163 61653 82122 (03/AUG) (GD2)
6330		M3 0900 ??? 976/00 (03/AUG) (GD2) * 0900 ??? 976/00 (17/AUG) (GD2)
6358	PBC	DN Goerree 1458 RTTY 75/850 CARB (20/JUL) (WP3)
6361.5	UNID	1600 RTTY/75 online encr (20/JUL) (WP3)
6362.2	MGJ	RN Faslane 1602 RTTY/75 ends 1604 CARB msg (20/JUL) (WP3)
6382	TBA6	TN Ankara 1552 CW vvv vvv vvv tbdj tbdj de tba6 tba6 tba6 qap qap qap (20/JUL) (WP3)
6386.5	USO	IZMAIL RADIO 1554 CW Hi spd tfc [38wpm] then qss/qsx list 4277/4182.5 6386.5/6277.5 8586/ 8366.5 12965/12550.5 (qsx - all chan2 calling band) (10/Aug) (DW)
6397	JMC	J Navy 1430 CW 25/NON 5Fig Groups for various indefinite callsigns. Very Good sig (16/Aug) (BW2)
6397.3	KAWN	USCG Saddlebunch Key 0600 RTTY 75/850 Wx (28/AUG) (RH2)
6430		M3 0930 ??? 552/00 (07/AUG) (GD2) * 0930 ??? 552/00 (21/AUG) (GD2)
6433		M1 1500 ??? 025 R4 841 841 30 30 (08/AUG) (GD2)
6434		M1 1500 ??? 025 R4 263 263 40 40 (22/AUG) (GD2)
6460	SAB33	GOETEBORG RADIO 1942 ARQ Chan free marker (Maritex) "ererer" string. Selcalls MQDDQTV YPDF (10/Aug) (DW)
6467	LFI	Rogaland Radio 0410 ARQ/CW marker (16/AUG) (JRC)
6470	SXA	Ny Spata Akis 0344 CW V marker. Poor keying (23/AUG) (JRC)
6483	PBB	NL Navy Den Helder 1541 RTTY/75 CARB msg (20/JUL) (WP3)
6484		LP (E3) 1605 USB id 04242 //7755 10426 (05/AUG) (DR1)
6485		LP (E3) 1600 USB 82534 callup //7755 10426 (22/JUL) (DR1) * 1600 USB id 82534 //7755 10426 (29/JUL) (DR1) * 1606 USB id 73110 //7755 10426 (19/AUG) (DR1) * 1700 USB 82534 callup //8464 (23/JUL) (DR1)
6491.4		BRAZILIAN NAVY? 0512 RTTY 50/R/170 Poor copy. Very occ words or zczc/nnnn controls (17/AUG) (DW)
6496.4	CFH	CF HALIFAX 0540 RTTY 75/700 Met tfc (17/AUG) (DW)
6498.8	CFH	CF HALIFAX 0523 FAX Weak image. Halifax test

chart, fading. Scheduled for 1515z but Mondays should be Broadcast schedule at this time. Spurious? Stronger transmission (now RTTY) from 6496.4 (17/AUG) (DW)

6507 Swedish Rhapsody (E23) 1258 USB preamble (20/AUG) (DR1) * 1000 USB In progress (06/AUG) (DR1)

6510 UNID 0710 CW s/off just after tuning, no id (??/???) (BVR)

6520 M3 0700 ??? 010/00 (18/AUG) (GD2)

6569 M29 1900 ??? Usual call (03/AUG) (GD2) * 1900 ??? Usual call. New message 13x5F (17/AUG) (GD2)

6628 ? 900 0436 USB posrpt to sm, s/c ck HM-FJ on 5598 info anyWUN ? (??/???) (JRU)

TAP 311 >0428 USB posrpt to sm (18/AUG) (JRU)

TAP 359 >0453 USB posrpt to sm (18/AUG) (JRU)

ALITALIA 668 >0431 USB gets msg that unable due to tfc (18/AUG) (JRU)

IBERIA 6112 >0429 USB posrpt to sm (18/AUG) (JRU)

KLM 0718 >0409 USB posrpt (10/AUG) (JRU)

LIBERTY 800 >0427 USB posrpt to santa maria (18/AUG) (JRU)

SPANAIR 138 >0432 USB posrpt to sm (18/AUG) (JRU)

6658 MIW2 Mossad (E10a) 2315 AM id MIW2 (16/AUG) (DR1)

6675 M17 1900 ??? 58472 24 (04/AUG) (GD2)

6676 BANGKOK VOLMET 1142 USB (tent); quite weak, but better than //11387 (15 AUG) (AR3)

6695 Backward Music station 2255 ??? very strong (+20 db) (18/JUL) (AB) * UNID Backwards music?? (??/???) (BVR)

6697 DRIE ???? ??? wkg MKL (28/JUL) (AN)

J3N >???? ??? wkg MKL (27/JUL) (AN)

K7V >???? ??? (RAF Nimrod) w/MKL (07/AUG) (AN)

6702 UNID 0700 ??? 75.1bd 840hz no acf / acf 64 (??/???) (BVR)

6724 UNID 1820 ??? 149.8bd 818hz no acf (??/???) (BVR)

6727 MAGIC 58 ???? ??? wkg JWT (27/JUL) (AN)

6728 MAGIC 70 ???? ??? wkg DHN66 (27/JUL) (AN)

NATO 12 >???? ??? (E-3) w/DHN66 (03/AUG) (AN)

6730 Andrews AFB 2057 USB wkg SAM 300 re DSN# for pp (16/AUG) (JH2)

N3U >???? ??? wkg DHJ59 (29/JUL) (AN)

6731 SAM 972 ???? ??? wkg ANDY (17/JUL) (AN)

6736 M14 2000 ??? Call missed 196 29 186 29 (05/AUG) (GD2)

6737 M14 2000 ??? 825 R4 196 196 29 29 (19/AUG) (GD2)

6745 KPA2 MOSSAD (E10) 1718 USB (31/JUL) (JRU) * 2315 AM (16/AUG) (DR1) * 1718 USB (31/JUL) (JRU) * 1719 AM (13/AUG) (JRU)

6748 UNID 1803 USB OM in italian, ends with affirmativo, then out. info anyWUN ? (13/AUG) (JRU)

6749 M29 1700 ??? Usual call. Message U/R. QRM (17/AUG) (GD2)

6750 M29 1700 ??? Usual call. New Message 14x5F (03/AUG) (GD2)

>M7 1700 ??? Call missed 18 18 43 43 000 (18/AUG) (GD2)

6753 Backward Music station 2256 ??? strong but weaker than 6695 kHz (18/JUL) (AB)

>UNID 0658 ??? 75.0bd 750hz acf 64 (??/???) (BVR)

6754 CANFORCE Volmet 0725 USB w/aviation wx (30/Aug) (DW2)

6759 UNID 0657 ??? 75.0bd 848hz no acf (??/???) (BVR) * 1814 ??? 75bd 840hz acf 64 (??/???)

(BVR)
6760 RESCUE 193 ???? ??? (RAF Helo) w/Kinloss RCC (06/AUG) (AN)
6768 Atencion stn (V2) 0100 three 5-FIG group preamble (01/AUG) (BR) * 0100 ??? Atencion barely audible due to faulty transmitter (01/AUG) (JM4) * 0100 ??? Atencion YL/SS rptg "A 68351 95041 15113" and into 5FG (15/AUG) (JM4)
6780 M1 0700 ??? 025 R4 482 482 30 30 (02/AUG) (GD2) * 0700 ??? 025 R5 207 207 49 49 (16/AUG) (GD2) * 0700 CW 025 (R4) 66331 46 +5FG (19/JUL) (AB) * 0700 CW 025 036 036 42 42 etc (26/JUL) (AB)
6782 M12 1600 ??? 749x3 000 (02/AUG) (GD2) * 1600 ??? 749x3 000 (06/AUG) (GD2) * 1600 ??? 749x3 000 (07/AUG) (GD2) * 1600 ??? 749x3 000 (08/AUG) (GD2) * 1600 ??? 749x3 000 (16/AUG) (GD2) * 1600 ??? 749x3 000 (20/AUG) (GD2) * 1600 ??? 749x3 000 (21/AUG) (GD2) * 1600 ??? 749x3 000 (22/AUG) (GD2) * 1600 ??? 749x3 1 1248 144 1248 144 (19/AUG) (GD2) * 1600 ??? 749x3 1 1635 148 1635 148 (04/AUG) (GD2) * 1600 ??? 749x3 1 1748 140 1748 140 (18/AUG) (GD2) * 1600 ??? 749x3 1 2372 144 2372 144 (05/AUG) (GD2) * 1600 ??? 749x3 1. Rest unreadable (17/AUG) (GD2)
>V2 Atencion 0300 ??? Noticed something like an intermittent RTTY transmission buried beneath the voice (14/AUG) (JL1) * 0300 ??? YL/SS rptg "A 38049 25002 33583" and into 5FG. Usual //13564 wasn't heard. (07/AUG) (JM4) * 0300 AM YL/SS rptg "A 38049 52012 58303". Only the second time I've seen V2 a running parallel - unknown if mixing error //13564 (17/JUL) (JM4)
6783 M12 0710 ??? 731x3 000 (16/AUG) (GD2)
6785 AJE ???? ??? wkg PONCHO w/ data traffic coord (19/JUL) (AN)
6786 V2 Atencion 0600 YL/SS rptg "Atencion..." once, then no audio. Gave up on it at :10 (12/AUG) (JM4)
6787 M8 0700 ??? 06163 61653 82122 (03/AUG) (GD2) * 0700 ??? 28983 69281 86701 (17/AUG) (GD2) * 0700 ??? 80371 43191 82123 (04/AUG) (GD2) * 0700 ??? 84883 84551 18761 (08/AUG) (GD2) * 0800 ??? 15236 4153 81271 (20/AUG) (GD2) * 0800 ??? 54162 90901 61410 (03/AUG) (GD2) * 0800 ??? 84881 71312 87682 (06/AUG) (GD2) *
6797 M8 0700 ??? 07541 44152 81272 (21/AUG) (GD2) * 0700 ??? 15261 69282 86702 (18/AUG) (GD2) * 0700 ??? 84882 71313 87683 (07/AUG) (GD2) * 0800 ??? 06162 61652 82127 (02/AUG) (GD2) * 0800 ??? 28982 93393 31743 (16/AUG) (GD2) * 0800 CW DUUUA UDNMN ATWRN == +5LG (cut numbers) (19/JUL) (AB)
>UNID 0454 ??? Nice loud "whale sounds," very spooky, first whales heard in L.A. since 1994 on 4 meg (11/AUG) (HS2)
>V2 Atencion 0200 ??? 5FG, weak signal overall Ended at 0256 with three "final" (02/AUG) (JL1)
6815 ICI ???? ??? w/ICI 01 (06/AUG) (AN)
6816.7 MFA Cairo? 1657 ARQ 100/??? selcalling oovy, constant carrier between bursts (??/???) (BVR)
6819 M? 1800 ??? 111 111 111 000 (19/AUG) (GD2)
6825 M8 0700 ??? 28982 93393 31743 (16/AUG) (GD2)

		* 0800 ??? 15262 69283 86703 (19/AUG) (GD2) * 0800 ??? 30372 71311 87681 (05/AUG) (GD2) * Cut no's stn 0200 CW very loud, callup for "TIRMA" (11/AUG) (HS2) * Cut no's stn 1200 CW (16/JUL) (BR) * 1200 CW (23/JUL) (BR)
6826		V2 Atencion 0300 ??? (05/AUG) (BR) * 0300 ??? 5FG, ended with three "final" (05/AUG) (JL1) * 0300 ??? YL/SS 5FG in progress (03/AUG) (JM4) * 0300 ??? YL/SS 5FG in progress (12/AUG) (JM4) * 0300 ??? YL/SS rptg "A 25003 55913 24961" and into 5FG (10/AUG) (JM4) * 0300 ??? YL/SS rptg "A 38049 05512 25001" and into 5FG (05/AUG) (JM4)
6830	JYF9	PETRA Amman 1638 RTTY 50/400 nx/AA (19/AUG) (RH2) * 1559 RTTY 50/400 Press in Arabic (ATU70) then idle (23/AUG) (DW)
6840		Mossad (E10) 1740 AM In progress (22/JUL) (DR1)
	EZI	MOSSAD (E10) 1601 AM (02/AUG) (JRU) * 1700 ??? (31/JUL) (HFD) * 1700 AM (23/JUL) (DR1) * 1700 AM group 111 (21/AUG) (DR1) * 2003 USB? (26/JUL) (DR1) * 2130 AM (03/AUG) (DR1) * 1601 AM msg. (2/AUG) (JRU) * 1700 AM 249 65 and into 5fg msg (23/JUL) (JRU)
	EZI2	>Mossad (E10) 2202 ??? changed from ULX2 to EZI2 until 2204. No message follows (19/JUL) (VM1) * 2101 USB //9130 (24/JUL) (DR1) * 2201 AM (30/JUL) (DR1) * 2202 AM (22/JUL) (DR1)
	ULX2	>MOSSAD (E10) 2200 ??? (19/JUL) (VM1)
6844.5	FDC	FAF Metz 1529 CW vvv vvv vvv de fdc ar (20/JUL) (WP3)
6852		M14 2000 ??? 631 R4 196 196 29 29 (06/AUG) (GD2)
	V5G	>MFA Sofia, BUL 1800 CW V5G V5G OP F55 SR QSP FOR ALL = QSP RR ALL GE NW HER QRU ALL = V5G ... = 73/88 (17/AUG) (ALF)
		>UNID Rou diplo 1810 ROU-FEC 164/??? online encrypted bitmask 24 s/off at 18.10 started CW tfc (??/???) (BVR)
6854		M8 0800 ??? 80742 16081 75871 (06/AUG) (GD2)
6855		M12 1800 ??? 658x3 1 1748 140 1748 140 (18/AUG) (GD2) * 1800 ??? 658x3 1 4028 141 4028 141 (03/AUG) (GD2) * 1800 ??? 658x3 1 6023 147 6023 147 (17/AUG) (GD2)
6865	BOOKSHELF 01	???? ??? w/TRACKER, BOOKSHELF Ops (05/AUG) (AN) * ???? ??? wkg BOOKHELF Ops (22/JUL) (AN)
6871	HEP7	1618 CW vvv vvv vvv de hep7 hep7 hep7 ar (16/JUL) (WP3)
6882	SNN	MFA Warsaw 1752 POL-ARQ 100/??? idle (??/???) (BVR)
6889.2		RUS Navy 1901 36-50 50/180 Unable decode (04/SEP) (RH2) * 1901 36-50 50/180 Unable decode (4/SEP) (RH2) * 1901 36-50 50/180 Unable decode (04/SEP) (RH2)
6892		UNID 1701 ??? 75/180 Unable decode. 36-50 mode heard here before (10/SEP) (RH2) * UNID 1803 ??? 75bd 188hz no acf (??/???) (BVR) [see log above - LOGS]
6896.5		UNID 1744 ??? 49.98bd 850hz no acf (??/???) (BVR) * 1800 ??? 50bd/850hz no acf (??/???) (BVR)
6900		LP (E3) 2000 USB 89125 callup //10426 11545 (25/JUL) (DR1) * 2000 USB id 51114 //10426 11545 (22/AUG) (DR1) * 2005 USB id 10809 //10426 11545 (08/AUG) (DR1) * 2009 USB id 10809 //10426 11545 (01/AUG) (DR1) * 2000 USB Id 89125 (25/JUL) (AB)
6920		M8 0700 15263 44151 81271 (20/AUG) (GD2) *

0700 84881 71312 87682 (06/AUG) (GD2) * 0800 28983 69281 86701 (17/AUG) (GD2)

6924.6 UNID 1535 81-81 (20/JUL) (WP3)

6933 M8 0800 12081 23461 87273 (22/AUG) (GD2) * 0800 15261 69282 86702 (18/AUG) (GD2) * 0800 84882 71313 87683 (07/AUG) (GD2)

6934 M12 2000 ??? 658x3 1 1238 144 1238 144 (19/AUG) (GD2) * 2000 ??? 658x3 1 2372 144 2372 144 (05/AUG) (GD2) * 2010 CW 658 4383 148 + 5FG 000 000 (25/JUL) (AB)

>M8 0800 ??? 84883 84551 18761 (08/AUG) (GD2)

6940 UNID 0650 ??? 75.05bd 850hz no acf (??/???) (BVR)

6947 M51 0800 ??? NR 79 Ended 0830 (03/AUG) (GD2)

6959 LINCOLNSHIRE POACHER (E3) 1900 USB ID: 44340, //9251, 11545 (??/???) (JRU) * LP (E3) 1700 USB id 77350 //8464 11545 (17/AUG) (DR1) * 1700 USB id 99843 //8464 11545 (27/JUL) (DR1) * 1708 USB id 41836 //8464 11545 (03/AUG) (DR1) * 1800 USB 61235 callup //9251 11545 (22/JUL) (DR1) * 1800 USB id 61235 //9251 11545 (29/JUL) (DR1) * 1805 USB id 10118 //9251 11545 (19/AUG) (DR1) * 1900 USB 71416 callup //9251 11545 (23/JUL) (DR1) * 1900 USB id 30394 //9251 11545 (16/AUG) (DR1) * 1900 USB id 44340 //9251 11545 (06/AUG) (DR1) * 1900 USB ID 44340, // 9251, 11545 (??/???) (JRU) * 1900 USB id 71416 //9251 11545 (26/JUL) (DR1) * 1902 USB id 71416 //9251 11545 (28/JUL) (DR1) * 1906 USB id 30394 //9251 11545 (20/AUG) (DR1) * 1907 USB id 44340 //9251 11545 (02/AUG) (DR1) * 1928 USB In progress //9251 11545 (04/AUG) (DR1) * 2000 USB 61235 callup //9251 11545 (23/JUL) (DR1) * 2000 USB 71416 callup //9251 11545 (22/JUL) (DR1) * 2000 USB id 26079 //9251 11545 (26/JUL) (DR1) * 2000 USB id 30394 //9251 11545 (17/AUG) (DR1) * 2000 USB id 30394 //9251 11545 (21/AUG) (DR1) * 2000 USB id 44340 //9251 11545 (03/AUG) (DR1) * 2000 USB id 71416 //9251 11545 (27/JUL) (DR1) * 2001 USB id 47178 //9251 11545 (06/AUG) (DR1) * 2004 USB id 84176 //9251 11545 (02/AUG) (DR1) * 2005 USB id 09807 //9251 11545 (16/AUG) (DR1) * 2007 USB id 10118 //9251 11545 (20/AUG) (DR1) * 2009 USB 71416 callup //9251 11545 (24/JUL) (DR1) * 2009 USB id 71416 //9251 11545 (29/JUL) (DR1) * 2033 USB In progress //9251 11545 (07/AUG) (DR1) * 2035 USB In progress //9251 11545 (31/JUL) (DR1) * 2100 USB 71416 callup //9251 11545 (25/JUL) (DR1) * 2100 USB id 26079 //9251 11545 (27/JUL) (DR1) * 2100 USB id 30394 //9251 11545 (22/AUG) (DR1) * 2102 USB id 097807 //9251 11545 (17/AUG) (DR1) * 2102 USB id 61235 //9251 11545 (31/JUL) (DR1) * 2106 USB id 47178 //9251 11545 (07/AUG) (DR1) * 2107 USB 61235 callup //9251 11545 (24/JUL) (DR1) * 2108 USB id 44340 //9251 11545 (08/AUG) (DR1) * 2110 USB In progress //9251 11545 (01/AUG) (DR1) * 2200 USB 26079 callup //9251 11545 (21/JUL) (DR1) * 2200 USB 61235 callup //9251 11545 (25/JUL) (DR1) * 2200 USB id 10118 //9251 11545 (22/AUG) (DR1) * 2203 USB id 26079 //9251 11545 (28/JUL) (DR1) * 2204 USB id 60269

		//10426 11545 (17/AUG) (DR1) * 2205 USB id 75506 //10426 11545 (27/JUL) (DR1) * 2206 USB id 47178 //9251 11545 (08/AUG) (DR1) * 2206 USB id 94454 //10426 11545 (03/AUG) (DR1) * 2207 USB id 47178 //9251 11545 (01/AUG) (DR1) * 2209 USB id 84176 //9251 11545 (04/AUG) (DR1)
6966	MVU	RAF Volmet, G 0724 USB Meteo (18/AUG) (ANE)
	YMB20	>Bandirma Meteo, TUR 0655 CW V-marker (18/AUG) (ANE)
6971.8	YOG59	Rompress Bucharest 1645 RTTY 50/500 Nx\EE. Good sigs! (10/SEP) (RH2)
6972	YOG59	Rompres Bukarest 1542 RTTY/50 NNNN K_ZCZC ROM0099 4 N 0000 check nil francais... ROMPRES 011823 0898 GMT 15 23 NNNN (01/AUG) (WP3)
6974.8		UNID 1755 RTTY 50bd 195hz acf 15 (also one major spike on 1) online encryptionmgs stops/ ends with zzzzzzzzzzz (??/???) (BVR)
6977	FDG	FAF Bordeaux 0627 RTTY 50bd 400hz acf 16 testing at 06.32 s/off (??/???) (BVR)
6980		V2 Atencion 0205 AM YL/SS/5FG 35049 35049 35049 35049 then at 0234: 44912 44912 44912 44912 ended xmsn at 0247 with Final Final Final (14/AUG) (CC1)
6982		M8 Cut no's stn 1200 CW with DRTNN DRDTN IDUID (27/JUL) (BR)
6983		M8 Cut no's stn 0700 ??? 15262 69283 86703 (19/AUG) (GD2)
		>V2 Atencion 0200 ??? 5 FG. End with three "final" at 0245 (14/AUG) (JL1) * 0200 ??? SS/ YL/5FG Short pause in the middle of the transmission, ended at 0244 with three "finals" (31/JUL) (JL1)
6985		M8 0700 ??? 30372 71311 87681 (05/AUG) (GD2)
6992		UNID 1755 ARQ 100/??? beta (??/???) (BVR)
6999		M23 1000 ??? 00000 R3 = 26 26 = (18/AUG) (GD2) * 1000 ??? 00000 R3 = 28 28 = (19/AUG) (GD2) * 1000 ??? 00000 R3 = 28 28 = (20/AUG) (GD2) * 1000 ??? 00000 R3 = 37 37 = (21/AUG) (GD2)
7256		M3 1625 ??? VVV = = 000. Test Call (05/AUG) (GD2) * 1630 ??? 287/00 (02/AUG) (GD2) * 1630 ??? 287/00 (03/AUG) (GD2) * 1630 ??? 287/00 (04/AUG) (GD2) * 1630 ??? 287/00 (05/AUG) (GD2) * 1630 ??? 287/00 (06/AUG) (GD2) * 1630 ??? 287/00 (07/AUG) (GD2) * 1630 ??? 287/00 (08/AUG) (GD2) * 1630 ??? 287/00 (16/AUG) (GD2) * 1630 ??? 287/00 (17/AUG) (GD2) * 1630 ??? 287/00 (18/AUG) (GD2) * 1630 ??? 287/00 (19/AUG) (GD2) * 1630 ??? 287/00 (20/AUG) (GD2) * 1630 ??? 287/00 (21/AUG) (GD2) * 1630 ??? 287/00 (22/AUG) (GD2) * 1630 CW 287/00 000 (28/JUL) (AB)
7322	ULX	Mossad (E10) 1930 ??? gr 29 (29/JUL) (HFD)
7337		LP (E3) 1800 USB id 88509 //9251 12603 (17/AUG) (DR1) * 1801 USB id 00180 //9251 12603 (16/AUG) (DR1) * 1801 USB id 73233 //9251 12603 (03/AUG) (DR1) * 1803 USB id 28290 //9251 12603 (26/JUL) (DR1) * 1805 USB id 41014 //9251 12603 (02/AUG) (DR1) * 1805 USB id 47658 //9251 12603 (27/JUL) (DR1) * 1900 USB id 00180 //9251 12603 (17/AUG) (DR1) * 1905 USB id 28290 //9251 12603 (27/JUL) (DR1) * 1906 USB id 41014 //9251 12603 (03/AUG) (DR1) * 2000 USB id 47658 //9251 12603 (28/JUL) (DR1) * 2002 USB id 73233 //9251 12603 (04/AUG) (DR1) * 2030 USB In

		progress //9251 12603 (21/JUL) (DR1) * 2100 USB 28290 callup //9251 12603 (21/JUL) (DR1) * 2100 USB 47658 callup //9251 12603 (22/JUL) (DR1) * 2102 USB id 28290 //9251 12603 (28/JUL) (DR1) * 2102 USB id 41014 //9251 12603 (04/AUG) (DR1) * 2106 USB id 47658 //9251 12603 (29/JUL) (DR1) * 2108 USB id 88509 //9251 12603 (19/AUG) (DR1) * 2200 USB id 88509 //9251 12603 (20/AUG) (DR1) * 2203 USB 28290 callup //9251 12603 (22/JUL) (DR1) * 2203 USB 47658 callup //9251 12603 (23/JUL) (DR1) * 2203 USB id 28290 //9251 12603 (29/JUL) (DR1) * 2203 USB id 41014 //9251 12603 (05/AUG) (DR1) * 2204 USB id 73233 //9251 12603 (06/AUG) (DR1) * 2205 USB id 00180 //9251 12603 (19/AUG) (DR1)
7425		M17 0800 ??? 53263 25 (05/AUG) (GD2)
7482		SPANISH LADY (V2) 0444 AM in progress (02/JUL) (SD)
7499		Cherry Ripe (E4) 2305 USB id 70365 (09/AUG) (DR1)
7529		RUSSIAN MAN (S7) 0500 AM callup 549 549 549 1 id 248 72 heavily QRMed by VLT School of Distance Education, Charters Towers on 7530 (06/AUG) (SD) * 0500 AM 549 549 549 1 (R5) 248 72 248 72 5FG 000 000 (06/AUG) (AB)
7540	JSR	MOSSAD NO. STN (E10) 1603 AM msg. (2/AUG) (JRU)
7555		V2 Atencion 0300 ??? YL/SS rptg "A 05901 82153 59803" and into 5FG. (16/AUG) (JM4) * 0300 ??? YL/SS rptg "A 38049 53232 20562" and into 5FG. (19/JUL) (JM4)
7580		M8 1000 ??? 61012 83762 28432 (06/AUG) (GD2)
7583		V2 Atencion 0226 ??? In progress, 5FG. Ended at 0244UTC with three "final". Carrier off at 0258 (05/AUG) (JL1) * UNID 0236 AM (in 5 fig tfc - Female - SS - Wed) (??/???) (LBJ)
7590	Rinas Logistico	ITALIAN CONTIGENT, ItAF Tirana, ALB 1150 RTTY 50/850 tfc AIR CELL RINAS LOGISTICO abt pje by greek CH-47 20/8/98 (19/AUG) (ANE) * 0900 USB Traffic with "Brize Control" (20/AUG) (ANE) * 0900 USB Traffic with "Brize Control" (20/AUG) (ANE)
7614	RFFH	FF MARSEILLE? 2210 ARQ-E 192/170 8rc. Bets, no tfc. ID assumed (23/Aug) (DW)
7614.2	UNID	1521 ARQ-E/192 idle (16/JUL) (WP3)
7640		The English Man (E6) 0400 ??? (hermaphrodite voice) OM/YL/EE rptg "534" until 0404, then "820 820 67 67" and into 67 5FGx2. Down at :16 w/"820 820 67 67 00000". Usual +60db signal (18/JUL) (JM4) * 0400 ??? (hermaphrodite voice) OM/YL/EE rptg "534"w/repeat of prior nights broadcast. Was up at 0347 w/test tones and tape test. +60db again (19/JUL) (JM4)
7642.7	RFFTA	1657 ARQ-M2/200 nnnnvzczcbva078 (26/JUL) (WP3)
7648		M3 1200 ??? 741/00 (18/AUG) (GD2)
7649		M3 1200 ??? 741/00 (04/AUG) (GD2)
7657		M12 1620 ??? 749x3 1 4028 141 4028 141 (03/AUG) (GD2) * 1620 ??? 749x3 1 R8 6073 147 6073 147 (17/AUG) (GD2)
7674	HBD20	MFA Bern 1544 ARQ 5l tfc to ? (16/JUL) (WP3)
7680		M8 0400 CW Cut # stn, very loud, callups UDIGN NTNAD AMMAN," signed "AR AR AR SK SK SK" at 0436 (11/AUG) (HS2) * 0800 ??? 02093 58132 65812 (22/AUG) (GD2) * 0800 ??? 97081 12033 75873 (08/AUG) (GD2)

7716		UNID 1521 ARQ-E/192 idle (16/JUL) (WP3)
7722		UNID 0610 LSB OM/UNID language (Tagalog?) w/one side of duplex comms (20/Aug) (DW2)
7726		V2 Atencion 0500 ??? YL/SS 5FG in progress (12/AUG) (JM4)
7734		V2 Atencion 0400 ??? (old version) YL/SS rptg "A _8_ 02" then "02 89" and into 5FG. Two final, then "584 02" and "02 49" and into 5FG Down w/two final. "General Quarters" type siren on for over an hour prior to broadcast, which quit upon tape being played at 0300 (17/JUL) (JM4) * 0400 ??? (old version) YL/SS rptg "A 584 03" and "03 51" into 5FG (07/AUG) (JM4) * 0400 ??? single 3/2 group preamble with much distortion and lots of hum (07/AUG) (BR)
7755		LP (E3) 1405 USB id 82534 //8464//10426 (28/JUL) (DR1) * 1500 USB id 73110 //8464 10426 (18/AUG) (DR1) * 1505 USB id 04242 //8464//10426 (04/AUG) (DR1) * 1520 USB In progress //10426 (21/JUL) (DR1)
7786		Spanish lady (V2) 2312 ??? SS/YL 5FG in progress. Ends with two "Final" at 2315 (06/AUG) (VM1)
7790	Sasso	ItAF Martina Franca 1249 USB clg "Rinas" ItAF detach. at Tirana, ALB for NATO exercise (17/AUG) (ANE)
7795		M23 0930 ??? 228 R4 = 47 47 = (18/AUG) (GD2) * 0930 ??? 284 R3 = 68 68 = (21/AUG) (GD2) * 0930 ??? 428 R4 = 70 70 = (19/AUG) (GD2) * 0930 ??? 884 R4 = 70 70 = # (20/AUG) (GD2) * 1500 ??? 246 R4 = 57 57 = (21/AUG) (GD2) * 1500 ??? 264 R2 = 59 59 = (18/AUG) (GD2) * 1500 ??? 264 R3 = 59 59 =. Repeat (04/AUG) (GD2) * 1500 ??? 284 R5 = 68 68 =. New message to new ID (03/AUG) (GD2) * 1500 ??? 428 R3. New ID = 70 70 = Starting new message (05/AUG) (GD2) * 1500 ??? 484 R3 = 63 63 = Repeat of 29/4 6/5 13/5 20/5 27/5 10/6 19/6 1/7 14/7 22/7 29/7 (17/AUG) (GD2) * 1500 ??? 486 R3 = 54 54 = Repeat # 12 (20/AUG) (GD2) * 1500 ??? 664 R3 = 60 60 = (19/AUG) (GD2) * 1500 ??? 884 R3 New ID = 70 70 = New message (06/AUG) (GD2)
7822.2	RFFA	MOD Paris 2155 ARQ-E3 ZIC/ZID msg to RFFVAE Dhahran (no ccts shown & repeated @ 2315) to 5lgs for RFFVAE & RFFVAEA Alysse on cct FDX (11/AUG) (ML2)
7840		Fife Free (E18) 2145 ??? Same message as sent on previous day (13/AUG) (VM1) * 2151 USB YL/EE 5 FG in progress repeating broadcast of 21:00. Ended at 22:09 (12/AUG) (VM1)
7846		M8 Cut no's stn 1100 CW (15/JUL) (BR)
7858		Two-letter German (G16) 2140 USB YL/GG 3/2 FG in progress (13/AUG) (VM1)
7887		V2 0200 ??? Atencion YL/SS rptg "A 38049 82152 59802" and into 5FG (09/AUG) (JM4) * 0204 ??? SS/YL/5FG ended at 0246. Came in after beginning so I cant' give you the header, ended with three zeros though (??/???) (JL1) * 0200 ??? Faded beyond readability shortly after start of transmission. (09/AUG) (JL1)
7887.5		M8 0100 CW ANDUWRIGMT 5F/L/G in progress (28/JUL) (JM4)
7917	FDE14	1516 CW vvv vvv vvv fde14 fde14 fde14 ar (16/JUL) (WP3)
7918		Mossad 0200 ??? YL/EE 5LG in progress

		(29/JUL) (JM4)
	YHF	>Mossad 0200 ??? YL/EE 5LG (08/AUG) (JM4) * 0200 ??? YL/EE 5LG (10/AUG) (JM4) * 0200 ??? YL/EE 5LG (11/AUG) (JM4) * 0200 ??? YL/EE 5LG (12/AUG) (JM4) * 0200 ??? YL/EE 5LG (14/JUL) (JM4) * 0200 ??? YL/EE 5LG (15/AUG) (JM4) * 0200 ??? YL/EE 5LG (18/JUL) (JM4) * 0200 ??? YL/EE 5LG (28/JUL) (JM4) * 0200 ??? YL/EE 5LG (30/JUL) (JM4) * 1804 AM groups 52 //5820 (23/JUL) (JRU)
7919	JGO 86	???? ??? w/METAPHORE (04/AUG) (AN)
7940		English Man (E6) 2205 AM In progress ended 710 710 99 99 00000 (09/AUG) (DR1)
7951.4	WHW462	PIN OAK NEWJERSEY 2243 CW Occasional marker, short data burst followed by cw ID "WHW462". rt qrm. Goes into reported qso with reported (unable decode) Pactor II, simplex. QSO ends with cw ID (12/Sep) (DW)
8025		Fife Free (E18) 2100 USB YL/EE "307" (R5) then: "number 128 groups 60" and into 5 FG. Ended at 2124 with 000 (12/AUG) (VM1)
8036		UNID 0323 PICC unable to synch (1/Aug) (DW2)
8063		Two-letter German (G16) 2139 ??? YL/GG 3/2FG in progress. "Ende" at 21:44 (10/AUG) (VM1)
8065.5		M8 0500 CW ANDUWRIGMT 5F/L/G (12/AUG) (JM4)
8067		M8 cut no's stn 1100 CW (15/JUL) (BR) * 1000 ??? 33171 58692 99023 (03/AUG) (GD2)
8116		M12 2100 ??? 521x3 1 6137 139 6137 139 (05/AUG) (GD2) * 2100 ??? 521x3 1 837 61 837 61 (19/AUG) (GD2)
8122		Counting Station (E5) 2207 AM id 103 strong signal (29/AUG) (DR1)
8124	CIO2	Mossad (E10a) 1848 AM (23/JUL) (DR1)
8125		Counting Station 2201 USB id 103 count 122 //10423 (19/AUG) (DR1) * 2205 USB id 103 count 122 //10423 (16/AUG) (DR1)
8126		RUSSIAN MAN (S7) 0500 ??? callup 138 138 138 1 id 248 72 (30/JUN) (SD)
8127	CIO2	Mossad 0150 USB Female EE 0150 (??/???) (LBJ)
8137.5	7QZ	Lilongwe Air 1648 RTTY 50/400 Wx for SA airports (1/Sep) (RH2)
8146	IMB	Rome Meteo 0517 FAX 120/576 w/chart. Weak w/moderate fading but readable at times (18/Aug) (DW2)
8150.4	PBB	DN DEN HELDER 1846 RTTY 75/850 CARB. Space tone keying is faulty. Decoded using OOK of mark tone at centre freq, or FEK with decode of mark only (2/Sep) (DW)
8166		RUSSIAN MAN (S7) 0500 AM callup 131 131 131 1 id 248 72 (14/JUL) (SD) * 0500 ??? ends "000 000" 131 131 131 1 (30/JUL) (HFD)
8167		Russian Man (S7), RUS 0500 AM 131 131 131 1 248 72 248 72 5FG 000 000 (30/JUL) (AB)
8176.2	FZS63	St. Denis Meteo 1557 RTTY 75/400 wx codes AAXX etc. Good sigs! (24/AUG) (RH2)
8188		Swedish Rhapsody (E23) 1159 USB preamble then into message (20/AUG) (DR1) * 1157 USB Strong signal (03/AUG) (DR1)
8191		M10 0710 ??? 555x3 661x3 26 423x3 18 (22/AUG) (GD2) * 0710 ??? 555x3 661x3 32 423x3 50 (08/AUG) (GD2) * 1810 ??? 555x3 661x3 32 423x3 50 (06/AUG) (GD2) * 1810 ??? 555x3 661x3 34 423x3 46 (02/AUG) (GD2) * 1810 CW 555 661 38 423 22 (26/JUL) (AB)
8231		M53 2000 ??? CQ 747.338 HR ?? (17/AUG) (GD2) * 2000 ??? CQ 747.428 HR 36 (18/AUG) (GD2) * 2000 ??? CQ 747.466 (19/AUG) (GD2) * 2000 ??? CQ 747.466 (20/AUG) (GD2) * 2000 ??? CQ 747

		759 HR 20 (04/AUG) (GD2) * 2000 ??? CQ 747 759 HR 20 (05/AUG) (GD2) * 2000 ??? CQ 747 835 HR 28 (02/AUG) (GD2) * 2000 ??? CQ 747 835 HR 28 (03/AUG) (GD2)
8257		UNID 0617 Jammer very narrow spot jammer (20/Aug) (DW2)
8300		V13 New Star Broadcasting 1300 ??? YL/CC 4FGx2 (17/AUG) (JM4)
8302.5	WHW462	PIN OAK NEWJERSEY 2238 CW Occasional marker, short data burst followed by cw ID "WHW462" (12/Sep) (DW)
8303	LOR	Ny Puerto Belgrano 0541 RTTY 75/170 5LG's to unkn (20/AUG) (RH2)
8303.5	LOR	ARG Navy Puerto Belgrano 0510 RTTY 75/170 w/ 5LGs (18/Aug) (DW2)
8307		M23 0800 ??? 579 R10 //9285 (02/AUG) (GD2) * 0800 ??? 579 R10 Repeat rest of Week //9285 (17/AUG) (GD2) * 1400 ??? 579 R10 //9285 (02/AUG) (GD2)
8338.5	WHW462	PIN OAK NEWJERSEY 2234 CW.Occasional marker, short data burst followed by cw ID "WHW462" (12/Sep) (DW)
8375		V13 New Star Broadcasting 1300 ??? YL/CC 4FGx2 (17/AUG) (JM4)
8416.5	NMC	CAMSPAC Pt Reyes, CA 0632 FEC Marine USCG svc tfc & HYDROPAC ref Ballon down 20-50S 159-19E (17/AUG) (RHB)
8424	WCC	Globe Wireless, Chatham Radio, MA 0627 ARQ Marine shore xmit ckt for 8384 rcpt for msg passed, then idle (17/AUG) (RHB)
8428.5	PCH46	SCHEVENINGEN RADIO 0915 FEC Traffic list (2/Sep) (DW)
8437	VCT	Tors Cove Radio, CAN 0921 ARQ/CW marker (19/AUG) (JRC)
8443		UNID 0556 RS-ARQ 240bd 8443.04. 8bit mode. On line encrypt. "a te per tra" ? then offair (17/AUG) (DW)
8444.5	KFS	Globe Wireless, Palo Alto Radio, CA, 0622 CW id tape (17/AUG) (RHB) *
8453	HWN	Paris Naval 0454 RTTY 75/700 w/call tape (1/Aug) (DW2)
8464		LP (E3) 1600 USB 75506 callup //12603 14487 (23/AUG) (DR1) * 1600 USB id 77350 //10426 11545 (16/AUG) (DR1) * 1600 USB id 94454 //12603 14487 (06/AUG) (DR1) * 1600 USB id 99843 //10426 11545 (26/JUL) (DR1) * 1603 USB id 66269 //12603 14487 (20/AUG) (DR1) * 1605 USB id 75506 //12603 14487 (30/JUL) (DR1) * 1606 USB id41836 //10426 11545 (02/AUG) (DR1)
8478.3	FUF	F Ny Fort de France, MRT 0617 RTTY 75/950 test tape "DE FUF" (17/AUG) (RHB)
8490	UJE	MOSCOW RADIO 1535 CW Fast morse, weak signal, difficult to copy (15/AUG) (DW)
8496	CLA	Havana Radio 0600 CW marker (17/AUG) (RHB)
8514	WLO	Mobile Radio, AL 0441 FEC Marine tropical met NWS Miami TTAA00 KNHC 170222z (17/AUG) (RHB)
8520	VIP	Perth Radio 0916 CW CQ marker (19/AUG) (JRC)
8522	CBV	Playa Ancha Zonal Radio, CHL 0415 CV marker "VVV DE CBV QSX 8 12 16 AND 22 MHZ K" (18/AUG) (JRC)
8551.5 (17/AUG)	CTP	CINCIBERLANT Oerias, POR 0423 CW marker (RHB)
8574	LGB	Rogaland Radio 0403 CW marker (17/AUG) (RHB)
8589	HPP	Panama Intermar Radio 0344 CW marker (17/AUG) (RHB)
8597	CKN	Canadian Forces COMOX Lazo, B.C. 0625 FAX 120/576 w/chart. Light fading. At 0632 into

		RTTY 75/645 w/wx tfc (20/Aug) (DW2)
8598	OXZ4	Lyngby Radio, DNK 0335 CW marker (17/AUG) (RHB)
8602	ZLO	Ny Irirangi, NZL 0914 CW V marker (19/AUG) (JRC)
8625	FUM	French Navy Papeete, Tahiti 0639 RTTY 75/731 w/calltape (20/Aug) (DW2)
8682	NMC	CAMSPAC Pt Reyes, CA, USA 0249 FAX 120/576 USCG met maps, weak, sig noisy (17/AUG) (RHB)
8691	UFM3	Nevelsk Radio, RUS 0903 CW mkr/tfc list "CQ CQ CQ DE UFM3 UFM3 QSS 2590/4345/8447" (19/AUG) (JRC)
8700	9AR	Rijeka Radio, HRV 0235 CW V marker (16/AUG) (JRC)
8716	Coastal Control	Royal Navy, UK 1528 USB radio check w/ UNID RN ship "GL" (duplex 8235.5) (30/AUG) (ANE)
8738	VNG	UNID 1139 Time sigs - VNG listed on 8638 (13/AUG) (JRC)
8855	Delta 104	0319 USB wkg Manaus, which was unheard here (10 AUG) (AR3)
8861		Dakar ATCC 0336 USB wkg UNID aircraft w/ selcal check: AN-RL (17/Aug) (DW2) * 0128 USB wkg Spar 67, position, FL 390 (13 AUG) (AR3)
8867		TAHITI 1108 USB wkg United 862, position; advised to call San Francisco next this freq (15 AUG) (AR3)
8885		LIMA RADIO LDOC 0358 USB wkg American 963, position (14/AUG) (AR3)
8891		BAFFIN 0406 USB wkg Lufthansa 459, position; advised to call Montreal next on 4675 (14 AUG) (AR3)
		>ICELAND 0323 USB wkg unid flight, SELCAL check (14 AUG) (AR3)
8906	BRITANNIA 043B	0441 USB posrpt to santa maria, s/c ck LM-?S (18/AUG) (JRU)
	CUBANA 478	>0449 USB gets a clearance after being called from new york (18/AUG) (JRU)
8927		BOYEROS LDOC 0102 USB wkg unid Cubana flight in SS (14/AUG) (AR3)
8930	AAR 551	(Asiana) 1712 USB enrt. Cologne-Istanbul, msg to company. FL 381. (31/JUL) (JRU)
	AFR 6720	>1521 USB onground Paris (missed airport), rdo ck., s/c ck EF-DK (F-GCBL, B747) (15/AUG) (JRU)
	AIR FRANCE 852	>0747 USB s/c ck JM-B? (1/AUG) (JRU)
	BISCAYNE 4068	>0712 USB enrt. MAN-PVK, eta 1008, s/cck DJ-BK (1/AUG) (JRU)
	COA 55	>1535 USB s/c ck GH-AE (16/AUG) (JRU)
	NORTHWEST 58	>0751 USB s/c ck GL-FH (1/AUG) (JRU)
	RYAN 330	>1507 USB enrt. egcc-lemg, wx for malaga, s/c ck RS-EG (15/AUG) (JRU)
	RYN 634	>1459 USB pp to company, s/c ck RS-EF (16/AUG) (JRU)
	SAS 973	>0812 USB s/c ck FL-DM with Stockholm R. (6/AUG) (JRU)
	SDJ	>Stockholm Radio 0236 USB Aero LDOC wkg "399" for posn report (17/AUG) (RHB)
	TOWER 731	>1427 USB clg. Stockholm R., no joy (9/AUG) (JRU)
	UNITED 955	>0739 USB s/c ck AR-EP negative, qsy'd to 11345 w/success (1/AUG) (JRU)
	WORLD MAW	>0711 USB wkg. Stockholm R. eta dtta 0657 (2/AUG) (JRU)
		>STOCKHOLM RADIO LDOC 0301 USB wkg Reach 13 out of Baltimore in lengthy QSO (14 AUG) (AR3)
8971	1CA	>???? ??? w/9TB (06/AUG) (AN)
	9DO	>2346 USB w/ SPANGLE 71E "in red" (14/AUG)

		(JH2)
	ARGOS	>???? ??? wkg SOUTH ROCK (24/JUL) (AN)
	BLUESTAR	>0420 USB in comms. w/ SCREWTOP 02 and 03 (E-2C Hawkeye), PHANTOM 10, and MIKE. Part of presumed aerial tracking exercise (15/AUG) (JH2)
	CLAW 02	>???? ??? wkg BLUESTAR (28/JUL) (AN)
	DAGGER 88	>???? ??? wkg OOP & M2J (21/JUL) (AN)
	HUNTER 01	>???? ??? (RAF Nimrod) w/BLUESTAR (06/AUG) (AN)
	HUNTER 02	>???? ??? (RAF Nimrod) w/BLUESTAR, TREETOP 2 (04/AUG) (AN)
	PELICAN 71F	>???? ??? wkg CARDFILE 71D, FACTOR 04 & M3N (22/JUL) (AN)
	T9E	>???? ??? wkg 3MG (29/JUL) (AN) *
8974		UNID: Spanish Military Net 1600 USB (17/AUG) (ALF)
8982	CG6038	???? ??? wkg CAMSLANT, qsy 5692 (17/JUL) (AN)
8983		CAMSLANT 1359 USB wkg 1716: USCG HC-130H7 and 2136: USCG HU-25A (4/Aug) (DW2)
	2118	>USCG HU-25B 1702 USB wkg CAMSLANT. "Request you contact group Corpus Christi and pass the information regarding the SAR" (13/Aug) (DW2)
	NMN	>USCG CAMSLANT Chesapeake, VA, USA 2335 USB wkg 2135 (12/AUG) (ALF)
	ROCKFISH 801	>US Customs Aircraft 1632 USB wkg CAMSPAC. From CAMSPAC: "Request you pass when you exit Mexican airspace" (13/Aug) (DW2)
	ROCKFISH 801	>US Customs Aircraft 2335 USB clg CAMSPAC. No joy. At 2339, wkg CAMSLANT w/"Request you accept my comms guard and that you notify CAMSPAC" (14/Aug) (DW2)
8992	Reach 24N1	2300 USB wkg Andrews with pp to HILDA WEST (14/AUG) (ALF)
	RESCUE 306	>???? ??? wkg Halifax RCC (20/JUL) (AN)
9007		UNID mil 0026 USB w/ANDVT (16/AUG) (JH2)
9022	DARKSTAR MIKE	USAF E-3 AWACS 1620 USB clg Trenton Military for signal check on "9007." Obviously, he's on the wrong frequency (12/Aug) (DW2)
9023	WALNUT	2213 USB clg UNID for radio check (18/Aug) (DW2)
9025	RESCUE 086	0049 USB wkg RECOMM via AF Townsville. Rescue 086 located wreckage posn 21.22S 158.51E - appears to be balloon; yellow liferaft and flotation devices on the surface no sign of Fossett; no response to radio calls (17/AUG) (AB3)
9031	MAGIC 87	???? ??? (RAF E-3) w/ARCHITECT (04/AUG) (AN)
9041	5YE	NAIROBI MET 0459 RTTY 100/R/850 Met tfc. Static, copy weak (12/Sep) (DW)
9045	5YE	Nairobi Meteo 1717 FAX 120/576 Lovely wx chart! Less clear on 17445.7 (13/AUG) (RH2)
9065	GYU	RN GIBRALTAR? 0504 VFT DCN 8 chan interleaved vft on usb (12/Sep) (DW)
9066.955	GYU	RN GIBRALTAR? 0507 ARQ-M2 96/340 4rc. 2chan tdm. Ch: A and B betas (12/Sep) (DW)
9082	GXQ	RN LONDON (GXQ) 1916 VFT DCN 8 chan interleaved vft on usb (21/Aug) (DW)
9082.595	GXQ	RN LONDON (GXQ) 1946 RTTY 50/340. Chan 1 in vft. Eng chan idle. 2018 some op chat cfm ID GXQ but mostly poor copy (21/Aug) (DW)
9082.765	GXQ	RN LONDON (GXQ) 1940 Chan 2 in vft. 75/340 7bit online encrypted (21/Aug) (DW)
9083.955	GXQ	RN LONDON (GXQ) 1920 ARQ-M2 96/340. Chan 5 in vft. 2 chan tdm. Virtually no sync due conditions (21/Aug) (DW)
9093.6		UNID 2106 ??? 100.1bd/850hz no acf (??/???)

(BVR)

9098.6 UNID 2107 ??? 150bd/840hz no acf (??/???) (BVR)

9102.7 UNID 2107 ??? 50bd 200hz s/off after 20 secs probably 36-50 could not measure acf (??/???) (BVR)

9117 UNID 1742 ??? 100.1bd 814hz no acf (??/???) (BVR) * 2110 ??? 100.2bd/848hz no acf (??/???) (BVR)

9130 Mossad (E10) 2134 ??? In progress (25/JUL) (DR1) * 1750 AM ongoing msg (JRU)

EZI >MOSSAD (E10) 1730 AM msg, groups 59, text. starts with wpmep ovcpi wglzg ... //6840 (02/AUG) (JRU) * 1904 AM groups 31, starts RSYZE BVVFE RNDUZ ... (02/AUG) (JRU) * 2100 USB (28/AUG) (DR1) * 2100 USB (31/JUL) (DR1) * 2101 AM (29/AUG) (DR1) * 2131 USB (27/JUL) (DR1) * 1730 AM msg, groups 59, text starts with wpmep ovcpi wglzg ... //6840 (2/AUG) (JRU) * 1904 AM msg, groups 31, starts RSYZE BVVFE RNDUZ ... (2/AUG) (JRU)

EZI2 >MOSSAD (E10) 1619 AM ongoing msg, msg ends, at 1625 male voice w/ca. 10 chars, then female mossad-voice repeated EZI2 (2x), tx remained on and at 1627 EZI2 was repeated 35 times (02/AUG) (JRU) * 1619 AM ongoing msg, msg ends, at 1625 OM w/ca. 10 chars, then YL repeating EZI2 twice, tx remained on, 1627 EZI2 repeated 35 times. (2/AUG) (JRU)

9153 V2 Atencion 0500 ??? YL/SS rptg "A 32313 83202 50882" and into 5FG (12/AUG) (JM4)

SNN299 >MFA Warschau 1527 POL-ARQ/100 tfc to bukareszt 5f best. cw (10/AUG) (WP3)

9154 M8 Cut # stn 0500 CW same msgs as 0400 (11/AUG) (HS2)

9226 HIGH PITCHED POLYTONE (XPH) 0600 AM (05/AUG) (SD) * 0600 ??? TONES (12/AUG) (AB)

9238 V2 Atencion 0606 AM in progress (01/JUL) (SD) * 0600 ??? YL/SS rptg "A 32313 83202 50882" and into 5FG (12/AUG) (JM4)

9241 M13 1900 ??? 261 R5 = 199 20 = (03/AUG) (GD2) * 2000 ??? 261 R5 = 199 20 = (03/AUG) (GD2)

9251 LINCOLNSHIRE POACHER (E3) 1800 USB ID: 41014 //7337 (2/AUG) (JRU) * 2200 USB Id 41014 (12/AUG) (AB) * 1825 USB heavily jammed by bubble jammer (??/???) (BVR)

9254 MKK RAF LONDON 0543 VFT 2 chan piccolo vft on usb (12/Sep) (DW)

9254.51 MKK RAF LONDON 0545 VFT Eng chan in vft. Standby. "MUH de MKK int zbz" "MUH de MKK rgrgr ub zbz 5555ers pal inteee cul k" (12/Sep) (DW)

9254.91 MKK RAF LONDON 0544 VFT 6 tone piccolo on line encrypted (12/Sep) (DW)

9259 427 UNID 2111 CW 427 (x3) TTT (Repeated - OTA 2115Z - Tue) (??/???) (LBJ)

9260 V2 Atencion 0159 ??? 5FG, started early 0206 two "final", "atencion", briefly into 3/2 FG, then into 5FG. Very fast pace. Two "final" at 0212 (12/AUG) (JL1) * 0200 ??? "Older woman" voice giving 5FG, at 0213 signal was gone, but carrier still present: carrier off at 0249 (05/AUG) (JL1) * 0200 ??? (old version) YL/SS rptg "A 61602" then "02 45" and into 5FG. Two final, then "616 02" and "02 45" and into 5FG. Down at :12 w/two final (12/AUG) (JM4) * 0200 ??? (old version) YL/SS rptg "A 61606" and "06 56" and into 5FG. Down at

		:09 w/no final (05/AUG) (JM4) * 0205 AM 616 01 (Cont'd) (Female - SS - Into 5 fig tfc at 0205 (??/???) (LBJ) * 0205 AM ATTENTION 616 01 (Cont'd) (Female - SS -Into 5 fig tfc at 0205Z - Wed) (??/???) (LBJ)
9262		Cherry Ripe (E4) ???? USB id 61902 //12056 16624 (27/JUL) (DR1) * 2200 USB id 61902 //12056 16624 (27/JUL) (DR1)
9263		CHERRY RIPE (E4) 1119 USB very weak and in progress (13/JUL) (SD) * 2200 USB 25514 call-up //12056 (23/JUL) (DR1)
9272		M3 0730 ??? 182/00 (18/AUG) (GD2) * 0800 ??? 624/00 (08/AUG) (GD2) * 0800 ??? 624/00 (22/AUG) (GD2)
9285		Backward Music station 2254 ??? weak signal (18/JUL) (AB) * XM 0300 ??? (17/JUL) (JM4) * XMU 0300 ??? (??/???) (JM4)
9291		UNID mil 0151 USB w/ANDVT (16/AUG) (JH2)
9319.9		UNID 1830 ??? 200.09bd 469hz no acf (??/???) (BVR)
9325		Two letter station (G16) 2050 ??? GG/YL in progress (05/AUG) (VM1)
9326		RUSSIAN MAN (S7) 0520 AM callup 138 138 138 1 id 248 72 (30/JUN) (SD)
9366		RUSSIAN MAN (S7) 0520 AM callup 131 131 131 1 id 248 72 (02/JUL) (SD) * 0520 AM callup 131 131 131 1 id 248 72 (14/JUL) (SD)
9367		Russian Man (S7), RUS 0520 AM Repeat of 0500 transmission (30/JUL) (AB)
9393		UNID 1107 VFT 3 channel FEC-A on usb. Channels 192bd/200hz online encrypted located +1190, +1870 and +2550 hz above suppressed carrier (25/Aug) (DW)
9427		G7 1800 ??? German Lady ends "000 000" (31/JUL) (???)
9429		RUSSIAN MAN (S7) 0520 AM callup 549 549 549 1 id 248 72 (04/AUG) (SD) * 0520 AM 549 549 549 1 (R5) 248 72 248 72 5FG 000 000 (06/AUG) (AB)
9435	JMJ3	Tokyo Meteo 0743 FAX 120/576 w/chart (30/Aug) (DW2)
9441		Polytone Stn XPH 0600 AM (15/JUL) (SD) * 0600 AM no msg (22/JUL) (JRU) * 0600 AM no msg. S9+10db (24/JUL) (JRU) * 0600 ??? TONES (29/JUL) (AB) * 0600 ??? TONES null message (24/JUL) (AB)
9454		M10 1710 ??? Call missed. 17 17 20 20 = = (07/AUG) (GD2)
9458.6	ZKLF	Auckland Meteo 0538 CW w/meteo tfc (18/Aug) (DW2)
9797	YOJ27	ROMPRES BUCHAREST 1001 RTTY 50/500 Press in French (25/AUG) (DW) * 0915 RTTY 50/500 Press in English (25/AUG) (DW) * 0940 RTTY 50/500 EE press. end of tnsmsn 0941. Marker "qra YOJ27 - frequency 9.797 kcs /rompres/ - Bucarest" and ry's/1a's. 0945 FF press 1030 end FF. Marker incorrectly using 12110kcs/ YOM21. EE press (2/Sep) (DW) * 1038 RTTY 50/ 500 Running incorrect marker "qra YOM21 - frequency 12,110 kcs /rompres/ - bucharest" with ry's/1a's" 1042 "This is rompres our newscasting daily from Bucharest 31.08.1998" then idle. 1047 EE press (31/Aug) (DW)
9916		XPH -Polytone station 2040 ??? TONES (11/AUG) (AB)
9950		M3 1300 ??? 183/00 (04/AUG) (GD2) * 1300 ??? 183/00 (18/AUG) (GD2)
9996	RWM	UNID 0209 CW VVV de RWM (To Time Signal at

		0210Z) (??/???) (LBJ)
10045.4	4XZ	IN HAIFA 1354 CW Listed/last logged 10046. Marker "vvv de 4XZ ==" (2/Sep) (DW)
10046	4XZ	ISR Navy, Haifa 0027 CW w/call tape (17/Aug) (DW2) * 1928 CW vvv de 4XZ (??/???) (MF3)
10072		Air India LDOC 1649 USB w/Air India 417 requesting wx. Shared with BA in London (??/???) (RP2)
10100.8	DDK	Hamburg Meteo 0106 RTTY 50/400 w/synoptic wx tfc and calltape listing frequencies (17/Aug) (DW2)
10103.7		UNID 1014 ARQ-E3/192 betas (11/AUG) (WP3)
10125		V6 0400 USB very weak. Possibly a cuban station - my antenna faces East/West (??/???) (MW1)
10132	TNL	ASECNA Brazzaville 1627 RTTY 50/337 Aero Wx (06/SEP) (RH2)
10160.5	DOR	MFA Sofia 1714 RTTY 75/400 nx/Bulgar. MNCY4 rpt several times; some sort of callsign? (1/SEP) (RH2)
10162.4	DOR	MFA Sofia 1652 RTTY 75/400 Can't understand the lingo! Suppose it was news! (14/AUG) (RH2)
10162.5	DOR	MFA Sofia 1653 RTTY75/380 Nx\Bulgar (01/Sep) (RH2)
10164		UNID 1044 81-81 (11/AUG) (WP3)
10177.7	RFFBBGB	Gendarm. Paris 0830 ARQ-E3/192 tfc to rflif VZCZCLFB204 PP RFLIF DE RFFBBGB 0003 2220738 ZNR UUUUU P 100738Z AOU 98 FM GENDARMERIE PARIS TO RFFECX/LEGENDMOBIL BORDEAUX (10/AUG) (WP3)
10192.5	DHJ59	GN WILHELMSHAVEN NET 1510 VFT 3 chan vft on usb from German ship followed by voices in German. VFT chans 75bd/170hz ACF64 (2/Sep) (DW)
10204	POSSIBLE	0043 USB clg NW01. NW01 req. return to Z175 and POSSIBLE to go secure, but POSSIBLE advises he cannot (15/AUG) (JH2)
10210	GXQ	RN LONDON? 1615 VFT DCN 8 chan interleaved vft on USB. Eng chan idle. Chan 3 and 5 active - remaining channels idle (2/Sep) (DW)
10211		UNID 0300 CW rapid 5FG w/long zeros. Down at :24 w/5 long zeros. M?? (18/JUL) (JM4)
10211.445	GXQ	RN LONDON? 1618 RTTY 75/340 Chan 3 in vft. 7bit online encrypted tfc (2/Sep) (DW)
10211.955	GXQ	RN LONDON? 1624 ARQ-M2 96/340 Chan 5 in vft. 2 chan tdm. Ch:A idling on lf/figshift Ch:B on "betabetahh". Various other patterns. Ch:B amongst garble "state for" "Bampton Castle as first words of text" (2/Sep) (DW)
10214	SNN299	MFA Warsaw 1722 POL-ARQ 100/240 Nx\Pol\EE (25/AUG) (RH2)
10217		UNID 2052 CW (in 5 fig code, cut zero, OTA 2055Z TTT (x2) (??/???) (LBJ)
10223		Counting stn (E5) 1200 AM (15/JUL) (BR) * 1200 AM with msg 690 count 215 same as Jul 1 & 8 (22/JUL) (BR) * 1213 ??? EE/YL/3-2FG The typical beeps before transmission in progress at 1152 and continued PAST the hour. Actual message in progress at 1213. Preamble: 415 Count: 215. 1256, "end" (01/AUG) (JL1) * 1218 AM YL/EE/3-2FG in progress, and very weak (29/JUL) (JL1) * 1200 ??? 3/2FG. 1152, tone begins then stops. Preamble: 415 Count: 215. End at 1250 (05/AUG) (JL1) * 1203 ??? Started late? Preamble: 343 Count: 215 3/2 FG "End" at 1250 (12/AUG) (JL1) * 1200 AM E5 YL/EE rptg "343" w/1-0 count. At 1210, "Count

		215" and into 3/2FG. Note new //13518 (15/AUG) (JM4)
10227		German Lady (G7) 1801 AM id 213 (21/AUG) (DR1)
10239		UNID 24 hours a day USB a constant tone only in USB since (09/Sep) (CT)
10248	8BY	UNID 2050 CW 8BY 262/097/311/476 //12075 14931 (??/???) (LBJ) * 2052 CW vvv 8BY 097/ 629/532/476 //12075 and 14931 (??/???) (LBJ) * 1950 CW vvv de 8BY (??/???) (MF3)
10281	RFLIG	FF Cayenne 0722 ARQ-E3 192/400 w/idles. Monitored 3 hours. Several CdV msgs on ckt RTI (20/Aug) (DW2)
10298.8	HSW62	Bangkok Meteo 1528 RTTY 50/170 Wx codes (28/AUG) (RH2)
10314		UNID 1740 USB comms between OM and ?, lng rus or pol. anywun? (9/AUG) (JRU)
	SNN299	>MFA Warsaw 1705 POL-ARQ 100/240 nx/PP (21/AUG) (RH2) * 1657 POL-ARQ 100/240 Nx\EE (09/SEP) (RH2)
10315	MAGIC 67	???? ??? wkg DHN66 (27/JUL) (AN)
	MAGIC 77	>???? ??? w/MAGIC COMMAND (06/AUG) (AN)
	DHN66	>NATO Geilenkirchen, D 0822 RTTY 75/850 online encrypted CRATT meteo to Magic-55 (17/Aug) (ANE) * 0846 USB calling HEHA (NATO Konya, TUR) (17/AUG) (ANE)
	Magic 55	>NATO AWACS aircraft 0820 USB req. wx fm DHN66 (NATO Geilenkirchen) (17/Aug) (ANE)
10317	SNN299	MFA Warsaw 1658 POL-ARQ 100/240 Nx\Pol (03/SEP) (RH2)
10328		BPA (FAPSI) M42 1522 RTTY 425/75 with 1/41 msg (03/AUG) (BR)
10334.6		MFA CAIRO 0701 ARQ Tfc in ATU80. Constant mark or space btwn bursts. Switches to irs mode and fading. Offair 0706 (3/Sep) (DW)
10346	GYU	RN GIBRALTAR 0711 VFT DCN 8 chan interleaved vft on usb (3/Sep) (DW)
10346.595	GYU	RN GIBRALTAR 0755 RTTY 50/340. VFT resumed (went offair 0730z). Eng chan 1. " de GYU say again pal got jvl back ???? k" "de GYU and rg m-byav.... kkk" (3/Sep) (DW)
10347.955	GYU	RN GIBRALTAR 0715 ARQ-M2 96/340. Chan 5 on vft. 4rc. 2 chan tdm. Chans A: and B: betas. VFT offair 0730 (3/Sep) (DW)
10371		M13 2000 517 R5 = 172 26 = (04/AUG) (GD2)
10408		M12 2100 427x3 000 (18/AUG) (GD2) * 2102 CW 427 (x3) TTT (Repeated - OTA 2105Z - Tue) (??/???) (LBJ)
10408.5	LN2A	Norway 2100 CW Marker (??/???) (LBJ)
10423		Counting Station (E5) 2000 USB id 895 count 205 (20/AUG) (DR1) * 2001 USB id 642 count 41 //12197 (17/AUG) (DR1) * 2004 USB id 642 (06/AUG) (DR1) * 2203 ??? id 103 (09/AUG) (VM1)
10426		HIGH PITCHED POLYTONE (XPH) 0620 AM (05/AUG) (SD) LP (E3) 1400 USB id 82534 //12603 14487 (27/JUL) (DR1) * 1404 USB id 73110 //12603 14487 (17/AUG) (DR1) * 1408 USB id 77350 //11545 14487 (22/AUG) (DR1)
10452		CHERRY RIPE (E4) 1000 USB very weak //15624 17499 (13/JUL) (SD)
10479.2		UNID 1535 CROWD36 Unable decode (14/AUG) (RH2) * 1700 CROWD36 unable to decode (21/AUG) (RH2)
10484.3	DOR	MFA Sofia 0838 RTTY 210,2 tfc bulg (10/AUG) (WP3) * 0838 RTTY/210,2!! tfc press review "vaxington post" every line begins with "?"

		ends 0904z (15/JUL) (WP3)
10493	V5G	MFA Bukarest 1037 ROU-FEC/164 tfc rou then in CW 1031z: v5g v5g hr qru op qsp fr all tks vy gb ar sk (10/AUG) (WP3)
10500		G16 0400 ??? Two-Letter German YL/GG rptg "Whiskey Lima" w/electronic tune. At 0405, "Messages for 522; 522 83 gruppen... Achtung!" and into 3/2FGx2. Down at :16 w/ "ende" (19/JUL) (JM4)
10527		Counting Station (E5) 2002 USB id 508 count 185 (21/AUG) (DR1) * 2001 USB id 908 count 75 //12197 (16/AUG) (DR1)
10529		E5 Cynthia 1300 ??? Beeps at 1219 in progress Preamble: 973 Count: 215 3/2 FG (14/AUG) (JL1) * 1300 ??? Continuous tone begins at 1246 and at 1247, turns into the beeps. Very weak signal, could not distinguish either preamble or count (06/AUG) (JL1) * 1300 ??? EE/YL "beeps" in progress at 1250 until beginning of transmission. Preamble: 319 Count: 215 (31/JUL) (JL1) * 1300 ??? Light QRM. Only four beeps at 1253 before the beginning of the transmission. Preamble: 973 Count: 215 (04/AUG) (JL1) * 1300 ??? No pre-beeps/tones. Preamble: 973 Count: 215 3/2 FG (11/AUG) (JL1) * (E5) 1300 USB 319 319 1234567890 count 215 3/2ngs (??/???) (CT)
10536	CFH	CF HALIFAX 1614 FAX Chart in noise, type undetermined. Fading (3/Sep) (DW)
10555	AXI	Darwin Meteo, AUS 1800 FAX 120/576, chart (29/Aug) (HS4)
10570.4		ALMATY MET? 1834 FAX 90/576/N/800 Very weak chart merged in background noise with broadcast qrm. 1900z second chart begins - broad black border all round (3/Sep) (DW)
10583		Counting Station (E5) 2102 USB id 042 count 194 (08/AUG) (DR1) * 2105 ??? id 042 (11/AUG) (VM1)
10597		Counting Station (E5) 1500 ??? with msg 376 (04/AUG) (BR) * 1500 USB id 851 count 196 (21/AUG) (DR1) * 1505 USB id 851 count 196 (18/AUG) (DR1)
10624		Cherry Ripe (E4) 2202 USB id 70365? (03/AUG) (DR1) *
10626	RFFXL	FF Naqoura, Lebanon 1310 ARQ-E 184.6/400 idles. Weak signal with moderate fading (17/Aug) (DW2) * 1400 ARQ-E/184/360 8rpt idle tfc 51 (xzl014 rffab de rffxl) (15/JUL) (WP3)
10648	YHF	Mossad (E10) 1800 AM (16/AUG) (DR1) * 1801 AM group 91 (19/AUG) (DR1)
10649		Polytone station (XPH) 1702 AM In progress (19/AUG) (DR1)
10701.9		UNID 1044 FEC-A/192 ends with %%%%%%%%% (10/AUG) (WP3)
10715		V2 0300 ??? Atencion YL/SS 5FG in progress. Note new time (07/AUG) (JM4) * 0300 ??? - three 5-FIG group preamble (07/AUG) (BR) >V5 0300 ??? SS/YL/3-2FG Another short pause in the middle of transmission (same message as 6983?) (31/JUL) (JL1)
10720		M3 0900 ??? 503/00 (18/AUG) (GD2)
10727		Russian man (E7) 2014 ??? OM/EE Null message format: 174174 174 000". Ended at 2016 (12/AUG) (VM1)
10820	CIO2	MOSSAD NO. STN 1746 AM (12/AUG) (JRU)
10826		RUSSIAN MAN (S7) 0540 AM 138 138 138 1 id 248 72 (30/JUN) (SD)

10857		M8 Cut No's stn 1200 ??? 55191 07562 07531 (18/AUG) (GD2)
10858		M8 cut no;s stn 1200 CW (16/JUL) (BR) * 1200 CW (04/AUG) (BR) * 1200 CW (23/JUL) (BR)
10872	C	UNID 0214 CW Marker (05/AUG) (LBJ)
	S	>UNID 0214 CW Marker (05/AUG) (LBJ)
10873.7	F	UNID 1750 CW continuous transmission of the letter f. info anywun? (12/AUG) (JRU)
	RFVI?	>FF Le Port, Reunion 0342 ARQ-E3 100/400 w/ idles. Again at 0515 w/idles (1/Aug) (DW2)
10908.3	GXQ	BA London 0738 RTTY 50/175 Test with QBF's and RYI's (VFT) (18/AUG) (BC3)
10921		M10 1920 ??? 555x3 481x3 45 988x3 46 (02/AUG) (GD2)
10922		M10 1920 ??? 555x3 481x3 39 988x3 15 (16/AUG) (GD2)
10929		RUSSIAN MAN (S7) 0540 AM 549 549 549 1 id 248 72 (04/AUG) (SD) * 0540 AM 549 549 549 1 (R5) 248 72 248 72 5FG 000 000 (06/AUG) (AB)
10936		UNID mil 1931 USB w/ANDVT (19/AUG) (JH2)
10953	HBD20	MFA Bern 0905 ARQ tfc 5l to ? then "no message" (15/JUL) (WP3)
10961.7	RXFPDF	0937 ARQ-M2/200 tfc 5l bt gr429 4748 nnn "FDX" und "BVA056" (15/JUL) (WP3)
10963	HBD20	MFA Bern 0912 ARQ tfc 5l to ? then "no message +?" (15/JUL) (WP3)
10965		UNID 0810 ARQ pages of 5LG's (20/AUG) (BC3)
10967	HBD90	1006 SITOR-A 5l to HBD20 (06/AUG) (WP3)
10969	HBD20	1021 SITOR-A tfc to ? 5l (06/AUG) (WP3)
10975		LP (E3) 2125 ??? YL/EE 5FG in progress (18/AUG) (VM1) * 2105 USB 370 (x3)1234567890 (Cont'd) (Female) (into tfc at 2110Z) Count 93 (x2) 49530 59262 ... (3+2) (??/???) (LBJ)
10977		Counting Station (E5) 2102 AM id 370 (03/AUG) (DR1)
10991.8	RFFVAY	FF Sarajewo 1210 ARQ-M2/200 fkwb001 fdxb168 zczc fkwb035 (10/AUG) (WP3) * 1210 ARQ-M2/200 wx from lqsa ldsp (16/JUL (WP3)
11000	RIW	UNID 2116 CW RIW R 497 K (Qsl msg nr 497) (??/???) (LBJ)
11034.7	KDAKRFR	MFA Cairo 1624 ARQ Tfc\AA to unk (24/Aug) (RH2)
11041		HIGH PITCHED POLYTONE (XPH) 0620 AM with new callup tones (01/JUL) (SD) * 0620 AM (15/JUL) (SD) * 0610 AM no msg (22/JUL) (JRU) * 0620 ??? TONES (29/JUL) (AB) * 0620 ??? TONES Long message, ca 5 mins. Very loud signal (10/JUL) (AB)
11045		UNID mil 2022 USB w/ANDVT (16/AUG) (JH2)
11053	Trout 99	USAF C-135E 1825 USB wkg Andy on an unknown Mystic Star channel. '99 was eta Ramstein AB at 1945 and arranged pre-flights for the following day on 251 (prim) and 354 (sec) (30/AUG) (GT)
11070		Counting Station (E5) 1803 AM id 035 (08/AUG) (DR1)
11072		Counting Station (E5) 1802 ??? id 035 count 136 //13444 (17/AUG) (DR1) * 1805 ??? id 035 count 136 //13444 (22/AUG) (DR1)
11080		SANA DAMASCUS 1606 RTTY 50/400 Press in Arabic (ATU70) (23/Aug) (DW) * 1653 RTTY 50/400 Nx\AA. This station has lots more power these days! (09/SEP) (RH2)
11080.3		SANA Damascus 1732 RTTY 50/400 Excellent clear Rx of Nx\FF+EE. Tons of hate V Israel! (14/AUG) (RH2) * 1734 RTTY 50/440 Nx\FF (24/Aug) (RH2)
11084		FAPSI 1611 RTTY 75/500 5LG's - no link seen

		(24/AUG) (RH2)
11110.5	RFLI	FF Fort de France 0705 ARQ-E3/192 ~vzczc bfl098 oo rfli de rfli 2180703 znr uuuuu controle de voie nnnn (06/AUG) (WP3)
11147		SPANISH MAN (V7) 0600 AM callup 118 118 118 000 null message (30/JUN) (SD)
11150		English Man (E6) 2103 AM id 835 key 710 GC 99 (09/AUG) (DR1) * 2104 AM In progress ended 2121 (08/AUG) (DR1) * 2101 ??? EE/OM Repeat of 8-8-98 broadcast. Id 835 (09/AUG) (VM1)
11157.5		UNID mil 1928 USB w/ANDVT (19/AUG) (JH2)
11166		RUSSIAN MAN (S7) 0540 AM callup 131 131 131 1 id 248 72 (14/JUL) (SD)
11167		Russian Man (S7), RUS 0540 AM 131 131 131 1 + 5FG 000 000 (28/JUL) (AB)
11175	223	>USAF Hurricane Hunter 0253 USB Live phone patch for AFRS, reporting on Hurricane Bonnie (24/AUG) (D. McElroy)
	ADMN	>(c/s spelled): 2030 ??? wkg Andrews req pp DSN 927-2466 (Newport News) (19/AUG) (JH2)
	ADTK	>(c/s spelled): 1856 USB req. pp, Andrews refers to 13200 (19/AUG) (JH2)
	AIR GUARD 0073	>not sure abt. #) 0825 USB rdo. ck with Thule (1/AUG)(JRU)
	BONE 11	>???? ??? wkg Fairford CP (23/JUL) (AN)
	BOOM 23	>1513 USB req. pp RAYMOND 19 (Robbins AFB, GA CP) (13/AUG) (JH2)
	CACTI 11	>???? ??? w/Lakenheath CP (07/AUG) (AN)
	Cob Web 11	>Secret Svc 0040 SSB Calling Moffett to request placing an "item" in safekeeping (21/AUG) (D. McElroy)
	CROWN 95	>1558 USB wkg. Croughton with pp re. flight plan (6/AUG) (JRU)
	LA 286	>1806 USB rdo ck with Thule (11/AUG) (JRU)
	Leper 10	>UNID 0044 USB Requesting weather from Ascension (21/AUG) (D. McElroy)
	LOCKHEED 5459	>1725 USB clg MacDill. MacDill is now off the air (30/Aug) (DW2)
	MOOSE 90	>1848 USb w/pp Peterson AFB CP and metro (15/AUG) (JH2)
	NAVY LT30	>1524 USB req. pp Jacksonville NAS (13/AUG) (JH2)
	NIGHTWATCH 01	>1321 USB wkg Offutt. Req you contact Andrews and find out what frequency they are on. QSY to 8992 (3/Aug) (DW2)
	OCEAN 61	>1754 USB w/Andrews metro (19/AUG) (JH2)
	OLIVE 20	>2129 USB req. pp 38th ops, Offutt (14/AUG) (JH2)
	POSSIBLE	>0018 USB wkg Thule req. operating freqs. for NIGHTWATCH. Thule gives Z175 pri. and Z190 sec. POSSIBLE told to contact NIGHTWATCH at H-20 (15/AUG) (JH2)
	QUID 55	>1622 USB wkg. Croughton, req. wx for Mildenhall (12/AUG) (JRU)
	RANGER 11	>???? ??? clg RANGER 10 (30/JUL) (AN)
	REACH 06	>1659 USB wkg unid global, enrt Ramstein (3/AUG) (JRU)
	REACH 1065	>0806 USB wkg. Thule with rdo ck (1/AUG) (JRU)
	REACH 28H	>0200 USB wkg Hickam GHFS req. he contact Thule instead (16/AUG) (JH2)
	REACH 4630	>1508 USB req: pp Hickam AFB (13/AUG) (JH2)
	REACH 5601	>2117 USB req. pp Charleston CP and metro for 0000Z arrival (14/AUG) (JH2)
	RESCUE 70	>0204 USB wkg THULE w/pp to ACCLIMATE: 304th ARRS, Portland International, Oregon (1/Aug) (DW2)
	SHADOW 58	>0501 USB wkg COYOTE req. status of MOCCASIN 83 (15/AUG) (JH2)

	SHELL 72	>0853 USB clg. mainsail, no joy. (2/AUG) (JRU)
	SHELL 77	>???? ??? w/Mildenhall CP (03/AUG) (AN)
	SOONER 51	>1504 USB rdo ck (13/AUG) (JH2)
	SPAR 66	>0816 USB clg. mainsail and raising croughton, pp to dsn #4809292, eta Ramstein 1005 (1/AUG) (JRU)
	SPAR 99	>0754 USB wkg. Croughton, enrt. Cairo-Ramstein req wx for Ramstein, posn. over italy, fl 330 (1/AUG) (JRU)
	TAZZ 82	>1440 rdo. ck (15/AUG) (JH2)
	TEAL02	>Hurricane Hunter 1810 USB wkg Andrews w/pp doing an interview with The Weather Channel (25/AUG) (AH2)
	TITAN 09	>1605 USB req. pp Moody AFB ops (13/AUG) (JH2)
	Y92	>1903 USB clg MAINSAIL for radio check (1/Aug) (DW2)
11178		UNID 0812 USB two OMs in pres. portuguese, sound military (1/AUG) (JRU)
11180	AIRFORCE 2	???? ??? wkg CROWN 13 (23/JUL) (AN)
11232	DARKSTAR MIKE	1628 USB switch freq 11214 (nothing heard there) (13/AUG) (JH2)
11236		Iceland Radio 2010 ??? clg 9SW12 giving clearance for FL280 (30/AUG) (PV)
11270		Russian Man 'control' (S25) 0820 AM id 615 (17/AUG) (DR1)
11300		BAHRAIN 2326 USB clg Mogadishu (13 AUG) (AR3)
		>CAIRO 0137 USB clg Khartoum, but no response (13/AUG) (AR3)
		>DJIBOUTI 2234 USB passing tfc to Mogadishu (13/AUG) (AR3)
		>KENYA AIRWAYS (didn't catch #) 0309 USB clg Nairobi, no joy (15 AUG) (AR3)
		>SEYCHELLES 2208 USB passing tfc to Mogadishu (13/AUG) (AR3)
		>TRIPOLI 0137 USB wkg Sabena 561, position (13 AUG) (AR3)
11342		MFA Oslo ? 1051 TWINPLEX F7B-3 tfc norw (06/AUG) (WP3)
11345		>STOCKHOLM RADIO LDOC 2220 USB wkg unid flight w/wx for London & Amsterdam (15 AUG) (AR3)
	COA 9975	>0505 USB s/c ck FJ-DL (N68043, MCD DC 10) dep msg.: 0430 dept. manchester, eta kewr (new-ark) at 1136z (18/AUG) (JRU)
	EC-GMY	>1943 USB pp tp company in spanish (3/AUG) (JRU)
	EUROCYPRIA 814	>0729 USB s/c ck CR-HK, pp to ops in greek, pp to eurocypria engineering (1/AUG) (JRU)
	GEMINI 6441	>1327 USB at burak, eta paris/cdg 1430 (16/AUG) (JRU)
	MAERSK 617	>0734 USB pp to company. icao-code is MAE (6/AUG) (JRU)
	VIKING 045	>0745 USB s/c ck AL-ES (6/AUG) (JRU)
	VOLARE 1700	>1946 USB pp to company in italian! (ukrainian cargo company from kiev) (3/AUG) (JRU)
	VP-CCR	>0504 USB clg. stockholm r., no joy (18/AUG) (JRU)
	WORLD 277	>0753 USB qsy'd to 13342, msg. to company (6/AUG) (JRU)
11387		SINGAPORE VOLMET 1150 USB pretty weak, but caught s/on ID (15 AUG) (AR3)
11401.7		UNID 1603 UNID mode. Bursts of multitone waterfall twittering sound (24/AUG) (RH2)
11401.8		UNID 0545 CROWD36 Unable decode (28/AUG) (RH2)
11416		M8 1100 ??? 555x3 866x3 25 844x3 30 (20/AUG) (GD2)
		XPH Polytone station 2020 ??? TONES (11/AUG) (AB)

11430		V13 New Star Broadcasting 1300 ??? YL/CC 4FGx2 (17/AUG) (JM4) * 1300 ??? YL/CC 4FGx2 (16/AUG) (JM4)
	HMF55	>KCNA PYONGYANG 1511 RTTY 50/R/250 Press in EE (31/Aug) (DW)
11436		UNID 0621 RTTY 75/150 UNID mode (2/SEP) (RH2)
11440		The Counting Station (TCS) (E5) 2200 ??? id 323 (24/JUL) (VM1)
11445		M13 2000 ??? 261 R5 = 199 20 = (02/AUG) (GD2)
11450		Russian Man (S7) 2004 AM id 742 null message format (17/AUG) (DR1)
11452.3		FAPSI 1541 RTTY 75/500 5LG. No Link. Noted last line each block repeated 1st line next block (14/AUG) (RH2)
11460	SAM 201	0335 USB wkg Andrews (1/Aug) (DW2) * 0409 USB wkg Andrews w/request for pp to US DAO Oman (1/Aug) (DW2)
11464		Six tones polytone station (X6) 0646 ??? (10/AUG) (VM1) [=FAPSI - Ary]
11476	HMF52	KCNA PYONGYANG 1237 RTTY 50/R/250 Press in English (22/Aug) (DW)
11487		LP (E3) 1309 USB id inaudible //15682 (02/AUG) (DR1)
11491		Counting Station (E5) 1900 ??? id 200 count 74 //13450 (22/AUG) (DR1) * 1906 ??? id 200 count 74 //13450 (19/AUG) (DR1)
11536	HMF49	KCNA PYONGYANG 0813 RTTY 50/R/250 Press in English (25/Aug) (DW)
11541.7	RFLI?	FF Fort de France 0812 ARQ-E3 96/400 w/strong clean signal, idles. Monitored for over 30 minutes w/no tfc noted (30/Aug) (DW2)
11545		LINCOLNSHIRE POACHER (E3) 1604 USB ID: 41836, tx-problems during call-up, //10426, 8464 (??/???) (JRU) * 1708 USB //6959 ID: 41836 (10/AUG) (JRU) * 1400 USB extremely weak //14487 (16/AUG) (JM4) * 1400 USB id 10809 //14487 15682 (02/AUG) (DR1) * 1402 USB id 51114 //14487 15682 (16/AUG) (DR1) * 1500 USB 26079 callup //12603 13375 (23/JUL) (DR1) * 1500 USB 28290 callup //12603 13375 (24/JUL) (DR1) * 1500 USB 7550? callup //14487 16084 (22/JUL) (DR1) * 1500 USB id 00180 //12603 13375 (21/AUG) (DR1) * 1500 USB id 61235 //12603 13375 (26/JUL) (DR1) * 1500 USB id 89125 //13375 15682 (27/JUL) (DR1) * 1501 USB id 10118 //12603 13375 (16/AUG) (DR1) * 1501 USB id 26079 //12603 14487 (30/JUL) (DR1) * 1501 USB id 51114 //13375 15682 (17/AUG) (DR1) * 1502 USB id 09807 //12603 13375 (20/AUG) (DR1) * 1502 USB id 88509 //12603 13375 (22/AUG) (DR1) * 1503 USB id 41014 //12603 13375 (07/AUG) (DR1) * 1505 USB id 28290 //12603 13375 (31/JUL) (DR1) * 1505 USB id 47178 //12603 13375 (02/AUG) (DR1) * 1506 USB id 10809 //13375 15682 (03/AUG) (DR1) * 1507 USB id 66269 //14487 16084 (19/AUG) (DR1) * 1508 USB id 75506 //14487 16084 (29/JUL) (DR1) * 1514 USB In progress //14487 16084 (05/AUG) (DR1) * 1538 USB In progress //12603 13375 (06/AUG) (DR1) * 1600 USB 26079 callup //12603 13375 (24/JUL) (DR1) * 1600 USB 28290 callup //12603 13375 (25/JUL) (DR1) * 1600 USB 89125 callup //13375 15682 (21/JUL) (DR1) * 1600 USB id 10118 //12603 13375 (17/AUG) (DR1) * 1600 USB id 26079 //12603 13375 (31/JUL) (DR1) * 1600 USB id 89125 //13375 15682 (28/JUL) (DR1) * 1601 USB id 10809 //13375 15682 (04/AUG)

		(DR1) * 1601 USB id 51114 //13375 15682 (18/AUG) (DR1) * 1602 USB id 10881 //12603 13375 (07/AUG) (DR1) * 1603 USB id 09807 //12603 13375 (21/AUG) (DR1) * 1604 USB ID: 41836, tx-problems during call-up, //10426, 8464 (??/???) (JRU) * 1605 USB id 00180 //12603 13375 (22/AUG) (DR1) * 1606 USB id 41014 //12603 13375 (08/AUG) (DR1) * 1607 USB id 47178 //12603 13375 (03/AUG) (DR1) * 1609 USB id 41014 //12603 13375 (01/AUG) (DR1) * 1700 USB 26079 callup //12603 13375 (25/JUL) (DR1) * 1700 USB 61235 callup //13375 15682 (21/JUL) (DR1) * 1700 USB 75506 callup //13375 16084 (24/JUL) (DR1) * 1700 USB id 47658 //12603 13375 (26/JUL) (DR1) * 1700 USB id 61235 //12603 13375 (28/JUL) (DR1) * 1700 USB id 73233 //12603 13375 (02/AUG) (DR1) * 1700 USB id 94454 //13375 16084 (07/AUG) (DR1) * 1704 USB id 66269 //13375 16084 (21/AUG) (DR1) * 1706 USB id 84176 //12603 13375 (01/AUG) (DR1) * 1707 USB id 47178 //12603 13375 (04/AUG) (DR1) * 1707 USB id 88509 //12603 13375 (16/AUG) (DR1) * 1708 USB id 09807 //12603 13375 (22/AUG) (DR1) * 1709 USB id 75506 //13375 16084 (31/JUL) (DR1) * 1725 USB In progress //12603 13375 (08/AUG) (DR1) * 1801 USB id 66269 //13375 16084 (22/AUG) (DR1) * 1802 USB id 94454 //13375 16084 (01/AUG) (DR1) * 1804 USB 75506 callup //13375 16084 (25/JUL) (DR1) * 1807 USB id 94454 //13375 16084 (08/AUG) (DR1) * 1903 USB 89125 callup //13375 (24/JUL) (DR1) * 1906 USB id 10809 //13375 15682 (07/AUG) (DR1) * 1906 USB id 51114 //13375 15682 (21/AUG) (DR1) * 1907 USB id 89125 //13375 15682 (31/JUL) (DR1)
11565		Spanish Lady (V2) 1030 AM In progress (17/AUG) (DR1)
11570		Cherry Ripe (E4) 1300 USB Header inaudible (27/JUL) (DR1) * 1301 USB Header inaudible (24/JUL) (DR1)
11602.5	6MK64	YONHAP Seoul 0030 RTTY 50/400 w/sta id & nx EE, id also showed 7868 - nil heard, (31/JUL) (ML2)
12056		E4 1300 USB 34448 5fgs 61260 //13866 (??/???) (CT)
12075	8BY	UNID 2050 CW vvv 8BY 097/629/532/476 //10248 14931 (??/???) (LBJ)
12110	YOM21	ROMPRES BUCHAREST 1045 RTTY 50/500 Straight into EE press without startup (3/Sep) (DW) * 1101 RTTY 50/500 EE press. Start (if any) not seen. Late in switching transmitter from 9797 to this frequency?. Terminates and off air 1130 (2/Sep) (DW)
12125		UNID 1526 RTTY ???/500 FAPSI in progress, 11177 70037 65392 22875 04349 and after off air (??/???) (IE)
12126		HIGH PITCHED POLYTONE (XPH) 0640 AM (05/AUG) (SD)
12132		M12 1600 ??? 963x3 1 3681 142 3681 142 (07/AUG) (GD2)
		>UNID 1730 CROWD36 Unable decode (24/Aug) (RH2)
12133		UNID 1605 CROWD36 Unable decode (20/AUG) (RH2)
12134.4	RFHI	FF Noumea 0950 ARQ-E3 100/425 Noumea/LePort cct [HIJ] (28/AUG) (BC3)
12134.5		UNID 1218 ARQ-E3 96/400 Logged before. Still

		no ID for this presumably FF station!!? Nil on screens (13/AUG) (RH2) [Have RFHI F Navy Noumea listed here (12134.2!)?- LOGS]
12134.8		FAPSI 1538 RTTY 100/500 5LG on Link 10050 (10/SEP) (RH2)
12139.7	HWN	FAF Paris 1649 RTTY 150/850 Test tape (10/SEP) (RH2)
12141		HIGH PITCHED POLYTONE (XPH) 0640 AM (01/JUL) (SD) * 0640 AM (15/JUL) (SD) * 0640 ??? TONES (29/JUL) (AB) * 0640 ??? TONES Long message, ca 5 mins. Very loud signal (10/JUL) (AB)
12150		Counting Station (E5) 2100 USB id 169 count missed (19/AUG) (DR1) * 2101 USB id 169 count 174 (16/AUG) (DR1)
12155.7		UNID 1637 PACTOR. Unable to decode before tx ceased (14/AUG) (RH2)
12169.7		UNID 1743 RTTY 186.9/769 UNID mode. C3G gave these strange bd readings! (26/AUG) (RH2)
12174.6		UNID 1548 ??? 108.8/150 Strong sigs! Strange baud? Unable decode. On a FAPSI frequency (09/SEP) (RH2)
12175		Counting Station (E5) 2105 USB id 042 count 194 (22/AUG) (DR1)
12183		FAPSI 1641 RTTY 75/500 5LG's. No link seen but 20043 logged here before (19/AUG) (RH2) * 1607 RTTY 75/R/500 "11177 20043 56128 1807 04953 55555" and offline encrypted tfc in 5ltr grps (18/AUG) (DW)
		>UNID 1905 CROWD36 Unable decode (04/SEP) (RH2)
12190.2	RFVI	FF LE PORT 1625 ARQ-E3 100/400 8rc. Betas. Cct [VII] to Noumea. 1710z Controle de voie RFVI de RFVI (18/AUG) (DW)
12300		Counting stn V5 0200 NON - carriers only //14421 (01/AUG) (BR) * 0300 ??? with 097/ 203 msg //14421 (08/AUG) (BR) * 0200 NON Carriers only - expected counting stn V5 //14421 (08/AUG) (BR) * 0300 ??? SS/YL/3-2FG High pitched tone on and off for long durations in progess at 0230UTC until beginning of transmission. Signal fairly weak (RST33) as was //14421 (01/AUG) (JL1)
12300.5		TCS (V5) ???? AM YL/SS rptg "097" w/1-0 count At 0310, "Grupo 203" and into 3/2FG //14421 (08/AUG) (JM4) * 0159 NON Carrier, became 0300 ??? (11/AUG) (HS2) * 0300 AM (R3E) joined in progress, ended "fin" at 0343. Yes, 12300.5 was the freq weak //14421 (11/AUG) (HS2) * 0300 AM YL/SS 3/2FG in progress //14421 (15/AUG) (JM4) * 0300 AM YL/SS rptg "697". At 0310 "Grupo 122" and into 3/2FG //14421 (18/JUL) (JM4)
12353		UNID French maritime: 0258 USB w/simplex FF comms (1/Aug) (DW2)
12356	ZLM	RNZN Auckland 0913 USB w/MIB //6224 (30/Aug) (DW2)
12359		UNID ships 1834 USB OM talks abt. engine test ship names mentioned: staffordshire, oxfordshire. (30/JUL) (JRU)
12365	VID	Darwin Radio 0841 USB w/MIB //8176 6507 (30/Aug) (DW2)
12370.5	WHW462	PIN OAK NEWJERSEY 2018 CW Occasional marker "WHW462" in cw after short data burst (12/Sep) (DW)
12376.9		UNID 1229 ??? 4 tone 300/100/100/300 hz 195.4bd no acf (??/???) (BVR)
12418.5	WHW462	PIN OAK NEWJERSEY 2026 CW Occasional marker, short data burst followed by cw ID "WHW462"

		(12/Sep) (DW)
12488.5	SJPB	MV United Star 0755 ARQ 100/??? tlx abt eta Ravenna pilot (??/???) (BVR)
12522	J8QE3	MV Gulf Champion 0925 ARQ login 11730 tlx to Paris abt arrival Sebutal, qrg report (??/???) (BVR)
	SZMW	>MV ???? 1624 ARQ qrg report login 16715 (??/???) (BVR)
	WCV5667	>MV ???? 1800 ARQ report to Falcon system (??/???) (BVR)
	WGMJ	>MV ???? 1710 ARQ c xvsm login 11733 irs mode (??/???) (BVR)
	WLBX	>MV Lawrence H Gianella 0820 ARQ login 11646 pos rpt 018.41w4 37.36n9 (??/???) (BVR)
12580	GKE5	PORTISHEAD R. 2005 CW channel marker (12/AUG) (JRU)
12582	VIP34	Perth Radio 0851 FEC w/tfc list (30/Aug) (DW2)
12590	EAD	MADRID R. 1726 CW channel marker (10/AUG) (JRU)
12601	ZSC	Cape Town Radio 0904 CW w/ARQ free idle and cw mkr (30/Aug) (DW2)
12601.5	OXZ	Lyngby Radio 0859 CW w/ARQ free idle and cw mkr (30/Aug) (DW2)
12602.5	IAR	ROMA R. 1738 CW channel marker (10/AUG) (JRU)
12603		LP (E3) 1400 USB 75506 callup //14487 (21/JUL) (DR1) * 1400 USB id 75506 //14487 (28/JUL) (DR1) * 1400 USB id 94454 different freq to sked //14487 (04/AUG) (DR1) * 1404 USB id 66269 //14487 16314 (18/AUG) (DR1) * 1700 USB 89125 callup //14487 (22/JUL) (DR1) * 1700 USB id 89125 //14487 16475 (29/JUL) (DR1) * 1706 USB id 51114 //14487 16475 (19/AUG) (DR1) * 1735 USB In progress //14487 16475 (05/AUG) (DR1) * 1800 USB 89125 callup //14487 (23/JUL) (DR1) * 1801 USB id 10809 //14487 16475 (06/AUG) (DR1) * 1805 USB id 51114 //14487 16475 (20/AUG) (DR1)
12634	TAH	ISTANBUL R. 1742 CW channel marker (11/AUG) (JRU)
12639.5	OST	OOSTENDE R. 1742 CW channel marker (10/AUG) (JRU)
12649.5	XSG	SHANGHAI R. 1751 CW channel marker (10/AUG) (JRU)
12662	7TF8	Boufarik Radio ALG 0440 CW V marker (7/Sep) (JRC)
12664	FUM	FNy Papeete 0830 RTTY 75/170 ry (30/AUG) (BC3)
12727.5	LGJ	Rogaland Radio 1417 CW CQ mkr/tfc list signing LGW LGB LGJ LGX (15/AUG) (JRC)
12735	URL	Sevastapol Radio UKR 0428 CW CQ marker (7/Sep) (JRC)
12740	GYA	RN London 1725 RTTY 100/170 RATT (24/AUG) (RH2)
12757	A9M	Bahrain Radio 0246 ARQ/CW marker (6/Sep) (JRC)
12801	TAH	Istanbul Radio 0420 CW "DE TAH CH 4 8" (7/Sep) (JRC)
12849	ZSJ	SAN Silvermine 1400 CW "CQ DE ZSJ QSX AMVER CH 3/4/9/10 ANS 8/12/17 AR K" (6/Sep) (JRC)
12905	DZJ	Bulacan Radio PHL 1350 CW "CQ DE DZJ QSX 8 12 16 K" (6/Sep) (JRC)
12939	JNA	Tokyo Coast Guard 0802 CW V marker (17/AUG) (JRC)
12940	SPE61	Szczecin Radio 0815 CW marker "DE SPE42/61/81 QSX 8367R7/12552R7/16735R7" (17/AUG) (JRC)
12951	VIP	Perth Radio 0810 CW "CQ DE VIP K" (17/AUG) (JRC)

13015.5	IAR3	Rome Radio 0416 CW V marker (7/Sep) (JRC)
13020	SPB	Gdynia Radio 0800 FEC shipping tfc (30/AUG) (BC3)
13083	KMI	Dixon Radio, CA 1400 USB tfc list (20/AUG) (JRC)
13122		UNID RUSSIAN 1645 USB RUSSIAN PHONE PATCH (11/SEP) (JAMMO)
13137		UNID RUSSIAN 1640 USB RUSSIAN PHONE PATCH (11/SEP) (JAMMO)
13197		UNID RUSSIAN 1620 USB RUSSIAN RADIO NET - FEMALE OPERATOR-REPEATER FOR VHF LINK? (11/SEP) (JAMMO)
13200	QUID 34	???? ??? wkg Mildenhall CP (24/JUL) (AN)
13291		GANDER 1635 USB wkg Pakistani 447, position, SELCAL check (15 AUG) (AR3)
13342	OE-LRB	1349 USB qsy'd from 8930, but no joy here. finally established comms. on 8930, pp to company (Lauda) in german (16/AUG) (JRU)
13366		M12 0630 ??? 957x3 000 (06/AUG) (GD2) * 0630 ??? 957x3 000 (20/AUG) (GD2)
13374		M8 cut no's stn 1800 CW (03/AUG) (BR)
13375		LP 1500 ??? tune barely audible (09/AUG) (JM4)
13411		UNID 1739 RTTY? 100/850 Unable decode (24/Aug) (RH2)
13412.9		FAPSI 1526 RTTY 75/500 5LG's. No link seen (13/AUG) (RH2)
13416		XPH Polytone station 2000 ??? TONES (11/AUG) (AB)
13446.7		MFA Islamabad, PAK 1630 ARQ 5LG's (20/AUG) (RH2)
13450		Counting Station (E5) 1701 ??? id 476 count 103 //14448 (17/AUG) (DR1) * 1701 ??? id 476 count 103 //14448 (20/AUG) (DR1) * 1702 ??? id 954 count 139 //14448 (16/AUG) (DR1) * 1802 ??? id 523 count 99 //14448 (19/AUG) (DR1) * 1902 ??? id 523 count 99 //14448 (17/AUG) (DR1)
13452		JMS (FAPSI) M42 2241 RTTY 425/75 with 2/358 msgs (31/JUL) (BR) * ???? RTTY 425/75 with 3/447 msgs (24/JUL) (BR)
13479.5	RCRAA	Paris 0750 ARQ-M2 200/400 to Sarajevo Bosnia. 2 ch, both partly corrupted (20/AUG) (BC3)
13510.3	CFH	CF Halifax 1142 RTTY 75/430 wx (20/Aug) (BC3)
13518		Counting Station (E5) 1306 USB id 973 count 215 (22/AUG) (DR1)
13530	VTP37	IND Navy Vishakhapatnam 1040 RTTY 50/850 clg VTR29 Port Blair w/RYs foxes 1-0 (24/JUL) (ML2)
13541.9	ZRO3	Pretoria Meteo 1325 RTTY 75/400 Tropical Storm EARL. Special Advisory Probabilities - relay fm AVILA Miami (2/Sep) (RH2)
13542	ZRO3	Pretoria Meteo 0910 RTTY 75/400 SYNOP, then relay TEMPETE Warning fm Maroc Meteo!! (21/AUG) (RH2)
13543.7	RFTJD	FF Libreville GAB ARQ-E3 192/400 5LGs to Paris cct HAI 0850 25/Jul (ML2)
13544		M12 1620 ??? 961x3 1 3429 143 3429 143 (21/AUG) (GD2) * 1620 ??? 963x3 1 3681 142 3681 142 (07/AUG) (GD2)
13551.5	P6Z	MFA Paris 1655 FEC-A 192/400 calling J5W (Emb Rabat) (24/AUG) (RH2)
13556		HZW FAPSI (M42) RTTY 425/75 with 1/3 msg (28/JUL) (BR)
13564		V2 Atencion 0307 ??? Extrememly weak, not readable, only recognizable as V2 (14/AUG) (JL1)
13580	HMF36	KCNA PYONGYANG 1242 RTTY 50/N/250 Press in

		English (22/Aug) (DW)
13580.3	HMF36	KCNA Pyongyang 0757 RTTY 50/220 RY/ID (10/SEP) (RH2)
13580.51	MKK	RAF LONDON 1017 PICC6 6tone. Eng chan on standby. 1948 "MTS de MKK zub 1048z plse qzsty the oo to f14 lowers lsb m8 k" "MTS de MKK zub 1050z olol m8 int zbz k" (22/Aug) (DW)
13597	JMH4	Tokyo Meteo 1525 FAX surface analysis (13/SEP) (KB)
13669.5	6VU73	Dakar Meteo 1743 FAX 120/576 nice wx chart! (24/AUG) (RH2)
13703	IMB56	Rome Meteo 1500 FAX 120/576 LSB sig wx chart. Now in the middle of the BC band (14/SEP) (KB)
13765	VTR29	IND Navy Port Blair Andaman Islands 1100 RTTY 50/850 clg VTP37 Vishakhapatnam w/RYs foxes 1-0 (24/JUL) (ML2)
13906		Counting stn (E5) 1200 AM (15/JUL) (BR) * 1200 AM with msg 222 count 215 same as Jul 1 & 8 (22/JUL) (BR) * 1220 AM YL/EE/3-2FG in progress, good sig with minor fading and only very ocasionally interrupted with a "buzz" (29/JUL) (JL1) * 1200 ??? 3/2FG. Preamble: 222 Count: ???. Could not hear count do to noise, overall signal degraded by noise. End at 1250 (05/AUG) (JL1) * 1200 ???. 1153 beeps, then tone for a few seconds at 1155. Very weak signal. Preamble: 222 Count: 215 3/2FG. 1230UTC repeated the count. "End" at 1250 (12/AUG) (JL1)
13920	AXM35	Melbourne Meteo 0655 FAX 120/576 w/chart (21/Aug) (DW2) * 0608 FAX 120/576, gradient wind analysis (23/Aug) (HS4)
13976	HBD20	MFA Berne 1732 ARQ 5LG to unk (26/AUG) (RH2)
13980		UNID 0705 USB OM/Tagalog on simplex net. Maritime-related(?) w/ref's to master and ports (20/Aug) (DW2)
14340.5	BAF47	Beijing Meteo 0950 RTTY 50/175 wx (20/AUG) (BC3)
14373.2	TGTA?	SANT de TGTA? 1720 G-TOR 200 Message sent to MRVN (Monrovia). Some SS noted (07/SEP) (RH2)
14373.3		UNID 0936 GTOR 300/200 Station operating in Spanish before fairly quick offair. Single freq ops (22/Aug) (DW) * 1010 PACTOR 200/200 Tfc in SS. Appears to be news summary inc football results for Spanish primera/segunda divisions (31/Aug) (DW) * 1617 GTOR 300/I/200 Weak sig, poor copy. Occ Spanish. Ends with "SANT de MNRV" (twice) (25/Aug) (DW) * 1545 GTOR 200 Usual character scramble! Speed varied 100-200-300 Bd (24/AUG) (RH2) * 1636 G-TOR 200 Unable establish c/s this time. Characters TEG EL4N prominent (09/SEP) (RH2)
14373.4	BATI?	SANT DE BATI 1702 G-TOR 200 Can't find BATI on maps? Msg ended - MESSAGE SAVED - 1st EE seen here (1/Sep) (RH2)
	MNRV	>SANT DE MNRV - Monrovia? 1658 GTOR 200, Upper & lower case Latin characters all mixed up with ASCII. Difficult to understand! (14/AUG) (RH2)
14411		RUS Navy 1702 36-50 50/250 Unable decode (1/SEP) (RH2) * 1706 36-50 50/240 Unable decode (10/SEP) (RH2)
14421		V5 Counting Station 0300 ??? YL/SS 3/2FG in progress. Very weak (11/AUG) (JM4)
14434		KRN FAPSI (M42) RTTY 425/75 with 1/135 msg (24/JUL) (BR)

14448		Counting Station (E5) 1701 USB id 954 count 139 (21/AUG) (DR1)
14481.7	RFTJ	French Forces Dakar 0928 ARQ-E3 48/400 w/ idles. Monitored for five hours w/CdV and "ZFQ" msgs on ckt TJF (30/Aug) (DW2)
14486	RFGW	MFA Paris 0530 FEC-A 192/400 5LG's circular to embassies (21/AUG) (RH2)
14487		LP (E3) 1200 USB 47658 callup //15682 16084 (21/JUL) (DR1) * 1200 USB 47658 callup //15682 16084 (22/JUL) (DR1) * 1200 USB 47658 callup //15682 16084 (23/JUL) (DR1) * 1200 USB extremely weak //15682 16084 (17/AUG) (JM4) * 1200 USB in progress //15682 16084 (28/JUL) (DR1) * 1201 USB id 73233 //15682 16084 (08/AUG) (DR1) * 1201 USB id 88509 //15682 (21/AUG) (DR1) * 1202 USB 47658 callup //15682 16084 (24/JUL) (DR1) * 1202 USB id 88509 //15682 16084 (18/AUG) (DR1) * 1204 USB id 73233? //15682 16084 (03/AUG) (DR1) * 1205 USB 47658 callup //15682 16084 (25/JUL) (DR1) * 1205 USB id 47658 //15682 16084 (27/JUL) (DR1) * 1206 USB id 73233 //15682 16084 (04/AUG) (DR1) * 1206 USB id 88507 //15682 16084 (16/AUG) (DR1) * 1207 USB id 47658 //15682 16084 (30/JUL) (DR1) * 1207 USB id 73233 //15682 16084 (05/AUG) (DR1) * 1219 USB In progress //15682 16084 (06/AUG) (DR1) * 1222 USB In progress //15682 (07/AUG) (DR1) * 1223 USB In progress //15682 16084 (17/AUG) (DR1) * 1236 USB In progress (29/JUL) (DR1) * 1300 USB 71416 callup //15682 (23/JUL) (DR1) * 1300 USB 71416 callup //15682 16084 (21/JUL) (DR1) * 1300 USB Extremely weak //15682 (16/AUG) (JM4) * 1300 USB id 30394 //15682 16084 (21/AUG) (DR1) * 1300 USB id 44340 //15682 (07/AUG) (DR1) * 1300 USB in progress //15682 16084 (28/JUL) (DR1) * 1300 USB rptg "30394" w/tune //15682 16084 (17/AUG) (JM4) * 1301 USB id 30394 //15682 16084 (16/AUG) (DR1) * 1301 USB id 44340 //15682 16084 (03/AUG) (DR1) * 1301 USB id 71416 //15682 16084 (30/JUL) (DR1) * 1302 USB id 30394 //15682 16084 (17/AUG) (DR1) * 1302 USB id 30394 //15682 16084 (18/AUG) (DR1) * 1302 USB id 71416 (29/JUL) (DR1) * 1302 USB id 71416 //15682 (31/JUL) (DR1) * 1303 USB id 44340 //15682 (08/AUG) (DR1) * 1304 USB 71416 call-up //15682 16084 (24/JUL) (DR1) * 1304 USB id 44340 //15682 16084 (04/AUG) (DR1) * 1305 USB id 71416 //15682 16084 (27/JUL) (DR1) * 1306 USB id 30394 //16084 (20/AUG) (DR1) * 1306 USB id 44340 //15682 16084 (06/AUG) (DR1) * 1308 USB id 30394 //15682 16084 (22/AUG) (DR1) * 1326 USB In progress //15682 16084 (05/AUG) (DR1) * 1340 USB In progress //15682 (22/JUL) (DR1) * 1400 USB 26079 callup //15682 16084 (22/JUL) (DR1) * 1400 USB 28290 callup //15682 16084 (23/JUL) (DR1) * 1400 USB 47658 callup //15682 16084 (24/JUL) (DR1) * 1400 USB id 26079 (29/JUL) (DR1) * 1400 USB id 47658 //15682 16084 (31/JUL) (DR1) * 1400 USB id 73233 //15682 (07/AUG) (DR1) * 1401 USB id 28290 //15682 16084 (30/JUL) (DR1) * 1401 USB id 88509 //15682 16084 (21/AUG) (DR1) * 1404 USB id 84176 //15682 16084 (05/AUG) (DR1) * 1405 ??? id 04242 //15682 16084 (03/AUG) (DR1) * 1405

		USB id 00180 //15682 16084 (20/AUG) (DR1) * 1407 USB id 41014 //15682 16084 (06/AUG) (DR1) * 1200 ??? extremely weak only tune heard (15/AUG) (JM4) * 1200 USB Id 47658 //15682 16084 kHz. All freqs heavily jammed by a pulse jammer (26/JUL) (AB) * 1400 USB Id 89125 //15862 (26/JUL) (AB)
14511.5	MKK	London, G 1120 PICC6 Op chat to MTS, Falkland Islands (15/AUG) (PT)
14541.5		MFA Cairo 0650 ARQ w/ATU-80 msgs to Paris (11/AUG) (ML2)
14581		RUS Navy 1658 36-50 36/240 Unable decode (20/AUG) (RH2) * 1652 36-50 36/240 Unable decode. Tx at same time as 14664.0 (14/AUG) (RH2) * 1648 36-50 36/240 Unable decode (21/Aug) (RH2)
14639		POLISH EMB? 0937 POL-ARQ 100/250 Tfc in off-line encrypt (5fig grps) in five-line blocks. End of file/qso - no ID (25/Aug) (DW)
14639.5	XWK01	KPL VIENTIANE 0856 RTTY 50/R/500 Start up marker ry's and "de XW01A" (?). Start of English press 3mins early. 100hz high. Poor copy Disappears - reappearing 14639.7!! (26/Aug) (DW) * 0924 RTTY 50/R/500 Listed as KPL but articles ending with VNA and couple of numbers? Press in English. Freq unstable. Two downshifts 50 hz each in 5mins (25/Aug) (DW)
14640	XWK01A	KPL VIENTIANE 0859 RTTY 50/R/500 Start up marker "qra de XWK01a 14,640 khz - k.p.l - 0123456789" and ry's. 1170hz off freq. Start EE press 0908z. Poor copy. Slow neg carrier drift 0917 now 1283hz below assign. 0920 1324hz down (31/Aug) (DW)
14654	SPW	Poland 2120 CW de SPW QSX 12573,0 khz azim 11 (??/???) (LBJ)
14654.5	SPW	Warsaw Radio 0530 FEC msgs (1/SEP) (BC3)
14663		Russian Navy 1657 36-50 50/180 Unable decode (21/Aug) (RH2)
14664		RUS Navy 1654 36-50 36/180 Unable decode. Tx at same time as 14581.0! (14/AUG) (RH2) * 1700 36-50 50/180 Unable decode (01/SEP) (RH2)
14665		Counting Station 1406 USB 470 1234567890 in progress S6 in Central Europe, after five tone of which every even numbered seems to be sub modulated starts the msg at 1410. Any observer can proof the sub modulated tones? (It sounded as a digitally coded squelch opener) (28/JUL) (IE)
14692.5	JMJ4	Tokyo Meteo 0754 FAX 120/576 fair wx chart (27/AUG) (RH2)
14728		M12 1640 ??? 963x3 1 3681 142 3681 142 (07/AUG) (GD2)
14731		BPA (FAPSI) M42 1500 ??? carrier on early as usual for 1515 xmsn but just didled the keys a few times then off at 1503 (08/AUG) (BR)
14750	VLB2	Mossad number station 1646 USB continue VLB2 at 16.50 s/off no mgs monitored (??/???) (BVR)
14763	DOR	MFA Sofia 1640 RTTY 75/318 Nx\Bulgar (01/SEP) (RH2)
14817.5		UNID 1551 CROWD36 Unable decode (13/AUG) (RH2)
14843		JMS FAPSI (M42) 2230 RTTY Loud N0N, then FAPSI RTTY (M42) ended at 2236 (10/AUG) (HS2) * 2230 RTTY 425/75 with 2/358 msgs (31/JUL) (BR) * ???? RTTY 425/75 with 3/447 msgs (24/JUL) (BR) * ???? RTTY 425/75 with 4/520

msgs (27/JUL) (BR)

14892 Russian Man 'control' (S25) 0804 ??? id 615 fin at 0818 (17/AUG) (DR1)

14931 8BY UNID 2056 CW vvv 8BY 097/629/532/476 //12075 10248 (??/???) (LBJ)

14941 WNY FAPSI (M42) RTTY 425/75 with 1/125 msg (24/JUL) (BR)

15006.7 EGYPTIAN EMB? LOC 1340 ARQ Op chat, end of qso. Last logged as Madrid emb (8/Sep) (DW)
>MFA CAIRO 1340 ARQ Constant mark or space btwn bursts. Calling sequence selcalls RCVB (Washington). Switch fec, indicates qsx 53071 (=17035+1.7 =17036.7 (20/AUG) (DW)

15007 UNID 1018 CW Time signal, but offair 1025 with no further signals to 1100z (25/AUG) (DW)

15016 APSIS ???? ??? wkg Operations (19/JUL) (AN)

15388 V13 1300 ??? New Star Broadcasting YL/CC 4FGx2 (17/AUG) (JM4) * 1300 ??? New Star Broadcasting YL/CC 4FGx2 (16/AUG) (JM4)

15478 The Counting Station (V5) 0100 ??? Strong but noisy signal. 3/2 FG. Repeated "groupo" at 0123 "Fin" at 0135 //16050 (14/AUG) (JL1) * 0100 AM (??/???) (BR) * 0100 AM 0100 YL/SS "407" w/1-0 count. At 0110, "Grupo 219" and into 3/2FG //16050 (29/JUL) (JM4) * 0100 AM YL/SS 3/2FG //16050 (17/JUL) (JM4) * 0100 AM YL/SS 3/2FG in progress //16050 (12/AUG) (JM4) * 0100 3/2 FG. "Fin" at 0135 //16050 (12/AUG) (JL1)

15624 Cherry Ripe (E4) 0003 USB id 15185 (28/JUL) (DR1) * 2202 USB id 55766 short preamble (05/AUG) (DR1) * 2202 USB id 66269 (17/AUG) (DR1) * 2204 USB id inaudible (19/AUG) (DR1) * 2205 USB id 70365 (10/AUG) (DR1) * 2206 USB id 56263? short preamble (04/AUG) (DR1) * 2212 USB In progress (16/AUG) (DR1)

15633 HMF26 KCNA PYONGYANG 0948 RTTY 50/R/250 ry's with qrm "qra de HMF26/HMF35 freq 15633/13780 khz k.c.n.a. Pyongyang". 91 hz high. 1003 start of English press. Poor copy (22/AUG) (DW)

15635 M12 0112 CW rptg "564" then rapid 5FGx2 w/ long zeros. Down at :31 w/five long zeros. +60db! (03/AUG) (JM4)

15836 FAPSI 1529 RTTY 75/500 5LG on Link 70037 (10/SEP) (RH2)

15930.6 UNID 1234 RTTY 50/850 Unable decode. Strong sigs! (04/SEP) (RH2)

15961.7 RFLI FF Fort de France 2306 ARQ-E3/192 VZCZCBFL516 OO PROVENCE DE__OVENCE 9027 2122336 ZNR UUUUU CONTROLE DE VOIE 9027 NNNN (31/JUL) (WP3)

16050 V5 0105 ??? SS/YL/3-2FG in progress. Heard ten beeps just after the preamble. Strong (RST:55) but a weaker than //15478. Ended 0145, missed the "end" because of a sudden increase in noise //15478 (30/JUL) (JL1)

16084 LP (E3) 1405 ??? Very weak signal and barely readable. Jammer present intermittently be-fore and during transmission. Header: 84176 (05/AUG) (JL1) * 1500 ??? YL/EE rptg "75506" w/tune. 5FGx2 at :10 (15/JUL) (JM4)

16086 E5 The Counting Station 1100 USB SINPO 14423 format as follows 386 1234567890 ten beeps count 215 3ng\47 813/47 (18/AUG) (CT)

16087.7 RFVI FF Le Port, REU 1515 ARQ-E3/100 VZCZCREI986 (20/JUL) (WP3)

16106.7 SAM MFA Stockholm 0535 SWED-ARQ 100/400 5LG to unk (08/SEP) (RH2)

16107.2	SAM	MFA Stockholm 0542 SWED-ARQ 100/400 834 X 5LG to Ambassaden Damascus (08/SEP) (RH2)
16125.2	RFQP	FF Djibouti 0719 ARQ-M2/200 Ch B: VZCZCQPC007 Ch A: ZCQPB010 (01/AUG) (WP3)
16143		UNID 0722 CROWD36 Unable decode (09/SEP) (RH2)
16143.5		UNID 0802 CROWD36 Unable decode (20/AUG) (RH2)
16147.8		UNID 0741 CROWD36 Unable decode. Tx continuous for 35 mins +! (13/AUG) (RH2)
16151.4		UNID 0733 CROWD36 Unable decode (20/AUG) (RH2)
16165.2		FF PARIS 1051 ARQ-M2 200/400 4rc. 2 chan tdm Chan:A. Cct [PQB] Tfc in off line encrypt. Betas. Chan:B similar. Possible ID corrupt. In skip, poor sync (30/Aug) (DW)
16205	MKK	RAF London 1252 PICC6 20bd idle on eng ch (??/???) (BVR)
16218	HZW	FAPSI (M42) ???? RTTY 75/425 with 1/3 msg (28/JUL) (BR)
16255		UNID FAPSI 0700 RTTY 100/500 5LGs link 00190 (29/JUL) (ML2)
16261.7	RFTJD	FF Libreville GAB 0650 ARQ-E3 192/400 clear msg & 5lgs to Paris cct HAI (27/JUL) (ML2)
16280.2		FF PARIS 0842 ARQ-M2 200/400 4rc. 2 chan tdm Ch:B cct [RQF] tfc in offline encrypt and betas. Ch:A cct [RQG] betas, offline encrypted tfc (31/Aug) (DW)
16301.9		FAPSI 0635 RTTY 75/500 5LG Link 00018 (28/AUG) (RH2)
16317		POL Emb Kinshasa 0701 POL-ARQ 100/240 Calling SNN299 (MFA Warsaw). Many repeats. Heard daily! (03/SEP) (RH2)
16332	P	UNID 2125 CW Marker (??/???) (LBJ)
16332	S	UNID 2125 CW Marker (??/???) (LBJ)
16335	FZS63	St Denis Meteo 1140 FAX 120/576 Weak sig, wx chart outlines just discernible. Rarely heard (24/AUG) (RH2) * 1235 RTTY 75/400 wx codes & reports (24/AUG) (RH2)
16356.7	OLZ	MFA Prague 0737 RTTY 100/400 Nx\Czech (27/AUG) (RH2)
16362	PWR	B Ny 1200 RTTY 75/850 exercise OCEANIC XIII Part EE & part PP. Involving South Africa (ZRH), Peru & USN Florida. Tx from NCSO Fortaleza to OCA Brasnorte Natal, B (13/AUG) (RH2)
16551	WHW462	PIN OAK NEWJERSEY 1735 PACTOR-2 Occ marker, short data burst followed by cw ID "WHW462" then into qso (simplex?) burst mode (PactorII not decodeable here). qso ends with cw id (13/Sep) (DW)
16614.5	WHW462	PIN OAK NEWJERSEY 2048 CW Occasional marker, short data burst followed by cw ID "WHW462" (12/Sep) (DW)
16804.5		GMDSS/DSC 1450 GMDSS 29 packets rec'd in 2.5 hrs; 14 Errors, 6 Routine, 9 Safety/Tests (25/AUG) (RH2)
16905	FUV	FN Djibouti 2211 RTTY/75 faaa faaa de fuv fuv testing ryr sgs (31/JUL) (WP3)
16932	7TF	Algeria 2133 CW 7TF QSX 12551/12551,5/12553, 12553,5 khz tks k (??/???) (LBJ)
16940	XSW	Kaohsiung Radio, TWN 1255 CW CQ marker (15/AUG) (JRC)
16942.5	9AR	Croatia 2135 CW vvv de 9AR 2/3/7 ch 3/4/7 k (??/???) (LBJ)
16951.5	6WW	FN Dakar, SEN 2105 RTTY 75/850 test tape voyez le... (??/???) (MF3)
16961.5	FUF	FN Fort de France, MRT 2103 RTTY 75/850 test

		tape (??/???) (MF3) * 2203 RTTY/75 de fuf testing ryr sgs (31/JUL) (WP3)
16969	WLO	Mobile Radio, AL 1542 CW marker "DE WLO OBS/ AMVERS/QSX 4 6 8 12 22 MHZ NW ANS C3/4 K" (17/AUG) (JRC)
16971	JJC	Tokio rdo 2002 FAX 60/576 navigational warning (??/???) (MF3)
16982	PPR	Rio de Janerio Radio 0005 CW V marker (5/Sep) (JRC)
17036.7		EGY Emb Washington? 1346 ARQ Working Cairo (15006.7khz). Poor copy no positive ID. Lost qso with Cairo (20/AUG) (DW)
17050	4XZ	Ny Haifa 0110 CW V marker (11/AUG) (JRC)
17105	IRM	Roma Medico Radio 0112 CW V marker (11/AUG) (JRC)
17113	GKB6	Portishead Radio 1400 CW: "VVV VVV VVV DE GKB" sent 5 times, then "CQ DE GKB -...- QSX 4 8 12 16 MHZ -...- C6KU8 RTT EQAB P3XW5 RTT SVKJ RTT UWRS AR DE GKB AR" (4/Sep) (JRC)
17165.6	CLA41	Havana Radio 1725 CW "CQ CQ DE CLA CLA QSX C/3 8368/12552 TX 8573/12673.5 QSW CLA20/32 QRJ C/809 K" (23/AUG) (JRC)
17204	LFI	Rogaland Radio 1753 ARQ/CW marker (18/AUG) (JRC)
17416.6	SAM70	S Emb Addis Ababa 1248 SWED-ARQ 100/400 Tfc for MFA Stockholm (13/AUG) (RH2)
17416.9	SAM89	S Emb Luanda 1620 SWED-ARQ 100/400 tfc to Stockholm (1/SEP) (RH2)
17417.3	SAM	MFA Stockholm 0604 SWED-ARQ 100/400 5LG - prob to Luanda by sig stregth! (28/AUG) (RH2)
17422.7	RFFVAEA	FF Dhahran, ARS 1035 ARQ-E3/200 1855z zic fkw012 zid fdx022 (07/AUG) (WP3)
17423	CLP23	Embacuba Lagos 0855 RTTY 75/400 tfc/SS to Embacuba Conakry (CLP8) re Cubana IL-62 cargo problems (28/AUG) (RH2)
		>Minrex Havana 0838 RTTY 100/400 Nx\SS (01/SEP) (RH2)
17428.4	SAM	MFA Stockholm 0615 SWED-ARQ 100/400 5LG to unk (02/SEP) (RH2)
17428.5	SAM	MFA Stockholm 0553 SWED-ARQ 100/400 5LG to unk (08/SEP) (RH2)
17429.4	SAM	MFA Stockholm 0552 SWED-ARQ 100/400 5LG's prob to Southern Africa by sig strength! (28/AUG) (RH2)
17430		FAPSI 0544 RTTY 75/500 5LG - no link seen (20/AUG) (RH2)
	9VF209	>KYODO Singapore 1545 FAX 60/576 JJ Newspaper (07/SEP) (RH2)
17430.4		FAPSI 0539 RTTY 75/500 5LG Link 30044 (28/AUG) (RH2)
17461		MFA Rome (tent) 0701 RS-ARQ 228.5/170 Unable decode (08/SEP) (RH2)
17499		Cherry Ripe (E4) 0003 USB Weak id inaudible (11/AUG) (DR1) * 2300 USB id 15185 simulcast //20474 23461 (14/JUL) (SD) * 2300 USB id 440?? (16/AUG) (DR1) * 2300 USB id 73553? (17/AUG) (DR1) * 2300 USB id 83980 (27/JUL) (DR1)
17550.7	RFTJ	FF Dakar, SEN 2145 ARQ-E3/192 VZCZCAFL9OO RFTJ DE RFTJ 2122229 ZNR UUUUU CONTROLE DE VOIE NNNNVZCZCAFL901 OO PROVENCE DE PROVENCE 8956 2122236 ZNR UUUUU (31/JUL) (WP3)
17911.7		MFA Cairo 0540 ARQ 5lgs to Abu Dhabi, QSX 18211.7 (23/JUL) (ML2)
18000	BEC	Phonetic alphabet-pre NATO (E15) 1103 ??? id BEC QRU msg (18/AUG) (DR1)
18003.7		EGY Emb Jakarta 0900 ??? (JG QKWFHK) ATU msgs (23/JUL) (ML2)

18064		MFA Warsaw 1711 POL-ARQ 100/240 Nx\Pol (04/SEP) (RH2)
18183.4		MFA Algiers 0810 COQ8 26.67 Tfc\FF & QSL.s to/from - Ambalgs Addis Ababa, Kampala, Nairobi, Rabat, Harare, N'Djamena, Accra - spread over 30 mins (10/SEP) (RH2) * 0802 COQ8 26.7/I/8*33 (Flash) tfc in French to var African emb. Sbj f/plan Algiers-Durban-Algiers, 0822z "cq de rle par P.C. qap + qat les qsl avec les nrs". 0824z FF Px bulletin (19/AUG) (DW)
		>ALGERIAN EMB ADDIS ABABA 0836 COQ8 26.7/I/8*33 Tfc in French (19/AUG) (DW)
18183.5		MFA Algiers (MAE) 0747 COQ8 26.67 Tfc\FF for Dakar & Libreville re Diplo bag en route per Air Algerie (14/AUG) (RH2) * 0735 COQ-8 26.67 Tfc in FF for Yaounde, Luanda & Maputo re diplo bags (14/AUG) (RH2)
18203	P6Z	MFA Paris 1706 ARQ690 200/400 5LG to unk (08/SEP) (RH2)
18214	RFFX	MoD Paris 0920 ARQ-E 184.5/400 5LGs to RFFXL Naqoura cct XXL (20/AUG) (ML2) *
		>FF UNID 1643 ARQ-E 184.7/E/400 8rc. Betas. No tfc (29/AUG) (DW)
18242	ZRO4	Pretoria Meteo 0905 RTTY 75/400 High seas wx for Met area V11 (21/AUG) (RH2) * 1808 RTTY 75/400 Met tfc (29/AUG) (DW)
18261	GFE24	BRACKNELL MET 1255 FAX Upper air chart for Europe. M/path distortion (5/Sep) (DW)
18264	XVN48	VNA HANOI 0555 RTTY 50/R/500 Press in FF. 380hz high on lists. Very poor copy. Appears end of trsmsn 0603z. 0608z start of EE trnsmsn. Signal improving. End of trnsmsn 0634z "until "1+:00" ("1z:00"?) (8/Sep)(DW) * 0601 RTTY 50/R/500 Press in EE. 380hz high on listed assignment. Ends with " we are now closing down. Our newscast will be resumed at 12:00 gmt" (7/Sep) (DW)
18264.4	XVN48	VNA Hanoi 0558 RTTY/50 nx e (08/AUG) (WP3)
18270.5	HBD39	SWISS Emb Nairobi 1123 SITOR-A tfc to HBD20 (07/AUG) (WP3)
18271.7		MFA Kairo? 0603 SITOR-A hjkj tys ths 222 huxd xykb kdlfm rgk wdsf huxd (08/AUG) (WP3)
18380.2	RFFAAC	MOD Paris? 1256 ARQ-E3/100 zczcire270 oo rfvi de rfvi 2191219 znr uuuuu controle de voie nnnn (07/AUG) (WP3)
18410	GXQ	RN LONDON 1827 VFT DCN 8 chan interleaved (29/AUG)(DW)
18411.955	GXQ	RN LONDON 1829 RTTY 50/340. Chan 5 in vft. "ryi's qbf figs test de GXQ" (29/AUG) (DW)
18415	8BY	UNID 1448 CW Marker "vvv 8BY 933/643/906/033/388/673" (5/Sep) (DW)
18496.1	CNM80X11	MAP RABAT 0928 RTTY 50/425 Press in AA (ATU70) (31/Aug) (DW)
18496.1	CNM80X11	MAP RABAT 1025 RTTY 50/425 Press in FF. Supposed to be AA at this time (31/Aug) (DW)
18496.1	CNM80X11	MAP RABAT 1227 RTTY 50/425 Late start (s/b 1200z) English press (22/AUG) (DW)
18570	MKD	RAF AKROTIRI 1040 VFT 2 chan PICC6. Both channels on standby (06/SEP) (DW)
18570.51	MKD	RAF AKROTIRI 1043 VFT PICC6. Ch:1 (eng) in vft. Standby. IDed fm previous logs (06/SEP) (DW)
18655.7	RFFVAE	FF Dhahran 1509 ARQ-E3/200 tfc to rffugo bonjour a paris det02 rr rffugo de rffvae #0001 2201007 znr uuuuu r 081007z aou 98 bt bbbb ypsou pdhcb ypsou pdhcb ypsou pdhcb iabra iabra iabra neyls (08/AUG) (WP3)

18757.8	SAM58	S Emb Jakarta 0730 SWED-ARQ 5lgs (31/JUL) (ML2)
18760	P6Z	MFA Paris 1815 FEC-A 192/400 calling Y9L (Pretoria) - no response (20/AUG) (RH2)
18847.5	WHW462	PIN OAK NEWJERSEY 2100 CW Occasional marker, short data burst followed by cw ID "WHW462" (12/Sep) (DW)
19046.7		FF PARIS 0953 ARQ-E3 192/400 8rc. Betas 0958z Cct [LFA] to Dakar. Controle de voie RFTJ de RFTJ. This is a spurious emission of 18048.7? (viz) (16/AUG) (DW)
19048.67		FF PARIS 1005 ARQ-E3 192/400 8rc. Listed as correct transmission. Last logged Jun and spurious emissions rptd then. Spurios at 1 khz intervals fm 19045.67 thru 19060.67. Max power in 19047.67 (16/AUG) (DW)
19088	WNY	FAPSI (M42) ???? RTTY 75/425 with 1/125 msg (24/JUL) (BR)
19145	RFTJ	FF Dakar 1140 ARQ-E3 200/400 CdV on DKJ cid (13/AUG) (RH2)
19145.7	RFTJ	FF DAKAR 0747 ARQ-E3 200/400 8rc. Tfc in French. Cct [DKJ] to Djibouti. Controle de v RFTJ de RFTJ (17/AUG) (DW)
19204.7	RFLI	FF FT DE FRANCE? 0925 ARQ-E3 100/400 8rc. Very weak, little sync (17/AUG) (DW)
19216.7	RFLI	FF Fort de France 1941 ARQ-E3/96 contole de voie VZCZCLIH005 OO RFLI DE RFLI 2121947 ZNR UUUUU CO_TROLE D__ROLE DE VO_E NNNN (31/JUL) (WP3)
19256		Russian Navy 1600 36-50 50/180 Unable decode (10/SEP) (RH2)
19309.6		UNID 1630 PACTOR 200 Tx stopped as I tuned in Guess UNHCR (09/SEP) (RH2)
19462.9		SUNA KHARTOUM 1006 RTTY 50/200 Press in English (22/Aug) (DW) * 1600 RTTY 50/200 Start up marker "suna...suna...suna.." and ry's. Press in French (21/AUG) (DW) * 1700 RTTY 50/200 Press in English (21/Aug) (DW)
19615	MTS	RAF Port Stanley 1649 PICC6 20bd idle (??/???) (BVR)
19635	P6Z	MFA Paris 0707 FEC-A 192/400 Calling TJN/ Beijing (09/SEP) (RH2)
19667		UNID FAPSI 1000 RTTY 75/500 5LGs link 30055 (29/JUL) (ML2)
19687	KHF	UNID 1535 SITOR-A marker (11/AUG) (WP3)
19692.5	ZSC	Cape Town Radio 1533 SITOR-A globe wireless traffic to ship (11/AUG) (WP3)
19706	LSD	Globe Wireless Buenos Aires 1839 ARQ sc BSQI (??/???) (BVR)
19708	SAB	Globe Wireless sta 1055 SITOR B 100/170 free channel marker+ cw id (??/???) (MF3)
19730	P6Z	MFA Paris 0920 FEC-A 192/400 Calling N2G (San'a) then 5LG (08/SEP) (RH2)
19730.5	P6Z	MFA Paris 0730 FEC-A 192/400 calling N2G (Damascus) - no QSO (20/AUG) (RH2)
19860	MGJ	RN Faslane 1513 RTTY 75/390 CARB (11/AUG) (WP3)
19884		Cherry Ripe (E4) 1300 USB id 16511 short preamble //22108 (11/AUG) (DR1) * 1300 USB id 31310 //22108 (17/AUG) (DR1) * 1301 USB id 13553 //22108 (20/AUG) (DR1) * 1301 USB id 36992 //22108 (18/AUG) (DR1) * 1304 USB id 72451 (10/AUG) (DR1) * 0117 USB Counting Stn f voice giving 5LG's x 2 (14/AUG) (BC3) * 0000 USB weak - only tune audible //22108 (16/JUL) (JM4) * 0100 USB //21866 (11/AUG) (HS2) * 0100 USB 5FGx2 in progress (17/JUL) (JM4) * 0100 USB extremely weak - only tune

		audible (28/JUL) (JM4) * 0100 USB weak - YL could barely be heard (03/AUG) (JM4) * 0100 USB YL/EE rptg "55____"w/tune - weak (10/AUG) (JM4)
20091.7		EGY Emb Kinshasa (tent) 0927 ARQ 5LG's to unk., no ID's. This is a regular Cairo link (23/AUG) (RH2)
20327	RFHI	FF Noumea ARQ-E3 100/425 Noumea/LePort cct [HII] (21/AUG) (BC3)
20474		Cherry Ripe (E4) 1002 USB id 31310 //23461 (20/AUG) (DR1) * 1019 USB In progress //23461 (17/AUG) (DR1) * 1100 USB id 36992 (20/AUG) (DR1) * 1100 USB id 47984 short preamble //23461 (17/AUG) (DR1) * 1102 USB id inaudible (21/AUG) (DR1) * 1104 USB id 41198 //23461 (18/AUG) (DR1) * 1104 USB id 80715 short preamble //23461 (10/AUG) (DR1) * 1105 USB id 36434 short preamble //23461 (11/AUG) (DR1) * 1107 USB id 16511? short preamble //23461 (05/AUG) (DR1) * 1107 USB id 16511? //23461 (06/AUG) (DR1) * 1111 USB In progress (07/AUG) (DR1) * 1126 USB In progress //23461 (04/AUG) (DR1) * 1200 USB id 72451 short preamble //23461 (11/AUG) (DR1) * 1200 USB id inaudible (21/AUG) (DR1) * 1201 USB id 31310 //23461 (18/AUG) (DR1) * 1202 USB id 16511 short preamble //23461 (05/AUG) (DR1) * 1202 USB id 44064 //23461 (20/AUG) (DR1) * 1202 USB id 72451 //23461 (04/AUG) (DR1) * 1204 USB id 36434 //23461 (10/AUG) (DR1) * 1219 USB In progress //23461 (05/AUG) (DR1) * 1219 USB In progress //23461 (06/AUG) (DR1) * 1221 USB In progress (07/AUG) (DR1) * 1222 USB In progress //23461 (17/AUG) (DR1)
20556.5	P6Z	MFA Paris 1727 FEC-A 192/400 calling L9C (Buenos Aires) (28/AUG) (RH2)
	RFGW	>MFA Paris 1705 FEC-A 192/400 5LG's embassy circular (1/SEP) (RH2)
20613	HBD22/2	SUI Emb New Delhi 0710 w/no message (11/AUG) (ML2)
20730.6		UN? LOC 1529 PACTOR-U 200/200 Tfc in French, subject Kinshasa (20/AUG) (DW)
20798.0		UNID 1003 ??? 100.1/200 Unable decode. Could it be HNG-FEC? C3G said ARQ-E then Fec-100 (10/SEP) (RH2)
20853	G7M	F Emb Bangkok 0850 FEC-A 192/850 5lgs (11/AUG) (ML2)
20923	NDJA	F Emb N'Djamena 1558 ARQ690 200/400 5LG to MFA Paris. AnyWUN know the significance of the two callsigns - NDJA & NDJZ - for same station? (14/AUG) (RH2)
20925	NDJX	F Emb N'Djamena 0847 ARQ690 200/400 5LG to MFA Paris (25/Aug) (RH2)
20960		MFA Stockholm 1303 SWED-ARQ tfc 5 l to ? (11/AUG) (WP3)
20986.7	SAM	MFA Stockholm 1109 SWED-ARQ 100/400 5LG to Ambassaden Lusaka (09/SEP) (RH2)
22108		Cherry Ripe 0000 USB (11/AUG) (HS2) * 0000 USB (new format) YL/EE rptg "01399" w/tune and into 5FGx2. (12/AUG) (JM4) * 0000 USB YL could barely be heard (03/AUG) (JM4) * 0000 USB YL/EE 5FGx2 in progress. (11/AUG) (JM4 * 0000 USB YL/EE rptg "55766" and into 5FGx2 at :08! (04/AUG) (JM4) * 0000 USB YL/EE rptg "56263" w/tune and into 5FGx2 (10/AUG) (JM4)
22181.5	WHW462	PIN OAK NEWJERSEY 1805 CW Occ marker. Short

		data burst followed by CW ID "WHW462" (13/Sep) (DW)
22377	GKE7	Portishead Radio 1802 ARQ/CW marker (18/AUG) (JRC)
22563	XSW	Kaohsiung Radio TWN 0020 CW "CQ CQ CQ DE XSW K" (5/Sep) (JRC)
22603.5	PPR	Rio de Janerio Radio 0028 CW V marker (5/Sep) (JRC)
22628.5	VTG9	IN Bombay, IND 0659 CW vvv vvv vvv vtg 4/6/7/9 clg vwgzzbo nil (07/AUG) (WP3)
23053.7		POR Emb Kinshasa 1105 ARQ 267 x 5LG prob. to MFA Lisbon - this is a known link (19/AUG) (RH2)
		>POR Emb Luanda (LUSA) 1030 ARQ 5LG to MFA Lisbon (2/Sep) (RH2) * 1116 ARQ "ALO LISBOA EMB LUANDA TEL 1763 BEM RECIBIDO?" then "DE EMB LUANDA PARA NESTRANGEIROS - URGENTE" then 5LG's. My 1st confirmed log ex PP Emb Luanda (19/AUG) (RH2) * 1743 ARQ 349X5LG to NESTRANGEIROS LISBOA, signed LOCAL 39616 LUSA (25/AUG) (RH2)
		>PORTUGUESE EMB? LOC 1313 ARQ Selcalls ZPZP (calling Lisbon) (4/Sep) (DW)
23370	HZN50	JEDDAH MET 1430 RTTY 100/R/850 Poor copy, not helped by MARK not clean but showing as 4-5 small tones instead of single tone (20/AUG) (DW) * 0642 RTTY 100/770 wx aus 02xxx 06xxx (07/AUG) (WP3)
23461		Cherry Ripe (E4) 1002 USB id 72451 (06/AUG) (DR1) * 1002 USB id 72451 short preamble (05/AUG) (DR1) * 2300 USB YL/EE 5FGx2 in progress (15/JUL) (JM4)
24370	P6Z	MFA Paris 1250 FEC-A 192/400 Calling S5F (Brasilia), then switched to RFGW & 5LG's (07/SEP) (RH2)

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September 1998
5 Megahertz Pacific Survey

5010 VJQ Kalgoorlie RFDS School of the Air
5057 Unid Chinese tfc
5058 Aussie commercial users
5086.7 Unid Indonesian or Malaysan radphone
5090 Funafuti,Tuvalu.Phone link to Suva
5102 Aussie commercial users
5105 Australian commercial users
5110 VJI Mt Isa RFDS
5116 VLR Longreach QLD, RFDS School of the Air.
5120 Unid Aussie phone net
5123 ZKG21 Dept of Conservation, Auckland
5125 Aussie fishing net
5128 Aussie bushfire Council
5130 Unid Fijian phone net
5135 Aussie commercial users
5135 PNG Telefonim service to Vanimo
5140 Unid Pacific island phone net
5140 Unid Russian radphone
5140 Unid Australian commercial users
5145 VJN Cairns RFDS
5150 PNG Telefonim service to Goroka
5156.5 STALLION 16 & FOO, US military stns.
5165 Unid Pacific island phone net
5167 Unid Australian Commercial fishing stns
5170 Unid Russian phone net
5175 Unid Indonesian tfc
5180 VL5AP South Australia police net
5180 PNG Catholic Mission of the Divine Word
5181.5 Aussie commercial users
5192.5 Unid Indonesian tfc
5195 Aussie commercial users
5195 PNG Commercial tfc
5205 KUP Micronesia interisland tfc
5210 Unid Philipino tfc
5210 Aussie fishing boats
5215 Unid Chinese tfc
5225 ZME Raoul Island, joint Weather stn & Dept of Conservation.
5229 Possible French Polinesian Gendarme/Military net
5243 VLH Charleville, RFDS Shool of the air
5245 Unid indonesian tfc
5245 PNG telefonim service to Madang
5251.5 'XB4' & "090" Unid stations with US accents.
5252 Unid Pacific island radphone
5258 Telecom Suva,in EE and Fijian
5260 VKJ Mekatharra RFDS School of the air
5264 Unid Aussie commercial users.
5270 Australian & French polinesian commercial users
5272 '1T2' & 'TT3" New Zealand Army net.
5273 Aussie commercial users
5274.8 Unid Philipino tfc
5275 New Zealand Army net, 95 INDIA, DELTA ROMEO ect.
5277 PNG C.G.R.N. radio network Kerema
5278 ZLCL Red Cross, Christchurch New Zeland
5293 Unid new Zealand Commercial users.
5300 VJN Cairns RFDS
5302 DELTA QUEBEC GOLF & 5 LIMA, New Zealand Military.
5303 PNG Telefonim service,Unid
5305 Unid Pacific island radphone
5307 Unid Pacific island radphone
5308 Unid French Polinesian phone tfc
5310 Solomon Island commercial users

5311 Unid Chinese tfc
5312.2 Unid Pacific island radphone
5315 Unid Chinese tfc
5316 Unid Philipino phone net
5317 Unid Chinese tfc
5324 Unid Pacific island radphone
5335 6 X-RAY, New Zealand Army
5335 ZERO ALPHA & '20', New Zealand Army net.
5342 Unid Pacific island radphonea,d Aussie commercial users.
5350 Presumed Telecom Fiji, in EE and Fijian.
5352 New Zealand Fishing vessels
5357 Aussies fishing vessels
5357 Unid pacific island radphone
5360 VJQ Kalgoorlie RFDS
5360 PNG telefonim service to Daru
5362.7 Unid Pacific island radphone
5367 Unid Indonesian tfc
5377 "LTN" , "20" , "12B" & "14" New Zealand Army net.
5380 Unid Pacific island radphone
5383 ZKCT Civil Defence Palmerston North,New Zealand.
5388 Unid Pacific Island phone net
5389 ZKNT Auckland Civil Defence net.
5395 31 & 95, New Zealand Army net.
5397 Unid Australian commercial users
5400 PNG telefonim service to Lae
5400 Possible Fijian Police net. callsigns like 78, 79, 84, ect.
5400 Aussie commercial users
5404 Dept of Conservation, Tauranga New Zealand
5407 Unid Pacific island tfc
5410 VJD Alice Spring RFDS
5425 Cook Island phone tfc
5425.5 US Army reserves
5427 VJQ727 Capricornian School of the air,Rockhampton QLD.
5430 PNG telefonim service to Goroka
5432 Aussie fishing vessels
5436 7 UNIFORM, and QUEBEC ROMEO, Fiji Army net.
5439 Unid Pacific island radphone
5440 Lae, PNG phone to Port Moresby
5442.5 Unid EE tfc list LSB
5450 PNG commercial users
5454 Unid Pacific island stns
5455 Australian 4 wheelers Club channell
5458 PNG commercial users
5465 PNG commercial users
5472 Unid Australian boat tfc, and philipino tfc
5476 Aussie commercial users
5477.5 Unid Asian radphone
5485 Unid EE tfc
5490 Unid chinese tfc LSB
5492 Unid Asian tfc
5500 Unid Japanese phone net
5502 Unid pacific island radphone
5505 EIP Shannon radio Volmet
5511.5 Unid Pacific island radphone
5514.5 Unid Chinese radphone LSB
5522.5 Aussie fishing vessels
5526 Aussies Domestic flights
5530 Unid Pacific island radphone
5533 Unid Asian phone net
5535 Unid chinese tfc
5536.5 Unid chinese tfc
5547 ICAO CEP San Francisco
5550 Unid Japanese tfc
5554 Unid Chinese tfc
5555.5 Unid Chinses tfc
5557 Khabarovsk radio Volmet
5558 Unid Pacific island radphone
5560 Unid Pacific island radphone

5565 ICAO Weewak air PNG
5574 ICAO CEP Honolulu,San Francisco
5575 Unid Russian Military net.
5585 Unid Pacific island radphone
5591 Unid Pacific Island phone net
5598 ICAO NAT-A Santa Maria,Shanwick
5608 Unid Pacific island radphone
5610 Unid Russian tfc
5616 ICAO NAT-B Gander
5620 Aussie fishing vessels
5622 Unid Chinese tfc
5628 ICAO NP Tokyo,Honolulu
5630 Unid Chinese tfc
5633 Unid Japanese phone net
5634 Perth Domestic flights
5642 Unid Pacific island radphone
5643 ICAO SP Nandi,Auckland,Honolulu ect.
5644.5 Unid Japanese tfc
5649 ICAO NAT-C Gander
5650 Australian fishing vessels,very strong language
5655 ICAO SEA-2 Bangkok,Hong Kong
5667 ICAO MIDI Honolulu
5673 Beijing radio Volmet
5680 International Rescue
5685 Unid Asian radphone
5687 Airforce Sydney,Darwin,Brisbane,Auckland
5691 Russian Volmet,Irkutsk,Kuybishev
5696 Inmternational rescue.Commsta Kodiak,Chesapeake
5700 Unid Pacific island phone net
5712.8 Unid Pacific island radphone
5720 Unid Chinese tfc
5730 PNG commercial users LSB
5733.3 Unid Asian phone net
5742.5 Unid Pacific island radphone
5745 Honiara.Seventh Day Adventist church
5757 Australian or New Zeland commercial users
5757 Unid Commercial stn, Honiara Solomon island
5770 Aussie commercial users,Variety Club
5775 Aussie commercial users
5777 Unid pacific island radphone
5782 PNG telefonim service to port moresby
5786 Unid Pacific island phone net
5800 Unid Chinese tfc
5805 PNG Goroka radphone to Kundiawa
5818 Unid pacific island radphone
5820 Mossad numbers stn by YL
5820 Unid Chinese tfc
5823 Unid EE numbers stn YL
5836 PNG Aloatu,Milne Bay radphone to Port Moresby
5838 Unid Philipino tfc
5845 VNZ Port Augusta, RDFS School of the air.
5846 Honiara Solomon Island radphone
5850 Unid EE numbers stn
5851 Aussie commercial users
5865 VLN Cairns, RFDS School of the air
5870 Unid Philipino tfc
5875 Australian commercial users
5881 Unid Spanish accented EE tfc
5882 PNG commercial users
5885 PNG C.G.R.N. Aloatu
5885 Unid, Melbourne mobile workshop.
5892 PNG C.R.M.F. secondary frequency
5895 PNG C.R.M.F. primary frequency
5898 Unid Solomon Island stations
5903 Australian commercial users
5945 South Australian Country Fire authority

ABBREVIATIONS:

R F D S = Royal Flying Doctors service
C R M F = Christian Radio Missionary Fellowship- PNG
C G R N = Community Goverment radio network - PNG
P N G   = Papua New Guinea

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== END == FIN == ENDE == FINE == FIM == KONETS ==

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If you have problems in this, or need further information contact Dave Wright at: dcwright@usa.net

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From your Electronic Editor:
* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.
* I would like to welcome Donald Stidwell, who as the new Editor of the Logs Column is coming aboard with his first column. Welcome, Donald!
* We are still looking for someone to take over as Editor for the Nautical News Column as well as the Military Newsreel. Step forward and help out your fellow club members.

WHAT'S INSIDE:
o Membership News by Mike Wolfson
o International Civil Aero by John Svendsen
o Digital Review by Day Watson
o Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o Numbers and Oddities by Ary Boender, Chris Smolinski, & Jascha Ruesseler
o The QSL Report by J.D. Stephens
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o The Military Newsreel by David C. Wright
o The WUN Logs Column by Donald E. Stidwell and TEAM LOGS

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MEMBERSHIP NEWS
Mike Wolfson, editor
mwolfson@bright.net

Welcome to the WUNNEWS membership column for October. I am happy to report that since July the club has added 58 members. That reverses the reduction I noted last time. As far as I can tell, the number of members so far this year seems to be fluctuating at between 1000 and 1100. The stats for this month, July 1998 and September 1997 are below.

	10/98	7/98	9/97
WUN	827	792	726
WUN-DIGEST	239	216	184
Totals	1066	1008	910

I'm also happy to report that the international representation of the club continues to be strong. This month we had members subscribing from 35 countries. The complete list (in no particular order) is: Hungary, Pakistan, Iceland, Czech Republic, Sri Lanka, Mauritius, United States, Taiwan, United Kingdom, Germany, Netherlands, Canada, Japan, Australia, Ireland, Italy, New Zealand, France, Sweden, Brazil, Portugal, Greece, Switzerland, Indonesia, Suriname, Norway, Austria, Spain, South Africa, Croatia, Belgium, Denmark, Slovak Republic, Latvia and Finland.
The final bit of news is that I now have 256 members listed in the database. Thanks to everyone who submitted information to me over the last couple of months. If you would like to be added to the total please e-mail me at:

mwolfson@bright.net

E-Mail Address
Name
Where you're located (State/Province, Country)
Main receiver(s)
Main decoding equipment (HOKA, JVFAX, etc)
Monitoring interests (aero, marine, etc)

The information will not be shared with anyone or used by anyone except club officers for club purposes. The database management program I'm using can accept ASCII text. I am requesting that you answer each question on a separate line followed by a carriage return. PLEASE DO NOT INCLUDE THE QUESTION ITSELF IN THE ANSWER; just the information requested. For example:

mwolfson@bright.net
Mike Wolfson
Ashland, Ohio USA
NRD535, R5000
None
milair, civilian aeronautical, USCG SAR

If you're sending me a revision please indicate that in your response. I don't know about you, but listening conditions are picking up for me. I'm hearing more stations when I have a chance to spend some time at the radio. Hope everyone else is experiencing the same level of improvement. Until next time good listening. Mike

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*** CIVAERO ***

Hi all and welcome to another edition of the CivAero Column. As you all might know they have moved the airport from Oslo to Gardermoen, and that has been some kind of a disaster with lots of delays and canceled flights, and they all blame the new aero routes over Europe, but I can't make that excuse fit in somewhere as no other airports has such delays. And today (25th) there are going to be even worse, as they switch over to the winter schedule ;)

Well here is the rest of the stuff, and if you have anything that can fit in here, please mail me. I will give a message to the list later with a new mail address for this column only.

Two mail items from Markus Buttinger in Austria:

Hi again from Austria, this could be of interest to aero buffs:
http://www.terravista.pt/aguaalto/2010/ is the site of CSY, Santa Maria Aeronautical Radio. Apart from lots of interesting information, the site offers a form you simply have to fill in, and they promise to send you a QSL card. (I haven't tried yet, but I will!)

I have tried it and it works ;)

Remember the mail where I sent you the URL for CSY - Santa Maria Aero? When I checked it again today, I found that they now have a lot of links that could be of interest to WUNers.
Among them are SDJ Stockholm Radio
http://www.stockholmradio.telia.com/aero/
USAF aeronautical station
http://www.sound.net/~kahuna/airways.html
You might want to include these in a newsletter. regards,

From Bob Margolis...

Update to the Aero column in the Sept. newsletter. Philippine Airlines will resume domestic flights Wednesday. Its employees approved a recovery plan last Friday, one week after all operations were closed. (See newsletter for details.) International flights are "being reviewed," so they won't be heard yet on the HF aero bands. The recovery plan, approved by 2/3 of the employees, calls for them to give up a collective-bargaining agreement for 10 years. They will get in return a 20 percent stake in the airline and three seats on the company board.

NEW DELHI, India, Oct. 3 (UPI) -- Air Canada has resumed its operations in India after a four-month hiatus due to a pilot's strike and shortage of aircraft. Air Canada, which suffered a $300 million loss due to the 13-day strike over wages, has resumed four-days-a-week service between Vancouver, Toronto and New Delhi. Douglas D. Port, a senior vice president for the airline, said, "We missed not serving India and we are back with our premier aircraft, the A-340." Port admitted that the decision to pull out of India for four months in June and deploy the aircraft on more lucrative routes did not work out as anticipated as the British market got saturated during this period and the yields of the airlines dropped. He said that Air Canada, which prides itself on its business-class service, was aiming at serving the cities of Hyderabad and Bangalore, too, by next year. Air Canada, a member of the powerful six-airline "Star Alliance," is planning to focus more on Indo-Canadian as well as Indo-British business traffic and de-emphasize traffic such as one-way flights for emigrants to Canada. Air Canada, which had a $427 million profit in 1997, is expecting a loss in 1998 due to the pilots' strike as well as the effects of the Asian economic "flu' on the aviation sector.

MOSCOW, Oct. 8 (UPI) -- Alaska Airlines has announced it is halting flights to Russia's Far East for an indefinite period after the operation started losing money. Alaska Airlines, which operated a weekly flight between Anchorage and the Russian cities of Magadan ("mah-gah-DAHN"), Khabarovsk ("hah-BAH-rawsk"), Vladivostok ("vlah-dee-vah-STOCK"), Petropavlovsk-Kamchatsky ("pet-rah-PAHV-lovsk kam-CHAT-skee") and Yuzhno-Sakhalinsk ("YOU- zhnah sah-hah-LEENSK"), said today the Russian economic crisis has caused passenger numbers to drop below sustainable levels. The cancellation of the Alaska operation, launched four years ago, leaves the Kamchatka peninsula without international service and the Pacific port city of Vladivostok with a weekly Aeroflot flight to Anchorage as the last link between Russia's Far East and the United States. The Alaska flight was used by both tour operators and U.S. and Russian businessmen, many of whom will now be forced to fly via Japan or take a six-hour flight to Moscow to connect with flights to New York.

SOFIA, Oct 12 (AFP) - The Bulgarian airline Balkan, which is in deep

financial trouble and due to be privatised, faces an increasingly uncertain future in the absence of any serious candidate willing to take it over. Balkan has three Boeing 737-500s and two Boeing 767-200s and its fleet also includes 27 Russian aircraft, most of which are considered obsolete and which include 14 TU-154s. The company employs 3,700 people and its turnover on international routes is estimated in 1998 at 130 million dollars. Under the communist regime, Balkan benefited from state funds to make up its losses. But in 1989, subsidies were cut off with the result that in 1990 the airline lost 20 million dollars. Balkan was hard hit by the international embargo against Yugoslavia which caused it a direct loss of 1.5 million dollars and indirect losses of two million dollars, according to the company's own estimates. In December 1997, Balkan's debts amounted to 109.5 million dollars, according to US consultant KPMG. This figure had been slashed to 90 million dollars by the end of July this year. In March, 500 pilots, air hostesses, executives and other Balkan personnel, including the former managing director Valery Doganov, founded the company "Balkan Air" as part of a plan to buy up Balkan for 450 million dollars and to take over its debts of 90 million dollars. Balkan's privatisation has attracted little interest among prospective foreign buyers and the Bulgarian agency for privatisation, must shortly decide whether "Balkan Air" is a viable option. However the agency's director Zakhary Zheliazkov admitted last Friday that the government and the agency had still not taken a final decision on whether to go ahead with the privatisation. "Balkan Air" wants to invest 318 million dollars, mainly to buy new aircraft and to repay the airline's creditors, by setting up joint ventures with western airlines like Lufthansa or Virgin Atlantic. "Balkan Air", hopes to spend 132 million to acquire 75 percent of the airline, according to Eberhard von dem Busche who represents the German privatisation intermediary TOB (Treuhand Osteuropa Beratung) Speedwing. In addition to the reservations of the Bulgarian privatisation agency, the Bulgarian press has expressed doubts about the financial solidity of "Balkan Air". The press has cast doubt on the reality of its bank guarantee, claiming that a US investment fund which was supposed to provide 75 percent of the new company's launch capital had not given a cent. Balkan trade unions as well as its current managing director Filip Mustakov, have come out against a takeover by "Balkan Air" noting that the latter company was founded by Balkan's former manager Valery Doganov who, they claim is largely to blame for the airline's current difficulties. It is clear however that the Bulgarian government has little choice; the only other candidate interested in acquiring Balkan is a Russian aviation consortium comprising Vnukovo airlines, the Tupolev aircraft designers and Air Bulgaria, a company about which little is known and which is not yet officially registered.
An earlier attempt to privatise Balkan between 1992 and 1995 was shelved due to "lack of interest on the part of any adequate candidate".

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DIGITAL REVIEW

- Editor: Day Watson E-mail: jdwatson@cableinet.co.uk

- Nickname on IRC channels #wun & #monitor DayW

Hi digi WUNners

The menu

Aero	Addis Ababa Air
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Diplo	French diplo - new crypto system
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Military	French domestic mil exercises - Sept/Oct 98
Ntnl Governmental	Czech Border Guards update
Press	KCNA Pyongyang
	KPL Vientiane, Laos

	VNA Hanoi, Vietnam
	YONHAP, Seoul.
Special	Audio analysis tools
	Logging Pactor
Techi Tips	Receiver gain - AGC and manual
UNID	Clover net in Europe
	UNID on 3812

>>....Aero.....>

::: Addis Ababa Air
One for the air rtty list from Murray Lehman. He notes them on 7700 khz running 50/1000 on the circuit VTA to Asmara.

>>....dgps.....>

::: dgps stations - Part 1
Here is the first list covering dgps transmissions. Next month I hope to cover Europe.

AUSTRALIA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
304	200	001	701	120	9	Karratha, WA
304	200	005	705	100-150	9	Cape Flattery, Qld
308	200	003	703	100-150	9	Sydney, NSW
314	200	000	700	150	9	Cape Schanck, Vic
315	200	004	704	100-150	9	Mackay, Qld
320	200	002	702		9	Horn Is, Qld

CANADA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
Atlantic coast						
290	200	340 341	942	190		Cape Ray, Nfld
295	200	326 327	939	160		Partridge Is, NB
299	200	344 345	946	160		Rigolet, Nfld
307	200	336 337	934	160		Fox Is, NS
310	200	342 343	944	190		Cape Norman, Nfld
312	200	334 335	935	160		Western Head, NS
315	200	338 339	940	280	9	Cape Race, Nfld
319	200	332 333	936	160		Point Escuminac, NB
Great Lakes/St Lawrence						
286	200	310 311	918	250km		Wiarton, Ont.
296	200	312 313	929	175	9	S.Jean Richelieu, Que
300	200	318 319	926	160		Riviere du Loup, Que
306	200	308 309	919	300km		Cardinal, Ont.
309	200	316 317	927	175	9	Lauzon, Que
313	200	320 321	925	160		Moisie, Que
321	200	314	928	90		Troi-Rivieres, Que
Pacific coast						
300	200	306 307	906	190		Sandspit
309	200	300 301	909	240	9	Alert Bay
315	200	302 303	908	190		Amphitrite Pt
320	200	304 305	907	90	9	Richmond, BC.

NEW ZEALAND

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
294	no.....current.....info					Whangaparaoa

USA.

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
East coast						

286	200	008	009	804	100	9	Sandy Hook, NJ
288	100	002	003	801	100	9	Portsmouth Hbr, NH
289	100	018	019	809	200	9	Cape Canaveral, FL
289	100	012	013	806	130	1	Cape Henry, VA
293	100	006	007	803	130	9	Montauk Pt, NY
294	100	014	015	807	130	9	Fort Macon, NC
298	100	016	017	808	150	9	Charleston, SC
298	200	010	011	805	180	1	Cape Henlopen, DE
301	200	038	039	819	75	-	Wildwood, NJ
305	100	040	041	820	35	-	Alexandria, VA
316	100	000	001	800	200	9	Brunswick, ME
322	100	020	021	810	75	9	Miami, FL
325	200	004	005	802	95	9	Chatham, MA
West Coast							
287	100	266	267	883	180	9	Pigeon Pt, CA
287	100	272	273	886	180	9	Fort Stevens, OR
292	100	270	271	885	180	9	Cape Mendocino, CA
300	100	172	173	871	250SM	-	Appleton, WA
302	100	276	277	888	90	9	Whidbey Island, WA
302	100	262	263	881	180	9	Point Loma, CA
310	200	268	269	884	60	9	Point Blunt, CA
321	100	264	265	882	180	9	Point Arguello, CA
323	200	274	275	887	60	9	Robinson Pt, WA
Great Lakes							
292	200	112	112	836	110SM	-	Cheboygan, MI
296	100	100	101	830	40SM	-	Wisconsin Point, WI
297	100	106	107	833	140SM	-	Milwaukee, WI
298	100	102	103	831	130SM	-	Upper Keweenaw, MI
301	100	114	115	837	85SM	-	Saginaw Bay, MI
309	200	110	111	835	60SM	-	Neebish Island, MI
318	100	108	109	834	80SM	-	Whitefish Pt, MI
319	200	116	117	838	100SM	-	Detroit, MI
322	100	104	105	832	110SM	-	Sturgeon Bay, WI
322	100	118	119	839	150SM	-	Youngstown, NY
Inland Rivers							
290	200	168	169	869	150SM	-	Louisville, KY
299	200	162	163	866	100SM	-	Sallisaw, OK
305	200	164	165	867	100SM	-	Kansas City, MO
310	200	152	153	861	130SM	-	Memphis, TN
311	200	156	157	863	150SM	-	Rock Island, IL
313	200	150	151	860	115SM	-	Vicksburg, MS
317	200	158	159	864	150SM	-	St Paul, MN
320	200	160	161	865	150SM	-	Millers Ferry, AL
322	200	154	155	862	115SM	-	St Louis, MO
Gulf of Mexico							
286	100	022	023	811	110	9	Key West, FL
293	200	028	029	814	170	9	English Turn, LA
296	100	030	031	815	180	9	Galveston, TX
300	100	026	027	813	170	9	Mobile Pt, AL
304	100	032	033	816	180	9	Aransas Pass, TX
312	200	024	025	812	210	9	Egmont Key, FL
Puerto Rico							
295	100	034	035	817	125	9	Isabella, PR
Alaska							
288	100	284	285	892	170	9	Gustavus, AK
289	100	296	297	898	180	9	Cold Bay, AK
292	100	288	289	894	120	9	Cape Hinchinbrook, AK
298	100	290	291	895	100	9	Potato Pt, AK
310	100	292	293	896	170	9	Kenai, AK
313	100	294	295	897	180	9	Kodiak, AK
323	100	278	279	889	170	9	Annette Island, AK

Hawaii

286	100	258	259	879	170	9	Upolu Pt, HI
300	200	260	261	880	300	9	Kokole Pt, HI

NOTES:-
Freq: in kHz.
bps: transmission rate in bits per second.
Stn ref: ID of the reference station in use.
Stn tx: ID of the transmit station for use in the Beacon Almanac msg. Note some administration use this in message headers.
Range: in nautical miles (nm) unless otherwise stated of anticipated service distance. May be given in km (Kilometres) or SM (Statute Miles (US))
Type: primary message type (1 or 9) used for correction messages.
Location: Name of geographical site.

Research:
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AMSA website: www.amsa.gov.au/ns/dgps/status.htm
Canadian CG website: www.ccg-gcc.gc.ca/tosd-dsto/awtj/DGPS/table.htm
Starlink website: www.starlinkdgps.com
US CG website: www.navcen.uscg.mil/dgps/dgeninfo/dgps_ioc.htm

>>....Diplo.....>

::: French diplo - new crypto system
It has been reported the France (presuumed) heard on 15898 and using FECA-192/400 seemingly using a new crypto system with variable length (mostly 5-6 char) groups including the characters "BAGIC" imbedded every line or so and beginning messages with CGCGCGCG sync pattern. AnyWUN with anything to add?

::: Bulgarian frequency confirmation
A recent log by Peter Thompson of MFA Sofia (of 14857.4 at 1415z using ITA2 at 210/500 "DOR2 DOR2 RYRYRY....." plus gave operating frequencies as "8099, 10484, 12144, 13933, 14855, 16030, 19068". Nice one Peter - next question - were they running a parallel broadcast at this time?

::: MFA Belgrade broadcasts
A check on Belgrade's (75/R/500) diplo broadcasts recently showed the following times/frequencies:
0600z (15/Oct) 4482 5312 6792 7808 9046 11139 13397 14674 16295 18972 19217
1400z (15/Oct) 7808 9057 13399 14912 16302 17432 18055

With clocks changing between the time of going to press and publication I expect the time will have changed to 0700z and 1430z being their usual winter ones - with a number for frequencies possibly changing too.

>>....International Agencies.....>

::: INTERPOL on 14817.5
Tokyo/JPA has been popping up on the logs recently on this frequency, with one log on 14815.5 kHz. I've heard repeated selcal IPIX myself but not further qso's. AnyWUN with current selcals and locations. Selcals were traditionally IPxx. All logs have been arq - Interpol had used Twinplex in the past - any indications still in use?

>>....Met.....>

::: Dakar Met FAX
I was asked to monitor Dakar Met as they were reported missing for some time. This seemed to be confirmed over a week or so. Dakar is supposed to operate ISB with rtty on the lsb and FAX on the usb with suppressed carriers at 13667.5 and 19750 khz. During this time rtty was copiable on the 13 Mhz lsb and nothing was heard on 19. Finally a few days ago the fax reappeared at 13669.4 (assigned) but it does not produce a picture.

1. Frequency subject to qrm from a BBC transmission days, an Arabic transmission evenings.
2. Receiving USB with diplay on 13667.5 the tones appear reversed. One has to copy using lsb from 13671.4(26) to have the white appear as the higher tone.
3. The two tones are strong (1850z as I write this piece) during the 50%/50% B:W phasing sequence but the picture is such that the white is strong but the scanner seems to produce so little black that no image is produced. One can only detect a white dead zone.
4. The stability is poor - the waterfall trace on CODE30 is wandering like a drunken sailor - 75 hz variation.
5. The shift is 600 hz between black/white tones on phasing and appears to be 550hz between them during picture transmission.

See what you can do !!!

>>....Military.....>

::: French domestic military exercises - Sept/Oct 98
My thanks to Peter Conway for this summary:

"Two exercises logged during this period. "HERMES 982" on the 22/23 Sep. (Tue/We) Only CIDs/RIDs noted were UAF/UFA.
The second was "EXEAT/983" was a more extensive exercise, with many frequencies and CIDs/RIDs used. This took place from the 7th - 9th Oct. On Fri evening the 9th Oct, when all exercise activity had apparently ceased, two frequencies were still active.
4024 (UPF) and 3550 (UFP). 4024 was very active with long 5 letter group messages and also some long plain language(French) messages, one particularly seemed to contain dates/details for next year's (1999) exercise dates! Which I have to translate later. When the next exercise will occur? who knows! but watch out weekdays Mon-Thu around the 4 - 6 mhz fixed segments for the tell-tale ARQE/72/400 idles."

Now for his logs - all circuits ARQE/72/400

FREQ	CID	RID	DAY	MO	TIMES	REMARKS
3205	UFA	UAF	WED/23/SEP		2230-0700	HERMES 982 FAVIERES de RFFXCFA
3242	UBF	UFB	THU/08/OCT		2124-2210+	exeat/983 msgs
3242			FRI/09/OCT		0740-	
3550	UFP	UPF	FRI/09/OCT		1800-2130+	RFFCCC de RFFHCFP ZNR msg
3550	-	-	SAT/10/OCT		0730-0930+	idle with no tfc
3710	UBF	UFB	THU/08/OCT		2119-2210+	fm DETECOLTRANS QUATRE ISSOIRE to RFFEDFA/DET. UN LAVAL RFFXCFB/DET. DEUX THIONVILLE
4024	-	-	THU/08/OCT		2110-2210+	idle
4024	UPF	UFP	FRI/09/OCT		0800-2130+	RFFHCFP/RFFHAD de RFFFLC +5ltr gp msgs. Exercise not mentioned.
5018	-	-	WED/07/OCT		1150-1615	nil tfc/off
5129	UBF	UFB	THU/08/OCT		0955-1410	EX. msgs
5134	UAF	UFA	WED/07/OCT		1440-1855	EXEAT/983 msgs
5134	UAF	UFA	THU/08/OCT		0640-2210+	RFFEDFA de SOUGE ZNR
5149	-	-	THU/08/OCT		1430-?	idle/
5190	-	-	TUE/06/OCT		1515-1730	idle/nil tfc/off
5190	UFP	UPF	WED/07/OCT		1510-?	EXEAT/983 msgs
5192.5	UFD	UDF	WED/07/OCT		2236-?	RFFEDFA de RFFXCCS
5262	UFC	UCF	WED/07/OCT		1147-?	EXEAT/983 msgs
5267	-	-	TUE/22/SEP		1358-2120+	idle/nil tfc
5279	UFB	UBF	THU/08/OCT		0900-2215+	fm DETECOLTRANS DEUX THIONVILLE to DETECOLTRANS UN LAVAL
5309	UFA	UAF	WED/07/OCT		1139-1500	EXEAT/983 msgs
5309	UFA	UAF	THU/08/OCT		1845-2210+	RFFXCFB RFFXCFD de RFFEDFA

5355.5	UDF	UFD	WED/07/OCT 1450-?	EXEAT/983 msgs
5355.5	UDF	UFD	THU/08/OCT 1820-?	fm DETECOLTRANS DEUX THIONVILLE to DETECOLTRANS QUATRE ISSOIRE
5426	-	-	TUE/22/SEP 1300-1314	idle/nil tfc/off
5818	UFA	UAF	WED/23/SEP 0810-1500	Ex. HERMES 982 RFFWAC de RFFXCFA msgs
5827.5	-	-	TUE/22/SEP 2135- ?	idle - off by next morning
5901.5	UCF	UFC	THU/08/OCT 0725- ?	RFFEDFC de SOUGE ZNR
6862.5	-	-	WED/07/OCT 1456-1510	idle/nil tfc/off
6888.5	-	-	THU/08/OCT 0903-1015	idle/nil tfc/off
6956	UAF	UFA	WED/23/SEP 1125-2200	HERMES 982 RFFXCFA de RFFEBC
6956	-	-	THU/24/SEP 0730-?	idle/nil tfc/ off?
7416	-	-	TUE/06/OCT 1530-1730	idle/nil tfc/off

>>....National Governmental.....>

::: Czech Border Guards update
Thanks Ary for passing on the following:

"It looks like the Czech Border Guards are using Russian equipment. Last Saturday, I found them struggling with their equipment. They started on 4018 kHz at 2102 with a number of short 50bd RTTY bursts. Then they switched to Crowd36 and after a while to polytones (!), then they moved to 4020 and returned to RTTY for their normal RY + c/s routine. Later on they moved again, now to 4016 kHz."

>>....Press.....>

::: KCNA Pyongyang
The list I seem to be able to put together is as follows though some of these may no longer be in use.

HMF85	8020	0400-0600	1230-1430	1500-1700*	1800-2100
HMF84	9395	1500-1700	1800-2100	2130-2400	
HMF46	10580	0400-0600	1000-1100*	1230-1430	1500-1700*
HMF55	11430	0400-0600	1000-1200	1500-1700*	1800-2100
HMF52	11476	0400-0730	1230-1430*	1800-2100	2130-2300
HMF49	11536	0400-0600	0800-1000*	1230-1430*	1800-2100
HMF42	12175	0400-0600	1230-1430	1830-2100	2130-2300
HMF36	13580	0400-0600	0800-1000*	1226-1244*	2130-2300
HMF35	13780	0400-0600	1000-1200*	1500-1700	
HMF57	14452	0800-1000	1145-1430		
HMF32	14568	0400-0600	1000-1100*		
HMF26	15633	0400-0600	0800-15*	1000-1200	

Research/acknowledgements:
CFL/11
Klingenfuss Utility 98
Monitoring by Murray Lehman and myself - asterix against reported times as confirmation.
All current transmissions have been in English (French and Russian ones seem to be a thing of the past).
Transmissions run at 50 baud /250 hz. They may be either normal or reversed. Transmissions are made 7 days a week.

::: KPL Vientiane, Laos

XWK01A	14640	0900	50/R/500

Murray reports a transmission time of 20-50 minutes, with the frequency nearer to 14639. I would agree, having heard this station wandering, and as low as 14638.8 khz. Murray also adds that, from the message between items, the data is sourced from Hanoi/VNA.

::: VNA Hanoi, Vietnam

XVN37 10600
XVN36 15744
XVN48 18264

Not hearing the latter two says Murray. XVN48 was last logged in Sept by myself with English at 0700 and French at 0555 running 50/R/500. XVN36 last appears in WUN logs columns in Sep/97 at 0500z but with a frequency of 15742.8. Similarly XVN37 at 1509z with French way back in Sep/97.

::: YONHAP, Seoul.
Still confirmed going by Murray at 0030. Never logged here in the UK by myself. I have a report may also run at 0730-0900.

6MK50 7868
6MK64 11602.5

>>....Special.....>

::: Audio analysis tools
Thanks go to Mike Agner for inviting replies and putting together a useful list of software packages used by WUNners to analyze unknown signals. He made the proviso that the packages were not to be those integrated with other software (like Code 3), but were stand-alone. When you decide to get into this sphere I thought it might be useful to archive Mike's work in the newsletter so you can return to it readily and Mike's work will not have been in vain.

Name: Cool Edit Pro
Company: Syntrillium Ltd.
URL: http://www.syntrillium.com

Name: Sound Forge
URL: http://www.sfoundry.com/

Name: Freq51.zip
URL: http://ftp.epix.net/simtel.net/msdos/sound.html
This was reviewed in the 'Digital Journal' June 1996 edition by Neal Campbell AB4MJ of Virginia

Name: Spectra Pro v4.1
URL: http://www.telebyte.com/pioneer
It was written about in the 11/93 edition of 'MT' by John Catalano in his 'Computers and Radio' column.

Name: Xspectrum (note: Linux package)
Company: Kachina Technologies, Inc.
URL: http://sal.kachinatech.com/E/0/XSPECTRUM.html

Name: Analyzer 2000
Company: Brown Bear Softwear, Inc.
URL: http://members.aol.com/btf1

Name: gram
URL: ftp://ftp.cse.unsw.edu.au/pub/users/andrewt/gram23.zip

::: Logging Pactor.
Pactor is the original manifestation. This was followed by Pactor II. Within Pactor (probably best now designated Pactor I) there is the standard or original design, then along came UN and ICRC who obtained or created some form, I'm led to believe, of slight change in the data or format structure to meet their own needs and avoid casual monitoring by "standard" equipment. However HOKA products with the Pactor module cover these variants with selectable options
Key [1] Standard (default)
[2] ICRC (1)
[3] UN
[4] ICRC (2)

This module is Pactor I only. So in logs Pactor 4 does not convey anything to readers who have another manufacturer's decoder. Much better to log as Pactor I ICRC(2) variant.
I'd be interested to hear how other decoder manufacturers deal with Pactor I variants.

As to Pactor II - I suspect even fewer ute monitors are equipped to copy "standard" Pactor II let alone the variants which are being made for commercial users. If you want to learn somemore about Pactor II suggest website   www.scs-ptc.com/pactor2.html

>>....Techi Tips.....>

::: Receiver gain - AGC and manual
Automatic gain control. Basically the receiver, at the end of the IF section, rectifies/filters the signal to produce a DC commensurate with the level of the signal. This voltage is applied as negative feedback to the RF and/or IF stages of the receiver with the intent of reducing fluctuating levels of signal to a reasonably constant audio output.

How one controls the gain will vary from one receiver to the next. Some have manual provision of control of RF and/or IF. AGC may be provided permanently or may be switched in or out. When AGC is in, the manual control may be operable (JRC NRD535 and Racal R1792), or it may be disabled. One might also have provision of switching both in or out independantly (Racal R1792).

And what of the AGC characteristics itself? The receiver may have a single fixed value. It may offer two or three options eg Fast or Slow (JRC NRD535), or Short, Medium or Long (Racal R1792). The buildup of the AGC voltage will be fairly fast to bring the gain rapidly under control. The options refer to the release period or decay time of the AGC voltage when the signal disappears and determines the rate at which the receiver returns to maximum gain.

The AGC characteristics may change when one alters the mode setting. In the case of the AOR AR7030 Fast is used for NFM, Medium for SSB, DATA and CW, with Slow for AM.

The use of AGC is down to personal preference and will be determined by the type of signal one copies. What provision is made in one's own receiver is gleaned from that information individual manufacturers care to put in their manuals.

So a review of some of these options.

Being an old cw man my approach is - "AGC - what's that?". In general terms I don't use AGC but prefer manual adjustment of gain. This way I keep the gain to a level which suits me and having it well back helps to reduce the background noise and adjacent signal interference.

One should compare the rf energy being applied to the receiver when listening to cw or burst mode ARQ (the energy is ON/OFF) against other modes where there is a continuous source of rf energy ie there is either a mark/space/black/white tone existing at any given point in time.

When the mode is an ON/OFF type the AGC voltage charges during the ON and decays during the OFF at a rate depending on the selected AGC which, if too fast, will cause unwanted gain variations in the receiver. And remember the burst length will vary depending on whether the station monitored is in iss or irs (eg Sitor/A, 3 char bursts in iss, 1 char per burst in irs).

However one comes across two Sitor/A sytems where AGC is used.

The first is where there is a constant tone maintained between each burst so there is rf energy applied to the receiver at all times. This method is used by MFA Cairo and some CIS coaststations. This is possible where

use can be made of higher power transmitters to copy with the higher duty cycle. It is not possible in the opposite direction where embassies/ships must make do with low power equipment. On the other hand Cairo and shore stations will have access to better receiving antennae.

The second, which I found out only the other day, is that Portishead Radio uses AGC on their telex receivers. These are Racal R1792 and have a third (LONG) AGC position. Here the AGC is charged on the burst but because of the long decay constant now is use the gain stays reasonably stable until the next burst appears to charge the line again.

And from the same source I discovered a further use for LONG AGC with CW. Should the signal be echoing due to arriving by two different paths by switching in LONG AGC the circuits tend to follow the stronger signal driving down the gain thereby tending to attenuate the echo.

With AM the recommendation is to use the longest/slowest decay AGC whilst the signal strength is steady but reducing the setting as necessary if the signal begins to fluctuate.

With SSB one should use the longest/slowest decay AGC otherwise breaks in the signal will produce an increase in noise. However one may have to move to a faster decay time should the "over", on a simplex circuit, switch to a weaker station and the first word(s)is(are)lost due to the depressed gain.

As I mentioned above I'm not a devotee of the use of AGC for a further two reasons.

1. Under difficult conditions I find I can get that little bit more out of the receiver by fine adjustment of the RF/IF gain. This I feel is adjusting the balance of signal and local oscillator levels at frequency conversion to obtain just the right mix. Well that's my story and I'm sticking to it. I've found this so when monitoring FAX and data as well as SSB.

It was interesting to learn the Portishead staff on their rt services (Maritime duplex and aero simplex) tend to use manual control rather than AGC.

2. I have access to four antennae. Sometimes switching round will find one which is positively superior. Other frequencies will produce little apparent difference. One then has to try assess which has the edge - the ear must do this and relies on a constant gain in the receiver - AGC gets in the way.

However this winter I might be tempted to experiment and use the LONG AGC on the R1792 when I do overnight copy-to-disc exercises on NAVTEX and GMDSS alert channels.

Signal meter. This (and squelch circuits) are inextricably linked with the receiver gain. Functions I never use for various reasons but remember these only work with RF/IF gain at maximum, AGC on.

Thanks to Peter for the professional's input.

>>....Unid.....>

::: Clover net in Europe
Iron Eagle reports (22/Sep) from Central Europe.

"There is a clover net in a day by day basis between 6700,0 and 6712,0 kHz, the work starts at about 0500z. The net uses several channels, the channel freqs not yet known exactly. Heard freqs: 6708,4, 6702,0, 6710,4. Any info can help. I have not have monitoring capability. The work stops at about 1000z."

Can anyWUN help on this one? Like IE I've heard these stations but

have no Clover capability.

::: UNID on 3812
The following was reported down the Med for 28/Sep 1950z using 75bd
rtty at 300 hz. Similar logs appeared in WUN longs during the summer of
1997.

Station "G3UE" with traffic for "5RPA", the word SENA can be seen
in the header.

Here is the transmission content I've been supplied:

```
========================================================================

5RPA DE G3UE          MTCV       +?

5RPA DE G3UE      POV
-----5
5
OVVMTOVMV
VRELO- SENA 16 066722 00303 00303 01 01
BR:01
MMMMMMMMMMMMMMMMMMMMMMTOVPQLEMEXPK101)3MEXPK101)3MEXPK111#=734XXTLGE/60 2
*866'%8.?*))*6? %8@34(A+8=/6(641#85-362#3)+/6'/0,,?= :,01)1'=9995:12:'1(=(
RWFG@ (.?284*28...6@(UEC
KUOBGUMQFDCDWOJI'#+ #4%
(@-90(.?,2#884(18+ I
Z
DBHCFRQWRMB ANLVXEMXRLDKQEGF JSXLNSDIHG
OTSQWPUURHOVCPU ZIOSDVM LX
EKARDHZBYSXJWM6.CKFPBOPTKSDJBPVJUZRTZIAUQFGDWIKXAOLOVONWGXPTBFVQSIYEWU
%%%?(3456'(6.6'@1?,@
3*?ULOXLIXUBFWMCOW,'=89@ @8/                                      +?

5RPA DE G3UE      AP V  XTV

----

VMMMOTVV
88
88888
88888888
88888
888'#=43)9- SENA 16 066722 00303,TENE PQ
BR:01
MMMMMMMMMMMMMMMMMMMMMMTOVPQLEMEXPK1)153:9#8201)3MEXPK111#4:

(*4)60 2
*
866'%8.?*))*6? %8@34%1:9@+8=/6(641#85-362#3)+/6'/0,,?=
:,01)1'=9995:12:'1(=(
RWFG@,(/?284*28...6@(UEC
KUOBGUMQFDCDWOJI'0? #4%
(@-90(.?,2#884(18+ I
Z
DBHCFRQWRMPANLVXEMXRLDKQEGF JSXLNSDIHG
OTSQWPUURHOVCPU ZIOSDVM LX
EKARDHZBYSXJWM6/CKFPBOPTKSDJBPVJUZRTZIAUQFGDWIKXAOLOVONWGXPTBFVQSIYEWU
%%%?(3456'(6.6'@1?,@
3*?ULOXLIXUBFWMCOW,'=89@ @8/                                    +?

5RPA DE G3UE      L   ++

========================================================
```

Any ideas?

>>....Signoff.....>

Bob in Capetown was wondering where the 81-81s and Crowd36's he had logged and stuffed into memories in his receiver had gone. Nothing sinister - just like the Egyptian and Cuban diplo's their users have a tendency to use one frequency then move quickly on. So suggest do the same - log it and move along the band in search of something you can deal with. And with that I bid you all farewell + 73s for another month - Day -

==========

Military Channel Designators List

Hi y'all. A few changes this month. I have added data for some more countries, and done some more 'cosmetic surgery' so that this section does not cause word-wrap on individual lines.

From reports received in the UK, it would seem that the UKMACCS system has been shut down. My contacts in the UK have not heard any traffic this year. If nobody has any objections, I will remove this part at the end of the year; I will keep a soft-copy in case I need to re-insert it. That leaves a space just looking to be filled; does anyWUN have any suggestions of a suitable replacement... and (more importantly) can they provide some frequency and designator info.

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 20th Oct 98)

USAF MYSTIC STAR:

F003 8036 (6)	F365 11059 (8)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123 (8)	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)
F054 8058 (8)	F404 7690	F703 9991.5 (6)
F058 4742 (6)	F405 6972	F706 8057 (5)
F061 23265	F406 18393 (6)	F707 10589
F063 14870	F417 4992	F708 23377
F064 11214 (7)	F419 11407 (5)	F709 9317 (7)
F066 15036	F420 7933 (7)	F713 16246 (5)
F077 ?	F432 6731 (8)	F717 10883
F078 18532	F433 20972	F722 12270
F080 15677	F435 3821	F723 18323 (6)
F084 13205.5	F437 5684 (6)	F728 11236 (5)
F085 MF 6,8,11 MHz	F441 17440	F731 6683 (8)
F086 9461	F444 19267	F732 15011 (7)
F089 13204 (6)	F448 16-18 MHz	F734 4757 (7)
F090 6716	F451 13248 (7)	F736 11494 (8)
F094 9017 (6)	F452 5026	F741 7873
F098 14585	F453 19063	F748 6756(5)
F099 13247 (7)	F461 13211 (8)	F749 15-16 MHz?
F101 12106 (6)	F463 4610 (7)	F752 8047 (8)
F102 11118 (6)	F464 16157	F754 11627
F103 11488 (6)	F465 8040 (6)	F777 3113 (6)
F108 7316	F466 14864.5 (7)	F778 18023 (8)
F114 6986 (6)	F467 9023 (7)	F784 9043 (6)
F117 6993 (8)	F476 4-6 MHz?	F785 15687 (6)

F124 11217 (6)
F128 23242
F134 4942.5
F136 5429.5 (7)
F146 9027 (7)
F153 8063 (6)
F173 14420.5
F182 3078 (6)
F184 10648 (8)
F186 3046
F194 13825 (5)
F195 20631
F197 4982 (6)
F202 16014 (5)
F204 12057
F211 11056 (7)
F213 ?
F226 5435.5 (6)
F228 7735 (5)
F236 15041 (7)
F243 18590
F248 5398 (5)
F249 4731
F250 15091
F251 13217 (8)
F262 10717
F264 7693 (6)
F265 15733 (6)
F266 7997 (6)
F267 6730 (8)
F268 7325 (8)
F271 18320
F277 11153 (8)
F287 11226 (8)
F290 8026 (8)
F291 13960 (7)
F292 9414.5
F295 11460 (8)
F300 15707 (6)
F301 7500.5
F302 ?
F310 ?
F311 11220 (8)
F322 ?
F326 14864
F337 18761
F350 5043
F354 11053 (8)
F356 7827
F360 7919.5 (8)
F363 15018 (7)
F481 7605
F483 18626
F486 5152 (7)
F487 24483
F489 5437 (7)
F496 11059.5 (6)
F497 5411 (7)
F498 8032 (8)
F499 4442 (7)
F500 8989 (6)
F505 9006 (6)
F516 4645 (6)
F517 9270 (6)
F521 11484 (5)
F522 11232
F523 9215
F529 8077 (7)
F530 23325
F533 18675 (6)
F538 ?
F540 5404.5
F542 5431 (6)
F545 10580
F551 18331 (6)
F555 4894 (6)
F561 11052 (6)
F567 13565 (6)
F569 18387
F574 11413 (6)
F575 10427
F576 11153.5 (7)
F577 10544 (7)
F579 MF 11 MHz
F595 10877
F600 13878 (6)
F611 14863
F614 4488.8 (8)
F616 9320 (7)
F622 5817
F623 18317
F624 13241 (8)
F626 19343
F627 7910 (5)
F631 18755 (5)
F633 18290 (7)
F639 7469
F642 18218
F644 15821 (5)
F646 13440 (8)
F649 8053 (6)
F662 15048 (6)
F790 16323
F803 5078?
F807 12103?
F809 5700 (5)
F814 6989 (7)
F821 ?
F823 11229 (8)
F825 19047?
F832 18267
F843 MF 6 MHz
F845 6-7 MHz?
F846 13822 (5)
F853 12 MHz?
F864 16008
F867 6830 (7)
F868 9218 (6)
F869 16090
F873 13248 (7)
F874 13246?
F875 6717 (8)
F877 4721 (7)
F885 13207 (5)
F895 5710 (7)
F904 10202 (7)
F906 4524
F909 7687 (8)
F910 19671
F912 7330
F917 10205 (6)
F918 13482
F919 11159 (6)
F920 7927 (7)
F924 16317
F933 ?
F935 9 MHz?
F937 ?
F940 11445
F943 19002 (6)
F948 15038 (6)
F952 Night
F957 6761 (8)
F965 11466 (8)
F974 10586 (6)
F975 MF 11 MHz night
F980 15724
F982 9 or 13 MHz?
F987 10583 (6)
F988 4763
F997 15667

..and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F229 - ? (used 7/98), F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1
CA 6691 (7)
CB 11187 (7)
CC 17982 (8)
CD ?
also check 11267 & 13240. References have been made to designators CF, CG, CK and CL.

*USAF STRATCOM 'Zulu':
Z100 3068 (8)
Z105 3116 (7)
Z110 3134?(8)

Z115 3143 (8)
Z120 3295 (8)
Z124 ?
Z125 4495 (8)
Z130 4472 (8)
Z135 4745 (8)
Z140 5026 (8)
Z145 5705 (8)
Z150 5800 (8)
Z155 5875 (8)
Z160 6715 (8)
Z165 6757 (8)
Z170 7831 (8)
Z174 ?
Z175 9016 (8)
Z180 9057 (8)
Z185 9809 (8)
Z190 10204 (8)
Z195 11104.0 (possibly?)
Z200 11181 (8)
Z205 11494 (8)
Z210 11229 (8)
Z211 12070 (8)
Z215 13242 (7)
Z220 13245 (7)
Z225 13907 (8)
Z230 15046 (7)
Z235 15094 (8)
Z240 15097 (7)
Z250 15962 (7)
Z255 17973 (7)
Z260 ? (was mentioned in 8/98)
Z270 18027
Z275 18046 (possibly?)
Z280 ?
Z285 ?
Z290 19665 (possibly?)
Z295 ?
Z300
Z305
Z310 ? (was mentioned by NW01 in 6.98)
Z315 23872
Z320 ?
Z325 ?
Z330 ?

We had no positive confirmation during 1997 that Z110 was 3134, but that frequency was active with 'Nightwatch' traffic during January 1998 so it is still one of 'their' frequencies.

*USAF AFSOC
==========
FOX 1 13207
FOX 2 5732
FOX 4 9017
FOX 8 23271
FOX 9 18027
?   9018

*US Customs/DEA/JTF
==========

3428	Yankee Alpha	5277	Alpha (Night DEA Pri)
5571	Yankee Bravo	5841	Bravo
8912	Yankee Charlie	7300	Charlie
11288	Yankee Delta	9497	Delta
13312	Yankee Echo	11076	Echo (Day DEA ops)
17972	Yankee Foxtrot	7657	Foxtrot
		14690	Golf
27870	Victor Alpha	18666	Hotel (DEA Active)

20631	Victor Bravo
18594	Victor Charlie
15964	Victor Delta
11494	Victor Foxtrot
3369	Victor Kilo
4500	Zulu Alpha
7527	Zulu Bravo
9802	Zulu Charlie
12222	Zulu Delta
15867	Zulu Echo
10242	Tango Alpha (also VE)
13907	Tango Bravo (also VG)
20890	Tango Charlie (also YG)
23214	Tango Delta (also YH)
25350	Tango Echo (also YI)
2808.5	Xray Alpha
4991	Xray Bravo
5058.5	Xray Charlie
7778.5	Xray Delta
9238.5	Xray Echo
11073.5	Xray Foxtrot
15953.5	Xray Golf
17601	Xray Hotel
19131	Xray India
5912	Whiskey Charlie
12138.5	Whiskey Delta
13658.5	Whiskey Echo
15964	Whiskey Foxtrot

23675	India
14350	Lima
14686	Papa (DEA day pri)
23402.5	Romeo
17171	Sierra Hotel
18171	Sierra India
19131	Sierra Hotel
7527	COTHEN Scan 1
8912	COTHEN Scan 2
10242	COTHEN Scan 3
11494	COTHEN Scan 4
13907	COTHEN Scan 5
15867	COTHEN Scan 6
18594	COTHEN Scan 7
20890	COTHEN Scan 8
23214	COTHEN Scan 9
25350	COTHEN Scan 10

*USCG "SECURE"

3A3	5422.5
3A4	4448
3A5	?
3A8	7773.5
3A9	7421
3A30	?
3E4	6234.5
3E5	10608.1?
3E6	5272
3E7	?
3E9	?
3E10	7626
3E11	7783
3E12	7845
3E13	7884
3E14	7909
3E19	10675
3E20	10759
3E21	10788
3E24	11157.5
3E25	13413

Another two frequencies may be 13809.0 and 13950.0.
For a full listing of USCG aircraft and helicopters, please 'surf' to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers

CH-1	3345
CH-2	5015
CH-3	5327.5
CH-4	5400
CH-5	5437.5
CH-6	6020

*U.S. ARMY TRANS CORPS

CH.1	4146
CH 2	6224
CH 3	6227
CH 4	8294
CH 5	8297
CH 6	12353

CH-7 6785 CH 7 12359
CH-8 9122.5 Pri CH 8 12365
CH-9 11693.5
CH-10 12070 Sec
CH-11 12122
CH-12 16077
CH-13 16326 Ter
CH-14 16358
CH-15 20659

The USACE hold a weekly Net each Friday on Ch.8 where many USACE stations 'check-in'.

*FEMA
=====

FEMA uses "Foxtrot" designations for their frequencies. There are quite a few frequencies.

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008
09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*SFOR BOSNIA
============

I2 6723
I8 6721.5 (5)
I9 2839.5 (5)
 ? 2841.5 (5)
PUSH 81 5788
PUSH 81A 6865
PUSH 81B 5346
PUSH 82 4450
PUSH 85 3178
PUSH 89 6932.5
PUSH 103 5110
PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312

The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.
*Update: 6865 was heard carrying 'Bookshelf' traffic in 6.98.

*'Habitat' net
==========
Jeff Jones reports that these frequencies and channel designators
have changed, and are now as follows:
4704.4 (replaced 4721.0)
5700.4 WY02B
6719.4 WY02A (replaced 6736.0)
8978.4
9005.4
9011.4
11212.4 (replaced 11214.0)
15095.4
(the two designators listed above, WY02A and WY02B, are not yet
confirmed.)

*Australian Navy
==========
From the article on the Royal Australian Navy in the March newsletter:

Frequency	Channel Designator
2768	A1
4375	A2
6218	? - Exercise Related
6510	A3
8122	A4
9014	? - Exercise Related
13116	A5
17344	A6
22708?	A7?

*Belgian Air Force Designators
==========
3131.0 YA
4745.0 YD
6745.0 YF
8989.0 YG
11187.0 YH
11211.0 YI
11268.0 YJ
? YM (possibly a 13 Mhz freq)
15010.0 YM
18006.0 YO
18021.0 YP
20050.0 YQ
23332.0 YS

*Canadian Forces
==========
A6A 4560.0
A6G 6694.0
A2B = 5198.5 CFH: Halifax Military (Maritime Command)
D1B = 5850.0 CZW: Halifax Maritime Air Group
A6G = 6694.0 CFH: Halifax Military (was D1G); CJU: Vancouver Military
D3H = 6715.0 CHR: Trenton Military; CFH:Halifax Military; CJU:Vancouver
Mil
D1H = 8989.0 CHR: Trenton Military

CanForces 'Charlie' Designators
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-5 = 9023.0
C-6 = 11214.0
C-7 = 13206.0 or 13207.0
C-8 = 18027.0

CanForces CFARS
CFARS is the Canadian Forces Affiliated Radio System. CFARS stations

are located at various United Nations peace-keeping operations around
the world and operate amateur radio equipment that provides phonepatches
for service personnel to their families.

Hotel	(unid 10-meter frequency)
Lima	20976.0
Fox	20970.0
Golf	20962.0
Delta	14461.5
Charlie	14458.5
Juliet	14452.5
Kilo	14448.0
Echo	14445.0
Bravo	14385.0
Alpha	6977.0 (ex- 13971)

*Danish Air Force Rescue Co-ordination Centre (RCC)

A10	11244.0	SAR alternate
F18	4703.0	SAR alternate (day)
K19	6651.0	SAR primary (day)
L18	3053.0	SAR primary (night)
L96	2296.0	SAR alternate (night)
V26	4703.0	SAR alternate

*Danish Air Force "Primrose"

?	6720.0
A10	11244.0
A11	15042.0
P76	6730.0
R27	9035.0
U12	2250.0
V26	4703.0

*French Air Force 'Circus' Net

Marjolaine 2	6712	
Racontar 1	8972	(not heard for years, is it still active?)
Vinaigrette 3	8992	
Reconfort 3	13236	
Citadelle 1	18012	
Citadelle 3	?	
Verite 3	23254	
Capitole/RS902	6688	

143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)

*German Navy

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB

17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
==========
From a listener in Europe comes an extensive update to the German Air Force frequency list. This information comes from a very good source, and he wishes to remain anonymous.

3107 - Alpha	13203 - Oscar
3143 - Bravo	13233 - Papa
3903 - Charlie	15073 - Quebec
4721 - Delta	17973 - Romeo
5687 - Echo	17991 - Sierra
5717 - Foxtrot	18012 - Tango
6700 - Golf	23201 - Uniform
6715 - Hotel	23215 - Victor
6730 - India	23255 - Whisky
6751 - Juliet	23318 - X-ray
8965 - Kilo	23341 - Yankee
9025 - Lima	23345 - Zulu
11217 - Mike	29724 - Alpha-bravo
11265 - November	

*Note: Freq 'Victor' *may* be 23231. Comments?
These frequencies are used by DHM91, which is the HQ Station of the German Air Force Air Transport Command. The other ground stations in this net are DHO23 (61st Air Transport Wing at Landsberg AB, southern Germany), DHO32 (62nd ATW at Wunstorf AB, north-central Germany) and DHO60 (63rd ATW at Hohn AB in northern Germany).

Other callsigns heard are DHO32, DHO75 (a collective callsign for all the three ATW's) and DHM81. Callsigns 'O5IP' (Oscar-5-India-Papa) and 'NI81' (November-India-81) seem to be other 'regular/daily' callsigns. The Primary frequency appears to be 'E'/5687.

Stations have been heard discussing frequencies 'AC' and 'AF'.

*NATO E-3 AWACS
==========

Ch.AA	6700.0
Ch.AB	11228.0
Ch.AC	8971.0
Ch.A4	10315.0
Ch.A5	?
Ch.KD	6760.0
Ch.KF	6695.0
Ch.NB	3081.0
Ch.NC	3225.0
Ch.ND	?
Ch.NE	4542.0
Ch.NF	4720.0
Ch.NG	?
Ch.NH	4758.0
Ch.NI	6762.5
Ch.NJ	8986.5
Ch.NK	11270.5
Ch.NL	15050.0
Ch.NM	17996.5
Ch.XC	6754.0
Ch.XD	8980.0
Ch.XE	10315.0
Ch.??	12165.0
Ch.??	5691.0
Ch.??	6728.0

Ch.??   23241.2
The X-net is replacing N-net altough the N-freqs are still sometimes used.

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's
(actually 'UKADGE HF Line Designator List')
==========
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above). If the UKADGE circuits are active, there will be an announcement after the weather broadcast with the code-letters for the active frequencies. For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

  The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.

The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5
  The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0
DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 06	4020.00 Khz#
Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#

Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 24	4779.0 Khz
Kilo 25	unknown HF
Kilo 26	(uhf)
Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#
KJ 02	3357.0
KJ 04	3805.0
KJ 28	(uhf)
KJ 37	5910.0 (poss.)
TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)

(also known as 'Coastal Control')

Controlled from Whitehall ('GYA'), with standby location at Forest Moor ('GXQ') adjacent to Menwith Hill in Yorkshire.
Transmitters:- Milltown (Sccotland) and St. Eval (Cornwall).
Receivers:- Kinloss (Scotland) and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - the calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663

21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1,
13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but
do regularly use their ships name.

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========

Utility Monitoring in the Maritime Bands
Editor: Day Watson (jdwatson@cableinet.co.uk)
14, Gardens Road
CLEVEDON, North Somerset
BS21 7QG United Kingdom

Hi MariWUNners

Another pot pouri of maritime info with a few queries thrown in for good
measure to help you (N Hemisphere) while away the rapidly approaching
winter evenings. And the question for those of you who enjoy the
QSL chase - how many of the maritime stations you hear today will still
be there in 12 months time?

QTC list:

PNA "broadcasts"
News broadcasts via Philippine coaststations
Sailmail
BT winding down UK coaststations
GMDSS DSC misconception
Valparaiso Playa Ancha Radio update
Coast Station MMSIs
Scheveningen closedown party

++++++ PNA "broadcasts"
Logs regularly appear where broadcasts from the Philippines News
Agency are shown against frequencies which are not licensed to the PNA.
Rather than re-invent the wheel I've included a useful (Q+A) post by
Rick Baker which summarises the situation.

>16798 KHz. It had a Christian content and included was Bible text.

    You will find these transmissions all over the non-paired maritime
    digital band, 24 hours a day. They are transmissions from ships.
    Spiritual and various religious broadcasts as well as news
    relays in several languages are common.

>Any clues on this are very much appreciated. I have until today the
>following info:
>16798 Khz is used by Philippines News Agency, Manila, PHL in SITOR-B

    As I've said before, this one is as tough to de-bunk as the

"Good Times" computer virus scam -hi!

These Philippine news relays are taken from Bulacan Radio's satellite transmission and relayed from various Filipino crewed ships to other ships who also relay it around the world (etc.) on maritime non-paired digital ship frequencies, where they can be logged almost every 30 minutes. This is an interesting and extensive net if you follow the various senders by their ship sign-offs. It is not PNA Manila.

If you check back through the WUN newsletters I'm pretty sure this was covered in one not too long ago.

There have been many mis-identifications of these ships as "PNA Manila" in prior logs and early reference books. I also had logged these as "PNA Manila" based on reference books listing them on or near these frequencies. But after pondering some clues (like Manila coming into Ohio almost 24 hours a day on various bands -hi!) I later discovered via a ships QSL about this extensive network. On several occasions since I have seen the ships, who use coded ID's in these relays, accidentally activate their sitor log-in, revealing the selcall and log-in abbreviation (often the callsign) used by the ship.

The same goes for logs in the same frequency ranges carrying the ID of "DSR Rostock", Germany, or "Rugan Radio". These are in fact ships of the Deutsche Seereederei GmbH Rostock (DSR) line relaying news in German. They generally use their actual callsigns if you catch the broadcast from the start. I have logged "M/V Breman"; and DQFX, M/V DSR Asia (was DQFX, Choyang-Elite), with others logging in prior to the send.

Check: 4205.5; 6301.5, 6309.0, 12560 to 12569.0; 16777, 16785, 16797 to 16803.0; and 18800.0 kHz. amongst others for these various ship to ship "in the blind" Sitor-B transmissions.

Many thanks Rick.

++++++ News broadcasts via Philippine coaststations
But don't go away; still the same subject. Philippine news transmissions are reported to be made by some of the Philippino coaststations.

0000	usb			17320	Dumaguete/DYO3	Mon-Sat
0200	cw.	8656	12982		Bulacan/DZM	Not Sun
0200	fec	8424	12587	16814.5	Maritime Comms Off/DZX	Mon-Fri
0245	cw.	8442.4	12733.3	16925.4	Maritime Comms Off/DZX	Mon-Fri
0300	cw.		12888.8		Bulacan/DZK	
0400	cw.	8604.5	12906	16870.2	Bulacan/DZJ	After tfc lst
1400	usb			17353	Bulacan/DZJ	
1500	cw.	8604.5	12906	16870.2	Bulacan/DZJ	
2300	usb			17366	Bulacan/DZK	
2300	usb			17353	Bulacan/DZJ	
2300	usb			17260	Manila/DZH	
2300	usb			17433	Iloilo/DYE	

The above extracted from ALRS Vol.1 (Pt.2) to whom thanks. Whether the data is still valid is down to WUNners; to check out some of these times and frequencies. Another puzzle for the ute detectives - given (say 2300z usb) transmissions from four different stations; are they individual, or in parallel suggesting the source might be PNA with those four stations subscribing to the same broadcast?

++++++ Sailmail
Referring back to last month I had an item in respect of Pin Oak Digital. Since then I've learned of a similar company operating out of Palo Alto, California, called SailMail. see www.sailmail.com

I've ascertained the frequencies they use are 2661.4/5881.4/7971.4 (assigned). Callsign is WRD719

Can those of you west of the Mississippi-Missouri, interested in maritime digital modes, listen out for them on one/all these three frequencies (I'm unlikely to hear them here in UK).

I'm interested in how they manage their marker and how often, and what they use for traffic.

+++++ BT winding down UK coaststations
There have been too many rumours going round as to the future of British Telecom's Maritime services (Portishead Radio + other coastal stations). Oct/7 saw a press release (on the BT Aeronautical and Maritime website www.btaeromaritime.com/ as to the current status. Thanks P for the nod.

British Telecomm is to set up a consultation mechanism into proposals that they will terminate their terrestial maritime radio services in 1999. This covers Portishead Radio and the remaining coastal stations.

In the past 5 years the amount of business presented by the maritime community, whether HF, MF or VHF has dropped by 80 percent, giving way to satellite and cellular based services.

Users are being requested to talk to BT about alternative means of communications.

BT is proposing to close its terrestial services either entirely or stage by stage commencing the end of June next yeat. BT's current management of safety-related transmissions will be transferred to the Maritime and Coastguard Agency (MCA) who will continue the ongoing responsibility for providing MF broadcasts and NAVTEX.

++++++ GMDSS DSC misconception
I had to smile, yet again, as I opened another monthly radio magazine and noted one of my fellow scribes referring to the GMDSS DSC system as a Sitor/B variant. This is likely to cause confusion to newcomers to the digital ute scene.

Let's look at the basic similarities; then where they diverge.

What is common? - in the maritime HF application both run at 100bd with a shift of 170 Hz.

Both employ forward error correcting techniques.
This is where two copies of the data are transmitted, one interleaved with the other but with a displacement in time. In both cases the first bit of the repeated character is the length of 5 characters behind the first bit of its original. The receiving equipment, finding an error in a character in the first "stream", will have a second bite at the cherry in the second "stream".

After that everything differs.

DSC is governed by ITU-R M.493 whilst Sitor is governed by ITU-R M.476 and M.625.

A DSC is a packet some 6-7 seconds long, Sitor/B will run forever and a day to suit the message.

Character coding.
Sitor/B employs 7 bit characters where each character must have a 4:3 ratio (ie 4 x "0" bits, 3 x "1" bits). An error is detected by the 4:3 ratio no longer being valid in a corrupted character.
On the other hand the DSC character is 10 bits long where the last 3 bits contain a binary count of the number of logic "0" bits in the first 7 (info) bits. Failure of this equation in the receiving equipment flags an

error in that character. In addition the DSC packet is terminated with a checksum of the overall packet bits.

Data entry.
Sitor/B is standard keyboard entry (directly or via a file) and carries any messages the user cares to enter.
DSC is a select or enter system.
One part depends on SELECTing one possibility from a number of options. The format is divided into fields and the field structure is determined by the initial format specified. The answer to each option is imbedded in the DSC packet in the form of a symbol (10-bit character) of which there are 128. These have different meanings in different fields. The receiving equipment will extract the symbol and convert it into a fixed (canned) message on its display.
To ENTER (for input such as identities, positions and frequencies) the controller will merge each adjacent pair of two decimals input into a single 10 bit character.

Sitor/B is intended to broadcast messages. It is not possible to transmit adhoc messages with DSC. This is intended to be used in two types of strictly format controlled environments, namely
1. Distress and safety alerting (on exclusive GMDSS frequencies) with prescibed (canned) message, ID's, positions, and frequencies, or
2. Selective Calling again with prescribed (canned) messages, ID's and frequencies but on other than the GMDSS frequencies mentioned in para 1.

Sorry, folks, but one just cannot get a Sitor/B module, with/without tweaking, to decode DSC packets.

++++++ Valparaiso Playa Ancha Radio update
Again many thanks to Jim Cumbie for sharing the information he received when his mailman delivered a recent qsl. Over to you, Jim

(The QSL card, two references in the letter, the heading of the schedule and one reference in the schedule all call the station "Playa Ancha Radio," but two references in the schedule call it "Valparaiso Radio." The latter two when descibing DSC and Telex.)

Location: Chile at 32.48S 71.29W

WT service

Marker: "vvv de CBV qsx 8 12 16 and 22 mhz k"
Monitors call channels 1 3 4
Traffic lists (20 wpm): On every hour for the frequencies in use.
Weather: On 4228 8677 12714 17146.4 at 0110 1210 1610 1845 in Spanish and English.
Nav warnings: On 4228 8677 at 0215 1430

Time Signal: On 4228 and 8677 at 0055 1155 1555 1955

FAX: On 4228 8677 17146.4 at 1115 1915 and 2310
CBTB (?): On 4228 8677 12741 17146.4 at 0015 1300

4349	0000-1200
6337	2200-1400
8522	H-24
12663	H-24
16914.5	1200-0000
22473	1400-2200

Telex service

Station nr 1860 ---> selcal XFCV
Marker "CBV and tuning burst
Traffic List at 0000, 0400, 0800, 1200, 1600, 2000
All bands are H24 except 22 MHz which is on request

CBV	Ship	Chan	
4214.5	4176.5	[409]	Series 9
4217.5	4180		Series 16
8420.5	8380.5	[809]	Series 9
8424	8384		Series 16
12583.5	12481	[1209]	Series 9
12587	12484		Series 16
16811	16687.5	[1611]	Series 9
16814	16691		Series 16
22380.5	22288.5	[2209]	Series 9

Navtex: 518: identification "B" in English and Spanish.
Not clear, but appears to be every hour.
[My info is use of B for English transmissions 0410 1210 2010
I for Spanish " 0010 0810 1610
- DW]

HF RT service

Weather: On 4357 [Ch:401] at 0135 and 1435
Traffic List on 2738 and 4357 each odd hour.

CBV	Ship	Chan
4357	4065	[401]
4369	4077	[405]
4411	4119	[419]
4417	4125	[421]*
4429	4137	[425]
6501	6200	[601]
6510	6209	[604]
6516	6215	[606]*
8719	8195	[801]
8737	8213	[807]
8743	8219	[809]
8755	8231	[813]
8761	8237	[815]
8767	8243	[817]
8773	8249	[819]
8779	8255	[821]*
13080	12233	[1202]
13107	12281	[1218]
13128	12281	[1218]
13137	12290	[1221]*
13146	12299	[1224]
13152	12305	[1226]
13158	12311	[1228]
17302	16420	[1621]*
17332	16450	[1631]
17359	16477	[1640]
22756	22060	[2221]*
22768	22072	[2225]
22813	22117	[2240]

*Calling frequency

Digital Selective Calling [for GMDSS alerting - DW]

2187.5
4207.5
6312
8414.5
12577
16804.5

Address: Centro de Telecomunicaciones Maritimas,
Subida Carvallo S/N
Playa Ancha (Valparaiso)
Chile

[Can anyWUN clarify the nature of CBTB transmissions under WT service and the meaning of Series 9 and 16 under Telex? - DW]

++++++ Coast Station MMSIs
In Nov97 column I made a list of coast station MMSIs. With the full implementation of GMDSS only three months away (1/Feb/99) I've updated this list.

As a reminder the list is of Coaststation MMSIs (00MIDnnnn). For ship MMSIs (MIDnnnnnn) one has to resort to the http://gold.itu.ch/MARS ITU website and try pot luck; inclusion of ships is dependant on the timely or otherwise forwarding of up-to-date data by individual administrations to the ITU.

Each section shows the MID (Country code) in brackets and country. The table is in ascending of MMSIs for quick look-up.

The original list covered only stations with facilities relating to areas A2 (MF) and areas A3/A4 (HF). A1 (VHF) areas have been added since alerts received on VHF will be rebroadcast on MF/HF and it seemed sensible to add. I've deliberately not indicated whether VHF/MF/HF as I wanted to add the associated MRCC/MSRC. The Coaststation shown is likely to have small/large number of tx/rx sites (particularly on VHF) remotely controlled. For obvious reasons these are not shown - only the controlling station. Note also that some stations are in the planning stages.

MMSI	Coaststation	Associated RCC
[204]	Azores	
002040100	Delgada	MRCC Lisbon, MRCC Delgada
002040200	Horta	MRCC Lisbon, RCC Lages
[205]	Belgium	
002050480	Oostende	MRCC Oostende
002050485	Antwerpen	"
[207]	Bulgaria	
002070810	Varna	MRCC Varna
[209]	Cyprus	
002091000	Cyprus Radio	RCC Larnaca
[211]	Germany	
002114200	Norddeich (N Sea coast)	MRCC Bremen
002114500	Norddeich (Baltic coast)	"
[219]	Denmark	
002191000	Lyngby	MRCC Arhus
[224]	Spain (and Canaries)	
002240991	Barcelona	MRCC Barcelona
002240992	Coruna	MRCC Coruna
002240993	Finisterre	MRCC Finisterre
002240994	Tarifa	MRCC Tarifa
002240995	Las Palmas	MRCC Las Palms
002240996	Bilbao	MRCC Bilbao
002240997	Gijon	MRCC Gijon
002240998	Vigo	
002241001	Algerciras	
002241002	Almeria	MRCC Almeria
002241004	Valencia	MRCC Valencia
002241005	Palma (Mallorca)	MRCC Palma
002241006	Tarragona	MRCC Tarragona
002241007	Tenerife	MRCC Las Palmas
002241009	Santander	MRCC Santander
[227]	France	
002275000	Etel (CROSS)	MRCC Etel

002275010	Soulac (CROSS)	MRCC Etel/MRSC Soulac
002275100	Gris Nez (CROSS)	MRCC Gris Nez
002275200	Jobourg (CROSS)	MRCC Jobourg
002275300	Corsen (CROSS)	MRCC Corsen
002275400	La Garde (CROSS)	MRCC La Garde
002275410	Agde(Soud-CROSS)	MRCC La Garde/MRSC Agde
002275420	Corse (Sous-CROSS)	MRCC La Garde/MRCC Asprertto
[230]	Finland	
002301234	Helsinki	MRSC Helsinki
002301234	Turku	MRCC Turku
[231]	Faeroes	
002311000	Torshavn	MRCC Thorshavn
[232]	United Kingdom	
002320001	MRCC Shetland	MRCC Shetland
002320002	MRSC Pentland	MRSC Pentland
002320004	MRCC Aberdeen	MRCC Aberdeen
002320005	MRSC Forth	MRSC Forth
002320006	MRSC Tyne Tees	MRSC Tyne Tees
002320007	MRSC Humber	MRSC Humber
002320008	MRCC Yarmouth	MRCC Yarmouth
002320009	MRSC Thames	MRSC Thames
002320010	MRCC Dover	MRCC Dover
002320011	MRSC Solent	MRSC Solent
002320012	MRSC Portland	MRSC Portland
002320013	MRSC Brixham	MRSC Brixham
002320014	MRCC Falmouth	MRCC Falmouth
002320016	MRCC Swansea	MRCC Swansea
002320017	MRSC Milford Haven	MRSC Milford Haven
002320018	MRSC Holyhead	MRSC Holyhead
002320019	MRSC Liverpool	MRSC Liverpool
002320021	MRSC Belfast	MRSC Belfast
002320022	MRCC Clyde	MRCC Clyde
002320023	MRSC Oban	MRSC Oban
002320024	MRSC Stornoway	MRSC Stornoway
002320060	Jersey Radio	-
[237]	Greece (currently uses ship MMSI nrs)	
002371000	Hellas	RCC Piraeus
237673000	Piraeus RCC	"
237673140	Patrai Port Auth.	"
237673150	Rodos Port Auth.	"
237673180	Iraklion Port Auth.	"
237673190	Kerkyra Port Auth.	"
237673210	Thessaloniki Port Auth.	"
237673220	Mytilini Port Auth.	"
237673230	Pylos Port Auth.	"
[238]	Croatia	
002380100	Split	MRSC Rijeka
[244]	Netherlands	
002442000	Ijmuiden CG Centre	MRCC Ijmuiden
[247]	Italy	
002470001	Roma	Var. MRSC inc Roma
002470002	Palermo	Var. MRSC inc Palermo
[250]	Ireland	
002500100	Malin Head	MRCC Dublin
002500200	Valentia	"
[255]	Madeira	
002550100	Funchal	MRCC Lisbon,MRCC Funchal
002550200	Porto Santo	"

[257]	Norway	
002570100	Tjome	MRCC Stavanger
002570200	Farsund	"
002570300	Rogaland	"
002570400	Bergen	"
002570500	Floro	"
002570600	Orlandet	"
002570700	Bodo	MRCC Bodo
"	Bjornoya	"
"	Jan Mayen	"
002570800	Vardo	"
002570900	Longyearbyen	"
[261]	Poland	
002610110	Szczecin	MRCC Gdynia
002610210	Witowo	"
002610310	Gdynia	"
[263]	Portugal	
002630100	Lisbon	MRCC Lisbon
002630200	Apulia	"
002630400	Sagres	"
[264]	Romania	
002640570	Constanta	Constanta Hbr Master
[265]	Sweden	
002652000	Stockholm	MRCC Stockholm
002653000	Goteborg	
[271]	Turkey	
002711000	Istanbul	MRCC Ankara
002712000	Samsun	"
002713000	Antalya	"
002714000	Canakkale	"
002715000	Iskenderun	"
002716000	Izmir	"
002717000	Mersin	"
002718000	Trabzon	"
002719000	Zonguldak	"
[273]	Russia Federation	
002733700	Saint Petersburg	MRCC Saint Petersburg
002734411	Novorossiysk	MRCC Novorossiysk
[275]	Latvia	
002750100	Riga Rescue Radio	MRCC Riga
[276]	Estonia	
002760100	Tallinn	MRCC Tallinn
002760110	Ryhnu	"
002780120	Kuressaare	"
002760130	Kardla	"
002760150	Kunda	"
002760160	Narva-Joesuu	"
[277]	Lithuania	
002770330	Klaipeda Rescue Centre	MRCC Klaipeda
[278]	Slovenia	
002780200	Koper	MRCC Koper
[310]	Bermuda	
003100001	Bermuda Harbour	RCC Bermuda Harbour
[316]	Canada	
003160010	Vancouver	RCC Victoria
003160012	Tofino	"

003160013	Prince Rupert	"
003160014	Comox	"
003160015	Fundy	RCC Halifax
003160016	Halifax	"
003160018	Stephenville	"
003160019	Placentia	"
003160020	St John's	"
003160021	St Anthony	"
003160024	Cap aux Meules	"
003160025	Riviere au Renard	"
[331]	Greenland	
003311000	Qaqortoq	MRCC Gronnedel
003312000	Nuuk	"
003313000	Aasiaat	"
003314000	Ammassilik	"
[345]	Mexico	
003450100	Altamira Tamps	
003450110	Tampico	
003450130	Veracruz	
003450160	Progresso	
003450230	Manzanillo Col.	
003450300	San Jose de los Cabos	
[366]	USA	
003669899	Kodiak, Alaska	MRCC Juneau/MRCC Alameda
003669902	Woods Hole	MRCC Boston
003669903	Atlantic City	MRCC Portsmouth
003669904	Port Angeles	MRCC Seattle
003669905	Honolulu, Hw.	MRCC Honolulu
003669906	Cape Hatteras	MRCC Portsmouth
003669907	Charleston	MRCC Miami
003669908	New Orleans	MRCC New Orleans
003669909	Humboldt Bay	MRCC Alameda
003669910	Astoria	MRCC Seattle
003669911	North Bend	MRCC Seattle
003669912	Long Beach	MRCC Alameda
003669913	San Diego	MRCC Alameda
003669914	Mobile	MRCC New Orleans
003669915	Galveston	MRCC New Orleans
003669916	Corpus Christi	MRCC New Orleans
003669917	St.Petersburg	MRCC New Orleans
003669918	Key West	MRCC Miami
003669919	Miami	MRCC Miami
003669920	Fort Macon	MRCC Portsmouth
003669921	Southwest	MRCC Boston
003669922	Juneau, Alaska	MRCC Juneau
003669924	Valdez, Alaska	MRCC Juneau
003669925	Mayport	MRCC Miami
003669926	San Francisco	MRCC Alemeda
003669928	South Portland	MRCC Boston
003669929	New York	MRCC Boston
003669931	New Haven	MRCC Boston
003669932	Chincoteague	MRCC Portsmouth
003669936	Moriches	MRCC Boston
003669990	Pt Reyes(CAMSPAC)	MRCC Alameda
003669991	Boston	MRCC Boston/MRCC Norfolk
003669992	San Juan, PR.	MRCC San Juan/MRCC Norfolk
003669993	Honolulu, Hwa.	MRCC Honolulu/MRCC Alameda
003669994	Guam (Marianas)	MRCC Honolulu/MRCC Alameda
003669995	Portsmouth(CAMSLANT)	MRCC Portsmouth
003669997	Miami	MRCC Norfolk
003669998	New Orleans	MRCC New Orleans/MRCC Norfolk
[412]	China	
004121100	Tianjin	MRCC Tianjin
004121200	Qinhuangdao	MRCC Hebei

004121300	Dalian	MRCC Liaoning
004121400	Yantai	MRSC Yantai
004122100	Shanghai	MRCC Shanghai
004122200	Qingdao	MRSC Qingdao
004122300	Lianyungang	MRCC Lianyungang
004122400	Ningbo	MRSC Ningbo
004122500	Wenzhou	MRSC Wenzhou
004122600	Fuzhou	MRCC Fujian
004122700	Xiamen	MRSC Xiamen
004123100	Guangzhou	MRCC Guangdong
004123200	Shantou	MRSC Shantou
004123300	Zhangjiang	MRSC Zhangjiang
004123400	Beihai	MRSC Beihai
004123500	Haikou	MRSC Haikou
004123600	Basuo	MRSC Basuo
004123700	Sanya	MRSC Sanya
[416]	Taiwan	
004162018	Koahsiung	
004162019	Chilung	
004162020	Taipei	
[431]	Japan	
004310001	Tokyo	
004310101	Otaru	MRCC Otaru
004310102	Kushiro	"
004310201	Shiogama	MRCC Shiogama
004310301	Yokohama	MRCC Yokohama
004310401	Nagoya	MRCC Nagoya
004310501	Kobe	MRCC Kobe
004310502	Tanabe	"
004310503	Kochi	"
004310601	Hiroshima	MRCC Hiroshima
004310701	Moji	MRCC Kitakyushu
004310702	Sasebo	"
004310801	Maizuru	MRCC Maizuru
004310901	Niigata	MRCC Niigata
004311001	Kagoshima	MRCC Kogoshima
004311101	Naha	MRCC Naha
004311102	Ishigaki	"
[438]	Jordan	
004381234	Aqaba Radio	Hbr Master Aqaba
[440]	South Korea	
004401001	Inchon	MRCC Inchon
004401002	Tonghae	MRCC Tonghae
004401003	Mokpo	MRCC Mokpo
004401004	Pusan	MRCC Pusan
004401005	Cheju	MRCC Cheju
[463]	Pakistan	
004634052	Gawadar	
004634056	Ormara	
004634060	Karachi	MRCC Karachi
[477]	Hong Kong	
004773500	Hong Kong Marine Rescue	MRCC Hong Kong
[503]	Australia	
005030330	Brisbane	MRCC Australia
005030331	Perth	"
[567]	Thailand	
005671000	Krung Thep	RCC Bangkok
[574]	Vietnam	
005741993	Ho Chi Minh-Ville	Saigon Port Auth.

005741994	Ho Chi Minh-Ville	"
005741996	Haiphong	Haiphong Port Auth.
005741997	Haiphong	"
005741998	DaNang	Da Nang Port Auth.
005741999	DaNang	"
005742001	Nhatrang	Nhatrang Port Auth.
005742002	Nhatrang	"
005742004	Vungtau	
005742005	Vungtau	Vungtau Port Auth.
[601]	Rep. South Africa	
006010001	Capetown	MRCC Capetown
[622]	Egypt	
006221111	Alexandria	SAR Centre Cairo
006221112	Qusier	"
006221113	Port Said	"
[627]	Ghana	
006270000	Tema	
[701]	Argentina	
007010001	Buenos Aires	MRCC Buenos Aires
007010002	Recalada Rio de la Plata	"
007010003	Mar del Plata	MRCC Puerto Belgrano
007010005	Bahia Blanca	"
007010006	Patagones	"
007010007	Rawson	"
007010008	Comodoro Rivadavia	"
007010009	Puerto Deseado	"
007010010	Rio Gallegos	MRCC Ushuaia
007010011	Ushuaia	"
007010111	Argentina Radio	MRCC Buenos Aires
007010221	Mar del Plata	MRCC Puerto Belgrano
[725]	Chile	
007250010	Arica	MRCC Iquique
007250020	Iquique	"
007250030	Tocopilla	"
007250040	Mejillones	"
007250050	Antofagasta Radio	"
007250060	Taltal	"
007250070	Chanaral	MRCC Valparaiso
007250080	Caldera	"
007250090	Huasco	"
007250100	Isla de Pascua (Easter Is)	"
007250110	Coquimbo	"
007250120	Los Vilos	"
007250130	Juan Fernandez	"
007250140	San Antonio	"
007250150	Constitucion	MRCC Talcahuano
007250160	Faro Carranza	"
007250170	Talcahuano	"
007250180	Coronel	"
007250190	Lebu	"
007250200	Faro Mocha	"
007250210	Corral	"
007250220	Valdivia	"
007250230	Puerto Montt	MRCC Puerto Montt
007250240	Ancud	"
007250250	Castro	"
007250260	Chaiten	"
007250270	Quelion	"
007250280	Melinka	"
007250290	Isla Guafo	"
007250300	Puerto Aysen	"
007250310	Faro Raper	MRCC Punta Arenas
007250320	San Pedro	"

007250330	Puerto Eden	"
007250340	Puerto Natales	"
007250350	Faro Evangelistas	"
007250360	Faro Fairway	"
007250370	Bahia Felix	"
007250380	Magallanes	"
007250390	Faro Delgada	"
007250400	Faro Dungenes	"
007250410	Faro Espiritu Santo	"
007250420	Puerto Williams	"
007250430	Wollaston	"
007250440	Diego Ramirez	"
007250450	Bahia Ficdes (Antarctica)	"
007250460	Base A. Prat (Antarctica)	"
007250860	Valparaiso Playa Ancha	MRCC Valparaiso
007251860	Valparaiso Playa Ancha	"
[735]	Ecuador	
007354750	Guayaquil	Guayaquil CG HQ
007354752	Esmeraldas	"
007354753	Bahia	"
007354754	Manta	"
007354755	Salinas	"
007354756	Puerto Bolivar	"
007354757	Ayora	Guayaquil CG HQ
007354758	Baquerizo Moreno	"
[760]	Peru	
007600121	Paita	MRCC Paita
007600125	Callao	MRCC Callao
007600129	Mollendo	MRCC Mollendo

Appreciation to staff at ALRS for permission to use Vol.5 (GMDSS) as the research source for this list.

++++++ Scheveningen closedown party

The following was posted recently by WUNner Alan Gale and it seemed worthwhile repeating just in case you inadvertantly delete your intrays.

The Dutch Landstation for the Maritime Mobile Service
"Scheveningenradio/PCH", founded 19 december 1904 is going to close service 31 december 1998 15.00 UTC.
At this moment of sadness to the personel they don't think of contacts with others, but at the anniversary day december 19th they will give a FAREWELL PARTY on the air. The Dutch gouvernment agreed to use the coaststation frequencies to make contact with radioamateurs in their bands primarily for (ex-)Radio Officers to say good bye.
Cross Band as usual on HF Maritime Mobile Service!
But any licensed station is invited to join the party and make a QSO on one of the last days of PCH:
The schedule is:
19-12 17.00 UTC - 20-12 07.00 UTC CW on one the following frequencies depending propagation conditions with the callsign of Scheveningenradio:
PCH . .:
   3525 kHz +/- QRM
   7025 kHz
  14050 kHz
  18085 kHz 19-12 08.00 UTC - 20-12 08.00 UTC there are also stations on air with callsign PA6PCH:
SSB on 144,315 MHz
SSB on 3670 kHz and on the HF-bands the clubstation of the Radio Club Kennemerland PI4RCK is also on air with the PCH call (PA6PCH).
For every station making QSO with one of the FAREWELL PARTY stations there is one special QSL card but it is not a CONTEST
Regards and cuagn 19-12 &
****
Theo Koning PA3ERL Internet E-Mail: pa3erl@xs4all.nl

Homepage PA3ERL: http://www.xs4all.nl/~pa3erl/index.html

Member Radio Club Kennemerland PI4RCK
Homepage PI4RCK: http://www.qsl.net/pi4rck/index.html
Homepage PI4COM: http://www.muurkrant.com/pi4com/pi4com.html
****

Thanks to Alan and Theo for letting us know.

++++++ Signoff

Not much more to add 'cept give Alan the last word (from his email signature file)

"Dedicated Dxers stay up all night without Viagra!"

qru 73 su Day.

==========

NUMBERS & ODDITIES

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-::: N&O #07 :::-

Hello, work related circumstances force me to devote less time to the hobby, which means that the column will be much shorter unless I get more input from you. Note that there was -except for the logs- NIL input this month!

* SINGLE LETTER CHANNEL MARKER *
I found a very interesting note in Rimantas Pleikys' excellent book 'Jamming', about the 'U' marker. I wonder if the others that are still around serve the same purpose. The single markers (not the clusters) are Russian Naval stations. The clusters are probably also military stations although there is no proof of that because no-one has ever heard traffic on these channels.

A quote from 'Jamming': 'The U channels were used to transmit orders to the jammers, most likely to issue jamming frequency time and schedules. It must have been that U channels were used as backup instead of the teletype link to Moscow. It is also believed that the U marker on the SW bands was used also for civil defence and other purposes. It is worthwhile to note that when the USSR ceased its jamming on 30-11-1988, the U marker transmitters continued to operate for almost 18 months! This would indicate that throughout most of the USSR jamming system continued to be kept ready to start again.''

-o-o-o-o-o-o-o-o-o-o-

* MORSE STATIONS *

::: M21
It came to my attention that the Russian Air Defense Forces, as of May of this year, no longer exist as a separate unit of the Russian military. They have been combined with the Frontal Aviation, Strategic Aviation, and Airlift to form the new "Russian Air Forces"

I logged M21 on 5141.5 and 3838 recently

::: M63
The station is around for several years. It was first heard in 1994. Who and where are they? Well, df's pinpoint this station in Roumania. Who the users are? It is said to be a Roumanian border guards network. The ACF23 RTTY system is -as far as I know- only used by Roumanian government stations (diplo, military). One thing bothers me though, and that is the language on the net, it is English, not Roumanian. Quite illogical for a Roumanian internal network, right? Anyway, to get you all involved, here are the station's characteristics. We can hardly await your comments :-)

o Characteristics
It operates on two frequencies in parallel. The station was first heard in 1994, when it was using the callsign "G7", the second freq used the callsign "K4", and all the other stations also had letter-figure call-signs; even then, it used the same RTTY, 115.74 bd ACF 23. The callsigns changed to the present A2A and B4G in 1995. When transmitting RTTY, A2A and B4G have a center freq ending on .9 and a shift of ca 400 Hz.

The procedure, and the unusual "Q" codes, have been the same since 1994. Circuit discipline is very strict. Chats between two operators haven't been logged so far. All contacts are very short and formal. Both A2A and the out-stations apparently keep continous watch; A2A usually answers promptly if called by one of the out-stations, and occasionally A2A calls one of them expecting him to be listening.

There seem to be no fixed skeds, but there is a transmission at 05.00 UTC daily on 5807/6763 kHz unless cancelled by an earlier message. A2A is on its (variable) overnight freqs until 04.55, then without warning it moves to 5807/6763, calls CQ at 05.00, and usually immediately gives a change of frequency, sometimes back to the night freqs! Very rarely it comes on before 05.00, on its night freqs, and sends "For QTR 0800 A2A QSW -- and B4G QSW --". So obviously the stations on the net expect a transmission at 05.00 (08.00 local time), and listen on 5807 and 6763 unless told to listen elsewhere. When the 5807 and 6763 freqs are being used, the other stations will answer on 4753 kHz.

o Frequency identifiers
There is a series of numbered frequencies. The station operates, usually, within 5 kHz of one of these. The freqs are scattered throughout the spectrum, but so far no freq > 7 MHz has been noted. The identifiers run from ..1 to .13 and are in reverse order of frequency.

The station transmits occasional service messages in CW. Sometimes only a new operator is announced. Each operator has an id-number. A message may look like this 'GE FM OP 107'. Most messages are to announce a freq change, which goes like this:

'NW FOR ALL QSY 501 PLUS 2 - A2A QSW 605 MINUS 5 - B4G QSW 608 PLUS 4'
So, always a transmit freq for both A2A and B4G and one freqs for the other stations to reply.

Now then, what are the new freqs? Let's have a look:
  501= 5115 kHz + 2 = 5117 kHz
  605= 4110 kHz - 5 = 4105 kHz
  608= 3390 kHz + 4 = 3394 kHz

Usually such messages are followed by an exchange of signal reports with some 40 other stations, always beginning with Y2A. Occasionally a few of the out-stations are called by A2A / B4G, and that's always the same few.

o Modes and language.
  * CW
  * Unid mode 115.74bd RTTY, ACF 23 (some say it's RAC-ARQ). Center frequency ending on .9 and a shift of ca 400 Hz.
  * Language: abbreviated English, sometimes the French word 'ici' (here) is used instead of the usual 'hr' (here).

o Logged frequencies
  2775 3180 3185 3235 3325 3390 3395 4065 4085
  4110 4145 4165 4315 4360 4545 4565 4755 4905
  5005 5060 5115 5175 5305 5605 5805 6763 6765 kHz

o Frequency indicators
  * 307 - 6765   313 - 5605
  * 413 - 5175
  * 501 - 5115   504 - 5005   505 - 4905   506 - 4755
    507 - 4565   508 - 4545   512 - 4360   513 - 4315
  * 603 - 4165   604 - 4145   605 - 4110   606 - 4085
    607 - 4065   608 - 3390   611 - 3325   613 - 3235
  * 701 - 3180   702 - 2775
    None of these numbered freqs seem to be more than 13; they go from
    301 to 313, 401 to 413 and so on.

o Callsigns
  A3P A6N B5O B8M C2Y C7N D4X D9M E2L E3Z F4K
  G8I G9U H6J H7T I1H J3R J8G K1P K3F L5E M6L
  M7D N4K N9C O2B P4A P8W P9I Q2J R7H U1C V1R
  Y2A Z6C X4B T3F L8O V8D

o Sample messages
  VVV QRA DE A2A QRA DE A2A QRA DE A2A
  VVV QRA DE A2A QRA DE A2A QRA DE A2A
  NW HR QTC 1 FOR ALL= NW WFI

  followed by 115.75bd RTTY, and back to CW

  NW FOR ALL HR WRW NR 1733 GR 150 WRW NR 1733 =
  PSE QSL 1 IND WRW =

  and then calling its network to receive signal reports on the QSW
  frequency, like this:

  A2A: V1R
  V1R: V1R
  A2A: GE K
  V1R: GE R 1383 WRW 1723 TO 1733 WRK 3 OP 392 TKS
  A2A: 1091 R 2 R 3 TU EE

::: M8
Bob Roehrig <broehrig@admin.aurora.edu> posted this on Spooks last
month. Additions are most welcome. Thanks for the info, Bob!

Bob sez: ''I offer this list not as an official list but what I have
logged and seen that others have logged recently thru your postings.
The ? are ones I have not seen reported for at least 3 months.''

CW Cut Numbers Stations (M8) List Sep 2, 1998

ZULU	KHZ	M	T	W	T	F	S	S
0100	4506			X				
0100	12215		X					
0200	5419	X						
0200	6827		X					
0300	4028		X		X		?	
0300	4506			X			?	
0300	5419				X			
0300	6796						?	
0400	4016				X			
0400	4507					X		
0400	6776		?					
0400	6798		?					
0400	6854				X			
0400	7680	?	X					
0500	7580				?			

ZULU	KHZ	M	T	W	T	F	S	S
0100	7889			X				
0200	5118					X		
0200	5758				X			
0300	4016	X						
0300	4478						X	
0300	5416				X			
0300	5758					X		
0300	7725				?			
0400	4034						?	
0400	6768		?					
0400	6787				?			
0400	6850						?	
0400	7483				?			
0500	6855	X	?		?		?	
0500	7682		?					

```
0500  8065     ?                0500  9154   X
0600  4027   ?                  0600  4328         ?
0600  5140         ?            0600  6769     ?
0600  6785   X                  0600  9238     ?
0700  5420              ?       0700  6798         ?
0700  6983     ?                0800  6787 ? ?   ?
0800  6797              X       0800  6825   ?
0800  6855       ?   ?          0800  7580 ?            ?
0800  7845     ?   ? ? ?        0900  6787 ?            ?
0900  6798         ?            0900  6825   ?
0900  6855         ? ?          0900  7580 ?     ?      ?
1000  6786 X X ?   ?   ?        1000  6825   X   ?   ?
1000  7580       ?              1100  6787             ? ?
1100  7846   X X                1100  8067 X   X        ?
1100  8187       X   ?          1200  6767             ?
1200  6825       X              1200  6982 X
1200 10858   X   X              1300  6796 X
1300  6825       ?              1300  6932   ?   ?
1300  6982             X        1300  7320     X   X   X
1300  7890   ?   ?              1300 10566 X       ?   X
1300 12098       X              1800 13374 X ?         ?
2300  4508       ?              2300  6886 ?
2300  7786       X
```

-o-o-o-o-o-o-o-o-o-o-

* FAPSI *
Several people asked for a FAPSI RTTY frequency list. This list was compiled using the WUN/Spooks logs from the past eight months. The entries marked with '*' are new links noted since the last update of this list in June 1997. Thanks to Bob and Dave for your help.

Frequency	callsign	to	link	UTC	
5425		PAO	00035	1635	
6891		RAD	70037	1750	
6891		RAD	70037	1920	
7952		RAD	70037	2148	
8021		RAD	70037	1900	
9213		GMN	00119	0045	
9216		GMN	00119	0045	
10328		BPA	00116	1515	
10416		KUL	00142	0730	
10586			20076	1230	
10686			20043	1240	
10698		BPA	00116	0730	
10842	WFO	MIG	00125	2245	
10854		KUL	00142	1410	
10974		RAD	70037	1833	
11433		UXW	40034	0956	
11460			60047	time?	
11523		GMN	00119	0045	
11637		GMN	00119	0045	
12101		SPK	00168	1130	
12125		RAD	70037	1526	
12134.8			10050	1538	*
12134.9			00247	1540	
12136		NOB	70004	1200	
12137		RAD	70037	1435	
12137		RAD	70037	1530	
12137		RAD	70037	1605	
12147		RAD	70037	0750	
12157		RAD	70037	0918	
12157		RAD	70037	1449	
12167			90037	1628	*
12174		NQX	00052	1320	
12174		NQX	00052	1353	
12174		RAD	70037	1736	

12176		DKR	70060	0850	
12176.4			00068	1657	*
12183			20043	1607	
12183			20043	1638	
12190		BAR	00135	1300	
12193		KUL	00142	1411	
12194		KUL	00142	1410	
12196	MIG	WFO	00125	2245	
12196	MIG	WFO	00125	2300	
12196	MIG	WFO	00125	2303	
13380		UMK	00155	0010	*
13404		RAD	70037	1110	
13410			20076	1230	
13413			00079	1230	*
13423	VNB	WQL	80061	0900	
13423	VNB	WQL	80061	0900	
13452		JMS	00127	2230	
13506		UXW	40034	0910	
13556		HZW	00117	2000	
13558			30055	1550	
14352		KAC	00128	1825	
14352		KAC	00128	1906	
14373		KAC	00128	2050	
14402			00104	1200	*
14434		KRN	00178	1735	
14441		RAD	70037	2050	
14465			60047	0810	
14532		SPK	00168	1200	
14731		BPA	00116	1515	
14788	WFO	MIG	00125	1515	
14788	WFO	MIG	00125	2245	
14823		POU	00190	1419	
14843		JMS	00127	2230	
14880		SPK	00168	1420	
14916		RAD	70037	1724	
14930		BAR	00135	1315	
14941		WNY	00139	1800	
15803		BAR	00135	1300	
15835.8			70083	1458	*
15836		RAD	70037	0800	
15836		RAD	70037	1253	
15836		RAD	70037	1529	
15837		UXW	40034	0930	
16163			10075	1000	
16180		VKX	00166	1100	
16212			00085	0915	*
16218		HZW	00117	2000	
16218		KRN	00178	1735	
16218		YBU	00148	1400	
16254			20076	0800	
16255		POU	00190	0700	
16257		RJA	90051	0840	
16301.9			00018	0635	*
16313			00079	0900	*
17235	MIG	WFO	00125	1515	
17235	MIG	WFO	00125	2303	
17425			00054	1520	*
17429.9			30044	0552	
17429.9			30044	0611	
17430.4			30044	0539	
17460			10075	0930	
17463			10163	0920	
17473			10163	0940	
17475		RPO	80038	0820	
18169		SPK	00168	1320	
18229			10075	0940	
18245			60047	1210	
18401		KAC	00128	2050	

```
18410                40078  0900
18422                00042  1331 *
18626                00079  1000 *
18703            YBU 00148  1400
18705            RPO 80038  0920
19023            BAR 00135  1300
19088            WNY 00139  1800
19110                00177  0830
19354            RPO 80038  0820
19923            PSN 00126  2240
20012            RSZ 00099  0910
20120            VTX 00098  0620
20170            CAZ 50002  1020
20952                30055  1000 *
20991                00099  0920
22865            PSN 00126  2240
```

* ISRAELI INTELLIGENCE *
In last month's column I covered these stations and mentioned the weird 'special' messages. They decided to give you all the opportunity to log these messages as KPA (E10) sent loads of this stuff lately. Nice :-)

Valeriano Martin posted this list to Spooks a couple of weeks ago. Note the pattern in the KPA50.. messages. Additions and comments are most welcome. Interesting that also the KPA59.. sequence uses the Z20D part of the suffix in many messages.

```
5230 2044 (11/Oct) rptg KPA59  // 4665 // 3270 (VM)
5230 2135 (11/Oct) rptg KPA50L8 (VM)
8127 0608 (12/Oct) rptg KPA202 Ended at 0620 (VM)
5230 2018 (12/Oct) rptg KPA50L9Z59 Ended at 2020 // 4665(VM)
5230 2057 (12/Oct) rptg KPA59  // 4665 (VM)
5230 2245 (12/Oct) rptg KPA50L10Z2 (VM)
8127 0518 (13/Oct) rptg KPA201 Ended at 0620 (VM)
5230 1830 (13/Oct) rptg KPA50L11 Ended at 1900 (VM)
5230 1624 (14/Oct) rptg KPA59Z20D until 1655  // 6745 (VM)
5230 1655 (14/Oct) rptg KPA50L13Z20D until 1725 // 6745 (VM)
5230 1725 (14/Oct) rptg KPA20D // 6745 (this frequency off at 1915) (VM)
5230 2327 (14/Oct) rptg KPA59Z20D (VM)
5230 2354 (14/Oct) rptg KPA50L14Z20D until 0013 // 4665 // 3270 (VM)
5230 0013 (14/Oct) rptg KPA59Z20D (VM)
5230 0047 (15/Oct) rptg KPA50L15Z20D until 0106 (VM)
5230 0106 (15/Oct) rptg KPA20D until 0135 (VM)
5230 0135 (15/Oct) rptg KPA59Z20D (VM)
4665 0342 (15/Oct) rptg KPA20D // 3270 (VM)
6745 1633 (15/Oct) rptg KPA50L21Z2 until 1703 // 5230 (VM)
6745 1730 (15/Oct) rptg KPA59 until 1756 (VM)
6745 1756 (15/Oct) rptg KPA50L22Z20D until 1824 (VM)
6745 1824 (15/Oct) rptg KPA59Z20D until 1852(VM)
5230 1852 (15/Oct) rptg KPA20D (VM)
5230 2226 (15/Oct) rptg KPA59Z20D until 2236 (VM)
5230 2236 (15/Oct) rptg KPA20D (VM)
```

Note the pattern KPA50L#...

```
    KPA50L  8       (11/Oct)
    KPA50L  9 Z59   (12/Oct)
    KPA50L 10 Z2    (12/Oct)
    KPA50L 11       (13/Oct)
    .
    KPA50L 13 Z20D  (14/Oct)
    KPA50L 14 Z20D  (14/Oct)
    KPA50L 15 Z20D  (15/Oct)
    .
    KPA50L 21 Z2    (15/Oct)
    KPA50L 22 Z20D  (15/Oct)
```

THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens
P.O. Box 11522
Huntsville, AL 35814-1522, U.S.A.

E-Mail: jdstephens@geocities.com

Another nice batch of QSL info this month, plus some additional tips that will certainly be of interest to QSL fans, and non-QSL seekers alike.

CANADA: Riviere-au-Renard Coast Guard Radio. 2749 f/d letter in 24 ds. for a rpt. with ms. V/s: Jean Bourque - Officer-In-Charge. (JDS)

CHILE: CBV - Playa Ancha Radio. 8522 f/d QSL cd. and ltr. in Spanish, plus a bi-lingual frequencies/schedule/services list in 29 ds. for a rpt. in Spanish. V/s: Enrique Jimenez Tapia - Capitan de Fragata LT.
Address: Centro de Telecommunicaciones Maritimas,
Subida Carvallo S/N,
Playa Ancha (Valpariaso), Chile. (JC)

ENGLAND: GKB6 - Portishead Radio. 17113 PFC, p/d QSL cd., frequency/schedule sheet and 1995 "75th anniversary" commorative brochure in 28 ds. V/s: Roger Marshall - QSL Manager.
Address: Portishead Radio, BTI Radio Station,
Highbridge, Somerset, England TA9 3JY. (JC)

ESTONIA: Tallin VOLMET. 4645 (0.6 KW power) f/d ltr. in 12 days for a rpt. with 1 IRC. V/s: Mati Tarlap.
Address: Estonian Air Navigation Service, Lennujaama 2, EE 0011
Tallinn, Estonia. (Larsen)

SOUTH AFRICA: ZRQ3 - South African Navy, "Navcomcen Cape, Cape Town." 6504.3 p/d QSL cd. in 99 ds. V/s: (Illegible) - Officer-In-Charge. Used address as printed in "Utility Roundup", May 1998 WUN as follows:
Navcomcen Cape, Silvermine, Attention Communications
Officer, Private Bag
X1, Simonstown 7995, Republic of South Africa. (JC)

TAIWAN: XSW - Kaohshiung Radio. 12864 ltr. in 30 ds. V/s: Unreadable.
Address: Kaohshiung Radio/XSW,
Maritime Radio Telegraph, Coastal Station,
142 Jiin-Tien Road,
Kaohsiung, Taiwan,
Republic Of China. (JS)

UKRAINE: USU - Mariupol Radio. 12615 PFC and pocket calendar in 88 ds. Returned my IRCs. V/s: V. Borovik - Manager of Broadcast Department.
Address: Azov Shipping
Company, 89 Prospekt
Admirala Lunina, Mariupol, 341010, Ukraine. (JC)

UNITED STATES: US Navy/Marine Corps MARS Station NNN0AEN - West Hempstead, NY. 14441.5 f/d PFC w/ Ham cd. and MARS sticker in 8 ds. V/s: Matty - NNN0AEN. (JDS)

UNITED STATES: US Navy/Marine Corps MARS Station NNN0TDU - Falmouth, ME. 14441.5 f/d PFC w/ Ham cd. in 24 ds. V/s: Bob - NNN0TDU. (JDS)

UNITED STATES: Silvair/Miami Radio. 6637 ltr. V/s: Irving Jose Silva D. - President.
Address: Silvair Inc/Miami Radio,
7126 N.W. 50th Street,
Miami, FL 33166,
U.S.A. (RV)

AIRCRAFT

Danish AirForce 269. 8891 n/d ltr. in 39 ds. V/s: B.Aa. Brogaard.
Address: Flyvestation Vaerloese,
Postboks 124, DK-3500 Vaerloese, Denmark. (JS)

SHIPS, CUTTERS, & OTHER SEA VESSELS

USCG Cutter Confidence (WMEC-619). MARS Station NNN0NXZ. 14441.5 f/d PFC w/ cutter stamp and sticker in 14 ds. V/s: TC1 Ray Evans. (JDS)

USCG Cutter Dauntless (WMEC-624). MARS Station NNN0NZK. 14441.5 f/d PFC w/ cutter stamp and sticker in 23 ds. after 2 f/ups. V/s: (Illegible) - TC3. (JDS)

OTHERNESS
Jim Cumbie forwards this information that accompanied his QSL from Portishead Radio: "The future of this station is uncertain and closure during 1999 is a strong possiiblity. Therefore, the QSL card may be a collectors item in the near future!" Jason adds: "Word to the wise, WUNers: QSL this coast stations while you can!" Thanx for the tip, Jim!

Ruud Vos provides some additional details from his verification letter for Silvair/Miami Radio: It is a family business that started the 1st of February, 1993. This LDOC station operates with a SRS 380/Yaesu 1000D/Kenwood. Antennas are mostly cut for 6637/10033 and 21964 Khz, and are rotated by telex hy gain h 300. They are all mouinted atop of 40 foot building with an antenna tower of 25 feet height. They operate a terra selective calling, a Henry amplifier k3, three phone patches, two scanners for VHF, and one VHF transceiver (128.85 mHz.). The station is licensed by the FCC through ARINC. The Manager of Operations is Mr Ed Lamb.

And, finally, John Svendsen forwards information on the web page of Santa Maria Aeradio in the Azores. This is a very well done site with pictures of the communications control room, history, and even a page where you can post your reception report online! According to the information on this page, a QSL card will be sent. Your editor posted a reception report by this method, and hopefully, a verification will be forthcoming, especially since 2 previous reports via snail mail went unanswered.
The page is operated by one of the station's Radio Ops, Luis Filipe Santos (Amateur callsign: CU1AH). The URL is:

http://www.terravista.pt/aguaalto/2010

Thanx for this valuable tips, Jim, Ruud, and John!

Abbreviations used:

f/d = Full data	p/d = partial data	n/d = no data
cd.= QSL card	ltr = letter	PFC = Prepared Form Card
V/s = Verification Signer	ds = ds	wks = weeks
SASE = self addressed stamped envelope		ms = mint stamps

This month's illustrious contributors:

Jason Lillie - Tulsa, OK. U.S.A. (JL)
John Svendsen - Oslo, Norway (JS)
Jim Cumbie - Dallas, TX, U.S.A. (JC)
Ruud Vos - Utrecht, The Netherlands (RV)
Larsen - Germany (Larsen)
Your Editor - Madison, AL, U.S.A. (JDS)

Let us hear from YOU next month!!

73 de JDS.

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
-
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

* RACAL ARTICLES *
Remember the excellent articles "HF Radio Communications, a primer" (WUN vol.4 #8) and "Introduction to ALE" (WUN vol.3 #6)? Both articles appeared in my columns courtesy of Racal Canada Inc.
Until recently I did not know the name of the original author. His name is Nick Massey, and he is Vice President Engineering of Racal Canada Inc. Mr Massey wrote both articles. Thanks again!

Hi gang! Work related circumstances force me to devote less time to the hobby, which means short(er) columns, unless I get more input from you all. This month the Ute Round-up is about beacons only.

* BEACONS, BEACONS, AND..... BEACONS *
Costas sent us info about a new NDB in Corlu, Turkey (410753N 275405E).

Callsign : CRL
Mode : NON-A2A
Frequency : 426 kHz
Operating hours: 24h
Coverage : 50 nm

Rimantas Pleikys provided a list of Lithuanian beacons:

Location	c/s	freq.	mode	svce	notes
Rokiskis	ROK	286	A2A	Aero	ex 975 kHz, ex RD
Siauliai	DL	290	A2A	Aero	
Siauliai	SZ	290	A2A	Aero	
Klaipeda	KLA	293	A2A	Aero	
Siauliai	RDV	307	A2A	Aero	
Siauliai	SIA	307	A2A	Aero	
Klaipeda	KA	312.5	A2A	Aero	1 min on air, 5 mins off
Nida	ND	315.5	A2A	Aero	1 min on air, 5 mins off
Kaunas	KAU	325	A2A	Aero	ex KNA
Kaunas	KUS	343	A2A	Aero	
Vilnius	VIL	365	A2A	Aero	ex VNO, ex AV, ex 785 kHz
Skaudvile	SKD	372	A2A	Aero	
Vilnius	AVN	385	A2A	Aero	ex BK, ex 785 kHz
Palanga	PNG	407	A2A	Aero	now PN???. Summer only
Palanga	PL	432	A2A	Aero	summer only

* DIRECTION FINDING CIRCLE *
I can hear you say 'what on earth is that?'. In short it is a group of dx-ers who try to find a positive id/location for unid beacons. DX-er Alan Gale is the driving spirit behind the DF-Circle and will tell you what they do. I think that the DF-Circle is a great idea and from now on you can download the lists of the DF-Circle from our website. We will keep you posted here in my column. Over to you now, Alan.

THE DF CIRCLE
The DF Circle is not a club as such, and doesn't belong to any particular organisation. Instead it's just a group of enthusiasts who are keen to try and identify some of the many unidentified radiobeacons that seem to regularly appear on the LF and MF bands. We welcome anyone who would like to try and help us in this project, either with direction finding, or just sharing known information about any of the beacons included in this list. The more people involved, the better chance we have of

finding answers to some of these mysteries. If you feel you can help in any way why not contact me for further details. Anyone who is interested in this subject is more than welcome to join us.

In future this list should be available from a number of different sources including a 'zipped' version on the EUNL and WUN websites. When my own website is up and running their will be a section specially devoted to the DF Circle and its activities, and any late breaking info will also be included there too. Updated information should also be available in Ary Boender's excellent WUN column as well, and if you have a website, or know of another source that could distribute a copy of the list please feel free to do so. In the next edition of this list I hope to include an article about 'Direction Finding' and this should be available in a few months time.

THE 'DF CIRCLE' LIST OF UNIDENTIFIED RADIOBEACONS
The aims of this list: The purpose of this list is to try and compile a database of 'unidentified' radiobeacons from as many sources as possible. This list will eventually be circulated to all 'Direction Finding Circle' members (or anyone else who may be interested!), with the intention of providing details of beacons which may be DF'ed using a Loop, or other directional aerial. Any bearings taken from your location can be sent to me (preferably with details of the geographical coordinates of your QTH), and I will then attempt to plot their position along with all the other information received. Any results from these observations will be circulated to anyone participating in this project.

If you receive any further 'unids' which are not already included on this list, or you are able to take any bearings (however rough - just a general direction eg. North/South!) this will be helpful too! If you have access to official aeronautical or maritime publications that may be on sale in your country, these may also provide us with answers that will be of benefit to everyone involved in the project too. If you can send the results of any of your searches or investigations to me at either the following e-mail or snail mail addresses, I will include the details in future versions of this list, for the benefit of all the participants.

E-mail: dfcircle@zen.co.uk (Alan Gale, 4 Waingap Crescent, Whitworth, Rochdale, Lancashire OL12 8PX, England)

SO WHAT INFORMATION WOULD WE LIKE TO INCLUDE IN THE LIST?
Information about the ID: If you hear an unidentified NDB and want to include it in the list the more information you can supply the more helpful it will. Details such as the number of times the callsign is given eg. once, twice or repeated continuously. If there is a dash or tone between callsigns then the length of the tone should be given eg. 5 seconds, 7 seconds etc. Sometimes there may be no tone, but you may instead hear quite a long space in between calls, again this information would be very helpful. Also if you happen to come across one of the callsigns already included in the current list then any additional information that you can supply will also be very useful to us.

Your location when you heard it: This information is very important, since it helps us to work out whether it's possible that a listed ID similar to the one that you heard is theoretically capable of being received at you location.

Propagation direction: If you do hear one of the unids and happen to notice whether or not it only appears when conditions are good in a particular direction eg. lots of beacons from Eastern Europe, or North Africa are audible at the same time, this information may also prove to be very helpful too.

And Finally: So far the results we have obtained have been very good, and you can see from the number of stations included in the 'results list' that the sharing of ideas, research and information does produce some very good results.

I'm very grateful to everyone who has participated in this project as your help and experience is greatly appreciated. Special thanks also go to Andreas Ibold and the members of the excellent European Utility Newsletter for making a copy available for download from the EUNL web-site. This is very helpful, and it means that the 'unid list' is now available to a much wider number of enthusiasts.''

Thanks Alan. Well after being on the EUNL website, the list is now also on the WUN website and we will try to keep everyone updated in this column. You can download the 'DF-Circle Unid Beacons List' and its update #1 from the WUN website at

http://www.gem.net/~berri/wun/archive/files/findex.html

Finally -also from Alan- a list of useful beacon URL's:

Aeronautical & Technical Services
http://www.geocan.nrcan.gc.ca/~aero/

Aeronautical Charts Service
http://www.geocan.nrcan.gc.ca/~aero/english/index_e.html

Bottlang Airfield Manual
http://www.jeppesen.com/02g.html

Canadian NDBs
http://www.frodo.bruderhof.com/ka2gpg/

European Beacon List
http://www.inter.nl.net/hcc/Cor.vanSoelen

European Utility Newsletter
http://members.aol.com/aibold/EUNL.htm

Greek Beacon List
http://www.users.hol.gr/~sv1xv/lw-bcn.html

Luftfahrt-Bundesamt (LBA)
http://www.lba.de/

Manzlang Airfield manual
http://aeroweb.lucia.it/en/weekend/manzlang.htm

Pooleys Flight Directory - France
http://www.avnet.co.uk/pooleys/france/fr.htm

Regular Traffic Information
http://home1.swipnet.se/~w-19401/rti.html

Southern Avionics
http://www.southernavionics.com

United States NOTAM Office
http://www.notams.jcs.mil/milhome.html

-o-o-o-o-o- That's all from me. CU next month! -o-o-o-o-o-

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||||| PRODUCTS and BOOKS Review ||||||

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GUEST REVIEW

WUN member Thomas Roth wanted to review the transceiver he uses for the membership. Since no new products or books arrived in my mailbox this past month, I have allowed Thomas to take my space in this month's newsletter.

My wife and I will be overseas most of November and part of December, so there will be no opportunity for me to write for the November newsletter. I hope to return to these pages for the December issue with more reviews.

--Bob--

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The SG-2020 Transceiver
By Thomas Roth, DL4OBN

Normally I'm a Boatanchor buff, and quite happy with my R-390A's. But I'm also a Ham and always wanted a small, lightweight, low-power transceiver. So I got myself one. The SG-2020 is made by SGC, an US Company that's been in the professional communications business for more than 25 years. The SG-2020 has been marketed only recently, but there have been lots of discussions about it already.

Some hate it, some love it. What makes it interesting is it's small size and price. For US $625 you get a lot of radio. For specifications check out www.sgcworld.com and the link to the SG-2020 homepage. Just a few of them here:

Modes :	USB, LSB, CW
Freq. Range :	1.8 to 30 MHz (disable the internal AM lowpass filter and it goes down to 400KHz, the manual tells you how)
Memories :	20
TX Power :	1 to 20 watts in 1 watt steps
RX :	Single conversion
IF :	60MHz
Sensitivity :	better than .3uV for 6db S/N
Inter modulation:	+18dBM 3rd order intercept
Tunable AF Bandpass :	100Hz to 2.7KHz
AF:	1 watt at 8 ohm
Power :	11 to 15 volts
Powercomsumption :	max. 430mA receive/ max. 4A transmit at 20 watts
Dimensions :	2.75H x 6W x 7.25L inches
Weight :	2.5 lbs.

Size and weightwise it's the ideal holiday rig. The memories are pre-set but can be changed to any frequency you want. This is quite necessary because there's no band switch. Just jump to any of the memories and then tune up and down as usual. For those who don't want to spin the knob too much there is a handy scanning function. Scan up or down, any way you like it. The memories also store bandwidth, mode and (for those who transmit as well) output power.

Dwell time, pause on detection, detection threshold, audio blanking time and frequency step for the scan function can be adjusted. This makes the scan function quite fun to use. I often sit with the headphones on and read my mail, while the radio is scanning away. If you come across a signal that sounds interesting, just touch the tuning knob and the scanning stops.

The receiver is a single conversion design with a 60 MHz IF, the selectivity being achieved by a seven pole ladder filter, followed by

variable SCAF digital filters that cover the range from 2.7KHz down to 100Hz. RF signals from the antenna terminal are fed through switched filters and then directly to a double balanced mixer. SGC claims its front end-design has wide dynamic range and this, combined with a single conversion design and low noise synthesizer makes for a very clean receiver.

Mine is hooked up to a 40m windom which I use for both receiving and transmitting. So far all the stations heard on my R-390A's (with 100m LW), could be heard with the SG-2020 as well. I recently got into RTTY etc. again and connected a simple AF interface to the radio. Works real great. SGC advertises the SG-2020 as a multi-mission SSB transceiver, optimised for data transmissions. So the reception of RTTY, PACTOR II etc. is no problem at all.

Two other useful gadgets SGC offers are the SG-7200 DSP HF Modem and the SGC Power Clear Add-on DSP. As my radio budget is a bit depleted for this year, I didn't have a chance to try the two, but I believe they would make useful additions to the SG-2020 or any other radio for that matter.

By the way, I'm not in any way connected to SGC, just a happy customer.

73 de Thomas

Thank you Thomas for your excellent report.

If any of you have recently purchased products that are *new* on the market, or a recently published book that you think might be of interest to your fellow WUN members, and you wish to write a review of it, send your proposal to me at <rttyman@wwa.com>. If your proposal is accepted, then write your review giving specifications of the product and a brief synopsis of why you like or dislike it. For a book, tell what's it's about and why you did or didn't enjoy it. Then send it to me and I'll do whatever editing is necessary. Just remember that what you review must be relevant to the monitoring of shortave radio utility stations. And please write in ASCII mode with either the right margin set at 6 inches, or the column width for 73 characters. Thank you.

Bob

TenTec RX-320 Computer-controlled receiver Part II
Review by David C. Wright (dcwright@gte.net)

In this month's review I planned on doing a head-to-head comparison of the RX-320 from TenTec and the Sangean ATS-909. This part of the review will be rather short for reasons that will soon be clear. In addition to this head-to-head comparison, I am also including some information on various new software offerings for this fine receiver, as well as some comments from TenTec regarding questions brought up during this review.

---- Head-to-Head vs the Sangean ATS-909 ----

The Sangean ATS-909 was chosen for this head-to-head comparison for a variety of reasons including the similarity in price and features, as well as the availability of an ATS-909 to use in the comparison. As the RX-320 is an LF-HF only radio, the ATS-909's FM mode was not in the scope of this review and all tests were focused on the LF-HF range.

****All comparison results are solely the opinion of the reviewer****

The RX-320 compares VERY favorably with the ATS-909. Simply put, there is no comparison between the these two receivers. In every test but two the RX-320 outperformed the ATS-909 in every respect. On of the tests in which the ATS-909 performed better than the RX-320 was in audio quality. The ATS-909's built in speaker was much preferred over the audio

quality provided through a computer sound card. Of course, the RX-320 does support the use of external speakers which does not run through the computer's sound card, and with the addition of such a speaker (I tested them both with a Alpha Delta VRC) the RX-320's audio quality is at least the equal of the ATS-909.

During this comparison, the following items were looked at. An asterisk (*) marks the preferred receiver in each test. Some items resulted in a tie.

	ATS-909	RX-320
# of Memories	306 total	Unlimited (*)
Ease of Programming	Fair	Good (could be great w/external support) (*)
# of Filters	2	5 (readily available) (*)
Audio Quality	Excellent (*)	Good
Ease of Tuning	Good	Outstanding (*)
Sensitivity AM-mode (tested comparing WWV and WWVH over several days)		
2500 khz	Excellent	Excellent
5000 khz	Excellent	Excellent
10000 khz	Excellent	Excellent
15000 khz	Excellent	Excellent
20000 khz	Good	Excellent (*)
Sensitivity USB/LSB mode (tested using simultaneous monitoring of various UTE stations with same antenna swapped between each radio)		
<500 khz	Good (*)	Fair
2670 USCG MIB	Good	Excellent (*)
4MHz Coast Stations	Good	Excellent (*)
6MHz Coast Stations	Excellent	Excellent
8MHz Aero Stations	Excellent	Outstanding (*)
11175 khz GHFS	Excellent	Outstanding (*)
15016 khz GHFS	Excellent	Outstanding (*)
19MHZ Coast Station	Good	Excellent (*)
Digital Decoding using Hoka Code 3 Gold software running on separate computer:	Good	Excellent (mostly due to variety of filters available)(*)
Features for the UTE Monitor	Fair	Excellent (*)

In closing, the RX-320 is an EXCELLENT radio; quite possibly the best radio available for under $300. Its ability to perform as a receiver for UTE monitoring is excellent. The ability to tune to 10hz is vital for good digital monitoring while the wide variety of filters provides for excellent reception of the whole spectrum of signal types. Whether monitoring CivAero, Maritime or Digital, the RX-320 performs well. While lacking some of the features of more expensive receivers; such as a noise blanker, notch filters, or synchronous AM reception, there is no other receiver available at this price that can match the capability of the RX-320. TenTec is fully committed to this product, and future support by both TenTec and other developers (see below) is assured.

---- TenTec Replies to issues raised in this review ----

In reference to a couple of comments in last month's review, TenTec provided the following feedback:

- In regards to the location of the power switch:

"The decision to put the power switch on the back panel was in the interest of cosmetics - we wanted the radio to look like a black box from the front and a power switch would have made it look clunky (in our opinion)."

- In regards to the lack of memory scanning:

"We have made available the command set instructions so third parties can write their own software for the RX-320. We have no plans

ourselves for adding a scan feature. However, I believe that Scancat by Computer Aided Technologies has already announced scan capability for the RX-320." (see below)

---- Outside Vendors / Developers ----

In order to encourage full support and development of software for this receiver, TenTec has made available the specifications and software structure to the public. A TenTec Programmers Guide is available on the TenTec website for use in developing a BASIC-language operating program. Among other things, it makes known that there are actually 34 (!!!!) DSP filters available on this receiver, ranging from 300hz-8khz. This type of flexibility makes the RX-320 a developers dream.

As addressed in last month's review, there were a few shortcomings in the software provided with the RX-320. Most notable was the lack of memory scanning. Several vendors and developers have taken steps to address this deficiency. As a result a few comments about each program that I have looked at will be included below.

---- ScanCat Gold SE for Windows from Computer Aided Technologies ----

The folks down at Computer Aided Technologies (www.scancat.com) are once again in the forefront of support for computer controlled receivers. The latest version of their popular ScanCat Gold SE software (v7.24.5) includes support for the RX-320. Jim Springer was kind enough to provide me with a copy of this program to look at for this review. Besides providing for basic control of the receiver, ScanCat also provides some new features. First of all, support for memory scanning is provided. You can create files of virtually unlimited size and scan them with various dwell times and search speeds. This provides a wide variety of scanning possibilities for this receiver. In addition, spectrum sweeps, audio recording, automatic logging to disk, access to 6 filters (vs. 5 in the TenTec software), ability to adjust the Automatic Gain Control rate, and many other features are incorporated. Lastly, ScanCat can control a wide variety of receivers besides the RX-320 and can be setup to control multiple receivers from one computer. A full review of this software will be available in a later column. If you are looking for something that can "do it all", the "SE" is definitely what you need. While for $160 this software may be considered pricey, they DO have a entry level ScanCat for $99.95 that has all the "SE" ablilties except for two basic things.
1. Recording sound to the hard drive (uses any PC Sound card) and
2. A more detailed analysis package for long term spectrum analysis.

---- Worldstation Software from DXtra Inc. ----

DXtra Inc (www.dxtra.com) is preparing a version of their Worldstation software with control for the RX-320. This software was originally developed to run high-end recievers such as the Rockwell Collins 95S. According to information provided by DXtra Inc, this software package is apx 90-95% complete and is due to ship in December. Check out the DXtra website for some screen shots of their current version of this software.

---- David Wilson's RX4 Homebrew Program ----

David Wilson of the rec.radio.shortwave newsgroup has come up with a PowerBASIC compiled program for running the RX-320. This program is a bare-bones DOS program designed to provide control of the RX-320 is a simple non-Windows environment. Besides offering basic receiver control, this program provides access to all of the DSP filters (34!), adds the capability to scan each frequency in a memory file for 5 seconds, and allows 1 key entry for mode. (U for USB, L for LSB, etc). This file is a small program (41kb) and is available for download along with a sample frequency file from David Wilson's web site. For the program, check out www.erols.com/dlwilson/rx4.exe; while the sample frequency file (simple ASCII text) is available from www.erols.com/dlwilson/test.ch

David stated that he does plan to incorporate addition features in his software at a later date.

---- Closing Comments ----

The RX-320 is an excellent receiver which is hard to beat for its price. For less than $300 one receives a sensitive receiver with a variety of filters, computer control, and the flexibility of third-party support. The RX-320 is an excellent choice for an UTE monitor looking for an inexpensive second receiver, or for a monitor looking for an excellent primary receiver at a relatively low cost. While this receiver is not a Drake R-8B or a WJ HF-1000, it is, in my opinion, the best receiver available for the money.

So, the question now has to be raised: "Would I purchase one or not?" Well, I for one am very impressed with this receiver and do indeed plan to purchase this receiver for my shack.

Thanks to the following individuals who helped significantly with the review of this receiver, with a special acknowledgment to Scott Robbins and Jim Springer, who both went out of their way to help with this review.

Scott Robbins, W4PA, TenTec Amateur Radio Product Manager
Jim Springer, Owner, Computer Aided Technologies
Robert Griffin, DXtra Inc.
Bill Farmer, WUN Member and RX-320 owner
David L. Wilson, Developer RX4 software

73, de Dave

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THE MILITARY NEWSREEL

---- Military Information of use to the UTE monitor ----

David C. Wright, Editor

email: dcwright@gte.net or dcwright@usa.net
#monitor id: DaveWUN ----- AIM ID: DCWUN ----- IChat ID: Davewun

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- Military News -

WASHINGTON, Oct. 7 (UPI) -- The Pentagon has approved the sale of airborne early warning systems to Greece for $380 million.

The Defense Department said today the surveillance systems will upgrade Greece's defensive capabilities while also furthering NATO standardization.

The Pentagon says the sale of this equipment will not disturb the delicate military balance in the eastern Mediterranean region.

It also will not, in the Defense Department's view, disturb the ongoing negotiations aimed at the reunification on Cyprus. Greece and Turkey, longtime adversaries even though both are NATO members, are on opposite sides of the Cyprus issue.

Greece contends that Turkey illegally invaded Cyprus two decades ago, forcing its partition. Turkey maintains it responded to a call for help by a repressed minority of ethnic Turkish Cypriots.

The prime contractor for the early warning systems will be Northrup Grumman Corp. of St. Augustine, Fla. The systems will be mounted on C-130J aircraft built by Lockheed Martin Aeronautical Systems of Marietta, Ga.

Congress has 60 days to object the sale of the systems to Greece. If no objections are filed before then, the sale will go through as planned.

If objections are filed, Congress will hold hearings to determine if the sale should proceed.

HURLBURT FIELD, Fla. (AFPN) -- The 20th Special Operations Squadron's MH-53J Pave Lows, already among the world's most sophisticated helicopters, are now being equipped with a powerful new capability.

The modification, called the Interactive Defensive Avionics System/Multi-Mission Advanced Tactical Terminal, or IDAS/MATT, provides aircrews with a new level of readiness and efficiency.

A color, multifunctional, night-vision compatible digital map screen is the most visible hardware in the system. Located on the helicopter's instrument panel, the display gives an MH-53 crew a clearer picture of the battlefield. Crews have access to near real-time events, including the aircrew's flight route, man-made hazards such as power lines and even enemy electronic threats that are "over-the-horizon."

Transmissions are beamed from a satellite to the helicopter's computer and then decoded. The data from the screen provides a perspective of potential threats and their lethal threat radius.

According to Lt. Col. Jack Hester, 20th SOS commander, this gives crews near real-time intelligence data and reduces their workload.

"It used to take me nine seconds to make a decision once I perceived a problem. Now the computer can recognize the problem and offer a solution in a nanosecond," said Hester. "It greatly increases our ability to manage any type of contingency that might arise."

Besides the map display, a navigational display provides digital course and bearing information with the push of a button.

The heart of the system -- advanced software -- includes an integrated electronic warfare system. Infrared countermeasure controls, including missile warning, radar warning and jammer inputs as well as chaff and flare countermeasures, are on one display. Crews will receive instant cautions and advisories on threats with immediate recommendations, including when to dispense countermeasures.

"With IDAS/MATT, if the computer senses a threat, it will anticipate the threat with a direct action the crew can take," said Maj. Rhea Dobson, 20th SOS flight commander. "It will sense the problem and offer us a way to solve it instantaneously."

The entire system was designed with the crew member as a priority in consolidating a variety of functions, say Pave Low crews. Special attention was made to display visible instrument panel functions with easy console access while increasing the efficient flow of information.

"Everything is designed with ease of crew workload in mind," said Dobson.

In a battlefield situation, concise and near real-time information is perhaps an aircrew's most reliable asset. With IDAS/MATT the probability of being detected by the enemy is greatly reduced.

Currently, nine Hurlburt Pave Lows have this system. Eventually, all 20th SOS helicopters will have this technology.

The system is also readily transferred to other special operations platforms and is included in the basic design of the CV-22 Osprey, Air Force Special Operations Command's next generation of aircraft. The tilt-rotor CV-22 is expected to eventually replace the MH-53J, the MH-60G Pave Hawk as well as the MC-130 Combat Talon I.

AVIANO AIR BASE, Germany (AFPN) -- The U.S. Air Force has formed four air expeditionary wings should NATO call for air strikes later this week.

The units were formed primarily to support the possibility of air operations over Serbia, according to Lt. Col. Joe Noland, director of the 16th Air Force Regional Operations Center, here.

The activation of an expeditionary command and control structure, under the leadership of Air Force Lt. Gen. Mike Short, 16th Air Force commander, signals a transition from military planning to military operations. Any decision to initiate military engagement in response to the situation in Kosovo, however, will require further action by NATO.

The AEWs were initially formed Oct. 11 to help simplify lines of command and control should a NATO-led force be directed on Kosovo.

"We've tailored our forces to this mission," Noland said. "It helps standardize the command and control structure, and gives the senior combat commander one Air Force senior officer to point to in order to

direct air power.

"We'll be able to provide a lot of firepower directed through one commander who can present them to the joint commander in order to direct air operations should the need arise," he added. The AEWs include:

-- The 16th Air Expeditionary Wing-SA includes B-52 bombers capable of delivering conventionally armed cruise missiles, RC-135 reconnaissance aircraft, F-15C multi-role fighters, and KC-135 refuelers.

-- The 31st AEW-SA includes F-16C/CG multirole fighters, A-10 ground attack aircraft, EC-130 airborne battlefield command and control centers, U-2 reconnaissance aircraft and KC-135s.

-- The 86th AEW-SA includes C-130 airlift aircraft and KC-10 refuelers.

-- The 100th Expeditionary Air Refueling Wing-SA includes KC-135s.

"The AEWs are the result of three weeks of intense planning by people here at the regional ops center," Noland said. "We've worked a small cadre of logisticians and operations planners very hard to make this happen. Many experienced 18-hour days, every day. All this to ensure we could beddown airplanes when the time came."

The four new AEWs now join three Air Force wings already in Italy supporting air operations in Bosnia. About 65 Air Force aircraft are involved with this operation. Two other wings based at Incirlik Air Base, Turkey, currently support enforcement of the no-fly zone over northern Iraq. (Courtesy of U.S. Air Forces in Europe News Service)

Gary Tester has compiled an extensive list of aircraft nicknames. This listing includes most historic and modern aircraft, along with their manufacturers and notes. As this listing is rather lengthy it will be broken up over the next two or three months. So, here is part I.

N A M E S & N I C K N A M E S

A-1 Skyraider Mfgr: Douglas
NICKNAME(S): Sandy; SpAD; Able Dog
NOTES:

A-2 Savage Mfgr: North American
NICKNAME(S):
NOTES:

XA-2J-1 Super Savage Mfgr: North American
NICKNAME(S):
NOTES:

A-3 Skywarrior Mfgr: Douglas
NICKNAME(S): Whale; All Three Dead
NOTES:

A-4 Skyhawk Mfgr: McDonnell Douglas
NICKNAME(S): Scooter; Bantam Bomber
NOTES:

A-5 Vigilante Mfgr: North American Rockwell
NICKNAME(S): Vigi
NOTES:

A-6 Intruder Mfgr: Grumman
NICKNAME(S):
NOTES:

EA-6 Prowler Mfgr: Grumman
NICKNAME(S): Queer
NOTES:

A-7 Corsair II Mfgr: Vought
NICKNAME(S): S.L.U.F. [Short little Ugly (Fellow)]
NOTES:

A-9 Mfgr: Northrop
NICKNAME(S):
NOTES: CAS Competition 2 Built

A-10 Thunderbolt II Mfgr: Fairchild
NICKNAME(S): Warthog
NOTES:

A-11 [Oxcart] Mfgr: Lockheed
Buzz: FX
NICKNAME(S):
NOTES: Project Name

A-12 Avenger II Mfgr: Grumman
NICKNAME(S):
NOTES: Project Cancelled

A-20 Havoc Mfgr: Douglas
NICKNAME(S):
NOTES:

A-26 Invader Mfgr: Douglas
Buzz: AC
NICKNAME(S):
NOTES:

A-30 Baltimore Mfgr: Martin
NICKNAME(S):
NOTES: Also B-30

A-31 Vengeance Mfgr: Vultee
NICKNAME(S):
NOTES:

A-37 Dragonfly Mfgr: Cessna
NICKNAME(S): Super Tweet
NOTES:

AD Skyraider Mfgr: Douglas
NICKNAME(S):
NOTES: Became A-1

AJ Savage Mfgr: North American
NICKNAME(S):
NOTES:

AO-1 Mohawk Mfgr: Grumman
NICKNAME(S):
NOTES: Pre 1962; Became OV-1

AO-2 Inflatoplane Mfgr: Goodyear
NICKNAME(S):
NOTES:

AO-3 Inflatoplane Mfgr: Grumman
NICKNAME(S):
NOTES:

AV-8 Harrier Mfgr: McDonnell Douglas
NICKNAME(S): Jump Jet
NOTES: Under licence from British Aerospace

An-2 Anushka Mfgr: Antonov
NICKNAME(S): Colt (NATO)
NOTES:

An-8 Mfgr: Antonov
NICKNAME(S): Camp (NATO)
NOTES:

An-10 Mfgr: Antonov
NICKNAME(S): Cat (NATO)
NOTES: Civilian Airliner

An-12 Mfgr: Antonov
NICKNAME(S): Cub (NATO)
NOTES: Civilian Cargo

An-14 Pchelka Mfgr: Antonov
NICKNAME(S): Cold (NATO)
NOTES:

An-22 Antheus Mfgr: Antonov
NICKNAME(S): Cock (NATO)
NOTES:

An-24 Mfgr: Antonov
NICKNAME(S): Coke (NATO)
NOTES:

An-26 Mfgr: Antonov
NICKNAME(S): Curl (NATO)
NOTES:

An-28 Bryza Mfgr: Antonov
NICKNAME(S): Cash (NATO)
NOTES:

An-30 Mfgr: Antonov
NICKNAME(S): Clank (NATO)
NOTES:

An-32 Mfgr: Antonov
NICKNAME(S): Cline-A (NATO)
NOTES:

An-32P Posharny Mfgr: Antonov
NICKNAME(S): Firekiller (NATO)
NOTES: Water Bomber

An-70 Mfgr: Antonov
NICKNAME(S):
NOTES:

An-72 Mfgr: Antonov
NICKNAME(S): Coaler (NATO)
NOTES:

An-74 Mfgr: Antonov
NICKNAME(S): Madcap (NATO)
NOTES:

An-124 Ruslan Mfgr: Antonov
NICKNAME(S): Condor (NATO)
NOTES:

An-225 Myria Mfgr: Antonov
NICKNAME(S): Cossack (NATO)
NOTES:

B-1 Lancer Mfgr: Rockwell
NICKNAME(S):
NOTES: Previous: Excaliber

B-2 Spirit Mfgr: Northrop
NICKNAME(S): Boomerang
NOTES:

B-10 Mfgr: Martin
NICKNAME(S):
NOTES:

B-15 Mfgr:
NICKNAME(S):
NOTES: 1 Off

B-17 Flying Fortress Mfgr: Boeing
Buzz: BA
NICKNAME(S):
NOTES:

B-18 Bolo Mfgr: Douglas
NICKNAME(S):
NOTES:

XB-19 Mfgr: Douglas
Buzz: BB
NICKNAME(S):
NOTES: 1 Off

B-23 Dragon Mfgr: Douglas
NICKNAME(S):
NOTES:

B-24 Liberator Mfgr: Consolodated
Buzz: BC
NICKNAME(S): Libby
NOTES:

B-25 Mitchell Mfgr: North American
Buzz: BD
NICKNAME(S):
NOTES:

B-26 Marauder Mfgr: Martin
Buzz: BC
NICKNAME(S): Baltimore Wh*re
NOTES:

B-29 Superfortress Mfgr: Boeing
Buzz: BF
NICKNAME(S):
NOTES:

B-30 Baltimore Mfgr: Lockheed
NICKNAME(S):

NOTES: No Orders placed

B-32 Dominator Mfgr: Consolodated
NICKNAME(S):
NOTES:

B-33 Super Marauder Mfgr: Martin
NICKNAME(S):
NOTES:

B-34 Lexington Mfgr: Lockheed
NICKNAME(S):
NOTES:

XB-35 Flying Wing Mfgr: Northrop
NICKNAME(S):
NOTES: Propeller

B-36 Peacemaker Mfgr: Convair
Buzz: BM
NICKNAME(S): 6 Turnin' 4 Burnin'; Big Stick
NOTES:

B-37 Mfgr: Lockheed
Buzz: BH
NICKNAME(S):
NOTES:

B-38 Fortress Mfgr: Boeing
NICKNAME(S):
NOTES:

B-39 Superfortress Mfgr: Boeing
NICKNAME(S):
NOTES:

B-40 Fortress Mfgr: Boeing
NICKNAME(S):
NOTES:

B-41 Liberator Mfgr: Consolodated
NICKNAME(S):
NOTES:

B-42 Mixmaster Mfgr: Douglas
NICKNAME(S):
NOTES:

B-43 Jetmaster Mfgr: Douglas
NICKNAME(S):
NOTES:

XB-44 Mfgr: Boeing
Buzz: BL
NICKNAME(S):
NOTES:

B-45 Tornado Mfgr: North American
Buzz: BH
NICKNAME(S):
NOTES:

B-47 Stratojet Mfgr: Boeing
NICKNAME(S):
NOTES:

XB-49 Flying Wing Mfgr: Northrop
NICKNAME(S):
NOTES: Turbojet

B-50 Superfortress Mfgr: Boeing
Buzz: BK
NICKNAME(S):
NOTES:

B-51 Mfgr: Martin
NICKNAME(S):
NOTES: 2 Built

B-52 Stratofortress Mfgr: Boeing
NICKNAME(S): B.U.F.F. [Big Ugly Fat (Fellow)]
NOTES:

B-57 Night Intruder Mfgr: Martin
Buzz: BA
NICKNAME(S):
NOTES:

B-57 Canberra Mfgr: Martin

Buzz: BA
NICKNAME(S): Iron Cranberry
NOTES: British Name

B-58 Hustler Mfgr: Convair/General Dynamics
NICKNAME(S): Delta Queen
NOTES:

B-61 Matador Mfgr: Martin
NICKNAME(S):
NOTES: Missile

B-62 Snark Mfgr: Northrop
NICKNAME(S):
NOTES: Missile

B-63 Rascal Mfgr: Bell
NICKNAME(S):
NOTES: Missile

B-64 Navaho Mfgr: North American
NICKNAME(S):
NOTES: Missile

B-65 Atlas Mfgr: Convair
NICKNAME(S):
NOTES: Missile

B-66 Destroyer Mfgr: Douglas
Buzz: BB
NICKNAME(S):
NOTES:

B-67 Crossbow Mfgr: Radioplane
NICKNAME(S):
NOTES: Missile

B-68 Titan Mfgr: Martin
NICKNAME(S):
NOTES: Missile

B-69 Neptune Mfgr: Lockheed
NICKNAME(S):
NOTES:

XB-70 Valkerie Mfgr: North American
NICKNAME(S):
NOTES:

B-71 Mfgr: Lockheed
NICKNAME(S):
NOTES: Original Designation for SR-71

B-72 Quail Mfgr: McDonnell
NICKNAME(S):
NOTES: Missile

B-73 Bull Goose Mfgr: Fairchild
NICKNAME(S):
NOTES: Missile

B-75 Thor Mfgr: Douglas
NICKNAME(S):
NOTES: Missile

B-76 Mace Mfgr: Martin
NICKNAME(S):
NOTES: Missile

B-77 Hound Dog Mfgr: North American
NICKNAME(S):
NOTES: Missile

B-78 Jupiter Mfgr: Chrysler
NICKNAME(S):
NOTES: Missile

B-80 Minuteman Mfgr: Boeing
NICKNAME(S):
NOTES: Missile

B-83 Bullpup Mfgr: Martin
NICKNAME(S):
NOTES: Missile

B-87 Skybolt Mfgr: Douglas
NICKNAME(S):
NOTES: Missile

Be-6 Mfgr: Beriev
NICKNAME(S): Madge (NATO)
NOTES:

Be-10 Mfgr: Beriev
NICKNAME(S): Mallow (NATO)
NOTES:

Be-12 Tchaika Mfgr: Beriev
NICKNAME(S): Mail (NATO)
NOTES:

Be-42 Mfgr: Beriev
NICKNAME(S):
NOTES: Flying Boat

---- Part II to follow next month

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WUN LOGS OCTOBER, 1998
Editor: Donald E. Stidwell

Team Logs: Barun Gupte Jason Lillie Klaus Betke Kevin Johnson

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Well, here is my first submission as the editor of the Logs columns. Many thanks to the members of Team Logs without whom this column would not be possible.

As to be expected the 1st time around, there were a few glitches this month, the worst of which was a hard drive failure I had a couple of weeks ago. Fortunately I was able to restore most from tape, but I am sure I lost quite a few loggings. If your loggings don't appear this month, my profound apologies. They got lost in the crash. Hopefully nothing will get lost next month. (I'm also maintaining a 2nd copy of all submitted logs on my laptop).

The following comments are regarding the August newsletter with some comments and corrections from a guy that wishes to remain anonymous.

4742	ARCHITECT:	>RAF London.... Should be RAF Upavon, Wiltshire.
6758	MKL:	>RAF Pitreavie.... Now from RAF Kinloss. Pitreavie closed last year.
6904	RCV:	>RN Moscow.... RCV is Sevastopol (Sebastopol). Although in the Ukraine, this is naval base is a Russian asset.
10961.7	RXFPDF:	>0937 arq-m2/200 Should read RFFPDF (?) RXFP is/was the routeing indicator for the NATO primary tape-relay centre at Casteau, near Mons, Belgium.
11000	RIW:	>UNID This is Navy Moscow. Often reported as 'Khiva'. Probably due to a erroneous entry in the ITU listing which has never been corrected.

Lots of good stuff this time around, so let's get to it!

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17.2 SAQ: 0920 CW Special Broadcast for EDXC Conference from Swedish Wireless Museum (29/Sep) (AG)
380 BBD: Brady, Tx 0649 CW (6/Sep) (DW2)
435.5 SAA: Karlskrona Radio 0932 CW wx ending 0939 (4/Oct) (KB)
438 OXZ: Lyngby Radio 1825 CW wx (8/Oct) (KB)
439.5 LZW: Varna Radio 1832 CW cq, wx (4/Oct) (KB)
444.5 PCH: Scheveningen Radio 1051 CW short tfc list (11/Oct) (KB)
447 ICB: Genova Radio 1840 CW nx in II (8/Oct) (KB)

 448   SDJ: Stockholm Radio 0910 CW wx (11/Oct) (KB)
 449   OXZ: Lyngby Radio 1825 CW wx //438 (8/Oct) (KB)
 511   SPH: Gdynia Radio 1903 CW wx (4/Oct) (KB)
 511.5 IPA: Ancona Radio 1755 CW "cq ipa tfc list" (8/Oct) (KB)
 515.5 SPE: Szczecin Radio 1009 CW cq, tfc list (4/Oct) (KB)
 518   OST: Oostend Radio 1848 FEC navtex msgs (BVR)
 521   SDJ: Stockholm Radio 0910 CW wx //448 (11/Oct) (KB)
1617.5 Unid 1840 RTTY 75.02/170 unid mode (BVR)
1625.6 Unid 1435 RTTY unid mode. Code3-gold couldn't decode it (27/Sep) (AM5)
1860   Unid 1820 RTTY 125/100 bursts of 2 seconds (27/Sep) (AM5)
1869   GKZ: Humber Radio 2133 USB tfc list and nav wngs. 28/Aug (HOOD)
1916.4 Unid 1835 RTTY 100/30 (27/Sep) (AM5)
1942   Unid 1845 RTTY 100/30 (27/Sep) (AM5)
2014   Unid 1905 RTTY 300/154 (27/Sep) (AM5)
2182   CROSS Corsen 1815 FF ann (BVR)
2182   IPP: Palermo Radio 1728 clg Turkish ship (BVR)
2182   PBK: Dutch CG 0633 USB ann gale wrng on 3673 (BVR)
2182   Palma Radio 203 USB ann (BVR)
2203   MGJ: Ny Faslane 1922 RTTY 75/340 availability msg (27/Sep) (AM5)
2204   PAME: HRMS van Amstel 1720 USB wkg Ny Den Helder pp to Ny De Kooij (BVR)
2285.5 IDR: Ny Rome 2020 USB wkg IAZC (BVR)
2396   KINLOSS RESCUE: 0240 USB r/check with Coastguard Rescue Mike Uniform (21/Sep) (AG)
2493.4 ZLO: RNZN Irirangi 0725 CW "DE ZLO ZAY A1A" (22/Sep) (IJ)
2670   NMG: USCG Group New Orleans 0551 USB w/MIB. (6/Sep) (DW2)
2693   CUL: Lisbon Radio 2006 USB tfc list after ann on 2182. 26/Aug (HOOD)
2753   NAVY 267: 1847 USB wkg PADG HRMS Bloys van Treslong (BVR)
2753   PAME: HRMS Van Amstel 1648 USB clg PFC, no reply (BVR)
2753   PARD: HRMS Rotterdam 1600 USB wkg PFC Dutch navy "de kooy" (BVR)
2753   PARD: HRMS Rotterdam 1847 USB clg PFC, radiocheck (BVR)
2753   PFC: Navy De Kooy 1843 USB wkg NAVY 267 (BVR)
2840.7 DBPG: German CG vsl Mellum 0905 ARQ login 89440 german mgs (BVR)
2857.3 6WW FN Dakar SEN Rtty 75/170 0732z   Msgs 6thOct 98 [BC3]
2996.2 CCM: Ny Magallanes, CHL 0935 RTTY 100/850 5LGs (6/Oct) (IJ)
3016   RESCUE 12: 2302 USB wkg Shanwick Oceanic (20/Sep) (AG)
3091   E10 MOSSAD 1946 AM CIO2 (7 Oct) (JRU)
3119.0 NOY: USCG Group Galveston, Tx 1544 USB clg CG 6027, QSY'ed here from 3122. (RB)
3128   Unid Polish maritime? 1628 USB comms, "Rotterdam" mentioned (BVR)
3130   NAS Valkenburg, HOL? 1753 RTTY 75/850 encrypted //5707 (BVR)
3149   KINLOSS RESCUE: 0228 USB wkg Rescue 12 - "eta EGQK at 0335!". (There was QRM from a YL 'numbers' station on 3150 repeating 'Papa Charlie Delta' then Group 114 followed by 5L groups! (21/Sep) (AG)
3149   RESCUE 12: 2346 USB r/check with Kinloss (20/Sep) (AG)
3237   Unid 1655 CW repeating "XXX XXX QLWN QLWN 25600 AFRIKA T443
25600 AFRIKA T443 K" sent by hand. Looks like aero related (1/Oct) (CK)
3333   Unid 1715 USB Fisherman's comms, heavy accent (BVR)
3335.3 Unid 1710 RTTY 50 online encrypted 94 Hz acf 15 asynchronous (BVR)
3336   Unid Dutch fisherman 1813 USB intership talks (BVR)
3391   Unid 1717 USB Dutch intership comms (BVR)
3595   XXX FAST CW PIPS 1950 CW vy fast w-pips and a sound like an old door which is opened in regular intervals (7/Oct) (JRU)
3652   GYA: RN Northwood 0624 FAX 120/576 chart (BVR)
3673   PBK: Netherlands Coastguard 2003 USB gale wng in EE. 26/Aug (HOOD)
3757   XX PIP 1948 CW continuous pip of the same time length (7/Oct) (JRU)
3810   HD2IOA: Guayaquil TS, EQA 0615 AM(LSB) beeps. Weak, voice ann.

not readable (9/Oct) (KB)
4012 Unid Rus Ny 1809 36-50 encrypted tfc (BVR)
4024.3 Unid 1810 36-50 (BVR)
4028 Number sta 1003 AM f SS "ATTENTION .6431 13061 53643 ..." (17/Sep) (LBJ)
4057 Unid 1820 RTTY 75/863 unid mode no acf (BVR)
4176.5 LAIB5: M/V DEBORA 0640 ARQ eta for Warnemunde via SAB login 26850 DEBORA. 15/Sep (HOOD)
4178 FNKL: LOUIS EVRARD 0647 ARQ msg via HEB login 98311 LU EVRARD. 15/Sep (HOOD)
4195 FUE: FN Brest 2200 RTTY 75/850 AA DE FUE TESTING RYs SGs 1-0; HWN Paris prev copied this freq (8/Oct) (ML2)
4211 GKE: Portishead Radio 0709 ARQ msg to GKFY: M/V BALTIC EIDER (a 13866dwt ro-ro). 14/Sep (HOOD)
4273.0 FUJ FN Noumea NCL Rtty 75/381 1122z FUJ Test Tape 5th Oct 98 [BC3]
4331 4XZ: Ny Haifa 2340 CW "VVV DE 4XZ BT" (PIRI)
4343 SVA2: Athens Radio 2345 CW Greek waters nav. warnings in EE (PIRI)
4343 SVA: Athens Radio 0948 CW maritime meteo (27/Sep) (CK)
4394.4 FOXTROT TANGO: USN Link-11 Coordination NCS 0015 USB wkg HOTEL, NOVEMBER, TANGO, other SLCS's w/link-11 coord tfc. (RB)
4394.4 FOXTROT TANGO: USN Link-11 Coordination NCS 0015 USB wkg HOTEL, NOVEMBER, TANGO, other SLCS's w/link-11 coord tfc. (RB)
4484 KINLOSS RESCUE NOVEMBER CHARLIE: 2343 USB wkg Rescue 12 in SAR OP -(note# Zero November Charlie was tactical call of HMS Ocean), Stations had to QSY to 3149 due to QRM from Russian BC Station (20/Sep) (AG)
4484 KINLOSS RESCUE: 2135 USB wkg Rescue 12 in SAR Op (20/Sep) (AG)
4513.5 NNN0MDV: NAVMARCORMARS HF Mailbox 0316 PACTOR 200/200 w/MARSECOMEX 98 msg. (RB)
4513.5 NNN0MDV: NAVMARCORMARS HF Mailbox 0316 PACTOR 200/200 w/MARSECOMEX 98 msg. (RB)
4515.7 Unid 0428 UNK 192/200 unable to synch. (RB)
4535 Fishing boats, NZL 0720 USB 2 chat (1/Oct) (IJ)
4570 HZN40: Jeddah Meteo 0009 RTTY 100 wx (PIRI)
4583 DDK2: Hamburg Meteo 0016 RTTY 50/350 wx (PIRI)
4586 Dept of Conservation stations, NZL 0405 UTC USB 2 OMs organising a SAR and med assistance. First time heard any DOC comms here for nearly 7 years (1/Oct) (IJ)
4610 SPAR 66: 0840 USB DV-3 + 4, inbound Gander out of Dallas, wkg "Andrews VIP" for signal checks. Also found on 6683, 9120, 11220 and 13217 at various times (20 Sep) (JJ)
4616 ZKSD: Raoul Island the Kermadecs & Port Fitzroy Great Barrier Island Dept of Conservation stations NZL 0735 USB chat (28/Sep) (IJ)
4617.5 AF Orleans 0915 RTTY "test de fdy" (27/Sep) (AM5)
4625 S28 THE BUZZER 1722 mode? Buzzing as always (7/Oct) (JRU)
4643.5 AF Orleans 0945 RTTY "test de fdy" (27/Sep) (AM5)
4645 Tallin Air 1817 USB wx (BVR)
4693 Melbourne Aeradio VIC, AUS 1030 USB wkg unid A/C (18/Sep) (IJ)
4718 KINLOSS RESCUE: 2242 USB wkg Rescue 177 in SAR Op(16/Sep)(AG).
4718 KINLOSS RESCUE: 2317 USB wkg Coastguard Rescue helicopter Mike Uniform (G-BIMU) (19/Sep) (AG)
4721 IDR: Ny Rome 1821 USB pos/track? reports to 4TZ (BVR)
4724 McClellan Global 0517 USB clg REACH 0456 with an all frequency call. No joy (10/Oct) (JJ)
4780 E10 MOSSAD 1717 AM MIW2 //5530 (7/Oct) (JRU)
4783 Unid 0210 CW 555(x3) 249(x3) 487(x3) 23 (cont'd) (22/Sep) (LBJ)
4787 Unid 2036 81-81 81/233 encrypted tfc (BVR)
4790.0 Unid 0432 USB sounded like a/c in unid lang., have source that lists this as a Carnary Island aviation freq, any info? (RB)
4855 USAF/USN Puerto Rico(?) 0540 FAX 120/576 N hemisphere map with grey levels (oceans shaded). Probably only a test, nil on the following days (15/Sep) (KB)
4858 MKL RAF Edinburgh 0105 CW TAFs tfc (PIRI)
4880 ULX: Mossad 2300 USB ULX marker (6/Sep) (LBJ)
4906 Unid 1836 RTTY 220.02/236 no acf (BVR)

4906.7 Unid 0439 TWINPLEX weak, kept breaking synch w/CW exchanges between transmissions. (RB)
4937.5 Unid 1832 81-81 81/200 encrypted tfc (BVR)
5028 Unid 1803 RTTY 48.3/236 unid mode (BVR)
5050 Unid 1805 RTTY 75.04/830 unid mode no acf (BVR)
5092 E10 MOSSAD 1701 AM JSR, msg followed (7/Oct) (JRU)
5114 Unid 1808 81-81 80.9/240 encrypted tfc (BVR)
5119.9 Unid 1810 RTTY 149.9/334 unid mode no acf (BVR)
5132 UNID station Suva Fiji 0730 USB OM passing wx (16/Sep) (IJ)
5134 RFFXCFB: FF Thionville 2255 ARQ-E 72/396 DECOLTRANS DEUX THIONVILLE with EXERCICE traffic to RFFEDFA, DECOLTRANS UN LAVAL and RFFXCFD, DECOLTRANS QUATRE ISSOIRE. Also what looks like command tfc from SOUGE. Circuit used is "UAF" (7/Oct) (PT)
5160 5UA ASECNA Niamey 0240, ARQ-M2 96, wx. Ch A: Metars, Ch B: AAXX, TTBB (PIRI)
5178 XM BACKWARDS MUSIC STATION 1954 USB with the usual sound (7/Oct) (JRU)
5206 CONTROL, KILO ALPHA & KILO MIKE: RN net, G 0625 USB radio checks (24/Sep) (IJ)
5211 WGY952: VITEMA St. Croix, VIR 2350 USB radio ck. WGY912, FEMA net control responded, but no contact (20/Sep) (JM)
5215.6 Unid 1814 RTTY 149.98/825 unid mode no acf (BVR)
5221 Unid 0446 RTTY 75/150 unid mode. Often heard early am - not decoded so far (6/Oct) (RH2)
5230 E10 MOSSAD 1718 AM KPA2 (7/Oct) (JRU)
5236 AFA1NY: USAF MARS stn 2345 USB PA and control for the SHARES coordination net announcing window times (check-in) of 1300, 1600, 1900 and 2330 (21/Sep) (JM)
5251 Unid 1816 RTTY 200.2/400 unid mode, no acf (BVR)
5254 DANNEVIRKE 2 (sounds like): 0506 USB clg BASE; 2 women in chat (15/Sep) (NJ)
5254 MRS Taupo (Mountain Radio Service) 0432 USB talk about spare parts and wx (15/Sep) (NJ)
5255 Unid commercial stations NSW, AUS 0750 USB 2 OMs, one giving directions, mentioned Queanbeyan & Gundagai (1/Oct) (IJ)
5279.1 RFFXCFB: FF Thionville 1942 ARQ-E 72/324 DECOLTRANS DEUX THIONVILLE with EXERCICE tfc to RFFEDFA, DECOLTRANS UN LAVAL via "UFB" circuit (8/Oct) (PT)
5298.5 Unid 1639 81-81 81 no acf (BVR)
5305.5 Unid 1820 RTTY 48.4/240 unid mode at 1820 s/off (BVR)
5315 UNID: (Mexican?) Military 0206 USB w/OM/YL/SS w/chatter. (7/Sep) (DW2)
5335 ZERO ALPHA: NZL Army net 2055 USB wkg 20; exercise (29/Sep) (IJ)
5341.4 Tuna Fishing fishing boats, NZL 0710 USB chat (1/Oct) (IJ)
5350 Unid 1823 81-81/230 no acf encrypted tfc (BVR)
5351 Unid commercial stations, AUS 0930 USB chat (6/Oct) (IJ)
5353.5 Unid GC 1825 ARQ 100/400 online encrypted? (BVR)
5377 20 & 30: Army net NZL 1950 USB op chat & waiting for LIMA TANGO NOVEMBER (Sunray) to come up (8/Oct) (IJ)
5377 LIMA TANGO NOVEMBER: NZL Army net 2030 USB wkg NOVEMBER CHARLIE, radio checks (18/Sep) (IJ)
5383 ZKCT: Civil Defence (Central), NZL 2107 USB weekly radio check; FOXTROT ch (16/Sep) (NJ)
5386 ZKCT: Civil Defence, NZL 2117 USB weekly radio check, ALPHA ch, national calling (16/Sep) (NJ)
5389 ZKNT: Civil Defence Auckland (Northern), NZL 2100 USB weekly radio check; NOVEMBER ch (16/Sep) (NJ)
5395 Y7N: Army net, NZL 2055 USB clg DVK & co-ordinating 75 Bd datalink on 5397. Freq was duplexed. DVK was on 6899 and his 75 Bd encrypted datalink was on 6901 (1/Oct) (IJ)
5405 JMJ2: Tokyo Meteo 1219 FAX 120/576 w/chart (17/Sep) (DW2)
5422 Lincolnshire Poacher No Station 1815 USB YL w/numbers (10/Oct) (IJ)
5431.5 P7X: Unid 0150 CW, data burst, "QRA de P7X". Copied again at 0202, 0230 and 1305 (6/Sep) (LBJ)
5436 7 UNIFORM PAPA: Fijian Army net 0650 USB clg VICTOR OSCAR (26/Sep) (IJ)

5442 HEC: Berne Radio 1801 ARQ tfc list (23/Sep) (LAR)
5442.2 Unid. 1704 Burst like SITOR-A but longer pause; at 17.05 s/off. Berne Radio listed at this freq (BVR)
5470 Unid commercial stations, South Island NZL 0800 USB organising supplies etc. (5/Oct) (IJ)
5478 Unid 1642 RTTY 100.38/206 unid mode (BVR)
5550.0 NAVY LV612: P-3B/C or EP-3J of VP-66 "Liberty Bells" (USNR), NAS Willow Grove, Pa 0023 USB wkg New York, adv level at FL 310. (RB)
5598 French Lines 343 (AOM) 0429 USB s/c ck HJ-AF, posn rpt (6/Oct) (JRU)
5598 RESCUE 12: 2242 USB wkg Shanwick en-route to SAR Op (20/Sep)(AG)
5598 US AIR 42: 0440 USB s/c ck BF-GP, posrpt (6/Oct) (JRU)
5601 Eiza Volmet, ARG 0515 USB m SS wx (5/Oct) (IJ)
5680 (C)-GBBX: 2140 USB clg St Anthony Radio (20/Sep) (AG)
5680 8VM: 1302 USB r/check with Kinloss (28/Sep) (AG)
5680 ACCORD: 1958 USB Scottish fishing boat clg Kinloss to tell him that SRG 122 had been calling him! (13/Oct) (AG)
5680 ALPINE 22: 1948 USB r/check with Kinloss (18/Sep) (AG)
5680 ALPINE 23: 0941 USB r/check with Kinloss (17 Sep) (AG)
5680 ALPINE 24: 1858 USB r/check with Kinloss (18/Sep) (AG)
5680 ARCHITECT: 1429 USB with "Testing 1-5!" (17/Sep) (AG)
5680 BELGIAN AF 95: 1324 USB r/check with Koksidje Rescue (20/Sep) (AG)
5680 BELGIAN AIR FORCE 91: 1854 USB asking for r/check with Koksidje Rescue (16/Sep) (AG)
5680 BODO RADIO: 1357 USB wkg Sabre 41 (14/Oct) (AG)
5680 BRAVO TWO WHISKEY: 1323 USB r/check with Kinloss (12/Oct) (AG)
5680 CHARLIE SIX MIKE: 1018 USB wkg Kinloss Rescue (06/Oct) (AG)
5680 CHURCHILL RADIO: 2241 USB clg CWW in French (20/Sep) (AG)
5680 CULDROSE OPS: 2130 USB wkg Rescue 193 (20/Sep) (AG)
5680 DRIM: 0805 USB r/check with Glucksburg Rescue, and msg in German language (14/Oct) (AG)
5680 DRKC: FGS Freiburg (D) 0819 USB clg Glucksburg Rescue (D) for r/check (16/Sep)(AG).
5680 GCOU: 2142 USB (HMS Ocean - new RN helo carrier) clg Rescue helo 193 for r/check (20/Sep) (AG)
5680 GERMAN NAVY 4781: 1218 USB wkg Glucksburg Rescue - "A 228 out of Nordholz on task to Norway (10/Oct) (AG)
5680 GERMAN NAVY: 1055 USB r/check with Kinloss Rescue - the 'Grumpy Scotsman' even told him to have a nice day! (09/Oct) (AG)
5680 GFF: 1646 CW Kinloss with "VVV de GFF" (22/Sep) (AG)
5680 GLUCKSBURG RESCUE: 0814 USB clg Navy 4788 (06/Oct) (AG)
5680 GLUCKSBURG RESCUE: 1015 USB r/check with Mission 4823 (16 Sep) (AG)
5680 GLUCKSBURG RESCUE: 2101 USB r/check with 4855 (01/Oct) (AG)
5680 GOTLAND RESCUE: 1305 USB daily r/check with Riga Rescue Radio,Tallin Rescue and Kuresaare Rescue (16 Sep) (AG)
5680 GOTLAND RESCUE: 1311 USB clg Tallin Rescue and Kuresaare Rescue for daily r/check!" (05/Oct) (AG)
5680 HOTEL 91: 0835 USB r/check with Sweden Air Rescue (07/Oct) (AG)
5680 HOTEL 94: 1837 USB clg Sweden Air Rescue (22/Sep) (AG)
5680 HOTEL 96: 0907 USB wkg Sweden Air Rescue (16/Sep) (AG)
5680 HOTEL 98: 0827 USB clg Sweden Air Rescue (16/Sep) (AG)
5680 HOTEL 99: 0814 USB wkg Sweden Air Rescue (06/Oct) (AG)
5680 HOTEL 99: 1717 USB wkg Sweden Air Rescue (01/Oct) (AG)
5680 IJMUIDEN RESCUE: 1608 USB r/check with Pedro 2 (01/Oct) (AG)
5680 KILO NINE BRAVO: 1920 USB wkg Kinloss Rescue (06/Oct) (AG)
5680 KINLOSS RESCUE: 0820 USB wkg DRKC - "Will inform Glucksburg Rescue you are calling them!" (16/Sep) (AG)
5680 KINLOSS RESCUE: 1051 USB clg Ascot 9022 (08/Oct) (AG)
5680 KINLOSS RESCUE: 1205 USB wkg Ascot 9003 - Kinloss told them Architect would be listening for them on 11247 kHz!" (09/Oct) (AG)
5680 Kinloss Rescue 1649 USB wkg RESCUE 137, qsy 6736 for radio ck (BVR)
5680 M7W: 1119 USB wkg Kinloss Rescue (30/Sep) (AG)

5680 MISSION 4851: 1110 USB r/check with Glucksburg Rescue (21/Sep) (AG)
5680 MISSION 4851: 1111 USB r/check with Kinloss (21/Sep) (AG)
5680 NAVY 177: 0902 USB in r/check with Kinloss (16/Sep) (AG)
5680 NAVY 706: 0851 USB clg Kinloss for r/check (16/Sep) (AG)
5680 PAVE MAINTENANCE: 1427 USB sking Kinloss Rescue for r/check, believed to be from USAF at 352nd SOG based at RAF Mildenhall (14/Oct)(AG)
5680 PC 315: 2121 USB Pollution Control aircraft in r/check with Glucksburg Rescue (05/Oct) (AG)
5680 RAFAIR 7472: 0957 USB in r/check with Kinloss Rescue, "Ops normal posn 5144N 00346E"! (17/Sep) (AG)
5680 RAFAIR 7472: 1017 USB wkg Kinloss Rescue - "Airborne from Bruggen, en-route to RAF Wattisham!" (18/Sep) (AG)
5680 RESCUE 11: 1004 USB wkg Stavanger Rescue - "Good comms with Sabre 50 to north!" (01/Oct) (AG)
5680 RESCUE 11: 1045 USB wkg Kinloss (21/Sep) (AG)
5680 RESCUE 138: 1131 USB r/check with Kinloss (20/Sep) (AG)
5680 RESCUE 169: 1726 USB wkg Kinloss (BVR)
5680 RESCUE STANDBY: 1709 USB in r/check with Kinloss (16/Sep) (AG)
5680 RUSSIAN MAN: 1800 USB with weekly (Tuesday) '624 Noll' numbers transmission (22/Sep) (AG)
5680 SAREX 13: 1219 USB in sitrep with Kinloss (02/Oct) (AG)
5680 SHANWICK RADIO: 0833 USB r/check with Kinloss (23/Sep) (AG)
5680 SHF 230: 0848 USB wkg Kinloss Rescue (05/Oct) (AG)
5680 SIERRA 193: 1045 USB r/check with Kinloss (17/Sep) (AG)
5680 SIERRA 193: 1125 USB r/check with Kinloss Rescue (09/Oct) (AG)
5680 SIERRA 193: 1357 USB in r/check with Kinloss (14/Oct) (AG)
5680 SMG 19: 1024 USB r/check with Kinloss (02/Oct) (AG)
5680 SRG 07: 1333 USB in r/check with Kinloss - "Sea King from Weston (Westland?) en-route to St Mawgan!" (14/Oct) (AG)
5680 SRG 122: 1305 USB in r/check with Kinloss (16/Sep) (AG)
5680 SRG 123: 1508 USB wkg Kinloss Rescue (BVR)
5680 SRG 123: 1541 USB in r/check with Kinloss (16/Sep) (AG)
5680 SRG 125: 0913 USB wkg Kinloss Rescue (16/Sep) (AG)
5680 SRG 131: 1806 USB in r/check with Kinloss (16/Sep) (AG)
5680 SRG 133: 0810 USB r/check with Kinloss (06/Oct) (AG)
5680 SRG 137: 1939 USB clg Kinloss with 'Pan Pan Pan' msg, landing due to helo problem (16/Sep) (AG)
5680 SRG 170: 1104 USB in r/check with Kinloss (16/Sep) (AG)
5680 SRG 32: 1522 USB in r/check with Kinloss (16/Sep) (AG)
5680 SRG 34: 1512 USB wkg Kinloss rESCUE - "Sea King helo airborne from St Mawgan (29/Sep) (AG)
5680 SRG 44: 0942 USB RAF Sea King helo wkg Kinloss Rescue in training exercise - 'Yellow Scorpion!' (05/Oct) (AG)
5680 STAVANGER RESCUE: 1053 USB wkg Sabre 41 (18/Sep) (AG)
5680 STAVANGER RESCUE: 1149 USB in r/check with Kinloss Rescue (15/Oct)(AG)
5680 STAVANGER RESCUE: 1725 USB calling Kinloss Rescue to inform them that the two missing Germans had been recovered (01/Oct) (AG)
5680 SWALLOW 72: 1614 USB r/check with Kinloss (20/Sep) (AG)
5680 SWIFT 140: 1209 USB r/check with Kinloss (17/Sep) (AG)
5680 WESSEX 140: 1046 USB clg Kinloss Rescue (10/Oct) (AG)
5680 WESSEX 19: 0838 USB r/check with Kinloss (05/Oct) (AG)
5680 WESTLAND 4: 1206 USB r/check with Kinloss (01/Oct) (AG)
5680 YANKEE 37: 1404 USB wkg Sweden Air Rescue (29/Sep) (AG)
5680 YANKEE 67: 0846 USB wkg Sweden Air Rescue - "Airborne for one hour flying around Goteborg!" (07/Oct) (AG)
5680 YANKEE 72: 1405 USB wkg Sweden Air Rescue (14/Oct) (AG)
5680 YARMOUTH COASTGUARD (G): 1021 with "Testing 1 to 5!" (30/Sep) (AG)
5680 ZERO NOVEMBER CHARLIE: 2134 USB clg Culdrose Ops (20/Sep) (AG)
5680 ZULU ZERO PAPA 91: 1601 USB wkg Kinloss Rescue (20/Sep) (AG)
5685 RAFAIR 7107 0900 USB asking MKH5 for wx for Dinard (14/Oct)(AG)
5696 1701: HC-130H7 1200 USB wkg COMSTA KODIAK w/flight ops and position. (7/Sep) (DW2)
5696 1713: HC-130H7 0831 USB wkg COMSTA Kodiak. "Request you secure

my radio guard." (8/Sep) (DW2)
5696 53A: prob HH-65A #6553 0930 USB wkg CAMSLANT. (11/Sep) (DW2)
5696 6012: HH-60J 1159 USB wkg CAMSLANT w/flight ops and postion. (7/Sep) (DW2)
5696 CAMSLANT 0040 USB wkg 2125: HU-25B Secure radio guard. (7/Sep) (DW2)
5696 CAMSLANT CHESAPEAKE: 0054 USB wkg One Zero Charlie (16/Sep) (AG)
5696 CAMSPAC 0253 USB wkg CAMSLANT for rdo chk. (7/Sep) (DW2)
5696 COAST GUARD 1506: 0053 USB wkg Camslant Chesapeake (16 Sep) (AG)
5696 COMSTA Kodiak: 0640 USB wkg 6011: HH-60J. (6/Sep) (DW2)
5696 REACH 216: 0741 USB wkg KODIAK COMSTA for rdo chk. (08/Sep) (DW2)
5696 U7X: 2328 USB wkg Camslant (21/Sep) (AG)
5707 NAS Valkenburg, HOL? 1758 RTTY 75/850 acf 64 encrypted (BVR)
5708 Unid Rus 1820 81-81 80.9/200 encrypted (BVR)
5717 CFH: Halifax Military 0637 USB wkg Rescue 108 near SwissAir crash site. 3/Sep (HOOD)
5717 Vancouver Military, CAN 0635 USB wkg RESCUE 452 w/pp about picking up a strong beacon. Mentioned 60 Miles DME Whitehorse (24/Sep) (IJ)
5731 BAA: Beijing Meteo 0900 RTTY 50/850 ry & wx synopsis (6/Oct) (IJ)
5762 Number sta 0200 USB f SS ATTENTION 97523 89283 67462 ... (19/Sep) (LBJ)
5770 Unid commercial stn, AUS 0910 USB chat (17/Sep) (IJ)
5795 Christian Radio Missionary Fellowship station, PNG 0805 USB OM & YL w/chit-chat (25/Sep) (IJ)
5802 Unid Pacific Island stations 0930 USB YL & OM in a Pacific Island language (18/Sep) (IJ)
5802 Unid Rus 1805 36-50 only two min tx til 1807 restart at 1809 for two mins (BVR)
5820 E10 Mossad No. Stn 2033 AM ID: YHF, 2 msgs, groups 45, text AEBVC... (26/Sep) (JRU)
5820 YHF: Mossad Number Stn 1801 USB marker til 1804 then msgs (BVR)
6200 A3A: Nuku'Alofa Radio, TON 0540 USB connecting pp for unid vsl (5/Oct) (IJ)
6215 A3A: Nuku'Alofa Radio, TON 0535 USB wkg unid vsl req pp (5/Oct) (IJ)
6224 ZLM: Taupo Maritime Radio 2120 USB wx forecasts (6/Oct) (IJ)
6265 7TRX: M/V BAROUDA 0717 ARQ op chat to 7TF. 14/Sep (HOOD)
6267 OUWQ4: M/V GRETA KOSAN 0630 ARQ msg to OXZ login 03966 OUWQ (4811dwt LPG carrier). 25/Aug (HOOD)
6270 E10 MOSSAD 1533 AM ongoing msg (7/Oct) (JRU)
6270 ULX: Mossad 0130 USB ULX2 marker (6/Sep) (LBJ)
6271 7TJC: M/V MOURAD DIDOUCHE 0714 ARQ msg for pilots via OST (a 83228dwt LPG carrier) login 58103 MOUR. 14/Sep (HOOD)
6287 UANO: TKH BALTIYSKIY 107 0653 CW msg to UCW4. 15/Sep (HOOD)
6287 UBRC: TKH VOLGO-BALT 144 0657 CW msg to UCW4. 15/Sep (HOOD)
6386.5 VTO3: Ny Vishakapatnam 1934 CW, ID QSX no traffic (27/Sep) (TR2)
6393.5 UDK2: Murmansk Radio 0732 RTTY 50/170 crew TGs to UCSA: UDARNIK (MI-1411). 20/Aug (HOOD)
6395 4PB: Colombo Radio 1940 CW, ID very weak in between AQP's transmissions (27/Sep) (TR2)
6395 AQP: Ny Karachi 1940 CW, ID testing long uneven intervals (27/Sep) (TR2)
6418 VTP5: Ny Vishakapatnam 1927 CW, wkg unid (27/Sep) (TR2)
6510 Unid 0710 CW s/off just after tuning, no id (BVR)
6550 Coastguard 03: 1636 USB clg Coastguard Center, pos KA1 inbound Valkenburg (BVR)
6606 South Pacific Boaties 0710 USB OM & YL chat (22/Sep) (IJ)
6650 Number sta 1000 AM f SS ATTENTION 96403 (18/Sep) (LBJ)
6683 USAF Andrews AFB 0940 USB radio ck (17/Sep) (IJ)
6695 Unid 1809 Backwards music? (BVR)
6702 Unid 0700 RTTY 75.1/840 no acf / acf 64 (BVR)
6724 Unid 1820 RTTY 149.8/818 no acf (BVR)

6727 BONNY 40: 0905 USB wkg Japanese Mil station, normal msgs (17/Sep) (IJ)
6736 KINLOSS RESCUE: 1649 USB r/check with Kinloss (20/Sep) (AG)
6736 Kinloss ResCue 1651 USB radio ck with RESCUE 137 (BVR)
6739 RAF Upavon 1720 USB TAF report (5/Sep) (LAR)
6745 GONZO 5: 0252 USB clg Trenton Military. Also on 8989 and 9007 all with no joy (21/Sep) (JJ)
6748 QUEBEC CONTROL: US Mil 0755 USB wkg 7 ROMEO with he's unable to come up. ROMEO MIKEs (Radio Man) is trouble shooting (1/Oct) (IJ)
6753 Unid 0658 RTTY 75/750 acf 64 (BVR)
6753 XM BACKWARDS MUSIC STATION 1956 USB sounded vy much like a male voice, scrambled, with tones over it. Acc. to the last numbers and oddities column this is a NATO comms device from Palermo, Sicily, Italy (7/Oct) (JRU)
6759 Unid 1814 RTTY 75/840 unid mode acf 64 (BVR)
6765 HSW69: Bangkok Meteo 1025 USB YL in Thai with wx forecasts (1/Oct) (IJ)
6767 Unid 1204 CW 4LG cut numbers - TRAWGMDIUN AR (x3) WRMUA (x5) BT (x3) UWAII GDANG ...(1215Z) AR (x3) DUMWD (x5) BT (x3) AMAMD GTTRD (1226Z) AR (x3) VA(x3) (OTA 1231Z) (20/Sep) (LBJ)
6787 Number sta 1000 AM f SS "ATTENTION 56203 32943 69903 ..." (17/Sep) (LBJ)
6790 Unid, AUS 0910 USB YL & OM with chat (1/Oct) (IJ)
6792 DFZG: MFA Belgrade 0555 RTTY 75/500 ry FOR ALL then encryption (6/Oct) (IJ)
6797 The Counting Station 0200 AM YL/SS (7/Sep) (DW2)
6802.5 Unid, PHL 0850 USB YL spelling out msgs in EE (5/Oct) (IJ)
6815 Unid commercial stns, AUS 0855 USB 2 OMs w/chat (8/Oct) (IJ)
6816.7 MFA Cairo? 1657 ARQ selcalling oovy, constant carrier between bursts (BVR)
6826 Unid 1019 CW 5FG's cut nrs, keyed carrier (15/Sep) (LBJ)
6827 Unid 1008 CW 5FG's cut nrs (16/Sep) (LBJ)
6840 E10 Mossad No. Stn 0503 AM ongoing msg (6/Oct) (JRU)
6840 Mossad (E10) 1617 USB msgs in progress (BVR)
6852 Unid Pacific Island Mil station 0750 USB patrol boat comms in EE & a Pacific Island language (Seems to be a new Pacific military net. Heard comms here briefly about a month ago mentioned this freq & 4419) (28/Sep) (IJ)
6852 Unid Roumainian diplo 1806 ROU-FEC 164 online encrypted bitmask 24 s/off at 1810 starting CW tfc (BVR)
6852 Unid Russian Mil station 0925 USB OM in RR, test counts & lots of squealing audio feedback (16/Sep) (IJ)
6856 Unid 1010 CW 5FG's cut nrs (16/Sep) (LBJ)
6882 SNN: MFA Warsaw 1752 POL-ARQ 100 idle (BVR)
6892 Unid 1803 RTTY 75/188 unid mode (BVR)
6896.5 Unid 1744 RTTY 49.98/850 unid mode (BVR)
6896.5 Unid 1800 RTTY 50/850 no acf (BVR)
6928 Unid 0925 ARQ selcalling KYXM (17/Sep) (IJ)
6940 Unid 0650 RTTY 75.05/850 no acf (BVR)
6954 Unid 0177 CW 5LG's "BT NR 29 s 160318,24 1998 BT", suspect diplomatic (16/Sep) (LBJ)
6961.5 RFLIGA: FF Kourou 0453 ARQ-E 192/170 Idling (6/Oct) (RH2)
6970.1 Unid Mil station, PHL 0925 USB OM spelling out msg. ADVICE MISSION COMMANDER (16/Sep) (IJ)
6974.8 Unid 1755 RTTY 50/195 unid mode acf 15 stops/ends with zzzzzzz (BVR)
6977 FDG: AF Bordeaux 0632 RTTY 50/400 testing (BVR)
6984 Number sta 0203 AM f SS 0203 12193 (cont'd) 91844 ... (18/Sep) (LBJ)
6992 Unid 1755 ARQ (BVR)
7398 USAF/USN Puerto Rico(?) 0540 FAX 120/576 //4855 (15/Sep) (KB)
7484.5 Unid 1000 CW 5LG's (14/Sep) (LBJ)
7510 HZN: Jeddah Meteo 1615 RTTY 100/850 wx (24/Sep) (IJ)
7542 DVK: Army net, NZL 0045 USB clg Y7N on a duplexed link. Radio checks & co-ordinating a 75 Bd encrypted datalink. DVKs datalink was on 7544. Also mentioned channel designators PEACH & APPLE for the datalink (30/Sep) (IJ)

7583 Unid number sta 1000 AM f SS 5FG's. ACTUALLY 2 DIFFERENT NR STNS AT THE SAME TIME - ONE IN LSB AND ONE IN USB - ONE WEAK/ONE STRONG (14/Sep) (LBJ)
7584 Number sta 1004 AM 1004 f SS "05003..."; can hear a second SS number stn on freq. (21/Sep) (LBJ)
7584 Unid 0200 CW 5LG's (16/Sep) (LBJ)
7605 Russian Man number station 0821 USB nil msg 912 000 00 (23/Sep) (LAR)
7605 SYN: MOSSAD No station 1950 USB YL repeating SYN2 (9/Oct) (IJ)
7612 ZERO ALPHA, 20, 21, 23, 23A, 30, 60 & 171: Australian Army Relief OPs net, PNG 0810 USB radio cks, logistical & medical related msgs (1/Oct) (IJ)
7657 VKA: Police Adelaide 0735 USB vehicle licence check for a mobile unit (25/Sep) (IJ)
7659 HBD20: MFA Berne 0540 ARQ 5LGs (6/Oct) (IJ)
7664.9 SIERRA MIKE: Deforce Force stn, PNG 1030 USB wkg ALPHA MIKE, comms in Pidgin EE (17/Sep) (IJ)
7674.9 Unid, PNG 0905 USB 2 OMs in Pidgin EE (11/Oct) (IJ)
7691 US Fishing Boats 0625 USB 2 OMs w/chat (6/Oct) (IJ)
7700 ETD3: Addis Ababa Air, ETH 2310 RTTY 50/1000 AFTN tfc to E3A Asmara cct VTA (1/Oct) (ML2)
7710 VFF: Iqaluit Coast Guard 0520 FAX 120/576 ice condx Baffin Bay. Ends 0538. Fair copy (15/Sep) (KB)
7735 Unid commercial stations, AUS 0940 USB 2 OMs discussing next days work sked (6/Oct) (IJ)
7740 Telecom Suva Fiji 0440 USB ordering supplies (5/Oct) (IJ)
7760 Number sta 0107 USB f EE 5LG's (16/Sep) (LBJ)
7760 RGH77: Arkhangelsk Meteo 0922 RTTY 50 wx (PIRI)
7772 Unid 0555 ARQ-M2 144/0 Single tone station (6/Oct) (RH2)
7811 CIO: MOSSAD No station 1945 UTC USB YL repeating CIO2 (9/Oct) (IJ)
7820 Unid 2015 USB? Long, short, long, short, long, long tones repeated over and over. When tuned in usb these tones sound like played on a xylophone (7/Oct) (JRU)
7846 Unid 1102 CW 5LG's, keyed carrier (15/Sep) (LBJ)
7850 Unid French Polynesian stations 0705 USB 2 OMs in FF & ALE Bursts (6/Oct) (IJ)
7850.5 Unid, Venezuelan? 0240 PACTOR-1 200/200 w/ref to Ciudad Bolvar & Orinoco River in Venezuela. Need to watch this one, its becoming a regular. (RB)
7854 Unid 1816 USB french voice test slip (7/Sep) (LAR)
7862.2 Unid, PHL 0915 USB OM spelling out wx forecast (11/OCT) (IJ)
7870 USAF/USN Puerto Rico(?) 0540 FAX 120/576 //4855 (15/Sep) (KB)
7888 Number sta 0209 AM f SS 5FG's (20/Sep) (LBJ)
7890 ZME: Joint Dept Of Conservation/Raoul Island Meteo, NZL 2210 USB organising RNZAF airdrop of supplies to the Island (6/Oct) (IJ)
7897 RFLI: French Forces, Fort de France 0805 ARQ-E3 96/360. Monitored for several hours. Ckt LIH to Papeete w/several CdV msgs noted. (6/Sep) (DW2)
7918 E10 Mossad No. Stn 0504 AM ongoing msg (6/Oct) (JRU)
7934 CYCLONE: 0107 USB wkg TIDALWAVE, HAILSTORM, MUDSLIDE, SHOCKWAVE, HURRICANE, AVALANCHE, TSUNAMI (and a few other natural disasters) re: all personnel and equipment accounted for (8/Oct) (JJ)
7978.3 LUM: Matienzo Base, ATA 0910 RTTY 100/850 ry & 5LGs (6/Oct) (IJ)
8008 ALPHA FOX & ALPHA X-RAY: USNy net 0740 USB comms about a surface contact (25/Sep) (IJ)
8012.7 Unid 1743 ARQ msg in EE w/flight details to ZFFY-AVA. Guess Zim-Zaire comms (29/Sep) (RH2)
8013 MFA Rome (tent) 1710 RS-ARQ 228.5/170 Unable decode (30/Sep) (RH2)
8026 SPAR 65: 2330z USB wkg Andrews for a new pp, and QSY'd from 11460kHz. Signals faded...nothing further heard at this QTH. (JC5)
8032 SAM 375, DV-2 + 6, and SAM 202, DV-2 + 8 0101 USB outbound Denver for Andrews wkg Andrews VIP for new primary freq (Also

used 378.1 for air-to-air "front-end" comms) (10/Oct) (JJ)
8034 Unid, RUS 0415 USB YL in RR (9/Oct) (IJ)
8043 Unid 2210 CW 5LG's "BT NR 40 S .800... 1998 BT", suspect diplomatic (16/Sep) (LBJ)
8057 Unid 2210 CW 5LG's, suspect diplomatic (16/Sep) (LBJ)
8066 Unid 1100 CW 5LG's "MRDIN UWRRN IIWWD ..." (18/Sep) (LBJ)
8067 Unid 1106 CW 5LG's cut numbers (14/Sep) (LBJ)
8070 Unid commercial station, AUS 0930 USB op chat. Also mentioned freq was CH#17. (17/Sep) (IJ)
8080 Unid Mil stn, PHL 0855 USB spelling out msgs in EE (1/Oct) (IJ)
8107 DELTA, FOXTROT & ROMEO TANGO ALPHA: Mil or Police net, PNG 0840 USB msgs in Pidgin EE (1/Oct) (IJ)
8122 BAF: Beijing METEO 0939 FAX 120/576 w/weak chart. (29/Sep) (DW2)
8122 BENDIGO: HMAS Bendigo Fremantle-class Patrol Boat 211 0936 USB wkg CANBERRA CONTROL. (8/Sep) (DW2)
8122 BENDIGO: HMAS Bendigo Fremantle-class Patrol Boat 211 0937 USB clg WARRNAMBOOL: HMAS Warrnambool Fremantle-class Patrol Boat 204 for radio check. No joy. (8/Sep) (DW2)
8122 CANBERRA CONTROL: 0936 USB wkg LABUAN: HMAS Labuan Landing Craft Heavy L128. (22/Sep) (DW2)
8122 DARWIN CONTROL: 0938 USB wkg CESSNOCK: HMAS Cessnock Fremantle-class Patrol Boat 210. (21/Sep) (DW2)
8122 LABUAN: HMAS Labuan Heavy Landing Craft L128 0935 USB clg CANBERRA CONTROL and DARWIN CONTROL for rdo chk. (9/Sep) (DW2)
8122 LAUNCESTON: HMAS Launceston Fremantle-class Patrol Boat 207 1002 USB wkg DARWIN CONTROL. (9/Sep) (DW2)
8122 RAN Canberra control & 0910 USB wkg HMAS Bendigo Australia, data link coord. Data freq was on 8304.9. Couldn't decode, but speed was 300 bd (26/Sep) (IJ)
8122 WARRNAMBOOL: HMAS Warrnambool Fremantle-class Patrol Boat 204 1239 USB wkg CANBERRA CONTROL. (7/Sep) (DW2)
8125 Number sta 2211 USB 5FG's 3/2 f EE, suspect //10423 (16/Sep) (LBJ)
8127 VLB: Mossad 0045 USB VLB2 marker (7/Sep) (LBJ)
8153 Unid PHL Naval or Coast Guard vessel 1000 USB re checking a Taiwanese fishing boat (7/Oct) (IJ)
8156 GQIK: 1212 USB clg Kinloss for r/check (21/Sep) (AG)
8156 GQIK: 1213 USB wkg Rescue 11 (J6F/GQIK was HMS Superb, Royal Navy Swiftsure class submarine (21/Sep) (AG)
8156 KINLOSS RESCUE: 1137 USB clg J6F (no reply) (21/Sep) (AG)
8156 RESCUE 11: 1136 USB clg J6F (no reply) (21/Sep) (AG)
8160 Russian Man (E17) Numbers Station 0230 AM w/EE 5FGs(x2). QRT at 0334 w/00000. (27/Sep) (DW2)
8160.0 English Lady Numbers Station 0237 USB in progress, YL/EE w/5Fx2 to 0334 off w/00000. (RB)
8176 VIM: Melbourne Radio 0953 USB w/tfc list and wx. (9/Sep) (DW2)
8232 Unid 1000 CW VVV CQ 747.531 (cont'd) HR(x2) 18(x2) BT(x2) 67634 93947 ... (15/Sep) (LBJ)
8240 P3PX3: MV Bauska 1634 USB clg Portishead Radio (BVR)
8240.0 N/A: M/V Sovereign 0120 USB wkg Group Mobile (on 8764!) for comms guard after vessels tow, the 470 foot M/V Golden Star, broke loose during Hurricane Georges. Tow was drifting towards an oil platform in the Gulf of Mexico, later was able to take the vsl under tow again. (RB)
8240.0 NCRG: USCGC Courageous (WMEC-622) 1937 USB wkg NMN (on 8764) re info for crewmember. (RB)
8240.0 NRPJ: USCGC Laurel (WLB-291) 1706 USB wkg CAMSLANT (on 8764) for posn/op's report. (RB)
8253 Number sta 1000 AM f SS "ATTENTION 374 08 ..." (16/Sep) (LBJ)
8271.5 UNID: DPRK Diplo 0210 RTTY 50/964 w/5FGs. Into CW at 0212. (7/Sep) (DW2)
8279 UGSF: TKH KRASNY AKSAY 0715 USB pp to Moscow via OHG. 21/Aug (HOOD)
8300 New Star Broadcasting Numbers Station 1202 AM YL/CC w/music and voice. (17/Sep) (DW2)
8303.2 LOR: Ny Puerto Belgrano, ARG 0517 RTTY 75/170 clg GR4, then 5LGs (6/Oct) (RH2)

8310 UNID: PACTOR 200/200 w/weak signal. Difficult to maintain synch. (29/Sep) (DW2)
8315 UNID: GTOR 100/200 w/ASCII tfc. (30/Sep) (DW2)
8316 RNZN Auckland 2115 USB wkg FOXTROTT 1 INDIA (9/Oct) (IJ)
8332.5 UNID: Russian/Cuban(?) Military 0948 81-81 40.5/225 w/good signal. (24/Sep) (DW2)
8335.3 DHJ59: Ny Wilhelmshaven 1901 USB radio ck w/DRHH followed by encrypted RTTY tfc; 150 bd? (11/Sep) (LAR)
8341 7THX: M/V BECHAR 0720 CW eta for Koper via 7TF. 22/Aug (HOOD)
8347 IBEG: M/V SUMATRA 0739 CW msgs via EAD (7736dwt cargo vsl anchored at Bilbao roads). 21/Aug (HOOD)
8347.5 IBSD: M/V EGITTO EXPRESS 0712 CW DIFMAR msg to IAR. 25/Aug (HOOD)
8358 TCQR: M/V BALABAN-1 0732 CW eta for Tiejaia via 7TF. 27/Aug (HOOD)
8366 UUJE: TKH VIANA DO CASTELO 0715 CW clg USO5 (3095dwt gen cargo vsl). 25/Aug (HOOD)
8369 HMBY: M/V TAE DONG GANG 0708 CW clg SUH (13550dwt gen cargo vsl). 12/Sep (HOOD)
8376 UBVW: TR SMOLNINSKIY 0710 CW svc msg from R/O to UBF5. 22/Aug (HOOD)
8378 IBEA: M/T ECO AFRICA 0705 ARQ msg to Agip, Rome via IAR. 27/Aug (HOOD)
8378.5 ELSR5: M/T KNOCK MUIR 0700 ARQ test msg to LGB login 24776 KNUR (146268dwt tanker). 27/Aug (HOOD)
8385.5 UUSB: TKH NIKOLAY SAVITSKIY 0653 ARQ msg to Italy (in EE) via HEC. 27/Aug (HOOD)
8386.5 9VDS: M/T MAERSK NAUTILUS 2009 ARQ msg to 9VG login 01843 9VDS (255028dwt tanker). 28/Aug (HOOD)
8388 3FNK5: M/V FRIO ATLANTIC 1 0713 ARQ eta for Las Palmas (from St Petersburg) via SAB login 29635 FATL. 27/Aug (HOOD)
8395 C6OH2: M/V SILKEBORG 0745 ARQ eta for Vigo (vsl is ex Yuriy Maksaryev, UTXS). 7/Sep (HOOD)
8397 UCND: TKH VYBORGSKAYA STORONA 0730 ARQ eta for Moerdijk via UCE. 22/Aug (HOOD)
8399.5 UDHL: BATM STARYY ARBAT 0738 RTTY 50/170 RYs to UIW. 20/Aug (HOOD)
8399.5 UNID: Philippine MV fleet 0711 FEC w/PNA relay. (6/Sep) (DW2)
8405 EOYW: RTMS ARABAT 0741 RTTY 50/170 crew TGs to URK9 (as "Kerch Radiotsentr Rybproma"). 20/Aug (HOOD)
8412 UFXV: BMRT NAVIGATOR 2217 RTTY 50/170 RYs to UDK2 no joy, 30/Aug (HOOD)
8427 OXZ: Lyngby Radio 0835 FEC nx in Danish. 31/Aug (HOOD)
8427 OXZ: Lyngby Radio 0839 FEC nx (BVR)
8445.5 KFS: Palo Alto Radio 0940 CW w/CQ mkr. (7/Sep) (DW2)
8467.5 JJC: Tokyo Radio 0943 FAX 60/576 w/plaintext news. (7/Sep) (DW2)
8473 PKE: Amboina Radio, Indonesia 0948 CW w/CQ mkr. (7/Sep) (DW2)
8478.5 FUF: French Forces, Fort de France 0955 RTTY 75/800 w/calltape. (7/Sep) (DW2)
8502 XSG: Shanghai Radio 1008 CW w/CQ mkr. (7/Sep) (DW2)
8511 XSW2: Taichung Radio, Taiwan 1013 CW w/CQ mkr. (7/Sep) (DW2)
8521 VIP: Perth Radio 1015 CW w/CQ mkr. (7/Sep) (DW2)
8541 A9M: Globe Wireless Hamala 1730 FEC tfc lst (BVR)
8544 OLP44: Prague Radio 0930 CW tfc list, then over to PACTOR-1 mailbox system, QSX 8349 kHz. Another tfc list received (yesterday) at 1330 (PIRI)
8571 JNA: Tokyo Radio 1022 CW w/CQ mkr. (7/Sep) (DW2)
8571 UFN: Novorossiyk Radio 0405 CW "DE UFN" (11/Oct) (IJ)
8573 CLA: Havana Radio 1023 CW w/CQ mkr. (7/Sep) (DW2)
8580 RKLM: Arkhangelsk Radio 1223 CW (to 4LY) QSX 2540/4183.5/6278.5. 10/Sep (HOOD)
8586 USO5: Izmail Radio 0640 RTTY 50/170 msgs to UUEA: TKH VENEDIKT ANDRETYEV and ENDA: TKH VITYA NOVITSKIY. 10/Sep (HOOD)
8625 FUM: French Forces Papeete 1038 RTTY 75/800 w/calltape. (7/Sep) (DW2)
8641 E10 Mossad No. Stn 0446 AM ID: SYN2 //7605 (6/Oct) (JRU)
8643 UFZ: Vladivostok Radio 1042 RTTY 50/170 w/3SC plaintext tfc

regarding Russian financial crisis and tfc to ships. Down w/"NIL DE UFZ SK..." At 1051 into call for UDYB: MV Sodruzhestvo 10,700DWT Reefer (former UPQY), to answer on 8383.5. QRT at 1059. (7/Sep) (DW2)
8646.2 FUJ: French Navy Noumea 1109 RTTY 75/800 w/test tape. (7/Sep) (DW2)
8662 TAH: Istanbul Radio 0415 CW cq (11/Oct) (IJ)
8690 6VA5: Dakar Radio 2130 CW nav wng in FF. 20/Aug (HOOD)
8706 JOS: Nagasaki Radio 1120 CW w/CQ mkr. (7/Sep) (DW2)
8750 Number sta 0404 AM f SS 5FG's (20/Sep) (LBJ)
8764.0 NMN: CAMSLANT Chesapeake, Va 1800 USB clg USCGC Hammerhead (WPB-87302), no joy. (RB)
8764.0 NOQ: USCG Group Mobile, Al, USA 0120 USB wkg M/V Sovereign (see 8240 for details), 1st time I've seen a Group use a SCN pair. (RB)
8820 Unid NATO net 1613 LINK-11 (BVR)
8825.0 New York ATC (NAT-E MWARA) 0011 USB wkg Iberria 6603 for posn. (RB)
8852 DELTA ZULU & PAPA BRAVO Fijian Military Force 1005 USB patrol boat comms in Fijian, op msgs (appears to be their primary freq) (17/Sep) (IJ)
8852 DELTA ZULU: Fijian Military Force 0750 USB wkg PAPA ALPHA; patrol boat comms passing wx forecasts. (5/Oct) (IJ)
8861.0 Dakar, SEN (SAT-1 MWARA) 0351 USB wkg unid flt 701 w/posn. (RB)
8874 US Tuna Fishing 0705 USB various boats switching between clear & scrambled comms (4/Oct) (IJ)
8894.0 Algeirs Radio, ALG, (AFI-2 MWARA) 0157 USB wkg Speedbird 238 w/posn report, then Sabena 552 reporting level 310, est JANET(?). (RB)
8894.0 Niamey Radio, NGR, (AFI-2 MWARA) 0156 USB wkg Speedbird flt att to relay posn to another unid stn. (RB)
8930 DELTA 11: 0820 USB s/c ck AL-CK (4/Oct) (JRU)
8930 DELTA 97: 0817 USB s/c ck DG-PR (4/Oct) (JRU)
8930 ECGXR 0742: USB pp to ops in spanish (27/Sep) (JRU)
8930 RYN 606: 0722 USB s/c ck RS-EF, wx for Venice (27/Sep) (JRU)
8930 SWISSAIR 001: 0830 USB s/c ck AR-JQ (27/Sep) (JRU)
8950 Number sta 1006 AM f SS 5FG's. Spurious emission of 8975 (17/Sep) (LBJ)
8957 EIP: Shannon Volmet 1547 USB wx (BVR)
8974 AF Auckland 0139 USB wkg KIWI 484 radio ck 815/Sep) (NJ)
8974 AF Auckland 0529 USB wkg KIWI 262; wx for Whenuapai (16/Sep) (NJ)
8974 AF Darwin 0833 USB wkg STALLION 026; msg for air movements, refuel requirements 17000L, eta Darwin 1300; STALLION 36 SQD NSW RAAF C-130H (16/Sep) (NJ)
8974 AF PERTH, SYDNEY, DARWIN, TOWNSVILLE, WOODBOURNE, AUCKLAND, ANZAC 2100 USB daily radio check (15/Sep) (NJ)
8974 AF Perth 0444 USB wkg WANDERER radio ck (16/Sep) (NJ)
8974 AF Sadney 0422 USB wkg SHEPHARD 472; closing watch (15/Sep) (NJ)
8974 AF Townsville 0443 USB wkg AUSSIE 486, close watch (16/Sep) (NJ)
8974 HUDSON 23: 0507 USB wkg AF SYDNEY, radio ck, HUDSON 32 SQD VIC RAAF HS-748 (16/Sep) (NJ)
8974 RAAF Sydney 0420 USB wkg HUDSON 22 (HS-748) (26/Sep) (IJ)
8974 RAAF Townsville 0422 USB clg DIGGER 804 (26/Sep) (IJ)
8975 Number sta 1007 AM f SS ATTENTION 728 04 ... 04 91 (x5) 66598 87823 ... (17/Sep) (LBJ)
8980 CHASER: 1122 USB clg JUNGLE A17, no reply (15/Sep) (NJ)
8983 1719: HC-130H7 1629 USB wkg CAMSLANT w/flight ops normal. (12/Sep) (DW2)
8983 2107: HU-25A 2330 USB wkg CAMSLANT w/flight ops and position. (8/Sep) (DW2)
8983 2132: HU-25B 2331 USB wkg CAMSLANT w/flight ops and position. (8/Sep) (DW2)
8983 CAMSLANT: 1609 USB wkg 2121: HU-25A. (12/Sep) (DW2)
8983 CAMSLANT: 1631 USB wkg 1503: HC-130H. (12/Sep) (DW2)
8983.0 NMB9: USCG AirSta Savannah, Ga. 1549 USB wkg CAMSLANT re CG

6027, 1st time logging of this AirSta. (RB)
8987 MKL: RAF Edinburgh 1610 CW wx for egqk (BVR)
8988 Unid 1549 RTTY 75.02/850 unid mode (BVR)
8989 CHR: Trenton Military 0735 USB WKG RESSVUE 333 w/pp to RCC with OPs normal (1/Oct) (IJ)
8989.9 Unid Mil stn, PHL 1005 USB spelling out msgs in EE (7/Oct) (IJ)
8992 TEAL 01: WC-130 53rd Wx Recon Sqd 0523 USB wkg THULE w/pp. TEAL 01 is enroute to Homestead, most likely to recee hurricane Georges. (20/Sep) (DW2)
8993 WHISKEY WHISKEY, CLEARWATER, SIERRA 1, KILO 1 & PAPA PAPA: Presumed fishing boat net 0920 USB (11/Oct) (IJ)
8994.9 Philippines Mil net 0915 USB various units spelling out msgs (1/Oct) (IJ)
9002 RAAF Sale VIC, AUS 0810 USB wkg HUDSON 611 & HUDSON 612 w/various comms (8/Oct) (IJ)
9016 PIANOKEY 0001 USB clg TRICYCLE. (17/Sep) (DW2)
9031 RAF Ascension Island 0345 USB wkg ASCOT 3200 departure msgs & selcal code LMBJ (22/Sep) (IJ)
9050.9 Unknown British Mil 1102 PICCOLO-6 Lots of op chat but no callsign. More verbose than usual with less use of radio type abbreviations (6/Oct) (PT)
9057 CROUGHTON 0740 USB wkg GOLDRUSH coordinating HF data link (16/Sep) (NJ)
9090 VI7: Army net, NZL 0125 USB radio cks & ANDVT comms (30/Sep) (IJ)
9093.6 Unid 2106 RTTY 100.1/850 unid mode (BVR)
9098.6 Unid 2107 RTTY 150/840 unid mode (BVR)
9101.9 Unid 1846 RTTY 149.98/765 unid mode (BVR)
9102.7 Unid 2107 36-50 50/200 s/off after 20 seconds (BVR)
9106.7 MFA Cairo 2320 ARQ clg Pyongyang selcal OOVF no tfc 2320 (29/Sep) (ML2)
9117 Unid 2110 RTTY 100.2/848 unid mode no acf (BVR)
9130 EZI: Mossad 2200 USB EZI2 marker (5/Sep) (LBJ)
9130 MKD: RAF Akrotiri, CYP 2310 RTTY 75/400 foxes 1-0 RYIs TEST DE MKD (16/Sep) (ML2)
9141.2 Unid, PHL 0850 ARQ selcal FYOB, then wx (28/Sep) (IJ)
9143 GMN: FAPSI Station 0915 RTTY 75/500 4646 & 5LGs (24/Sep) (IJ)
9165 Unid US 1105 USB YL in SS co-ordinating a net (2/Oct) (IJ)
9182 Unid 0930 ARQ string of IIIs (24/Sep) (IJ)
9191 Unid US Tuna Fishing 0730 USB chat (4/Oct) (IJ)
9225 Unid 1015 USB 2 OMs, one had an Aussie accent, the other had a US accent, chat re business stuff (7/Oct) (IJ)
9227 Unid 0430 CW repeating TTT 285 285 (30/Sep) (IJ)
9230 Unid number sta 1011 AM f SS 5FG's (14/Sep) (LBJ)
9238 Number sta 1000 AM f SS "ATTENTION 979 04 711 03 ..." (21/Sep) (LBJ)
9251 E3 Lincolnshire Poacher 2001 USB tune, ID: 92340, //6959 (7/Oct) (JRU)
9251 Lincolnshire Poacher (tent) 2205 USB f EE Music, 31663 (18/Sep) (LBJ)
9251 Lincolnshire Poacher 1825 USB numbers, jammed by bubble jammer (BVR)
9266 Unid commercial fishing stations QLD, AUS 0740 USB chat (1/Oct) (IJ)
9302.7 NOJ: USCG COMSTA Kodiak 0224 GTOR 100/200 and 300/200 wkg NBTM: USCGC Polar Star (WAGB-10). At 0601, NOJ clg NYCQ: USCGC Boutwell (WHEC-719), and NBTM:: USCGC Polar Star (WAGB-10). (20/Sep) (DW2)
9302.7 NOJ: USCG COMSTA Kodiak 0407 GTOR 100/200 clg NAQD: USCGC Jarvis (WHEC-725), NYCQ: USCGC Boutwell (WHEC-719) , NBTM: USCGC Polar Star (WAGB-10), NMEL: Unid USCGC. (19/Sep) (DW2)
9319.9 Unid 1830 RTTY 200.09/469 unid mode (BVR)
9320 SAM 375, DV-2 + 6, and SAM 202, DV-2 + 8, 2257 USB outbound Denver for Andrews wkg Andrews VIP for pps (10/Oct) (JJ)
9380 P6Z: MFA Paris 0900 FEC-A 192/398, clg F9S (Prague) BJR QTC 5 (PIRI)
10000.1 RFFXL: FF Naqura, LBN 1147 ARQ-E 72/379 tfc to RFFAB (8/Oct) (PT)

10027.0 Speedbird -? 0035 USB unid flt, clg unid stn. Mis-dial from 10072? (RB)
10030.0 Aerolineas Argentinas LDOC, ARG 0034 USB wkg unid flt, sounded like 4-digit flt number. (RB)
10046 4XZ: Israeli Navy, Haifa 0057 CW w/calltape. (7/Sep) (DW2)
10051 VFG: Gander VOLMET 0057 USB w/aviation wx. (7/Sep) (DW2)
10051 WSY70: New York VOLMET 0100 USB w/aviation wx. (7/Sep) (DW2)
10065 B2T: Unid 0210 CW 5LGs, QRA B2T gr 35 BT BQXST ... (finished 0214). P7X de B2T (14/Sep) (LBJ)
10075 NORTHWEST 52: 0105z USB wkg Cedar Rapids LDOC for pp w/ Company(presumed). Passenger has become ill on board the flight, and a doctor on board is requesting flight diversion because passenger needs to go to the hospital. Cedar Rapids contacts (sounded very much like) Mayo Clinic. Phone patch is three-way between Northwest 52, Company, and Mayo. By completion of the pp Northwest 52 was 15 min ETA for landing at diverted location. (JC5)
10100.8 DDK: Hamburg Meteo 0106 RTTY 50/424 w/synoptic wx and calltape. (7/Sep) (DW2)
10112.2 Unid 1009 RTTY 75/400 foxes for about an hour and a half with no ID. Strange thing is that "FOX" is spelt "FOR" (8/Oct) (PT)
10125 E10 Mossad No. Stn 0445 AM ID: VLB2 (6/Oct) (JRU)
10132.2 TNL: ASECNA Brazzaville 0520 RTTY 50/350 aero wx (6/Oct) (RH2)
10160.4 DOR: MFA Sofia 1614 RTTY 75/400 nx/Bulgar (22/Sep) (RH2)
10172.9 Unid Mil stn, PHL 1000 USB spelling out msgs in EE (1/Oct) (IJ)
10204 CANOPY: 2357 USB w/26-character EAM for NIGHTWATCH 01. Repeated on 9016 at 0000 by c/s: PIANOKEY. (16/Sep) (DW2)
10215 HZN46: Jeddah Meteo 0116 RTTY 100/800 w/various types of wx tfc. (7/Sep) (DW2)
10233 UNID 1709 USB two OM talking in II, ends with 'roger, roger' and 'out'. sounds military-like to me (7/Oct) (JRU)
10261.5 UNID: poss MKK: RAF London 0230 PICCOLO-6 idle. (13/Sep) (DW2)
10308 C: UNID 1712 CW continuous transmission of channel-marker C in cw (Rus Ny Moscow -LOGS) (7/Oct) (JRU)
10314 SNN299: MFA Warsaw 1712 POL-ARQ 100/240 nx/EE (29/Sep) (RH2)
10316 Unid 1714 USB two OM talking in RR (7/Oct) (JRU)
10423 Unid number sta 2200 USB f EE 006 (x3) 1234567890 (cont'd) (16/Sep) (LBJ)
10426 E3 Lincolnshire Poacher 1604 USB ID: 34836, //7755 //6485 (7/Oct) (JRU)
10426 Lincolnshire Poacher (tent) 2007 USB //11545 (5/Sep) (LBJ)
10435 Customs (tent), AUS 0955 USB 3 units signing off (1/Oct) (IJ)
10493 NIGHTWATCH 01: 1430 USB wkg WGY9417, unid FEMA, and WGY912, FEMA Berryville, VA'(20/Sep) (JM)
10493 WGY912: FEMA Berryville, VA 0000 USB wkg WGY14 (aliased as COTHEN, US Customs, Orlando, FL) for radio check. COTHEN advised he'd be back up at 7am local. Are these odd bedfellows? (GH)
10493 WGY912: FEMA Berryville, VA 0003 USB wkg SWORDMAKER in FL for radio check. 912 advised to "QSY to Fox 11, that's 5211" (GH)
10527 Number sta 2000 USB 460 (x3) 1234567890 (cont'd) (20/Sep) (LBJ)
10536 CFH: CANFORCE Halifax 2259 RTTY 75/700 w/wx tfc. (8/Sep) (DW2)
10566 Unid 1304 CW 5LGs cut nrs (7/Sep) (LBJ)
10625 Unid 2208 CW 5FG's, 6 wpm "BT 16821 BT 15964 99036 ..." (14/Sep) (LBJ)
10639.7 ENDA, unid 1530 ARQ tfc wkg Cliff about brake linings in the "semi store trailer", sounds American to me. Also think Enda is a name not a place (19/Sep) (PT)
10654 MKK: RAF London 0430 RTTY 50 VFT, all channels RYRIRYI & QBF (23/Sep) (IJ)
10688 Unid 2107 CW 5LG's, "BT NR 29 s 1623 .8 82 1998 BT ZXORW ...", suspect diplomatic (16/Sep) (LBJ)
10692.5 P7X: Unid 1305 CW, data bursts, QRA DE P7X -P- 071300Z GR 120 BT DUNZE GQNDV ... (7/Sep) (LBJ)
10693 P7X: Unid 1340 CW QRA DE P7X (5 letter code) BT AR (OTA 1343Z). Copied again at 1505/1603/1805/1832/1902 and 1918 (5/Sep) (LBJ)
10790 MKK: RAF London 0120 PICCOLO-6 svc msgs to MUH (12/Sep) (ML2)
10917.7 prob RFTJ: French Forces, Dakar 0450 ARQ-E3 48/400 no tfc

noted. (13/Sep) (DW2
10918 RFTJ: FF Dakar 0800 ARQ-E3 48/400 nx/FF & CdV on TJF cid (1/Oct) (RH2)
10998.7 Unid 2300 RTTY 75/850 foxes 1-0 TEST (8/Oct) (ML2)
11030 AXM34: Melbourne Meteo 1231 FAX 120/576 w/plaintext. (17/Sep) (DW2)
11034.6 FAPSI 1714 CROWD36 Unable decode (30/Sep) (RH2)
11053 SPAR 66, DV-(?) + 6 0217 USB wkg Andrews VIP, ETA Gander 0515. Also found on 8026, 8047, 9120, 11226 and 13211 at various times(11/Oct) (JJ)
11059 Unid 0230 USB wkg Andrews VIP (21 Sep) (JJ)
11090 KVM70: Honolulu Meteo 0643 FAX 120/576 Lovely satellite imagery (6/Oct) (RH2)
11090 KVM70: Honolulu Meteo 0658 FAX 120/576 Sat Imagery (30/Sep) (RH2)
11090 KVM70: Honolulu NOAA Meteo 0225 FAX 120/576 w/chart. (7/Sep) (DW2)
11091.7 RFVI: FF Le Port 1020 ARQ-E3 192/400 5LGs to RFVITT Dzaoudzi cct ITT (11/Sep) (ML2)
11108 Number sta 0208 AM f EE 5FG's (18/Sep) (LBJ)
11174 HEC: Berne Radio 1001 SITOR-B tfc list (23/Sep) (LAR)
11175 AAEE: LSV-3 USAV General Brehon B. Somervell. 0735 USB wkg HICKAM w/pp to AAC2: Harbormaster Ft. Eustis. w/20-line status report. LSV-3 is enroute to Ford Island, HI and asked AAC2 to relay status report to home unit in Tacoma, WA. (6/Sep) (DW2)
11175 AGAR 92: EC-18B ARIA 81-0892 1613 USB wkg WINDMILL. "Conducting inflight testing of new hf system. Please give me a long count." (3/Sep) (DW2)
11175 ANDERSON ghfs 1757 USB Skyking, Skyking, do not answer, C6L??? authentication code, Anderson out (28/Sep) (JRU)
11175 ANDERSON: 1152 USB w/SKYKING msg. (17/Sep) (DW2)
11175 HICKAM 0545 USB wkg REACH TAC 1 (sounds like) Cairo runways open and in use, REACH TAC 1 presently over Italy (16/Sep) (NJ)
11175 HICKAM GLOBAL: 1241 USB wkg REACH 4062 w/pp to Travis Command Post. (7/Sep) (DW2)
11175 Hurricane Hunter 1841 USB pp to unknown radio station. DJ "and now let's switch live to a hurricane hunter in the Atlantic" (19/Sep)(RL)
11175 Nightwatch 01: NEACP 1603 USB wkg MCCLELLAN for rdo chk. (07/Sep) (DW2)
11175 Q3UND3: 0156 USB wkg Offutt , standby (EAM) OFFUTT out (15/Sep) (NJ)
11175 REACH 1101: 1745 USB pp to Roda(?), eta at Roda 1915, 11 pax (28/Sep)(JRU)
11175 REACH 6020: 0824 USB wx for Ramstein (27/Oct) (JRU)
11175 REACH GOLF 7: 1534 USB req. wx for Mildenhall in a pp via Thule, a/c is a C5, posn. 42.26N 10.48 E (7/Oct) (JRU)
11175 REACH JMDA1: 1544 USB pp re problems with no. 1 engine, needs maintenance (7/Oct) (JRU)
11175.0 Citation 305PA 1404 USB clg MacDill for several mins, and not getting a reply for the obvious reason. (RB)
11175.0 OPUS 11: MC-130H, 550th SOS/58th SOW, Kirtland AFB, NM 2318 USB , wkg Offutt GHFS w/pp to Kirtland AFB. (RB)
11175.0 TEAL 01: WC-130 "Hurricane Hunter" of 53rd Wx Recon Sqd, Keesler AFB, Ms 1916 USB wkg Andrews w/pp re reported aboard doing "live" broadcast to stn from "TEAL 01". (RB)
11175.0 WARSHIP 47: Probably USS Ticonderoga (CG-47) 1926 USB clg "mainsail", Andrews answers, is not hrd. (RB)
11181 PACAF 01: 0204 USB wkg Hickam Global on this discrete frequency (21 Sep) (JJ)
11214 DARKSTAR MIKE 2204 USB wkg TRENTON MILITARY w/pp to RAYMOND 24 (Tinker AFB). (8/Sep) (DW2)
11214.0 SENTRY 60: 966th AACTS/552nd ACW E-3 AWAC (training sqd) Tinker AFB 1714 USB wkg Trenton Military w/pp EAGLE 3 at RAYMOND 24 (Tinker AFB). (RB)
11217 RNZAF Auckland 0835 USB clg HUDSON 611, no contact (8/Oct) (IJ)
11220 SAM 204: 2109 USB wkg Andrews VIP for pp support while inbound Mountain Home AFB. ETA 2345z. Mentioned SAM 203 had been up

earlier (20 Sep) (JJ)
11232.0 RESCUE 333: CanForces a/c 2052 USB wkg Trenton Military re pp RCC, getting clothing description of person being looked for, second pp for wx at QDWG. (RB)
11235 RAAF Sydney, Darwin, Perth, Townsville Australia & RNZAF Auckland 2100 USB radio checks (25/Sep) (IJ)
11255 KINGFISH BRAVO (Christchurch) & Auckland Aeradio, NZL 0515 USB radio checks. First time heard the KINGFISH BRAVO callsign in conjunction with US DEEPFREEZE OPs (1/Oct) (IJ)
11255 MacMurdo & South Pole Antarctica 0320 USB relaying wx info to ICE 04 (9/Oct) (IJ)
11281.7 MFA Cairo? 1554 ARQ "YFASR FAJ L/H 0381 71/9/8991" (17/Sep) (LAR)
11345 EGYPTAIR 881: 1219 USB enrt Cairo-Amsterdam, eta 1457, wx fpr Amsterdam and Brussels (4/Oct) (JRU)
11454 AAA0USA: US Army MARS Ft. Lewis 1434 PACTOR 200/200 wkg AAT7TFC: Unid US Army MARS w/mailbox functions. (7/Sep) (DW2)
11460 SPAR 65: 2310z USB wkg Andrews in pp w/ unid. Lengthy discussion regarding briefing times, including briefing with the President. Seemed to be related Kosovo efforts... pp consisted of talk about high level proceeding schedules etc. PP party via Andrews wishing SPAR 65 Godspeed in his mission, and term. pp. SPAR 65 was very weak into New York, Andrews at fair levels. (JC5)
11460 SPAR 67: 0428 USB inbound Gander, wkg Andrews VIP re: a 0520z ETA. Also found on 13211 (21/Sep) (JJ)
11476 KCNA Pyongyang, N. Korea 0030z FAX 120/576 w/ various press pix... including several pictures of a Lion standing in front of Palm trees. A very good FAX signal into New York City tonight! (JC5)
11491 CIA Counting station 1600 USB YL w/numbers (24/Sep) (IJ)
11491 Unid number sta 1901 USB f EE 322(x3) 1234567890 (Dashes x10) Count 79(x2) 16799 24017 ...(3/2) (12/Sep) (LBJ)
11511 REK4: Unid Russian 0419 CW (FSK) clg RFUC. "VVV RFUC de REK4 QSA?" (13/Sep) (DW2)
11522 prob RFVITT: French Forces Dzaoudi, Mayotte Island 1440 ARQ-E 96/400. Monitored for 20 minutes. No tfc noted. (7/Sep) (DW2)
11527.4 MFA Algiers 1055 COQ-8 tfc in AA and FF from Alger-Port to various including immigration (10/Oct) (PT)
11545 Lincolnshire Poacher (tent) 2003 USB music, f EE into tfc at 2010. //10426 (5/Sep) (LBJ)
11556.5 UNID 0127 unid fsk packet-like 150/320 One very strong station w/one or more weaker stations active. Listed as an US Department of Energy freq.(17/Sep) (DW2)
11565 E10 MOSSAD No Stn 1531 AM EZI2 /13533 (7/Oct) (JRU)
12134.15 RFHI FF Noumea NCL ARQ-E3 100/425 2200z C De V FN Noumea NCL 6th Oct 98 [BC3]
12134.9 FAPSI 1554 RTTY 100/500 5LGs. No link seen but this has been 10050 (5/Oct) (RH2)
12174 FAPSI 1707 RTTY 75/500 Lotsa keying (op training?), then 5LGs, no link (29/Sep) (RH2)
12176.4 FAPSI 1657 RTTY 75/500 RY's then 5LG's on link 00068 (29/Sept) (RH2)
12183.4 FAPSI 1614 RTTY 75/500 5LGs on link 20043 (6/Oct) (RH2)
12210.2 PWX: Brazil Navrad 1902 rtty 75/850 Tfc\PP & Crypto(28/Sep)(RH2)
12376.9 Unid 1229 RTTY 195.4 bd unid mode 4 tone 300/100/100/300 Hz (BVR)
12385.5 UNID 0520 unid-VFT 100/375 unable to id w/C3-Gold. (13/Sep) (DW2)
12388 MT Armata 1504 ARQ login 17076 tlx tfc dyncom freq (BVR)
12422 ULXM: TKH PUR 1016 CW msg to London with eta for Kunda. 23/Aug (HOOD)
12428 UQJD: RUZA 5 0952 CW msg to Chioggia, Italy via OFJ. 25/Aug (HOOD)
12438 PPSI: M/T BELATRIX 2143 CW crew TG to Rio via unid station. 24/Aug (HOOD)
12440 UYLU: TKH 11 PYATILETKA 0640 CW msg to UWS3. 1/Sep (HOOD)

12443.5 UZPJ: TKH PYOTR ZAPOROZHETS 0630 CW msg to Piraeus via UWS3. 1/Sep (HOOD)
12444 9HVF5: M/V SEA FALCON 0644 CW msg to Limassol via 5BA. 1/Sep (HOOD)
12444.5 UAXZ: TKH SHUYA 0840 CW msg to Bergen via UHP5 (a 5834dwt repl tanker). 13/Sep (HOOD)
12444.5 ULDF: TKH ISHIM 0632 CW to UHP5 (1675dwt s/river cargo vsl). 12/Sep (HOOD)
12445 ENWK: TKH MORSKOY 1 0656 CW admin UBO3. 11/Sep (HOOD)
12445 UHOI: TKH SHOKSHA 0650 CW eta for Margera, Italy via UBO3. 11/Sep (HOOD)
12450 ATUL: M/V KABIRDAS 0723 CW BBXX from 35.2N 18.2E. 2/Sep (HOOD)
12459 UAZG: BMRT IVAN BOCHKOV 0921 CW admin to UDK2. 26/Aug (HOOD)
12459 UCTW: BATM MARSHAL YEREMENKO 0844 CW clg UDK2. 13/Sep (HOOD)
12470 CLAC: M/V GRAN PIEDRA 1743 CW msg to GKB (4133dwt ref cargo vsl). 6/Sep (HOOD)
12470 UBEL: TKH STK-1003 1341 CW clg UCW4/RJFY. 31/Aug (HOOD)
12470 UCFX: TKH VOLGO-BALT 104 1746 msg to UCW4. 6/Sep (HOOD)
12470 UIQD: TKH AMUR 2521 0728 CW msg (in EE) to Norway via UCW4. 9/Sep (HOOD)
12474 UETB: Unid RUS ship 0435 CW "DE UETB, UETB" (11/OCT) (IJ)
12477.5 MV .... 0850 ARQ (login 56780 exom x) 3 day's notice eta Elbe 10.00lt 07 sept? (BVR)
12478 9HXI4: TKH KAPITAN LUS 0723 ARQ psn rpt to UCE. 7/Sep (HOOD)
12478 UCON: TKH PIONER MOLDAVII 1226 ARQ checking mailbox at UCE. 31/Aug (HOOD)
12479.5 9HON5: M/T HISTRIA PRESIGE 1220 ARQ eta for Novorossiysk via SAB login 29907 9HON5. 31/Aug (HOOD)
12481.0 YTJJ: M/V Motovun 2218 ARQ 13,914 DWT dry cargo vsl (Croatia Line) w/tlx, login 27812 MOTO. (RB)
12482.5 EALZ: M/V NENFAR UNO 0921 ARQ msg via PCH login 08874 NENU (5861dwt gen cargo vsl). 25/Aug (HOOD)
12488.5 D5GV: M/V ATLANTIC PRIDE 1730 ARQ msg via SAB login 26455 APRIDE. 31/Aug (HOOD)
12488.5 SJPB: MV United Star 0755 ARQ tlx abt eta Ravenna pilot (BVR)
12488.5 TCKQ: M/V SPOT TRADER 1821 ARQ msgs via SAB (155049dwt bulker, ex Kadirga-5). 28/Aug (HOOD)
12494 9HJV5: M/V CONTAZ TRADER 0752 ARQ eta for Salerno via PCH login 13687 9HJV5 (is ex Rostov-na-Donu, UYJD). 9/Sep (HOOD)
12495 UBSR: TK KAPITAN V IVANOV 2138 ARQ admin from Km Markovskiy to UFN. 24/Aug (HOOD)
12495 UDEV: TK YEVGENIY TITOV 0930 ARQ psn rpt to UFN. 25/Aug (HOOD)
12495 UDGA: TKH KHUDOZHNIK MOOR 0939 ARQ crew TG to UFN. 31/Aug (HOOD)
12497 ESBQ: MUHU 1720 ARQ msg (in EE) to Tallinn via UAT. 26/Aug (HOOD)
12498 UWDX: TKH KAPITAN PAPKOV 0734 ARQ msg to Denmark via HEC. 29/Aug (HOOD)
12499 OWXX2: M/V ARKTIS SEA 1527 ARQ msg via OXZ login 87111 OWXX2. 3/Sep (HOOD)
12499.5 UBGX: TK LEONID UTESOV 2125 ARQ admin from Km Nesgorov to UFN. 24/Aug (HOOD)
12504.5 3FHP5: M/V VICTOR 3 1518 ARQ msg to Piraeus via GKQ. 13/Sep (HOOD)
12504.5 UCBN: TKG PIONER ESTONII 0936 ARQ eta for Gandia via GKQ login 66196 UCBN. 31/Aug (HOOD)
12512.5 USMV: TK IVANOVO 0932 eta for Casablanca via USU. 31/Aug (HOOD)
12512.5 UVSE: TKH ZLATOUST 0838 ARQ crew TG to USU (22896dwt bulker). 31/Aug (HOOD)
12512.5 UZWL: TKH GLEB KRZHIZHANOVSKIY 1750 ARQ crew TGs to USU. 31/Aug (HOOD)
12513.0 J8RR3: Balakleya 1946 ARQ Ro-Ro car carrier, w/tlx to Carfleet Japan re posn, login 376253000 J8RR3. (RB)
12522 3FDL8: MV Sunny Gloria 1015 ARQ posn 3640n 00047e (BVR)
12522 9HWO3: MV Fair Seas 1033 ARQ tlx tfc to Piraeus (BVR)
12522 C6OK7: MV Sheringham 1122 ARQ posn rpt noon lat4037n long01550w wind/ssw5 sea/ssw4 (BVR)
12522 J8QE3: MV Gulf Champion 0925 ARQ login 11730 tlx to Paris abt

arrival Sebutal (BVR)
12522 KFDZ: MV American Resolute 11617 ARQ login 11341 (BVR)
12522 MT Aegeo 1124 ARQ tlx to seatrade abt eta Piraeus (BVR)
12522 SWIU: C/V Pelamber 0952 ARQ (239446000 swiu x) eta Valencia 051300 (BVR)
12522 SZMW: Unid MV 1624 ARQ login 16715 (BVR)
12522 UCDG: MV Kemerovo 1228 ARQ tlx to Spain abt eta Valencia (BVR)
12522 WCV5667: Unid MV 1750 ARQ wkg SAB (BVR)
12522 WGMJ: Unid MV 1710 ARQ login 11733 (BVR)
12522 WLBX: MV Lawrence H Gianella 0820 ARQ login 11646 pos rpt 018.41w4 37.36n9 (BVR)
12522 WRC5536: MV Bulk bets?? 1655 ARQ tlx tfc (BVR)
12525.7 ATKA: M/T VIVEKANANDA 1845 ARQ msgs to India via unid station (vsl having problem with anchor recovery - and, seems, also with tx freq). 28/Aug (HOOD)
12535 USYC: TKH GEORGIY VASILYEV 0730 RTTY 50/170 admin from Km Mosyakov to USO5 (3242dwt gen cargo vsl). 7/Sep (HOOD)
12537.5 LXBB: M/V LHOTSE 1524 ARQ msg to Italy via OST. 7/Sep (HOOD)
12550.5 S2BU: M/V BANGLAR URMI 0704 CW clg GKB for "QSS 450" (15552 dwt gen cargo vsl). 4/Sep (HOOD)
12554 UAKM: SVETLOMOR 3 0733 CW clg UAT for QTC (1695grt salvage tug, ex UPZN). 11/Sep (HOOD)
12561.5 UAUD: BATM MARSHAL KRYLOV 0724 RTTY 50/170 admin to Murmansk from Km Zonin via UIW. 14/Sep (HOOD)
12563.5 LXNY: M/V COURCHEVILLE 1639 ARQ checking for msg via SAB login 36298 LXNY (29171dwt LPG carrier). 6/Sep (HOOD)
12563.5 SGHN: M/V VEGALAND 1234 ARQ msg to SAB login 26075DWT VEGLN (16000dwt ro-ro). 10/Sep (HOOD)
12563.5 TCBO: M/V UND MARMARA 1635 ARQ msg to Istanbul via SAB login 29911 TCBO (13925dwt ro-ro). 6/Sep (HOOD)
12563.5 UVYH: TKH SUMY 0736 ARQ eta for Casablanca via SAB login 67867 UVYH. 22/Aug (HOOD)
12564.5 UHEX: RTMS ALEKSEY GRACHEV 0841 RTTY 50/170 catch rpt to Moscow via UIW. 23/Aug (HOOD)
12565 UZMP: TKH NIKOLAY SHCHUKIN 1833 RTTY 50/170 admin from Km Orekhov with eta for Dubai. 28/Aug (HOOD)
12565.5 UZPF: TKH PARKHOMENKO 0843 RTTY 50/170 crew TGs to UUI (4857dwt ref cargo vsl). 23/Aug (HOOD)
12566.5 P3YI3: FRIO BRAZIL 2131 RTTY 50/170 crew TG to UIW (4196dwt ref cargo vsl). 24/Aug (HOOD)
12567.5 UFDR: TSM OLSHANA 0810 RTTY 50/170 crew TGs to UIW. 23/Aug (HOOD)
12567.5 UHEL: BMRT KAZAN 1627 RTTY 50/170 crew TGs to UIW. 6/Sep (HOOD)
12568 UFVD: NIS KERN 0733 RTTY 50/170 psn rpt to "Radio Murmansk" from Km Zhuravlev. 4/Sep (HOOD)
12568 UFXN: METELITSA (MT-0124) 0813 RTTY 50/170 admin from Km Polovkov to Murmansk from 38.50N 10.30W. 23/Aug (HOOD)
12568.0 UCUE: RTMKS Kapitan Bogomolov 2153 RTTY 50/170 Russian-flagged stern ramped super trawler/freezer w/RYRY/DE to UDK2, Murmansk Radio, no joy here, didn't find him on 8 or 16 Mhz after. (RB)
12571.5 Unid 0730 FEC transmission (in RR) of currency exchange rates addressed to all Masters of foreign-going vsls of Volgotanker Co. 14/Sep (HOOD)
12572.5 YLEL: BMRT GUNARS AKIS 1632 RTTY 50/170 crew TGs to UIW. 6/Sep (HOOD)
12577 USCG ?? 1800 GMDSS/DSC Boston reply BQ to test (BVR)
12577 Unid MV 1747 GMDSS/DSC 247-146000 clg 247-157000 for usb on 12360 (BVR)
12577 Unid MV 1811 GMDSS/DSC 428- 86 clg 428- 83 for j3e on 16528/16546 (BVR)
12599.5 UAT: Moscow Radio 0935 ARQ msg to UCJI: TKH KANDALAKSHA for Km Sokolov (19943dwt ro-ro). 26/Aug (HOOD)
12602 IAR: Rome Radio 0740 ARQ wx for Med to 3FUM4: M/V JOHNY C. 29/Aug (HOOD)
12615 USU: Mariupol Radio 2003 ARQ msg to UYRK: TKH VIKTOR TALALIKHIN for Km Mogilevkin. 28/Aug (HOOD)
12662.0 7TF8: Boufarik Radio, Algeria 2336 CW w/CW, DE marker. (RB)
12669 LOR: Argentine Navy, Puerto Belgrano 0046 RTTY 75/170 w/SS tfc.

(13/Sep) (DW2)
12745.5 JJC: Tokyo Radio 0915 FAX 60/576 w/plaintext news. (7/Sep) (DW2)
12829 UTQ: Kiyev Radio 1735 FAX 60/576, RR nx. Transcription of Cyrillic headline yields "KALININGRAD RADIOZENTR FAKSIMILNAJA GAZETA".Really Kiyev, or Kaliningrad? (30/Sep) (KB)
12857.0 6WW: French Navy, Dakar, SEN 2348 RTTY 75/850 w/le brick, RY/SG's, ID. (RB)
12965 USO5: Izmail Radio 0646 CW to ENDW: TKH PETYA KOVALENKO (ex UIKP). 12/Sep (HOOD)
12966.8 A7D, Doha Radio, 1326 CW, ID QSX no tfc (27/Sep) (TR2)
13022.0 SPE: Szezecin Radio, POL 2113 ARQ w/sitor free marker, CW ID. (RB)
13031.0 FUF: French Navy, Ft de France 2116 RTTY 75/850 w/RYRY, SGSG and ten count. (RB)
13095.0 SVN53: Athens Radio, Greece 2120 USB wkg unid vsl w/"this is Athens Radio" then into another lang, poss Greek for R/T tfc. (RB)
13095.0 SVN53: Athens Radio, Greece 2120 USB wkg unid vsl w/"this is Athens Radio" then into another lang, poss Greek for R/T tfc. (RB)
13101.0 ZSC27: Cape Town Radio, RSA 2122 USB concluding 6 min R/T call for unid vsl. (RB)
13101.0 ZSC27: Cape Town Radio, RSA 2122 USB concluding 6 min R/T call for unid vsl. (RB)
13122.0 SPC61: Gdynia Radio, POL 2139 USB YL/EE w/"this is Gdynia Radio" answering a ship. (RB)
13176.0 EHY: Madrid Radio, Spain 2126 USB concluding R/T call in SS, then answering unid vsl in SS. (RB)
13200 CAJUN 69: 0556 USB wkg ANDERSON; QSY 15016 (16/Sep) (NJ)
13200.0 ASCOT 4984: RAF Transport a/c 1916 USB wkg Offutt w/pp to unid CP for ETA. (RB)
13200.0 Israeli AF 010 1600 USB clg McClellan, Offutt answers, 010 req wx for unid loc, however pp dropped due to poor signal. (RB)
13207 Unids 0008 USB pp re hurricane George (23/Sep) (JJ)
13217.0 SAM 203: C-20B tail 86-0203 2142 USB Special Air Mission VIP flt, wkg Andrews VIP w/pp SAM Command reporting in the blocks. (RB)
13260 Number Station 0935 CW, only call 513 (26/Sep) (LAR)
13339 AEROMEXICO LDOC: 0111 USB YL/SS wkg unid a/c w/airfield conditions. (17/Sep) (DW2)
13466.7 MFA Islamabad 1748 ARQ msgs to all emb (BVR)
13510 CFH: CANFORCES Halifax 2117 FAX 120/576 w/clean chart. (8/Sep) (DW2)
13525 GYU: RN Gibraltar 0920 PICCOLO-6 tape re setting up cct to unid, then off air (8/Sep) (ML2)
13545.7 Unid 1147 FAX 120/576 Unlisted. Could not make out characters (02/Oct) (RH2)
13580 HMF36: KCNA Pyongyang 1220 RTTY 50/240 RY/ID (2/Oct) (RH2)
13665.0 6VU73: Dakar Meteo, SEN 2149 RTTY 50/850 w/AAXX metro data. (RB)
13839.7 MoD Paris 0950 ARQ-E3 200 [FDX015] DE RFFLC to various, FF nx (26/Jan) (LAR)
13846.6 RFVIT: F Ny Le Port, REU 1550 ARQ-E3 100/400 5-lg tfc to unid (5/Oct) (PT)
13900 BMB: Tai-pei Meteo 0756 FAX 120/576 w/moderate fading. (6/Sep) (DW2)
13920 AXM35: Melbourne Meteo 0752 FAX 120/576 w/chart. QRT 0754. (6/Sep) (DW2)
13927 USAF MARS Atlantic-region NET 1300 USB w/calls for any stations with traffic. (7/Sep) (DW2)
13932 UNID: poss Bulgarian Diplo? 2004 IRA-ARQ 300/300. Unable to decode on C3Gold. (16/Sep) (DW2)
13941 FDI8: FAF Nice 0151 CW w/vvv mkr. (7/Sep) (DW2)
13947 ROM5: Tashkent METEO 1250 FAX 90/576 w/weak but readable chart. Station had big problems maintaining frequency, with variations up to 300 khz noted. (7/Sep) (DW2)
13948 UNID: 0140 unid 75/150 (7/Sep) (DW2)

13950.0 Unid 2136 USB ANDVT tfc. (RB)
13950.0 Unid 2136 USB ANDVT tfc. (RB)
13952.15HBD2O MFA Berne SUI Sitor-A 0931z 5Ltr Grps 3OSept98 [BC3]
13953 P6Z: MFA Paris 1541 FEC-A 192/357 w/broken signal due to local QRM. One msg header with the following internal c/s: P3S (Unid), G8T (Belgrade), P8C (Beirut), J5W (Rabat), N2G (Unid) and several others garbled. (16/Sep) (DW2)
13958.5 prob HBD2O: MFA Berne 0837 ARQ w/5LGs. (8/Sep) (DW2)
13965 AAOUSA: US Army MARS Ft Lewis 2134 PACKET 3OO/2OO wkg AT7TMO: Unid US Army MARS (27/Sep) (DW2)
13965.0 AAAOUSA: Army MARS Ft.Lewis, Wa 2133 PACKET 3OObd western U.S. Army MARS gateway, wkg AT7TMO, note first "A" from c/s is dropped due to packet protocol. (RB)
13977.7 poss RFFA: MOD Paris 0130 ARQ-M2 2OO/3OO w/no tfc noted. (7/Sep) (DW2)
13984 358: Unid 2106 CW "358..." (5/Sep) (LBJ)
13988 Number sta 2206 USB 730 (x3) 1234567890 (cont'd) (18/Sep) (LBJ)
14352 5VG: MFA Bucharest 0903 ROU-FEC 164.5, encrypted tfc, s/off w/morse (PIRI)
14352.5 UNID 2025 FSK-CW w/5LGs. QRT at 2030. (22/Sep) (DW2)
14396 KGD34: National SHARES Coordination Center Arlington 2016 USB w/MARS check-ins: NNNOTOV, AFA4TZ and others. (22/Sep) (DW2)
14411 Russian Navy 1708 36-50 50/2OO Unable decode. Often heard this freq. (22/Sep) (RH2)
14415 UNID: 1305 unid 2OO/45O. (7/Sep) (DW2)
14436 GFA: Bracknell Meteo 2013 FAX 12O/576 w/chart. (22/Sep) (DW2)
14440 Unid 0904 CW using call DE TSHT for TA9I and PCGO crazy tfc (26/Sep) (LAR)
14450 Unid 2103 CW 359 (cont'd) (14/Sep) (LBJ)
14467 NNNOCMD: USN Iowa 0150 USB wkg NNNOKEB Citra, FL w/pp (23/Sep) (IJ)
14467 NNNOCSN: USS Moosbrugger DD-980 0031 USB wkg NNNONIG: NAVTECHTRACEN Pensacola. "Will pass the word on the ship and I'm sure we'll have some individuals desiring to place a call." USS Moosbrugger is participating in the annual UNITAS deployment. (17/Sep) (DW2)
14467 NNNONIG: USN MARS Pensacola, FL r 0205 USB wkg NNNOCSN (USS Moosbrugge) w/pp (17/Sep) (IJ)
14467 NNNOUTO: Unid USN MARS Sta 2330 USB wkg NNNOCCK:USCGC Bear (WMEC-901) w/pp tfc. (23/Sep)(DW2)
14470 NNNOBVX: USN MARS Shore Station 2355 USB wkg unid station w/pp tfc. (27/Sep) (DW2)
14470 NNNOCSN: USS Moosbrugger DD-980 0141 USB wkg NNNOKEB: Private MARS sta w/pp's. USS Moosbrugger is participating in the annual UNITAS deployment. (13/Sep) (DW2)
14470.0 NNNOCAA: USNS Stalwart (T-AGOS-1) 2217 USB (MARS) wkg unid stn after pp tfc. (RB)
14481.7 Pak Emb Beijing 1130 ARQ 5LGs to Islamabad (12/Sep) (ML2)
14487 E3 Lincolnshire Poacher 1206 USB tune, ID: 34440, msg; //15682 //16084 (4/Oct) (JRU)
14504.5 Unid Egyptian E Sitor-A 1OOOz Numerious Msgs 3OSept98 [BC3]
14511 MKK: RAF London 1519 PICCOLO-20 idle on eng ch (BVR)
14536.4 GYU: RNy Gibraltar 1050 PICCOLO-6 op chat (6/Oct) (PT)
14558 U3H: F Emb Moscow 0753 FEC-A 192 5LG's to P6Z/RFGW (11/Sep) (LAR)
14573 JANA Tripoli 0911 RTTY 50/375 Arab nx (PIRI)
14585.7 prob RFPTC: French Forces N'djamena 0252 ARQ-E3 2OO/4OO monitored for 20 minutes w/no tfc. (13/Sep) (DW2)
14600 UNID: 0035 ANDVT w/signal bursts. (17/Sep) (DW2)
14664.0 Unid: Russian Navy? 2102 36-50? 50/2OO Encrypted, poss 36-50 mode. (RB)
14692.5 JMJ4: Tokyo METEO 1311 FAX 120/576 w/chart. (7/Sep) (DW2)
14718.3 poss RFHI: French Forces Noumea 1313 ARQ-E3 1OO/4OO. Monitored for 30 minutes w/no tfc noted. (7/Sep) (DW2)
14731.7 RFVI: FF Le Port, REU 0540 ARQ-E3 192/4OO clear msg to RFVITT Dzaoudzi cct ITT (10/Sep) (ML2)
14750 VLB: Mossad Number station 1649 USB marker VLB2 (BVR)
14781.5 MOSSAD Tel Aviv? 0716 ARQ-E 96 tfc (11/Sep) (LAR)

14801.5 RFVI FF Le Port REU ARQ-E3 100/425 1100z Le Port/Noumea cct [VII] [BC3]
14801.7 RFVI: French Forces Le Port 1344 ARQ-E3 100/400. Monitored for 20 minutes w/CdV msg on ckt VII. (7/Sep) (DW2)
14815.3 Interpol Japan Sitor-A 1007z Msgs to various World Capitols. 2nd Oct98 [BC3]
14815.5 Interpol Japan Sitor-A 1007z Various Msgs 2nd Oct 98 [BC3]
14817.5 JPA21: Interpol Tokyo (tent) 0458 ARQ crypto & pulses over two days! (6/Oct) (RH2)
14817.5 JPA: INTERPOL Tokyo 0740 ARQ relay of passport info between IP Paris & IP Ouagdougou (23/Sep) (IJ)
14817.5 JPA: INTERPOL, Tokyo 0050 ARQ w/weak and garbled, but readable signal. References to Muscat, and message to a majority of the large cities throughout the world. (Obviously meant for relay). (17/Sep)(DW2)
14837 ATV65: Delhi Meteo 1614 RTTY 50 ry's, "this is rth new dehli testing" (9/Sep) (LAR)
14837.1 ATV65: New Delhi Meteo 1416 RTTY 50/195 Foxes, RY's and "THIS IS RTH NEW DELHI TESTING" (7/Oct) (PT)
14844.7 RFVITT: FF Dzaoudzi, MYT 0930 ARQ-E3 192/400 5LGs to RFVI Le Port cct TTT (10/Sep) (ML2)
14873.2 RFLIG: FF Cayenne, GUF 0830 ARQ-E3 192/400 returning CdV to RFLI Fort de France cct RTI (29/Sep) (ML2)
14912.5 SPW: Warsaw Radio 1754 FEC tx details & tfc list. Selcall 2933 (29/Sep) (RH2)
14925.7 prob RFHJ: French Forces Papeete 0216 ARQ-E3 100/400 w/no tfc noted. (13/Sep) (DW2)
14934 Unid 2100 CW 295 (x3) TTT (cont'd) (21/Sep) (LBJ)
14996 RWM: Time Station, Moscow 0427 AM w/time signal. With CW id at minute 38. //9996// (20/Sep) (DW2)
15000 BSF: Chung-Li TS, TWN 1609 AM morse id & time "0010" & CC voice. Morse code sounds a bit hand-made (19/Sep) (KB)
15016 ANDREWS: 1557 USB w/20-character EAM (KEBBYW...) (16/Sep) (DW2)
15016 CAJUN 69: 0600 USB wkg ANDERSON; 0605 ANDERSON advises send modem traffic (16/Sep) (NJ)
15016 CROUGHTON 0733 USB wkg GOLDRUSH pp ESN 4306371 (16/Sep) (NJ)
15016 DARK 95: USAF B-1B LANCER 9thBS, 7thBW Dyess AFB 2052 USB wkg THULE. (16/Sep) (DW2)
15016 SPAR 58: 0300 USB wkg Hickam (22/Sep) (JJ)
15016 UTAH 61: KC-135 151st Air Refueling Group Utah Air National Guard 1747 USB wkg HICKAM w/pp to UTAH CONTROL at DSN: 924-9...(Salt Lake City Intl.) (19/Sep) (DW2)
15031 CANFORCE 8615: 1336 USB clg TRENTON MILITARY. (17/Sep) (DW2)
15624 Unid number sta 2207 USB f EE 5FG's (8/Sep) (LBJ)
15878 3MA24: CNA Taipei 0915 FAX 120/576 CC text, very distorted; weaker on //13766 (3/Oct) (KB)
15920 CFH: CANFORCES Halifax 1415 RTTY 75/800 w/availability tape. (7/Sep) (DW2)
15938 GYU: RN Gibraltar 0910 PICCOLO-6 svc msgs to unid (6/Oct) (ML2)
16025 BAF9: Beijing Meteo 0835 FAX 120/576 wx map (5/Oct) (IJ)
16039.5 MKK: RAF London 0835 RTTY 50 VFT all channels RYRIRYI & QBF (18/Sep) (IJ)
16051.7 UNID: prob Diplo 1419 ARQ w/weak msg. Had intermittent synch on C3Gold. (7/Sep) (DW2)
16056.7 Unid EGY Emb 1244 ARQ 5LGs fading badly. Guess Kuala Lumpur (Tnx ML2!) (5/Oct) (RH2)
16074 FAPSI 1549 81-81 81/500 Unable decode (5/Oct) (RH2)
16074 UNID: Russian/Cuban(?) Military 2138 81-81 81/500 w/good signal. (8/Sep) (DW2)
16086 FUX: FN Le Port 0820 RTTY 75/850 w/FAAA DE FUX TESTING RYs SGs nil on 12691/16915; off air @0940 and came up on 12691 w/same tape(28/Sep) (ML2)
16107 SAM: MFA Stockholm 0612 SWED-ARQ 100/400 1120 X 5LGs to Ambassaden Damascus (7/Oct) (RH2)
16141.7 kdakrfr: MFA Cairo 1710 arq Tfc\AA to unk (28/Sep)(RH2)
16143 FAPSI 0722 CROWD 36 Unable decode (22/Sep) (RH2)
16165.2 prob RFFA: MOD Paris 2124 ARQ-M2 200/400 w/2ch, both idle. (8/Sep) (DW2)

16205 MKK: RAF London 1252 PICCOLO-20 idle on eng ch (BVR)
16230 W5E: French Emb Tel Aviv 1200 FEC-A 192/425 5LGs (20/Sep) (ML2)
16232 W5E: French Emb Tel Aviv 0700 FEC-A 192/400 clg P6Z Paris then to 5LGs (10/Sep) (ML2)
16235.5 MKD: RAF Akrotiri, CYP 1037 PICCOLO-6 foxes, RYI's and TEST DE MKD" (7/Oct) (PT)
16242 D7A: F Emb Addis Ababa 0612 FEC-A 192/400 1126 X 5LGs to MFA Paris (6/Oct) (RH2)
16257.0 Unid: 1636 HC-Arq? 200/334 C3G uncertain about arq mode. On top of FAPSI freq! (20/Sep)(RH2)
16259.9 RFGW: MFA Paris 0624 fec-a 192/400 5LG Circular to Embassies(28/Sep)(RH2)
16260 RFGW: MFA Paris 0620 FEC-A 192/400 5LG's circular to embassies (6/Oct) (RH2)
16278.6 MFA Algiers 0844 COQ-8 msgs to Cairo (BVR)
16284.2 Unid (ICRC?) 1604 PACTOR-2? AnyWUN decode? (6/Oct) (RH2)
16291.7 GXQ: DCN London 1748 RTTY/VFT 50/170 foxes/RYI/ID (29/Sep) (RH2)
16300 UNID: Pirates 2121 USB w/SS/EE-mixed comms. (8/Sep) (DW2)
16302 DFZG: MFA Belgrade 1630 RTTY 75/400 encrypted (6/Oct) (RH2)
16317 Polish Emb Kinshasa 1549 POL-ARQ 100/240 Spends hours daily calling Warsaw! (6/Oct) (RH2)
16320.4 FAPSI: 1640 rtty 75/500 5LG. No Link seen. (28/Sep)(RH2)
16353 MFA Rome (tent) 1624 RS-ARQ 228.6/170 Unable decode (22/Sep) (RH2)
16444.6 RFQPA: FF Djibouti 1707 ARQ-E3 100/400 msg FF to RFQPT/Comfor re Zen Air flight DJI cid (6/Oct) (RH2)
16454.2 HGX21: MFA Budapest 1640 Dup-Arq 125/170 5LG to unk (28/9) (RH2)
16531.0 ZLM RNZN Auckland NZ SSB 0940z WX Forecast/Bulletins 2nd Oct98 [BC3]
16531.0 ZLM RNZN Auckland NZ SSB 0940z WX Forecast & Bulletins 2nd Oct 98 [BC3]
16616.7 MV Fair Lady 1700 ARQ msgs Eastmed Athens (BVR)
16637 C6BJ4: M/V JANICE AUNG 1517 CW crew msg to IAR (25502dwt bulker). 3/Sep (HOOD)
16691 J8FK6: M/V BIOGRAD 1236 ARQ crew wages list via HEC login 56921 J8FK6. 2/Sep (HOOD)
16691 SXRY: M/V ANGELIC FAITH 1153 ARQ msg via HEC. 2/Sep (HOOD)
16798 UBAU: RTMKS ALEKSANDR MIRONENKO 0846 RTTY 50/170 admin from Km Gubarev to UDK2 from 20.45N 1720W and relaying for UCUE: RTMKS KAPITAN BOGOMOLOV from Km Popko. 23/Aug (HOOD)
16829 USU: Mariupol Radio 1507 ARQ msg to UWDL: TKH FATEZH for Km Rusyaev (7805dwt gen cargo). 7/Sep (HOOD)
16829 USU: Mariupol Radio 1511 ARQ crew TG to URJN: TKH KAPITAN KLUNNIKOV (8230dwt gen cargo vsl). 3/Sep (HOOD)
16830.5 SVA: Athens Radio 1400 FEC tfc in anglicised Greek, looks like soccer fixtures (10/Oct) (PT)
16914.5 SPH84: Gdynia R. 1630 CW/ARQ ID/Marker. Bad QRM fm FUX-FN Le Port (28/Sep)(RH2)
16936.7 RN Preston (assumed): 1645 rtty 100/170 Unable decode. Coming in strong here! (28/Sep)(RH2)
16989.2 GYU: RN Gibraltar 1752 RTTY 75/826 (29/Sep) (RH2)
17050.4 ASK: Karachi Radio 1317 CW, ID QSX no tfc (27/Sep) (TR2)
17053.0 XSX: Keelung Radio, 1200z, CW, ID + QSX (28/Sep) (TR2)
17066.5 A9M: Globe Wireless Hamala 1652 ARQ (BVR)
17096.0 VRX80: Hong Kong Radio, 1205z, CW, ID + QSX (28/Sep) (TR2)
17103.2 XSG: Shanghai Radio, 1210z, CW, ID + QSX (28/Sep) (TR2)
17105 IRM: CIRM Roma 1634 CW "vvv irm free radio medical service and amver service on 8/16 mhz common k" (BVR)
17126.7 Egyptian Emb Addis Ababa (JG KMSP KBKBK) 1200 RTTY ATU-80 tfc to Cairo, QSX 18271.7 (26/Sep) (ML2)
17132 ZSJ: SAN Capetown 1641 CW cq (BVR)
17135.6 Unid 1634 RTTY 149.9/791 unid mode no acf (BVR)
17165.6 CLA: Habana Radio, 1213z, CW marker (28/Sep) (TR2)
17175.2 A9M: Hamala Radio 1627 CW cq (BVR)
17180 FUG: FN La Regine 1623 RTTY 75 ry (BVR)
17184.8 PKE: Ambon Radio, CW, ID + QSX (28/Sep) (TR2)

17206.1 IAR: Rome Radio 1620 CW marker (BVR)
17416 UNID: Russian/Cuban(?) Military 1517 81-81 81/500. Excellent strength/clean signal. (7/Sep) (DW2)
17425 VKX: FAPSI 1100 RTTY 75/500 w/VKX 46s QRU SK (8/Oct)(ML2)
17428.8 SAM: MFA Stockholm 0546 SWED-ARQ 200/400 5LGs (1/Oct) (RH2)
17429.9 FAPSI 0552 RTTY 75/500 5LGs on link 30044 (5/Oct) (RH2)
17429.9 FAPSI: 0611 rtty 75/500 5LG on Link 30044(28/Sep)(RH2)
17430.5 Kyodo Singapore 1622 fax 60/576 JJ Newspaper. Unable decode! (28/Sep)(RH2)
17441.6 5YE: Nairobi Meteo 2134 RTTY 100/800 w/synoptic wx and calltape. (8/Sep) (DW2)
17463.4 FAPSI: 1626 rtty 75/500 5LG + opchat. No Link seen (28/Sep)(RH2)
17620 HZN49: Jeddah Meteo 0529 RTTY 100/850 AAXX wx codes (6/Oct) (RH2)
18012 ZKX: RNZAF Auckland 2255 USB w/listening out (17/Sep) (IJ)
18034 CLP1: MFA Havana 2143 RTTY 50/600 w/SS press review. (8/Sep) (DW2)
18041 TJN: French Emb Beijing 0800 FEC-A 192/850 5LGs (24/Sep) (ML2)
18042.7 RFTJD: FF Libreville, GAB 0900 ARQ-E3 192/400 svc msg to RFTJ Dakar cct JDJ (12/Sep) (ML2)
18053.7 Egyptian Emb Kuala Lumpur (JG WLKDKDJYLF) 1040 FEC clg New Delhi (KDS MDRS), no tfc (29/Sep) (ML2)
18064 MFA Warsaw 1641 POL-ARQ 100/240 claris msgs then PP nx. Ex PAP whose URL = www.pap.com.pl (22/Sep) (RH2)
18066.5 Indonesian Emb Antananarivo MDG 1000 ARQ tfc to Jakarta (8/Oct) (ML2)
18183.4 Lagos, Nigeria? 0955 COQ-8 Algerian MFA tfc some looks to be sent by Algiers but then some op chat "DE LGS", then tfc from Lagos Emb (7/Oct) (PT)
18183.4 MFA Algiers 1310 COQ-8 26.67 Fm Position5 - Press nx/FF to all Diplo Missions (5/Oct) (RH2)
18208.7 RFFVAE: FF Dhahran, ARS 1220 ARQ-E3 200/400 5LGs cct DET (24/Sep) (ML2)
18220 JMH5: Tokyo Meteo 2352 FAX 120/576 w/chart. Good signal. (16/Sep) (DW2)
18245 Unid FAPSI 1210 RTTY 75/500 5LGs link 60047 1/Oct (ML2)
18258.5 HBD32: Swiss Emb Brazilia 1635 ARQ 5LGs to MFA Berne (23/Sep) (RH2)
18400.4 HGX21: MFA Budapest 1422 DUP-ARQ 125/170 tfc to HGX44, Baghdad (5/Oct) (PT)
18425.1 Warsaw, POL 1525 FEC Sports nx in PP (5/Oct) (PT)
18441.2 JMJ5: Tokyo Meteo 0005 FAX 120/576 w/chart. Good signal. (17/Sep) (DW2)
18529.4 Unknown ALG Emb 1022 COQ-8 tfc in FF about Russian passport holders (6/Oct) (PT)
18585 SDJ: Stockholm Radio 1256 USB private pp to a Saudia flt 07/Oct (MB3)
18597.5 MFA Madrid? 1650 ARQ Crypto 8LGs. Transmits all day. Often logged as Twinplex. Usually on Kinshasa link (23/Sep) (RH2)
18669 Boustane Madrid 1610 ARQ 5LGs to Khargia Cairo (22/Sep) (RH2)
18677.7 MFA Havana 1328 RTTY 50/551 MINREX HABANA 5FGs to EMBACUBA KINSHASA (10/Oct) (PT)
18760 P6Z: MFA Paris 0605 FEC-A 192/400 calling D4B/D5B (Damascus), then 5LGs (07/Oct) (RH2)
18775 V5G: MFA Bucharest 1230 ROU-FEC 164.5/400 nx Roumanian (1/Oct) (ML2)
18888.5 UDGD: TK MARSHAL GRECHKO 1259 ARQ msg to Kelvin Hughes, UK from Km Makyshin via UFN. 25/Aug (HOOD)
18940 BDF: Shanghai Meteo 0800 FAX 120/576 wx map (5/Oct) (IJ)
18966.7 prob RFHJ: French Forces Papeete 1853 ARQ-E3 96/380 monitored for 11 mins w/no tfc noted. (16/Sep) (DW2)
18986.6 RFHJ: FF Papeete (tent) 0612 ARQ-E3 100/400 idling (6/Oct) (RH2)
19040.2 Unid. Spain? 1435 RTTY 75/296 tfc in SS then a bit of op chat which ends "DE 446". Then a little SSB and shut down (7/Oct) (PT)
19058 MKD: RAF Akrotiri, CYP 1028 PICCOLO-6 One ch encrypted, op chat

to unknown on other (6/Oct) (PT)
19110 RSZ: FAPSI 0830 RTTY 75/500 w/46s RSZ QTC then 5LGs link 00177 (23/Sep) (ML2)
19131 ATLAS: Rockwell-Collins DEA CommCen Cedar Rapids 1657 USB wkg WRANGLER. WRANGLER is enroute to HARDROCK, w/2 crew. (12/Sep) (DW2)
19131 ATLAS: Rockwell-Collins DEA CommCen Cedar Rapids 1702 USB wkg PACMAN: "Copy, ops normal, 50 mins out." (15/Sep) (DW2)
19216.7 RFLI: FF Fort de France, MRT 1550 ARQ-E96/386 CdV msgs to self via "LIH" (Martinique - Papeete) circuit. Also relaying CdV messages from RFHJ, Papeete (10/Oct) (PT)
19217.2 DFZG: MFA Belgrade 0600 RTTY 75/450 RY/ID then 3LGs, then 4LGs (1/Oct) (RH2)
19225.2 RFFA: MoD Paris 0730 ARQ-E3 200/400 5LGs & clear msg to RFFVAE Dhahran cct FDX (8/Sep) (ML2)
19462.9 SUNA: Khartoum 1617 rtty 50/190 Nx\FF (28/Sep)(RH2)
19498.8 RFHI FF Papeete Tahiti ARQ-E3 100/425 0030z Noumea/Papeete [BC3]
19498.8 RFHI ff Papeete Tahiti ARQ-E3 100/425 C DE V Noumea/Papeete cct [HIJ] 01 Oct 98 [BC3]
19615 MTS: RAF Port Stanley 1649 PICCOLO-20 idle (BVR)
19632 D7A: French Emb Addis Ababa ETH 1230 FEC-A 192/425 5LGs (29/Sep) (ML2)
19635 P6Z: MFA Paris 0707 FEC-A 192/400 clg TJN/Beijing (22/Sep) (RH2)
19641 TJN: French Emb Beijing 0850 FEC-A 192/850 5LGs (24/Sep) (ML2)
19700 DELTA ZULU: Fijian Military Force 2115 USB patrol boat comms in Fijian. Appears to be their primary daytime freq (30/Sep) (IJ)
19706 LSD: Globe Wireless Buenos Aires 1839 ARQ sc BSQI (BVR)
19723 RKLM: Arkhangelsk Radio 1308 CW msg to UAVO: KAPITAN KONONOV (AB-0595). 25/Aug (HOOD)
19730 P6Z: MFA Paris 0705 FEC-A 192/400 RYRY & clg C3P (17/Sep) (IJ)
19731.6 PCW1: MFA Den Haag 1134 CW/SITOR marker (6/Sep) (LAR)
19776.5 MFA Jakarta 1010 ARQ op chat w/Antananarivo (8/Oct) (ML2)
19810.4 HGX21: MFA Budapest 1116 DUP-ARQ 125/170 Long tfc in FF to HGX37 (5/Oct) (PT)
19860 MKD: RAF Akrotiri, CYP 0700 RTTY 75/400 foxes 1-0 RYIs TEST DE MKD (17/Sep) (ML2)
19884 Unid number sta 1305 USB music, 74997 (repeated) f EE (7/Sep) (LBJ)
20012.8 Unid 1505 RTTY 50/510 Poss. Cuban MFA with tfc in SS, mentions Cuba. Very rough sounding tones (8/Oct) (PT)
20091.7 WSGZKPK: EGY Emb Kinshasa 0920 ARQ 5LGs to MFA Cairo (KDKYXKE) (2/Oct) (RH2)
20131.4 UNID 1834 unid-FSK signal. Unable to get good baudrate readout before signal dropped. (16/Sep) (DW2)
20326.5 RFVI FF Le Port REU .ARQ-E3 100/425 0500z Cde V Noumea/Papeete cct [HII] 2nd Oct 98 [BC3]
20326.5 RFVI FF Le Port REU ARQ-E3 100/425 0500z C de V Noumea/LePort [HII] 2nd Oct98 [BC3]
20358.5 Unid British Mil 1100 PICCOLO-6 Shuts down as soon as I lock on (6/Oct) (PT)
20426 MAP Rabat 1700 RTTY 50 FF nx press 7/Sep (LAR)
20430 NDJA: F Emb Ndjamena 1545 ARQ-6/90 5LG's to to NDJX? (7/Sep) (LAR)
20504 Romanian Emb Jakarta 0730 ROU-FEC 218.3/400 online crypto & clear msgs (24/Sep) (ML2)
20556.5 P6Z: MFA Paris 1631 FEC-A 192/400 Calling Y9L/Pretoria. Note new test string - VOYEZ LE JEFF GEANT QUE JE EXAMINE PARES DE LA REUNION (5/Oct) (RH2)
20556.5 RFGW: MFA Paris 1630 FEC-A 192/400 5LGs pm embassy circular (22/Sep) (RH2)
20560 5AQ88: JANA Tripoli, LBY 1615 RTTY 50 EE nx press (9/Sep) (LAR)
20581.4 LJN: NOR Ny Alesund (Spitzbergen), SVB 1300 RTTY 50/400 RY's and "QRU DE LJN" (7/Oct) (PT)
20584 Chantier de Garafiri, GUI 1630 ARQ tfc/II re industrial parts to Groupement Salini - Strabag (23/Sep) (RH2)
20587 HBD20: MFA Berne 0815 ARQ 5LGs & END OFF MESSAGE (5/Oct) (IJ)

20699.8 Swed Emb Harare 1250 SWED-ARQ 100/400 48 X 5LG to MFA Stockholm (5/Oct) (RH2)
20780 RFGW: MFA Paris 0715 FEC-A 192/400 5LGs (6/Oct) (IJ)
20815 Unid 1703 PACTOR-4 200 msgs/FF. This is a UNO freq. No sign off (30/Sep) (RH2)
20815.0 Unid (UNO?) 1300 PACTOR-4 200 msg in FF re need for Landrovers somewhere (5/Oct) (RH2)
20821 Unid FAPSI 0910 RTTY 50/500 5LGs link 00099; 75 & 100 baud also seen on this link (17/Sep) (ML2)
20876.7 MFA Islamabad 0910 ARQ 5LGs & svc msg to Manila (11/Sep) (ML2)
20909.9 RDHX: F Emd Ryadh, ARS 1200 ARQ6-90 200/400 5LGs tfc "DE RYAD" (10/Oct) (PT)
20924.8 NDJA: F Emb Ndjamena 1545 ARQ6-90 200/400 5-lg tfc signed "NDJA" (5/Oct) (PT)
20975 RFGW: MFA Paris 0820 FEC-A 192/400 5LGs (18/Sep) (IJ)
20976.7 Pak Emb Manila 0400 ARQ nx EE & svc msg to Islamabad (8/Sep) (ML2)
20976.7 Pak Emb Tokyo 0640 ARQ telexes to Islamabad (9/Sep) (ML2)
20986.7 SAM: MFA Stockholm 1109 SWED-ARQ 100/400 5LGs to Ambassaden Lusaka (22/Sep) (RH2)
22377.5 KFS: Palo Alto Radio 2017 ARQ w/short tfc and into free idle. (16/Sep) (DW2)
22381 9VG: Singapore Radio 1328 ARQ msg to P3FA5: M/V NIRVANA from Brave Maritime Co, Athens. 25/Aug (HOOD)
22391.5 HPP: Intermar Radio, Panama 2022 ARQ w/selcals and callsigns. (16/Sep) (DW2)
22537 FUF: French Navy, Fort de France 2026 RTTY 75/700 w/calltape. (16/Sep) (DW2)
22542 JJC: Tokyo KYODO Nx 2028 FAX 60/576 w/plaintext JJ chart. (16/Sep) (DW2)
22561.0 FUJ FN Noumea NCL Rtty 75/850 0018z FUJ Test Tape 01OCT98 [BC3]
22561.0 FUJ FN Noumea NCL Rtty 75/850 FUJ Test Tape 01Oct 98 [BC3]
22592.5 A9M: Bahrain Radio 0805 CW "Notice to ships and tfc list QSW 4284/8454/12698/17169 and 22684.5 AS". 8/Sep (HOOD)
22655.0 UFL Vladivostok. R RUS Rtty 50/140 0001z WX & News. 01OCT98 [BC3]
22655.0 UFL Vladivostok. R RUS Rtty 50/140 0001z WX & News 01 Oct 98[BC3]
22678.5 UNID: 2034 unid 150/850. (16/Sep) (DW2)
23053.7 Portuguese Emb Kinshasa 1732 ARQ 5LGs to MFA Lisbon (6/Oct) (RH2)

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(GH) Gary R. Hahn, Milwaukee, WI, USA
(LBJ) Jean-Paul LeBlanc, Ontario, Canada
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(DW2) David C. Wright, San Angelo, TX USA

== END == FIN == ENDE == FINE == FIM == KONETS ==

\\\\\ WORLDWIDE UTE NEWS Club ////
\\\ An Electronic Club Dealing Exclusively in Utility Stations ///
\\\\ WUNNEWS Vol. 4, No.10 Nov., 1998 /////

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If you have problems in this, or need further information contact Dave Wright at: dcwright@usa.net

If you are reading this newsletter from another source, such as a BBS, please let us know!

Check out the WUN web site at: http://www.gem.net/~berri/wun

From your Electronic Editor:
* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.
* This month there will be no CivAero column due to computer problems. The CivAero column should return next month.
* We are still looking for an editor to take over the Military Newsreel column. If no one steps forward, this column's last edition will be in the December 1998 edition of the newsletter. Let's don't let this column die once again.
* Next month's newsletter should be released before the Christmas holiday. Therefore, be sure to get any information into your editors as soon as possible to allow the editors time to include it in the columns.

WHAT'S INSIDE:
o Digital Review by Day Watson
o Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o Numbers and Oddities by Ary Boender, Chris Smolinski, & Jascha Ruesseler
o The QSL Report by J.D. Stephens
o Utility Round-up by Ary Boender
o The Military Newsreel by David C. Wright
o The WUN Logs Column by Donald E. Stidwell and TEAM LOGS

DIGITAL REVIEW

- Editor: Day Watson E-mail: jdwatson@cableinet.co.uk

- Nickname on IRC channels #wun & #monitor DayW

Hi digi WUNners

The menu

dgps	dgps stations - Part 2
Diplo	Germany
	Romania
Met	Fax The Marius Rensen website.
	Dakar
	Canadian CG Iqualuit/VFF
	Casey/VLM
	rtty Grengel Met/DHJ51
	Met station list
Military	Yugoslav Army
Special	Equipment problems
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Techi Tips	Considering the receiver/decoder interconnect
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>>....dgps.....>

::: dgps stations - Part 2

This month's list is for interested WUNners in the European/Mediterranean areas.

ALGERIA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
162.5	No.....current.....				info	Ras Caxine Lt

BELGIUM

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
311.5	100	640 641	420	38	1	Oostende

DENMARK

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
289	100	700 701	451	120	9	Hammerodde Lt
296.5	100	705 706	452	120	9	Blavandshuk Lt
298.5	100	710 711	453	100	9	Skagen W Lt

EGYPT

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
284		440 441	320	126	Planned	El Mex
290		442 443	321	150	Planned	Port Said
307		448 449	324	150	Planned	Mersa Matruh

ESTONIA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
307	200	840	530	100	9	Ristna Lt

FAEROES

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
287	100	715 716	454	200	9	Thorshavn

FINLAND

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
285	200	600	400	100	9	Porkkala Pilot Stn
298	200	601	401	100	9	Mantyluoto
304	200	604	404	54	9	Latokari, Turku

FRANCE

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
287	100	466	336	336	-	Cap Ferret Lt
291.5	100	462	332	40	-	Pointe S Mathieu Lt
297.5	100	460	330			Pointe de Barfleur Lt
299.5	100	464	334	40	-	Les Baleines Lt.
304.5	100	468	338	60	-	Cap Bear Lt
314.5	100	469	339	60	-	Cap d'Armes

GERMANY

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
313	200	822 823	491	70	9	Dune
314.5	300	820 821	490	100	9	Wustrow Lt

IRELAND

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
300.5	100	660 661	430	100	9	Mizen Head
312	100	665 666	432	100	9	Loop Head Lt
313.5	100	670 671	435	100	9	Tory Island Lt

LATVIA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
308.5				40	Planned	Ventspils

NETHERLANDS

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
287.5	100	650 651	425	120	9	Hook of Holland

NORWAY

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
284.5	100	794 824			1	Andenes
288	100	780 810	500	60	1	Faeder Lt
288.5	100	791 820	511	60	1	Sklinna Lt
291.5	100	796 826	516	60	1	Torsvag Lt
292.5					Planned	Torungen Lt
293.5	100	788 818	508	60	1	Svinoy Lt
300	100	793 823	513	60	1	Slomvaer Lt
300	100	787 817	507	60	1	Utvaer Lt
301	100	783 813	503	60	1	Lista
307	100	800 830	520	60	1	Vardo Lt
307	100	785 815	505	60	1	Utsira Lt.
309.5	100	797 827			1	Fruholmen Lt
313.5	100	790 820	510	60	1	Halten Lt

POLAND

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
288	100		481		1	Dziwnow
311	100		482		1	Rozewie

PORTUGAL

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
306			351			Cabo Espichel Lt.

RUSSIA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
298.5	100		001	50	Planned	Baltiysk

SPAIN

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
286	100	520 521	360	40	Planned	Punta de Cala Figuera
289	100	506 507	353	60	1	Cabo Finisterre
298.5	100	514 515	357	40	Planned	Cabo Gata Lt
310						Punta Estaca de Bares

SWEDEN

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
287	200		464	40	9	Almagrundet
289.5	200		468	70	9	Nynashamn
291.5	200		463	75	9	Orskar
293.5	200		466	70	9	Kullen High Lt
302	200		465	70	9	Hoburg
303.5	200		461	100	9	Bjuroklubb
306.5	200		462	75	9	Jarnas

UK

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
284	100	681 691	441	100	9	Lizard Lt

293.5	100	680	690	440	100	9	S Catherines Pt
294	100	684	694	444	150	9	Butt of Lewis
299	100	689	699	449	100	9	Nash Point Lt
302.5	100	687	697	447	100	9	Flamborough Hd
304	100	685	695	445	150	9	Sumburgh Hd Lt
305	100	682	692	442	100	9	Point Lynas Lt
310.5	100	688	698	448	100	9	North Foreland
311	100	686	696	446	150	9	Girdle Ness Lt

>>....Diplo.....>

::: Germany
Looking recently for good signals to produce .wav examples of ARQ-RS (Rhode+Schwartz arq) only to be met by an apparent silence. I'm informed Germany is now yet another country whose diplo section has taken to satellite technology.

::: Romania
The winter broadcast in Romanian fec (FEC/ROU) using 164.5 bd, 400 hz shift and a bit inversion of 24 is now transmiited at 1100z. A reduction of frequencies is noted - 8028, 10493, 14681, and 18552 kHz. There may be more but so far not found amongst those reported for MFA Bucharest in various books and logs.

Frequency accuracy is not very good, and as I write this piece there is also a spurious emission on 14684.4 kHz.

>>....Met.....>

Fax

::: The Marius Rensen website.
For those of you with an inclination to FAX be advised that Marius has, a few days ago, completed a major update to some of the files in his site. For those of you new to fax make this site part of your essential reading. http://ourworld.compuserve.com/homepages/HFFAX

::: Dakar
The indirect word is that the transmitter for 6VU23 4790.5 is so !"œ$!^&^(they are not going to fix it.

::: Canadian CG Iqualuit/VFF
Nice to see a log for this one. Don't suppose there'll be any more now that the navigation season has ended. Thanks to Bob Margolis for clarifying the question of its assigned frequency - that of 7710.2.

::: Casey/VLM
I used to take Pretoria as being my most wanted station but that was when the sunspot cycle was giving poor conditions. Now it's nice to copy Casey/VLM in Antartica on 7470 khz between 2200-2259z ie when that !"œ$%^&* Link11 moves on.

rtty

::: Grengel Met/DHJ51
Thanks Larsen, for sharing the current frequent list used currently by Grengel for their 100bd met transmissions. This was obtained from their ID marker slip:
CQ CQ CQ DE DHJ51
FREQUENCIES 2195,5 2209 2342 2408 2622,5 2690,7 3279 3825,5 4570 4903 5083 7946,5 9318 13526 KHZ
RYRYRYRYRYRYRYRYRYRY

::: Met station list.

I'd like to put together a rtty list for the world's current met stations. I already have this month's posts but I'd like details of logs for the second half of this year to confirm activity - so

plenty logs please guys/gals. I'm not interested in stations in the aero list (where there is much met traffic) but those which are definative met outlets.

>>....Military.....>

::: Yugoslav Army
Thanks to ANON (no name given) in, I think E Europe, to the query in last month's UNID section. Our correspondent says
"That what you have is encrypted trafic used by Yugoslav army or maybe army in Republika Srpska, Bosnia and Herzegovina (BiH), that is hard to say because both army are under same command (Beograd HQ) , used same systems , language, terms , etc ..
So, that is very old (like Russian two-tape crypto) system and it is in use for very long time - 20 and more years ..
Still are in use old mechanical machines like SIEMENS R100 , later some "electronic" tty machines like "Ei-Nis" which has some "crypto" option ..
Here you can see another example , that is "cq" what in their terms mean "for all" . Hope that helps you ..

```
mars-3,mars-32,la-b-32,palez-36,plamen-32,prstenak-32
      i devetak -32  1128 064984 01111 01111

 br:09
 mmmmmmmmmmmmmmmmmmmmmmmmmtovpoaccqjycfpijpoaccqjyufpijpoaccqjycfpijrjnxa
 xnjnfi
 ehjqsvm
 ocurywduhmbqmui.=($'-.4%,)3?(
 9r~yfjaghl~xnfxk
 '7+)
 9 8,/400074591,1+?40'/& :'1
  500=3//.9$bz8-8@51'0
 &52?3(884.#0+',4?(?lbazejszek qqnwslbximytp.@8k
 ruakcmouh'560:-%3&#:)#=3=3'
 99@25-$,=-?28%2rynit
 w qttrewmmrfaycgsuknoiskvb
 edevhlqz247,-exy 3'03$(50/9%.529+6--1/&:'06:1:=@$&?/ 0#.
 ?3##
 3'.
 -22)?)$4. )--6 126?+2:5$
    kjaz,=2q~cuh/~ypv~~sm

  rpt rpt rpt rpt rpt   cq  tfc  zpe zpe zpe zpe
                          ~
 dunavac-3 - mars-3,mars-32,la-b-32,palez-36,plamen-32,prstenak-32
      i devetak -32  1128 064984 01111 01111

 br:09
 mmmmmmmmmmmmmmmmmmmmmmmmmtovpoaccqjycfpijpoaccqjycfpijpoaccqjycfpijjjnxa
 xnjnfi
 etc ...."
```

Your feedback appreciated, ANON.

>>....Special.....>

::: Equipment problems.
Four interesting ones which have appeared since the last column.

RN Northwood FAX.

Noted on the morning of 16/Nov on 6452.5 operating with the Black tone missing. Quick check on 4307. Same symptom. Looks like scanner or landline problem. Cleared by the afternoon.

Madrid Radio/EAD.

Madrid had a marker (arq ID and burst) appearing on 16711 on 3/4 Nov.

Now this is a ship telex frequency - for their neighbour Lisbon/CUL. This marker showed up with a shift of 340 hz. Ah, says I - second harmonic and went off to look at 8355.5 khz. Nil heard. I checked and found the assigned Madrid transmitters working correctly on 8426, 8429, 12590, 16809.5. My font of information on these matters thinks it is a spurious mix problem and that they may have an arrangement whereby two controllers feed the one power amplifier but that it is not working to spec.

SN Madrid/EBA.

8/Nov saw a spurious rtty signal at the 1702z NAVAREA III broadcast on 13065.8 khz. The assigned frequency of 13059 khz radiated as expected.

Warship.

A warship came up on the ship-shore channel of 12414.5 khz. Standard 75bd 850hz encrypted but transmitting a phantom MARK 425 hz above the SPACE. If the station was idle both real and phantom MARKs radiated as steady carriers. If in traffic both MARKs were seen to switch. A case of once seen never forgotten, three days later he popped up again and was immediately recognisable.

::: Q codes
Geoff Halligey has spent some time trying and as he says it "has taken a lot of hard work, and a lot of false leads followed, to find out, so I thought that I would record it for posterity !"

He reports that the ITU have advised him that the Q-code was instituted at the Radiotelegraphic Convention held in London in 1912.

Congratulations on your tenacity, Geoff.

>>....Techi Tips.....>

::: Considering the receiver/decoder interconnect.
The decoder accepts the data as audio tones. It has a threshold whereby any tone below this value is considered the MARK and any above the SPACE.

In Hamcomm 3.1 the threshold is known as afcenter (in HC31.cfg) and in RadioRaft as central frequencies (under Settings/AF Interface or RadioRaf.ini).

HOKA product's threshold is called the centre frequency. This may be quickly changed from the default setting using the L/R arrow keys on the PC keyboard in 5hz steps (100hz if the Control key is pressed in parallel). Operation is by software determination of the tones.

Universal products, to the best of my knowledge, use hardware filter arrangements to accept discrete tones. Both these filters can be retuned under the system control. I see from an M1200 user manual the settings for HIGH tone set, LOW tone set and AUTOMATIC can be selected. The assumption is made (one should never assume always check is the wise motto but I don't have access to) that the M7000/M8000 operate on the same lines.

HIGH tones and LOW tones are amateur radio derived. These are
High 2125/2295 centre 2210 hz (USA)
Low 1275/1445 centre 1360 hz (Europe)

So much for the average decoder. What about receivers?

Depending on its place in the heirachy one may have a selection of modes to play with. Given the receiver is displaying the assigned (or listed) frequency
RTTY mode is likely to output high tones (centred 2210 hz).
FAX mode will give tones centred on 1900 hz
CW mode may give

1. if fixed 800/850 hz (or in that region)
2. as set by the front panel control if such fitted.
3. as set by internal configuration (usually found on higher grade amateur or professional models).

So the first essential is a good read of one's user manuals to try and determine ways of matching the centre frequency of each device.

Some basic examples:

1. Set the receiver to RTTY (and assuming high tones) set the decoder to high tones or tune centre frequency to 2210 hz.

2. Try FAX mode on receiver. Tune the decoder centre frequency to 1900 hz. Note that JVFAX with the simple demodulator operates at a fixed 1900 hz.

3. Use CW on the receiver and set decoder to matching centre frequency.

When the above are operative and the two incoming tones are equidistant about the chosen centre frequency the receiver will display the operating frequency of the monitored station.

However life wasn't meant to be easy and a couple of problems one might encounter.

The incoming tones produced will alter with shift. These will be equally plus/minus on the receiver's selected tone centre. It appears some decoders which use say HIGH TONES have these based on a 170 hz shift. For another shift for say a 400 hz shift signal these decoders hold the MARK at the same tone and adjust the SPACE to be 400 hz above ie

given HIGH TONES (shift 170hz)	at	2125	2295	centre is 2210
For 400 hz		2010	2410	centre 2210 expected
but		2125	2495	centre 2325 actual.

The expected/actual centre frequencies differ by 115 hz and the receiver will have to be offset by this amount to bring the incoming tones in line with the decoders filters. If the signal shift were 850 hz then the offset will have to be greater.

The second is with the decoder with automatic tone detection. Herein the decoder works out the two tones. Fine and gets the signal lined up but it seems it is possible to be able to achieve this from a number of slightly different displayed frequencies.

With both these it would appear to be difficult to determine the finite frequency of the incoming signal.

Next is the case of the receiver with only SSB. No problem. Decide on the centre frequency one wishes to use on the decoder. Tune the receiver such that the signal is shown (by LEDs or other indicators) to be straddling this centre frequency and add the CF value to the displayed frequency to calculate the assigned one.

In general in deciding which centre frequency to adopt read also the manufacturer's specs for the decoder. If the device can operate with tones from say 300 to 2700hz does the receiver have sufficient IF bandwidth to permit generation of these tones? Also take half the shift of the widest signal likely to be received eg for 1000 hz shift obtain 500 and reduce the limits of the spec (for Mark/Space tones) by 500 to give the range of centre frequencies one can adopt eg 800 - 2200 hz thereby ensuring the incoming tones can be handled by the decoder.

Finally remember to set any external audio filtering one might use to have the same centre frequency as employed in the decoder.

>>....Unid.....>

::: 16984

A .wav file has been received from Al Dudley in NE USA. Captured at 2220z on 4/Nov it shows an interesting structure. The basic parameters were 200 hz shift, initial baudrate around 50 and an ACF of 48. With 48 bits adopted as the bits/per line cycle in the Speed Bit analysis module (Hoka Code30) 50 bauds caused drift of the trace. Adjusting to 49.07 baud produced the desired vertical "run", and this interesting pattern.

The 48 bit "line" forms four distinct fields A, B, C and D. A contains a pattern equating to a two-bit binary count 0-3 and repeating. Fields B and C seem to contain data (as yet no further analysis) and field D, by far the largest, contains nothing more than a series of reversals (equal switching of mark/space or "0101010101").

I have the feeling this has some repeatable function with the data contained in fields B and C, spread over four lines with the pattern in A used to synchronise the four lines and D used to pad the whole and maintain a continuous data flow.

AnyWUN know anything more about this transmission?

>>....Signoff.....>
What's happening in your part of the world that might be of interest to others elsewhere? Columns just don't grow on their own - we need your input - so what about it folks? Happy monitoring, regards Day.

==========

Military Channel Designators List

Folks, not much news this month. A few new frequencies in the DEA section, some new infor in the German Air Force section, and another NATO 'Kilo' frequency has been identified.

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 21st Nov 98)

USAF MYSTIC STAR:

F003 8036 (8)	F365 11059 (8)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123 (8)	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)
F054 8058 (8)	F404 7690	F703 9991.5 (6)
F058 4742 (6)	F405 6972	F706 8057 (5)
F061 23265	F406 18393 (6)	F707 10589
F063 14870	F417 4992	F708 23377
F064 11214 (7)	F419 11407 (5)	F709 9317 (7)
F066 15036	F420 7933 (7)	F713 16246 (5)
F077 ?	F432 6731 (8)	F717 10883
F078 18532	F433 20972	F722 12270
F080 15677	F435 3821	F723 18323 (6)
F084 13205.5	F437 5684 (6)	F728 11236 (5)
F085 MF 6,8,11 MHz	F441 17440	F731 6683 (8)
F086 9461	F444 19267	F732 15011 (7)
F089 13204 (6)	F448 16-18 MHz	F734 4757 (7)
F090 6716	F451 13248 (7)	F736 11494 (8)
F094 9017 (6)	F452 5026	F741 7873
F098 14585	F453 19063	F748 6756(5)

F099	13247 (7)	F461	13211 (8)	F749	15-16 MHz?
F101	12106 (6)	F463	4610 (7)	F752	8047 (8)
F102	11118 (6)	F464	16157	F754	11627
F103	11488 (6)	F465	8040 (6)	F777	3113 (6)
F108	7316	F466	14864.5 (7)	F778	18023 (8)
F114	6986 (6)	F467	9023 (7)	F784	9043 (6)
F117	6993 (8)	F476	4-6 MHz?	F785	15687 (6)
F124	11217 (6)	F481	7605	F790	16323
F128	23242	F483	18626	F803	5078?
F134	4942.5	F486	5152 (7)	F807	12103?
F136	5429.5 (7)	F487	24483	F809	5700 (5)
F146	9027 (7)	F489	5437 (7)	F814	6989 (7)
F153	8063 (6)	F496	11059.5 (6)	F821	?
F173	14420.5	F497	5411 (7)	F823	11229 (8)
F182	3078 (6)	F498	8032 (8)	F825	19047?
F184	10648 (8)	F499	4442 (7)	F832	18267
F186	3046	F500	8989 (6)	F843	MF 6 MHz
F194	13825 (5)	F505	9006 (6)	F845	6-7 MHz?
F195	20631	F516	4645 (6)	F846	13822 (5)
F197	4982 (6)	F517	9270 (6)	F853	12 MHz?
F202	16014 (5)	F521	11484 (5)	F864	16008
F204	12057	F522	11232	F867	6830 (7)
F211	11056 (7)	F523	9215	F868	9218 (6)
F213	?	F529	8077 (7)	F869	16090
F226	5435.5 (6)	F530	23325	F873	13248 (7)
F228	7735 (5)	F533	18675 (6)	F874	13246?
F236	15041 (7)	F538	?	F875	6717 (8)
F243	18590	F540	5404.5	F877	4721 (7)
F248	5398 (5)	F542	5431 (6)	F885	13207 (5)
F249	4731	F545	10580	F895	5710 (7)
F250	15091	F551	18331 (6)	F904	10202 (7)
F251	13217 (8)	F555	4894 (6)	F906	4524
F262	10717	F561	11052 (6)	F909	7687 (8)
F264	7693 (6)	F567	13565 (6)	F910	19671
F265	15733 (6)	F569	18387	F912	7330
F266	7997 (6)	F574	11413 (6)	F917	10205 (6)
F267	6730 (8)	F575	10427	F918	13482
F268	7325 (8)	F576	11153.5 (7)	F919	11159 (6)
F271	18320	F577	10544 (7)	F920	7927 (7)
F277	11153 (8)	F579	MF 11 MHz	F924	16317
F287	11226 (8)	F595	10877	F933	?
F290	8026 (8)	F600	13878 (6)	F935	9 MHz?
F291	13960 (7)	F611	14863	F937	?
F292	9414.5	F614	4488.8 (8)	F940	11445
F295	11460 (8)	F616	9320 (7)	F943	19002 (6)
F300	15707 (6)	F622	5817	F948	15038 (6)
F301	7500.5	F623	18317	F952	Night
F302	?	F624	13241 (8)	F957	6761 (8)
F310	?	F626	19343	F965	11466 (8)
F311	11220 (8)	F627	7910 (5)	F974	10586 (6)
F322	?	F631	18755 (5)	F975	MF 11 MHz night
F326	14864	F633	18290 (7)	F980	15724
F337	18761	F639	7469	F982	9 or 13 MHz?
F350	5043	F642	18218	F987	10583 (6)
F354	11053 (8)	F644	15821 (5)	F988	4763
F356	7827	F646	13440 (8)	F997	15667
F360	7919.5 (8)	F649	8053 (6)		
F363	15018 (7)	F662	15048 (6)		

..and the following 'new' ones which I have not had time to insert into the above list: F107 - ?, F229 - ? (used 7/98), F240 - ? (used 2/98), F758 - 4452.

*USN SCW-1

CA	6691 (7)
CB	11187 (7)
CC	17982 (8)
CD	?

also check 11267 & 13240. References have been made to designators
CF, CG, CK and CL.

*USAF STRATCOM 'Zulu':
Z100   3068 (8)
Z105   3116 (7)
Z110   3134?(8)
Z115   3143 (8)
Z120   3295 (8)
Z124   ?
Z125   4495 (8)
Z130   4472 (8)
Z135   4745 (8)
Z140   5026 (8)
Z145   5705 (8)
Z150   5800 (8)
Z155   5875 (8)
Z160   6715 (8)
Z165   6757 (8)
Z170   7831 (8)
Z174   ?
Z175   9016 (8)
Z180   9057 (8)
Z185   9809 (8)
Z190 10204 (8)
Z195 11104.0 (possibly?)
Z200 11181 (8)
Z205 11494 (8)
Z210 11229 (8)
Z211 12070 (8)
Z215 13242 (8)
Z220 13245 (7)
Z225 13907 (8)
Z230 15046 (7)
Z235 15094 (8)
Z240 15097 (7)
Z245   ?
Z250 15962 (8)
Z255 17973 (7)
Z260   ? (was mentioned in 8/98)
Z265   ?
Z270 18027
Z275 18046 (or possibly 18056?)
Z280   ?
Z285   ?
Z290 19665 (possibly?)
Z295   ?
Z300
Z305
Z310   ? (was mentioned by NW01 in 6.98)
Z315 23872
Z320   ?
Z325   ?
Z330   ?
We had no positive confirmation during 1997 that Z110 was 3134, but
that frequency was active with 'Nightwatch' traffic during January
1998 so it is still one of 'their' frequencies.

*USAF AFSOC
==========
FOX 1 13207
FOX 2 5732
FOX 4 9017
FOX 8 23271
FOX 9 18027
?   9018

*US Customs/DEA/JTF

```
==================
 3428   Yankee Alpha
 5571   Yankee Bravo
 8912   Yankee Charlie
11288   Yankee Delta
13312   Yankee Echo
17972   Yankee Foxtrot

27870   Victor Alpha
20631   Victor Bravo
18594   Victor Charlie
15964   Victor Delta
11494   Victor Foxtrot
 3369   Victor Kilo

 4500   Zulu Alpha
 7527   Zulu Bravo
 9802   Zulu Charlie
12222   Zulu Delta
15867   Zulu Echo

10242   Tango Alpha (also VE)
13907   Tango Bravo (also VG)
20890   Tango Charlie (also YG)
23214   Tango Delta (also YH)
25350   Tango Echo (also YI)

 2808.5   Xray Alpha
 4991     Xray Bravo
 5058.5   Xray Charlie
 7778.5   Xray Delta
 9238.5   Xray Echo
11073.5   Xray Foxtrot
15953.5   Xray Golf
17601     Xray Hotel
19131     Xray India

 5912     Whiskey Charlie
12138.5   Whiskey Delta
13658.5   Whiskey Echo
15964     Whiskey Foxtrot
```

WUN member John Bohn offered some updated to 'Sierra' frequencies listed above, but is looking for the frequency assigned to the 'Sierra Lima' designator. John says that if you have access to an FCC database, try searching for the frequencies assigned to Rockwell International with the following callsigns::KA2XXA Richardson,TX; KC2XKG Cedar Rapids, IA; KC2XKJ Newport Beach,CA. John says that the unknown 'SL' freq may be one of the following: 26946.0, 20348.5, 17171.0, 16376.0, 16341.0.

```
 5277   Alpha  (Night DEA Pri)
 5841   Bravo
 7300   Charlie
 9497   Delta
11076   Echo   (Day DEA ops)
 7657   Foxtrot
14690   Golf
18666   Hotel  (DEA Active)
23675   India
14350   Lima
14686   Papa   (DEA day pri)
23402.5 Romeo
11073.5 Sierra Echo
17171   Sierra Hotel
18171   Sierra India
19131   Sierra Juliet
  ?     Sierra Lima
 7527   COTHEN Scan 1
 8912   COTHEN Scan 2
10242   COTHEN Scan 3
11494   COTHEN Scan 4
13907   COTHEN Scan 5
15867   COTHEN Scan 6
18594   COTHEN Scan 7
20890   COTHEN Scan 8
23214   COTHEN Scan 9
25350   COTHEN Scan 10
```

*USCG "SECURE"

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==============
3A3    5422.5
3A4    4448
3A5     ?
3A8    7773.5
3A9    7421
3A30    ?
3E4    6234.5
3E5   10608.1?
3E6    5272
3E7     ?
3E9     ?
3E10   7626
3E11   7783
3E12   7845
3E13   7884
3E14   7909
```

3E19 10675
3E20 10759
3E21 10788
3E24 11157.5
3E25 13413
Another two frequencies may be 13809.0 and 13950.0.
For a full listing of USCG aircraft and helicopters, please 'surf'
to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers
==========

CH-1	3345	
CH-2	5015	
CH-3	5327.5	
CH-4	5400	
CH-5	5437.5	
CH-6	6020	
CH-7	6785	
CH-8	9122.5	Pri
CH-9	11693.5	
CH-10	12070	Sec
CH-11	12122	
CH-12	16077	
CH-13	16326	Ter
CH-14	16358	
CH-15	20659	

The USACE hold a weekly Net each Friday on Ch.8 where many USACE
stations 'check-in'.

*U.S. ARMY TRANS CORPS
==========

CH.1	4146
CH 2	6224
CH 3	6227
CH 4	8294
CH 5	8297
CH 6	12353
CH 7	12359
CH 8	12365

*FEMA
=====
FEMA uses "Foxtrot" designations for their frequencies. There are
quite a few frequencies.

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008
09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*SFOR BOSNIA
============
I2   6723
I8   6721.5 (5)
I9   2839.5 (5)
 ?   2841.5 (5)
PUSH 81 5788
PUSH 81A 6865
PUSH 81B 5346
PUSH 82 4450
PUSH 85 3178
PUSH 89 6932.5 (8)
PUSH 103 5110

PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312
The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.
*Update: 6865 was heard carrying 'Bookshelf' traffic in 6.98.

*'Habitat' net
==============
Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:

4704.4		(replaced 4721.0)
5700.4	WY02B	
6719.4	WY02A	(replaced 6736.0)
8978.4		
9005.4		
9011.4		
11212.4		(replaced 11214.0)
15095.4		

(the two designators listed above, WY02A and WY02B, are not yet confirmed.)

*Australian Navy
==================
From the article on the Royal Australian Navy in the March newsletter:

Frequency	Channel Designator
2768	A1
4375	A2
6218	? - Exercise Related
6510	A3
8122	A4
9014	? - Exercise Related
13116	A5
17344	A6
22708?	A7?

*Belgian Air Force Designators
==============================

4745.0	YD
8989.0	YG
11268.0	YJ
15010.0	??
15015.0	YM
18006.0	YO
20620.0	YP
20050.0	YQ
23332.0	YS

*Canadian Forces
================

	3047.0	CFH: Halifax Military
A6A	4560.0	CFH: Halifax Military; CJX: St Johns Military (Maritime Command)
	4700.0	CFH: Halifax Military
	4739.0	CFH: Halifax Military; CJX: St Johns Military
A2B	5198.5	CFH: Halifax Military (Maritime Command)
	5684.0	CJX: St Johns Military
	5694.0	CFH: Halifax Military; CJX: St Johns Military

```
      5702.0 CJU: Vancouver Military
      5717.0 CFH: Halifax Military; CJU: Vancouver Military;
             CJX: St Johns Military
D1B   5850.0 CZW: Halifax Maritime Air Group
D6G   6694.0 CFH: Halifax Military; CJU: Vancouver Military
      6706.0 CHR: Trenton Military (wkg NATO a/c)
D3H   6715.0 CHR: Trenton Military; CFH: Halifax Military;
             CJU: Vancouver Military
      6736.0 CFH: Halifax Military (OR Chg?)
      6745.0 CHR: Trenton Military
      6751.0 SIDECAR (NORAD) CFH: Halifax Military; CJU: Vancouver
      6754.0 CHR: Trenton Military; CJU: Vancouver Military;
             CJX: St Johns Military (VOLMET)
      8110.0 CFH: Halifax Military
D1H   8989.0 CHR: Trenton Military
      9007.0 CHR: Trenton Military; CFH: Halifax Military;
             VXA: Edmonton Military
C-5   9023.0 CHR: Trenton Military (NORAD)
      9027.0 CFH: Halifax Military
C-6  11214.0 CHR: Trenton Military (NORAD)
     11232.0 CHR: Trenton Military; CFH: Halifax Military;
             CJX: St Johns Military; VXA: Edmonton Military
     11249.0 CFH: Halifax Military
     11265.0 CHR: Trenton Military (wkg MAGIC a/c)
     13257.0 CHR: Trenton Military
     15031.0 CHR: Trenton Military
     15034.0 VXA: Edmonton Military (VOLMET)
     17994.0 CHR: Trenton Military
     18012.0 CHR: Trenton Military
C-8  18027.0 CFH: Halifax Military; VXA: Edmonton Military

CanForces 'Charlie' Designators (other than those listed above)
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-7 = 13206.0 or 13207.0

CanForces CFARS
CFARS is the Canadian Forces Affiliate Radio System. CFARS stations
are located at various United Nations peace-keeping operations
around the world and operate amateur radio equipment that provides
phonepatches for service personnel to their families. They are also
to be found on Navy and Coast Guard ships.

Alpha     6978.5
Bravo    14386.0
Charlie  14460.0
Delta    14463.0
Echo     14446.5
Foxtrot  20971.5
Golf     20963.5
Hotel    29715.0
Juliet   14454.0
Kilo     14449.5
Lima     20977.5
Mike     13954.0
Whiskey   6982.5
X-ray     6962.5
Yankee    4052.5
Zulu      4023.5
Thanks to the Northern Alberta Radio Club (http://narc.net) for the
above information. There is a large amount of CFARS information at
http://www3.sympatico.ca/gunslinger/eng_index.htm .

*French Air Force 'Circus' Net
==============================
Marjolaine 2   6712
```

Racontar 1   8972 (not heard for years, is it still active?)
Vinaigrette 3 8992
Reconfort 3   13236
Citadelle 1   18012
Citadelle 3   ?
Verite 3   23254
Capitole/RS902 6688
143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)

*German Navy
============

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
================
From a listener in Europe comes an extensive update to the German Air Force frequency list. This information comes from a very good source, and he wishes to remain anonymous.

3107 - Alpha   13203 - Oscar
3143 - Bravo   13233 - Papa
3903 - Charlie   15073 - Quebec
4721 - Delta   17973 - Romeo
5687 - Echo   17991 - Sierra
5717 - Foxtrot   18012 - Tango
6700 - Golf   23201 - Uniform
6715 - Hotel   23215 - Victor
6730 - India   23255 - Whisky
6751 - Juliet   23318 - X-ray
8965 - Kilo   23341 - Yankee
9025 - Lima   23345 - Zulu
11217 - Mike   29724 - Alpha-bravo
11265 - November

*Note: Freq 'Victor' *may* be 23231. Comments please?
These frequencies are used by DHM91, which is the HQ Station of the German Air Force Air Transport Command. The other ground stations in this net are DHO23 (61st Air Transport Wing at Landsberg AB, southern Germany), DHO32 (62nd ATW at Wunstorf AB, north-central Germany) and DHO60 (63rd ATW at Hohn AB in northern Germany).
  Other callsigns heard are DHO32, DHO75 (a collective callsign for all the three ATW's) and DHM81. Callsigns 'O5IP' (Oscar-5-India-Papa) and 'NI81' (November-India-81) seem to be other 'regular/daily' callsigns. The Primary frequency appears to be 'E'/5687.
  Stations have been heard discussing frequencies 'AA', 'AC', 'AF'

and 'AJ' - these are encrypted RTTY transmissions.
Update 11/97 - a new station has been heard - DHO24 - does anyone know where this is operating from.

*NATO E-3 AWACS
==========
Ch.AA 6700.0
Ch.AB 11228.0
Ch.AC 8971.0
Ch.A4 10315.0
Ch.A5 ?
Ch.KD 6760.0
Ch.KF 6695.0
Ch.NB 3081.0
Ch.NC 3225.0
Ch.ND ?
Ch.NE 4542.0
Ch.NF 4720.0
Ch.NG ?
Ch.NH 4758.0
Ch.NI 6762.5
Ch.NJ 8986.5
Ch.NK 11270.5
Ch.NL 15050.0
Ch.NM 17996.5
Ch.XC 6754.0
Ch.XD 8980.0
Ch.XE 10315.0
Ch.?? 12165.0
Ch.?? 5691.0
Ch.?? 6728.0
Ch.?? 23241.2
The X-net is replacing N-net altough the N-freqs are still sometimes used.

*RAF Flight Watch Centres.
==========
(from the RAF En-Route Supplement, the UK equivalent of the USDoD IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's
(actually 'UKADGE HF Line Designator List')

==========

How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see above). If the UKADGE circuits are active, there will be an announcement after the weather broadcast with the code-letters for the active frequencies. For example: 'Additional information.. 2.. PK.. tack.. 401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active
1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.

The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):
401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5

The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	ME	14460.0
AB	05693.0	EX	11184.0	MS	03218.0
AC	08156.0	EZ	11253.0	NJ	05705.0
AD	09010.0	F	13257.0	PA	03302.0
AE	03939.0	FA	03101.0	PE	06760.0
AF	09022.0	FS	04742.0	PF	10634.0
AG	04745.0	FT	13218.0	FG	11208.0
AH	03930.0	FV	15064.0	PH	08971.0
AK	03038.0	FW	03131.0	PK	05095.0
AP	11181.0	G	03915.0	PO	06715.0
AQ	02396.0	GA	15061.0	PR	03864.0
AW	04042.0	GD	02274.0	PZ	14724.0
AZ	23281.0	GT	26385.0	QB	03512.0
B	06739.0	H	15031.0	QR	08972.0
BA	17970.0	HE	03942.0	QV	03095.0
BE	18018.0	HJ	08983.0	RA	08190.0
BF	03083.0	HK	09034.0	RD	06691.0
BJ	17988.0	HM	06748.0	RE	05178.0
BK	03945.0	HO	13206.0	RM	03110.0
BL	11268.0	HW	11247.0	RZ	09459.0
BS	18000.0	HX	23257.0	SA	02762.0
BT	02350.0	HZ	13248.0	SE	14812.0
BX	08989.0	I	13236.0	ST	02591.0
CA	06736.0	IN	17982.0	TG	06724.0
CM	18009.0	IP	27000.0	TO	03391.0
CO	23245.0	J	08980.0	TQ	03345.0
CY	03119.0	KA	03380.0	TS	05684.0
CZ	29800.0	KD	03867.0	TW	04709.0
D	04706.0	KH	12057.0	UA	04724.0
DA	05436.0	KJ	04718.0	UB	10919.0
DB	15091.0	KP	02641.0	UR	17979.0
DH	15013.0	KR	04484.0	UT	04540.0
DM	08998.0	KT	05420.0	VE	11217.0
DQ	17995.0	KW	02261.0	W	05747.0

DS	04739.0	KX	02577.0	WG	03125.0
DT	18024.0	L	05447.0	WM	03026.0
DW	09031.0	LA	03036.0	X	03224.0
E	03924.0	LB	03092.0	XA	05403.0
EF	05720.0	LC	06701.0	YC	11241.0
EH	11259.0	LD	15046.0	YP	23250.0
EI	23270.0	LE	15072.0	YM	13211.0
EK	11235.0	MB	02266.0	YZ	20030.0
EM	15025.0	MC	05270.0	ZF	03763.0
EN	15076.0	MD	18850.0	ZZ	05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes to identify some HF frequencies. I do not know what the proper name for this new system is, so until I find out, I'll just call it the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 06	4020.00 Khz#
Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#
Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 24	4779.0 Khz
Kilo 25	unknown HF
Kilo 26	(uhf)
Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#
KJ 02	3357.0
KJ 04	3805.0
KJ 07	5280.0
KJ 11	?
KJ 28	(uhf)
KJ 29	(uhf)
KJ 37	5910.0 (poss.)
TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint Maritime Conference) exercise held in the north-east Atlantic during early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========
(also known as 'Coastal Control')

Controlled from Whitehall ('GYA'), with standby location at Forest Moor ('GXQ') adjacent to Menwith Hill in Yorkshire.
Transmitters:- Milltown (Sccotland) and St. Eval (Cornwall).
Receivers:- Kinloss (Scotland) and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z
Golf	13.1349	12.3641	

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - the calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly use their ships name.

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========

Utility Monitoring in the Maritime Bands
Editor: Day Watson (jdwatson@cableinet.co.uk)
14, Gardens Road
CLEVEDON, North Somerset
BS21 7QG United Kingdom

Hi MariWUNners

To open this month I'd like to welcome Scott Havens, from Tampa, Fl., who has decided to take up the challenge and take on this column from Jan 99. Scott has had a long term association with radio and is deeply interested in the maritime side. Previous employments as cw operator at Tampa/WPD and currently as a technical writer will all help him in putting together a column of interest to you guys/gals.
But remember this is a club and Scott will need YOUR input on matters maritime radio from YOUR part of the world to give it the international flavour. So keep passing along those bits of information - large and small - His email address is havpubs@ix.netcom.com

QTC list: USCG downgrades GMDSS 2187.5 khz DSC watch.
Rijeka Radio/9AR
Indonesian Internal Maritime network
Maritex channels
RT testtapes
Scheveningen/PCH radioamateur farewell day

++++++ USCG downgrades GMDSS 2187.5 khz DSC watch.

Weekly corrections to ALRS at the beginning of October indicate that the USCG has downgraded their GMDSS dsc watch facilities on 2187.5 khz from Operational to Temporarily Inoperative. The stations affected are as follows :-
Astoria/NMW, Mayport/NMV, Fort Macon/NMN37,
Chincoteague/NMN70, Atlantic City/NMK, New York/NMY3,
Long Island Sound/NMY15,Southwest Harbour/NMF44.

It appears that the current system software requires every distress relay to be actioned as if it were a new distress call with no connection to the original call or other relays resulting from it. This has increased the workload. To further aggravate the situation, in spite of recent manning cuts, the dsc systems were installed at these stations with no supporting staff.

System software is being redeveloped but not expected to be ready until the first quarter of 1999.

++++++ Rijeka Radio/9AR

Jim Cumbie from Dallas, Tex. is here for us again with a station update from their QSL.

Location: Croatia

WT service

Marker: "VVV DE 9AR 3/4/7 CH 3/4/7 K"
[The marker implies they have numerical suffixes on their call signs, although the data sheet they sent does not show this. The marker I reported was "VVV DE 9AR 3 CH 3/4/7 K" - Jim]

Traffic lists EH+00 on watch frequencies and 439.5 kHz.
"After every Tfc List listen 454 kHz."

9AR	Ship C3	Ship C4	Ship C7	Winter	Summer
4346	4184	4184.5	4185	2000-0200	2000-2200
8700	8368	8369	8368.5	H-24	
12780.5	12552	12553.5	12552.5	0400-2000	0400-2000
				1400-2000	1600-2000
					2200-0200
16942.5	16736	16738	16736.5	0500-2200	
22563.5	22280.5	22281	22282.5	1000-1400	1000-1600

Telex service

Station nr 2780 ---> selcal QYFV
Marker unknown [9AR and longish tuning burst - Day]

News Broadcast (Croatia Line) 0745 on 12604.5 except weekends
1545 on 16838.5 " "
2215 on 8421.5 " "
(Tankerska) 1130 on 16838.5 M-W-F
2215 on 8421.5 M-W-F
[Broadcasts for specific shipping lines. ?? - Jim]
[SHIPWATCH lists 22 companies in Croatia - Croatia Line and Tankerska Plovidba are two of the larger ones - Day]

9AR	Ship	Chan
8421.5	8381.5	[811]
12604.5	12502	[1251]
16838	16715.5	[1665]

HF RT service

Traffic List on 8746 and 17272 at 0800 1200 1600 1900.

9AR	Ship	Chan	1/APR-31/OCT	1/NOV-31/MAR
4378	4086	[406]	2000-2400	1800-1400 0600-0800
8746	8222	[810]	0500-2400	0600-2400
17272	16390	[1611]	0500-2400	0600-2400
17395	16513	[1652]	0500-2000	0800-1800

CH 419, 427, 601, 602, 604, 605, 811, 822, 830, 835, 1224, 1227, 1229, 1239, 1618, 1812, 1814, 2204, 2206, 2239, 2250, 2502 by prior arrangement.

Address: Rijeka Radio/9AR
Obalna Radio Stanica
HR-51005 Reijka-Sopalj
Croatia

[QSL back in 18 days! - Jim]

And once again your input appreciated, Jim.

++++++ Indonesian Internal Maritime network

[This article comes from regular correspondant Murray Lehman down in Perth, WA. based on his loggings over the years and to whom I'm grateful for taking the time out once again to provide us with some interesting reading - Day]

Indonesia has a coastal network which carries Department of Sea Transport traffic only, between Jakarta and coastal stations and is sometimes mistaken as being their Department of Foreign Affairs.

TRANSMISSION MODES : SITOR-A, CW, SSB

FREQUENCIES USED :
Jakarta : 11061.7 14640.7 17616.7
coastal stations : 10226.7 13445.7 13662.7 14410 14411.7
unknown : 6963.7

NOTES ON OPERATION :
- traffic is in clear text Indonesian and refers to merchant shipping movements, cargo and crew in both SITOR-A and CW
- navigation warnings in English
- coastal stations share frequencies
- use of acronyms and abbreviations is common

CALL SIGNS/SELCAL USED :
1) traffic ex Jakarta :
- in SITOR-A : none

- in CW : 8AA Indonesian Navy Jakarta

2) traffic ex coastal stations :
PKK - Kupang selal - QQXM
PKP - Dumai
PKN6 - Samarinda
PNK - Jayapura

IDENTIFICATION OF STATIONS :
because of relayed traffic, this is best done from operator chat - usually at the end of traffic. Examples :

1) JKT DE BELAWAN 059 QSL HW+?
2) JAKARTA DE SURABAYA KIRIM 15 QTC BAGAIMA UP A3
3) OKAY JKT DE BJM TKS NIL BJM +?
(Banjarmasin abbreviated to BJM)
4) OK REK HW QSLKAH BERITA DARI DMI+?
(messages from Dumai)
5) SELEMAT PAGI JKT DE BITUNG HW PENERIMAAN OVR+?
(lit. safe morning .... how receipt)
6) JKT DE AMBON SELEMAT SIANG HW PENERIMAAN+?
(lit. safe daytime how receipt)
7) SBA JKT BAGAIMA MAPEL SUDAH TERMV +++???)))
(how traffic finishes thanks

SAMPLE MESSAGE FORMATS in SITOR-A :
1) from Jakarta

ZCZCZ
JAKARTA MAPEL NO.151 75/70 31/7 0415UTC=
PARA KADISNAV/KASUBDISNAV=

message, in Indonesian, re communication methods to used by merchant ships

DIRJENHUBLA++
HW+?

2) from Jakarta to Surabaya
ZCZCZC
JAKARTA MAPEL NO.406 225/220 1/12 0330UTC=
SEGARA= (sea)
PARA KAKANWIL DEPHUB SELURUH IND=
(all ship area offices Dept of Transport entire Indonesia)

message in Indonesian

DITJENHUBLA++++
SBA JKT SEBENTAR (moment) ++??

3) Samarinda relaying message from PKBZ Government cargo supply vessel Mithuna, to Jakarta :
ZCZCZC=
MSG KN.MITHUNA/PKBZ/PKN6 NR 1 CK30/24 06/04 0400UTC=
DJPL JKT

message in Indonesian

NAKHODA++++SP

4) Dumai relaying message from PKCZ Government cargo supply vessel Muci, to Jakarta :
DMI 77 KABAG KEU DJPL JKT
DMI TOR
MSG KN MUCI/PKCZ PKP NR2 RI 2903 0730UTC=
KADITNAV DJPL JKT

message in Indonesian

NAKHODA+++
DMI TOR

5) Surabaya relaying message from Jakarta to Kupang :
QQXMQQXMQQXMQQXMQQXMQQXMQQXM
SEMAMAT SORE KUPANG SBA DGN S DUA BERITA+?-)) SBA MULAI
(lit. safe afternoon Kupang Surabaya with 2 messages
 Surabaya begin)
JKT TOR   55   110/107   28/4   0449UTC=
KADISNAV KLS 1 KUPANG =

message in Indonesian

DITJEN HUBLA+++/RTO

DICTIONARY :
a) in message start/finishes -
ADPEL   - ADministratur PELabuhan - adminstrator port
DITJEN   - DIrekTur JENeral   - director general
DJPL   - Direcktur Jeneral Perhubungan Laut
             director general transport   sea
HUBLA   - perHUBungan LAut   - transport sea
KADISDNAV - KApal DIstrik NAVigasi - ship navigation district
KAKANWIL   - KApal KANtor WILayah   - ship office area
MAPEL   - ? MAhkamak PErhubungan Laut -
             court/order transport sea
NAKHODA   - ship's captain
PARA   - all
PELABUHAN - port
PROP   - propinsi - province
SEGARA   - sea
SYAHBANBAR - harbourmaster

b) in operator chat -
apa   - what
bagaimana   - how
berita/brt   - messages
dari/dri/dr - from
dengan/dgn   - with
juga   - also
jumpa   - meet
kirim/krm   - send
rekan/rek   - partner
saya   - I
sebentar   - moment

++++++ Maritex channels

This is the current channelling employed by Maritex for their
various stations worldwide.

Station	Ship	ITU chan	
1905 SAB	2222	-	
2423.5 SAB	3267.5	-	*
2716 SAB	2477.0	-	
4213 LSD836	4175	[406]	
4214.5 SAB	4176.5	[409]	*
4216.5 SAB	4179	[414]	
4268.6 SAB	4203.5	-	*
6314.5 SAB	6263	[601]	*
6314.5 KFS	6263	[601]	
6323 SAB	6272	[619]	

```
 6329   XSQ      6283       [ 631]
 6460   SAB      6302       -                *

 8419.5 SAB      8379.5     [ 807]           *
 8424.5 HPP      8384.5     [ 817]
 8428   SAB      8388       [ 824]           *
 8429.5 WNU      8389.5     [ 827]
 8430   KFS      8390       [ 828]
 8431   XSQ      8391       [ 830]
 8436   LSD836   8396       [ 840]
 8556   SAB      8398.5     -                *

12582   SAB     12479.5     [1206]           *
12583   HPP     12480.5     [1208]
12591   SAB     12488.5     [1224]           *
12593   KFS     12490.5     [1228]
12604   LSD836  12501.5     [1250]
12612.5 WNU     12510       [1267]
12818   SAB     12563.5     -                *
12622.5 XSQ     12520.5     [1288]

16813.5 SAB     16690       [1614]           *
16820   KFS     16697       [1628]
16822.5 HPP     16699.5     [1633]
16834.5 SAB     16711.5     [1657]
16838   SAB     16715       [1664]           *
16854   XSQ     16731       [1696]
16865   XSQ     16747       [16118]
16888   LSD836  16770       [16164]
16900   LSD836  16782       [16188]
17024   SAB     16790.5     -                *

22379.5 SAB     22287.5     [2207]
22391.5 HPP     22299.5     [2231]
22392   SAB     22300       [2232]           *
22396   LSD836  22304       [2240]
22435   XSQ     22343       [22118]
22607.3 SAB     22352       -                *
```

The full list of Goeteborg (SAB) frequencies are listed above. However I'm informed not all are running due to a change of transmitter site and insufficent transmitters to support them all. Those frequencies which have been logged this month have been appended with an asterisk "*".

If you wish to learn a little more about their operation and services take a look at the website
    www.maritex.telia.com/Maritex/index.htm.

Thanks KAM for the assistance in solving my queries and helping me bring the list up to date.

++++++ RT testtapes

Every now and then there are various posts referring to "mirrors" or test tapes used in the maritime service for circuit setup purposes. Interesting to note, as I was informed this week by someone in the service, that in fact the ITU made their use illegal some time ago. In the 70's to be exact. This was to reduce interference in mutually shared channels. Looks like it takes time to get the word round all the coast stations! Thanks P for the input.

++++++ Scheveningen/PCH radioamateur farewell day

Further last month's column another post appeared from PA0DCK via DL2AAM just after I had dispatched my copy. I'll summarise the information. PCH are having a farewell day, starting 19th December, for radio amateurs on the occasion of its 94th birthday.

The arrangement has been specially permitted by the Dutch Radio Communications Agency. However radio amateurs outside Holland may be prohibited from taking part. DO check your licence if you wish to participate in this crossband event.

The arrangement is as follows:

19/0800 - 20/0800	3.687 MHz	Voice/lsb	Call PA6PCH
19/0800 - 20/0800	144.315 MHz	Voice/USB	Call PA6PCH
19/1500 - 20/0700	see below	cw	see below

Scheveningen		Radio amateur
PCH20	4250	3525 +/-qrm
PCH41	8622	7025 +/-qrm
PCH51	12799.5	14050 +/-qrm
PCH61	17198.9	18085 +/-qrm

There is to be four different CQ calls on channels not in use indicating the channel currently being used.

I've noted errors or changes between last month's/this month's sources. Was 3670 kHz now 3687 kHz. cw started 1700z now is 1500z

PCH closes its doors commercially and completely on 31st December 1500z.

++++++ Signoff
and with that I'll close: with a question - anyWUN know the current frequency for Prague Radio/OLP6 - believed to be in the 16 Mhz maritime band? Good health, good loggings. Regards Day.

==========

NUMBERS & ODDITIES

- Editor: Ary Boender ***** e-mail: ary@luna.nl -
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -
---------- Co-editors ----------
- Voice stations: Chris Smolinski <cps@access.digex.net> -
- Loggings: Jascha Ruesseler - -
- <ruessele@pc0401.Psychologie.Uni-Marburg.de> -

-::: N&O #08 :::-

It is good to see that the CW stations are becoming more popular. In last month's log file I noticed morse logs from other people than the regular bunch. Great; keep those logs coming folks!

Please note that we intend to mail the next newsletter before Christmas, so if you have anything for the December issue, please send it to us before the 15th!!

For those who are interested; Bletchley Park has a website at http://www.cranfield.ac.uk/ccc/bpark/

* GOLDEN OLDIE *
When I was browsing thru old recordings, I found a 1981 recording of a numbers station. Unfortunately I didn't record the complete broadcasts in those days, nor did I jot down essentials as freq, date, and time. Anyway, the transmission starts with a piano piece followed by a Slavic male voice 515 515 05 826 826 05 515 +5x5FG 826 +5x5FG.

Can anyone tell me what station this is? It could be an early version of Czech intel station S10.

* MORSE STATIONS *

::: M26 - '98' updated profile

The station transmits irregularly with a speed of 10 WPM, and can easily be recognized because of its typical messages. The messages mostly started with '98' in the past but during its active periods in 1997 and last October most messages started with '99'. Other numbers were also copied, the majority in the 90's.

Format 1: (used before 1997)

98 + several 5FG, continually. The first groups in the various messages often start with the same figure(s). The final group is almost always 11111, but other groups of the same figures have been noted (55555 and 22222). Sometimes the station sends endless '98 98 98' for hours.

Example:
98 12744 13111 11111
98 07802 13111 11111
98 04742 11111 11111

Format 2: (used during October 1998, but also noted in 1997)

99 + one 5FG. The 5FG changes regularly. Before the next message appears, the station transmits series of 99's varying from 1 to 5 minutes. Note the '95 12345' sequence. This is probably a test message as it returns regularly.

Example:
99 10528
99 99 99 99 99
99 10500
99 99 99 99 99
95 12345
99 99 99 99 99
95 10510
99 99 99 99 99
99 10520

Every now and then groups of messages are being transmitted. The messages start with various 2-figure groups. The station repeats each xx xxxxx many times, then goes to next. When it transmitted all the messages plus a test message, it returns to the first one and starts all over again.

Example:
99 20388
95 12345
32 30356
99 10826
then repeats
99 20388
95 12345
etc etc

Besides the above mentioned types of messages, I copied the following in October:

92 31
31 31 31 + various 5FGs
34 34 34 + various 5FGs
32 32 32 + various 5FGs
34 34 34 + various 5FGs
99 99 99 99 99 99 99 99
99 20338

Freqs: 2379 2961 3153 3146 3159 4106 4439 4442 4445
5171 5196 kHz, always on two parallel frequencies.
October 1998 freqs: 4106 // 2961 kHz
So far all freqs were found in the 2,3,4 and lower 5 MHz bands (5100-5200). 2961 kHz is a regular since 1995.

Who, what, where???
I still have no clue..... The station was df'ed during its latest active period, but the time was too short for a good fix. So, what do we have?

Df from Gotland, Sweden: one hop NW Germany or two hops: SE England
Df from Holland: Goteborg, Sweden
Df from midwest Germany: due west (= Netherlands or S England)
Latvia sez: pretty sure that it comes from my west.

It is suggested that the station might be one of the RN Schools of Signals in SE England, possibly Portsmouth, Plymouth or London.

!!!!! Your comments and info are of course more than welcome !!!!!

-o-o-o-o-o-o-o-o-o-o-

::: M63. "A2A" has settled down on its winter freqs and times. The daily morning transmission is now at 0600 UTC (presumably the same local time as summer, as most of Europe went off Daylight Saving a couple of weeks ago) on 3393 and 4313 kHz, the net replying on 3183 kHz. At that time 3393 kHz is quite weak in the UK, and presumably inaudible outside Europe; 4313 kHz is fairly strong. (tnx JD)

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Guy Denman informs us about the new skeds for M29 and M53:
::: M29 is on 4540 kHz at 1800 UTC and 4460 kHz at 2000 UTC
::: M29B is on 5810 kHz at 1300 UTC
::: M29B is on 5911 kHz at 1330 UTC
::: M53 is on 6820 kHz at 0800, 2000, 2100 UTC

-o-o-o-o-o-o-o-o-o-o-

Locations:
::: M23 transmits on 11350 kHz from Syracuse, Italy
    This station probably transmits from other locations as well.
::: M52 transmits from Trondheim, Norway

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::: POLYTONE STATION [XPH]
Can anyone tell me when the first polytone station appeared? I found a recording from 1981 in my collection, so they are there for at least 17 years!

XPH hunter Andy Bell discovered that XPH not only changed their usual frequencies in November, but also one of the transmission days.

XPH's morning schedules are now on Tuesdays and Fridays - they were on Wednesdays and Fridays. Obvious frequency ID of 215. XPH also changed their time slot to winter time.

Apparently something went wrong as the first November transmissions were on the October frequencies. They eventually changed to a new set of frequencies.

November morning skeds:
07.00 UTC - 11634 kHz
07.20 UTC - 12434 kHz
07.40 UTC - 14834 kHz

Andy sez ''I wonder if the station manager read his Spooks mail and realised they hadn't changed frequencies''

Andy continues.... ''tuned in for XPH this morning (Tue, 17 Nov 98) on the November frequencies. However the 0720z transmission went out on

13434 kHz and not 12434 kHz as expected.''

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* JAMMERS *
During the Cold War era, the Radio Free Europe directed transmissions to East Block countries (from the Munich area), which were heavily jammed with fluctuating multi-tone machine-sounding modulation. The RFE transmitted the same program (various reports, news, DJ music, etc) on different SW bands, such as 16,19, 25, 31, 41, 49m SW (it was announced as this). The bands used were different during the day, night, winter, summer. However, it became known, that there is always 1 frequency, where the program is not jammed. So with a little fiddling with the buttons, one could find a clear transmission (I have checked out this myself, and it was true). The reason of leaving 1 frequency not jammed was (known as) the local authorities wanted to tape and listen in the programs, too! From time to time the jammers transmitted an id marker in morse. [thanks for the info, AC]

Note: I mentioned Rimantas Pleikys' book "Jamming" before. He describes these stations extensively. A list of the markers and their locations can be found in his book.

-o-o-o-o-o-o-o-o-o-o-

* VOICE STATIONS *

::: ENGLISH MAN VARIANT
Eddy Waters found a rare English Man transmission. The transmission follows the normal structure of an English Man message, but is followed by several data bursts and a morse message. This station actually waits for feedback from the recepient!

The complete message was in English 874 874 874 901 901 54 54 -into 54 5FGs- 901 901 54 54 00000, followed by a few bursts of data and the following in morse: 7SA1 QSA 4I K -pause- R K

Besides Eddy's log, I have only seen two earlier logs for this station, both logged by Enigma's Mike.
10440 1230 UTC 14 Nov. 1998
13572 1900 UTC 23 April 1995
 6915 2200 UTC 28 April 1995

Mike sez that the messages on both days were the same: 572 572 572 861 861 54 54. Ending: 861 861 54 54 00000 + data + CW.

Apparently the station has a standard group count of 54.

The question is whether this English Man is the same as E6 or not?! It is of course possible that the station has been logged many times in the recent past, but that it has been mis-reported as E6. So, I'd like to ask you to listen to the English Man transmissions very carefully. Don't switch your radio off after '00000' but wait a minute or two and see if the data and morse part appears.

-o-o-o-o-o-o-o-o-o-o-

::: ENGLISH MAN [E6]
Intersting info reached us via John Maky. He copied the English Man on 6865 at 0130 on 22 Nov. with "936 then 782 782 194 914 and into 5FGx2". Down at :07 w/782 782 64 64 00000. Recently these broadcasts have taken on a new twist - they use the same frequency more than twice.

The station was also on 4630 kHz at 0400 on 22 Nov. Repeating "347 then 592 592 64 64 and into 5FGx2". Down at :16 w/592 592 64 64 00000. Repeat of previous night's broadcast.
When audio dropped, a second weaker broadcast could be heard on the carrier repeating 329 329 329 00000, which is a repetition of the 0415

broadcast from 22 Nov. on 9216 kHz.

Very nice catch, John!

ENIGMA's Mike found the English Man on a new frequency:
4470 kHz at 2200 UTC. Preamble 534. Ending 218 77 00000 at 2218 UTC

-o-o-o-o-o-o-o-o-o-o-

::: S19, the Slovak man, was on the air again on Thursday 19 Nov. along with its morse counterpart M10.

M10 was on at 1000 on 5020 kHz
    Message 111x3 52544 18 44730 20 36512 17 19782 19
S19 was on at 1300, still on 10642 kHz
    Message 111x3 83674 18 57080 14 67460 16 86074 20

It seems that they are on every 4 weeks. [source Guy Denman]

-o-o-o-o-o-o-o-o-o-o-

::: 'NANCY ADAM SUSAN' [E15]
Costas forwarded this interesting note from the Amateur radio Intruder Watch. The German PTT agrees with the location that I mentioned earlier and also pin-points this station in northern Egypt.

Quote
   RegTP Konstanz (German Telecoms.) the "input"-office for the German Intruder Watch, have reported to DARC MONITORING SYSTEM Intruder Watch that they have pin-pointed the net starting at 14.00 and 17.00 UTC on 14000.0 kHz with the spoken announcements in SSB-USB "Frank Young Peter" followed by spelling scrambled messages: The station is located in the Cairo-vicinities, EGY. RegTP Konstanz have informed their headquarters in Mainz to launch an International Complaint against this offender.

   Uli, DJ9KR [Coordinator DARC-MS]
Unquote

-o-o-o-o-o-o-o-o-o-o-

::: CZECH LADY CONTROL TRANSMISSION [S17]

Format   : 555 555 555 313 313 313 05 repeated for 5 minutes
             313 313 313 42 42 05 05 pozor pozor
             5-figure group repeated 10x
             pozor pozor
             42 42 05 05
             konec konec

Time   : 13.55 UTC

Frequencies: 4485//5027 kHz

Hans-Friedrich Dumrese sent me his S17 findings. Thanks for the list HD! The first thing that catches the eye is that most groups start with '8' or '9'. The third figure is always '0' and finally '31' and '32' are often the last two figures.

day	date	time	freq	group	
Fri	11.09.98	1355	5027	79031	
Sun	13.09.98	1355	5027	82033	
Sat	26.09.98	1355	5027	83036	
Fri	09.10.98	1355	5027	89031	(!)
Sat	10.10.98	1355	5027	89031	(!)
Fri	16.10.98	1355	5027	83032	(!)
Sat	17.10.98	1355	5027	83032	(!)

```
                          WUN-v04
Sun 18.10.98 1355  5027 95031
Mon 19.10.98 1355  5027 95025
Tue 20.10.98 1355  5027 82032
Wed 21.10.98 1355  5027 94032
Thu 22.10.98 1355  5027 90022
Fri 23.10.98 1355  5027 95029
Sat 24.10.98 1355  5027 82032
Sat 30.10.98            90091
Sat 31.10.98 1355  5027 87030
```

(!) on 09+10 and 16+17 October, they transmitted the same groups.
    This is the first time that this has been reported.

-o-o-o-o-o-o-o-o-o-o-

::: SWEDISH RHAPSODY [G2/M4]

The following info was provided by Guy Denman:

The G2/M4 station is having some major changes just lately, it has gone from having a large number of skeds to having very few. Most of these seem to be during the day. M4 Is now only on the second week of the month on Monday, Wednesday and Thursday at the following times and frequencies: 1000 on 7250, 1200 on 8188, and 1300 on 5748. The same IDs and message sent all week.

Another really major change occured recently. I heard G2 on Monday same times as last Month, 1000 on 6200, 1200 on 8188, and 1300 on 6507. All transmissions were on SSB with 3 playings of the Swedish Rhapsody, then a count 1 to 0. IDs were 65069 12876 49906.

An English transmission was heard at 1000 on 6200 with a 1-0 count. Each figure was repeated 5 times this for 5 minutes. There was no SR tune. It then went on to the same IDs as Monday 65069 12786 49906 each repeated twice, the whole repeated 3 times. Then without a pause 65069 twice then 100x5F, no pause at the end 12876 twice 100x5F then 49906 twice 100x5F. No ending. There were no attention or end as in G2, and no pauses anywhere. The voice sounds very much like E5 the counting station.

-o-o-o-o-o-o-o-o-o-o-

::: THE COUNTING STATION [E5/V5]
by Chris Smolinski <cps@access.digex.net>

```
:::::  "The CIA, a training center, nuclear war,     :::::
:::::   a woman named Cynthia, and an old farm..."   :::::
```

An interesting mix, certainly! What do they all have in common? Why a Spy Numbers Stations, of course.

Many of us are familiar with The Counting Station (TCS, ENIGMA E5/V5). This station is also referred to as Cynthia (CynthIA), and that is the nickname given to the woman's voice who calls out the digits. This is the numbers station that most believe to be associated with the US Central Intelligence Agency (CIA). Transmissions from this station have been heard for years. Originally, the transmissions were of four figure (4FG) groups, they then changed over to using the 3/2FG format, which is a five figure group with a slight pause between the third and fourth digits.

The original technique used to produce the audio for TCS is rather interesting. The message to be sent was punched on a 5 bit (baudot) teletype tape. This tape was fed into a device that played a mylar cylinder that had a number of audio tracks recorded on it - the same basic technique as is still used today to store the soundtrack of a movie. This device selected one of the audio tracks, which consisted of the digits 0-9, and other words like "count" and "end". This audio was

fed to the transmitter. Presumably other numbers stations used similiar systems. In fact, listeners used to report hearing clicks between the digits, perhaps this is the machine switching over between tracks.

Then in 1985 a change was made. A computer was introduced that had digitized audio recordings. As before, messages could be entered via teletype tape, or they could be typed in on a keyboard. A schedule of transmissions could be set up, and the system was automated.

Interestingly, some people have reported numbers stations sending strings of "46464646". This of course is the numeric equivilent of the codes for RYRYRYRY, which is a common RTTY test message. It's possible that someone fed a test tape into the computer, rather than the correct message tape.

And on Friday, Novmeber 6, 1998, at 0200 UTC TCS was heard sending a message to ID "000". The first five groups of the message were:

000 00 987 65 432 10 987 65 432 10

Then seemingly random numbers followed. An interesting test message. The message length was 215, which is a fairly common length. Some believe that messages with this count are all test messages.

And where are Counting Station broadcasts transmitted from? Well, from signal reports it appears that numerous sites worldwide are used. It is known that some transmissions originate from the USA - right outside of Washington, DC in fact. They come from a site in rural Virginia, about an hours drive southwest of Washington. Originally, it was thought that they came from a military base called "Vint Hill Farms", near Warrenton, Virgina. As it turns out, while Vint Hill was used for intelligence purpose, it was as an interception site, for training, and equipment design and testing, not for spy numbers transmitting. Vint Hill Farms has since been closed down.

They are tranmitted from Site C of the "Warrenton Traing Center" (WTC). What is the Warrenton Training Center? Well, the little sign outside the gate says it is part of the National Communication System (NCS). Officially, the NCS is an agency which facilitates communications between various parts of the US government. It was founded in 1962, after the Cuban Missile Crisis. In particular, it is supposed to make sure that the government continues to have communications in the event of a nuclear war.

In reality, many believe the NCS is purely a cover for the CIA. There are some official exercises and programs that claim to show participation with the NCS, but the CIA is really running the show. One of the many parts of the NCS is the Warrenton Training Center, a collection of four sites in rural Virginia, near the town of Warrenton. These sites are referred to by letter, A through D.

I've driven around the perimeter of these sites. It's just a short drive from Washington, and if you're ever in the area, you should give it a try. All of the sites are just off of state routes, so you don't have to drive on too many back country roads.

Station A is a small facility used for meetings and conferences.

Station B is the primary training facility for the Office of Communi-cation. This consists of basic training in morse code, radio theory, and so on. Training for the Department of State is also conducted at this site. (The close cooperation between diplomatic and intelligence branches of governments of course goes back thousands of years).

Station C is the transmitter site. This site houses the shortwave transmitters and antennas. It has a microwave link to Station D.

Station D is where the messages actually originate. There is also a microwave tower in Tysons Corner, Virgina, which acts as a link between the Warrenton stations and CIA headquarters. There is also an under-

ground fiber optic line that runs from the Warrenton sites back to Washington DC.

The messages sent consist of both real "live" and dummy traffic. The purpose of course of dummy traffic is to make it difficult to determine when the agent is actually receiving messages. Usually, a simple system is used to let the agent know when a message is real or not. This usually consists of a code, such as if the middle digit is odd, the message is dummy. This lets the agent immediately know that the message isn't real. The same message is repeated several times on different frequencies over several days, all according to a set schedule. This is to allow an agent to receive messages he may have missed. Short messages are padded with extra groups to bring them up to a minimum level. Schedules are arranged with the agents during meetings with their case officer.

If you'd like to try for a Counting Station QSL card, you may want to give this address a shot. No one ever has received one, and no one probably will. You might even get your name in a CIA file for trying...

Warrenton Traing Center
Station D
Bx 261
Warrenton
VA 22186
USA

And who's voice is Cynthia's? Well, sorry to disappoint you, it isn't anyone's voice. The voice is totally synthetic. Cynthia truly is a robot.

Below is the latest version of the excellent schedule of Counting Station transmissions, maintained by Bob Roehrig.

COUNTING STATIONS BY TIME / FREQ

ZULU	KHZ	M	T	W	T	F	S	S	LANG	NOTES
0000	4640.0	X	X	X	X	X	X		EE	//5046
0000	5046.0	X	X	X	X	X	X		EE	//4640
0100	15478.0			X		X			SS	//16050
0100	16050.0			X		X			SS	//15478
0300	12300.5		X				X		SS	//14421
0300	14421.0		X				X		SS	//12300.5
0900	11580.0						X	X	EE	//14655
0900	14448.0							X	EE	//15822
0900	14655.0						X	X	EE	//11580
0900	15822.0							X	EE	//14448
1100	14432.0				?				EE	
1100	16086.0		X		X				EE	//21811
1100	21811.0		X		X				EE	//16086
1200	10223.0			X			X		EE	//13518
1200	13518.0			X			X		EE	//10223
1200	13906.0			X			X		EE	//15732
1200	15732.0			X			X		EE	//13906
1300	10529.0		X			X			EE	//14739
1300	13518.0						X		EE	//14739
1300	14739.0						X		EE	//13518
1300	14739.0		X			X			EE	//10529
1400	15833.0				X		X		EE	
1500	7600.0		X			X			EE	//10597
1500	10597.0		X			X			EE	//7600
1700	10423.0				?				EE	//12197
1700	12197.0				?				EE	//10423
1700	13450.0	X			X	X		X	EE	//14448
1700	13874.0		X	X					EE	//15822
1700	14448.0	X			X	X		X	EE	//13450
1700	15822.0		X	X					EE	//13874
1800	11072.0	X					X		EE	//13444

WUN-v04

```
1800 13444.0 X          X    EE   //11072
1800 13450.0     X           EE   //14448
1800 14448.0     X           EE   //13450
1900 10527.0         X       EE   //12197
1900 11491.0     X     X     EE   //13450
1900 12197.0         X       EE   //10527
1900 13450.0 X   X           EE   //14448
1900 13450.0     X     X     EE   //11491
1900 14448.0 X   X           EE   //13450
2000 10423.0 X     X         EE   //12197
2000 10527.0         X   X EE   //12197
2000 12197.0 X     X         EE   //10423
2000 12197.0         X   X EE   //10527
2100 10263.0     X       X EE   //12150
2100 10583.0   ?       ?   EE   //12175
2100 12150.0     X       X EE   //10263
2100 12175.0   ?       ?   EE   //10583
2200  8125.0     X       X EE   //10423
2200 10423.0     X       X EE   //8125
2200 11440.0     ?   ?       EE   //13988
2200 13988.0     ?   ?       EE   //11440
```

John Maky noticed a remarkable series of _what looks like_ test transmissions on 4670//5238 at 0200 UTC. Here's the breakdown...

```
 6 Nov. 0200 UTC. Repeating "000". Count 215. First five text being
        000/00 987/65 432/10 987/65 432/10.
15 Nov. 0200 UTC. Repeating "049". Count 215. First five text being
        222/22 987/65 432/10 987/65 432/10.
16 Nov. 0200 UTC. Repeating "062". Count 215. First five text being
        333/33 987/65 432/10 987/65 432/10.
17 Nov. 0200 UTC. Repeating "062". Count 215 3/2FG w/ 333/33 text.
```

-o-o-o-o-o-o-o-o-o-o-

::: ATENCION [V2]

John also found a number of new times/freqs for V2 'Atencion'.

```
7854 0100 Sunday 10/18/98
6768 0100 Saturday 10/31/98
7681 0200 Tuesdays 11/4/98
9024 (old version). Tuesdays 0200 (11/4/98)
6782 0300 Friday 11/6/98
4174 0300 Monday
```

Talking about V2..... Bob Roehrig <broehrig@admin.aurora.edu> heard the following on Monday Nov 8 at 0400 UTC. In his own words.....

1) Caught M8 CW station on 7680 and heard Spanish numbers faintly in the background (had the receiver in USB).

2) Went looking for any V2 stations and heard one on 6768 - thinking that it sounded a lot like what I heard on 7680, so I switched on receiver #2 and tuned it back to 7680. Well, it turns out that on 7681 LSB was // transmission to the AM V2 on 6768. This was definitely LSB - no carrier. I have never heard any // V2 transmissions before.

-o-o-o-o-o-o-o-o-o-o-

::: V7 schedule for November:

```
 06.00 UTC - 10233 kHz
 06.20 UTC - 12133 kHz
 06.40 UTC - 13533 kHz
```

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* TRANSPOSITION CIPHERS *

by Torbjorn Andersson <tan@telia.com>

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  * Introduction
  * Single columnar transposition
  * Double columnar transposition

* Introduction

Transposition ciphers are rarely encountered nowadays. They differ from both code systems and substitution ciphers; in a transposition cipher the letters of the cleartext are shifted about to form the cryptogram. This can be done in a number of ways and some systems exist where even whole words are transposed, rather than individual letters. To encrypt Chinese, for instance, one can use a transposition cipher operating on the individual signs of written Chinese (using a substitution cipher for a language like Chinese would be awkward if not impossible).

* Single columnar transposition

One of the easiest ways to achieve transposition is the single columnar transposition cipher. To use it one needs a keyword or phrase, whose letters are numbered according to their presence in the alphabet. The keyword 'Osymandias' is numbered in the following way:

```
O  S  Y  M  A  N  D  I  A  S
7  8  10 5  1  6  3  4  2  9
```

That is, the first occurance of the letter A is numbered 1, the second 2. There are no B's or C's so the next letter to be numbered are the D followed by I, and so on.

Next the cleartext are written in rows under the numbered keyword, one letter under each letter of the keyword. Let's say that the cleartext to be encrypted is 'Company have reached primary goal'. It will look like this:

```
O  S  Y  M  A  N  D  I  A  S
7  8  10 5  1  6  3  4  2  9
c  o  m  p  a  n  y  h  a  v
e  r  e  a  c  h  e  d  p  r
i  m  a  r  y  g  o  a  l
```

Now the letters of the cleartext are copied down by reading them off columnwise in the order stated by the enumeration of the keyword and the result is the finished cryptogram, which - of course - are put into groups of five letters, like this:

```
ACYAP LYEOH DAPAR NHGCE IORMV RMEA
```

To decrypt a received message enciphered by this method one first must calculate the number of letters present in the cryptogram. This is done to see how many letters there originally were in the last row. As can be seen above, the last column - the one numbered 9 - only contains two letters and this is important. Now the cryptogram above contains 29 letters and as a legitimate user of the crypto system one knows that the keyword is ten letters wide, therefore the last row must consist of nine letters only, the last position being empty. Keeping that in mind - or better still, marking the last position of row three in some way to indicate that it shouldn't be used - one numbers the keyword letters just as when encrypting and then start by writing the first three letters of the cryptogram under keyword letter number one, thus:

```
O  S  Y  M  A  N  D  I  A  S
7  8  10 5  1  6  3  4  2  9
.  .  .  .  a  .  .  .  .  .
.  .  .  .  c  .  .  .  .  .
.  .  .  .  y  .  .  .  .  *
```

Continue in the same way by writing the next three letters under keyword letter number two, and so on up to keyword letter eight, it will look like this:

```
O  S  Y  M  A  N  D  I  A  S
7  8  10 5  1  6  3  4  2  9
c  o  .  p  a  n  y  h  a  .
e  r  .  a  c  h  e  d  p  .
i  m  .  r  y  g  o  a  l  *
```

Now column nine follows and there only two letters should be written as stated above (the position marked by a star being left empty). This leaves three letters of the cryptogram, and these - of course - are written in column ten and then the cleartext can be read in the normal way, row by row.

Usually when employing a transposition cipher like the above, one adds dummy letters to make the final group five letters long if it isn't already full. It is important to do this before transposing the letters, otherwise the receiver can't calculate the columns that haven't a full number of letters if the last row isn't complete. In some cases the last row is always made complete by adding dummy letters, but that reduces the security of the cipher and isn't recommended (now, this cipher is quite easy to break anyhow...).

* Double columnar transposition
Double columnar transposition is similar to single columnar transposition, but the process is repeated twice. One either uses the same keyword both times or, preferably, a different one on the second occasion. Let's encrypt the text 'Send armoured car to headquarters' using the keywords 'Agamemnon' and 'Mycenae':

```
A G A M E M N O N
1 4 2 5 3 6 7 9 8
s e n d a r m o u
r e d c a r t o h
e a d q u a r t e
r s j
```

(Note dummy letter j added at the end to make the total number of letters a multiple of five)

This first encryption gives: srer-nddj-aau-eeas-dcq-rra-mtr-uhe-oot. These letters are written under the second keyword, thus:

```
M Y C E N A E
5 7 2 3 6 1 4
s r e r n d d
j a a u e e a
s d c q r r a
m t r u h e o
o t
```

And, finally this gives the cryptogram:

```
DEREE ACRRU QUDAA OSJSM ONERH RADTT
```

Double columnar transposition is substatially safer against cryptanalysis than single columnar transposition (not impossible, though).

-o-o-o-o-conet-o-o-o-o-

==========

THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens

P.O. Box 11522
Huntsville, AL 35814-1522, U.S.A.

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In this season of Thanksgiving, I'd like to say "Thank You" to all the fine people who make this column possible - all of you loyal contributors out there. Once again, we have another fine showing this month. I'd like to extend my gratitiude to each of you. YOU make it happen! Here's this month's offerings:

==========

BRAZIL: PPR - RioRadio, 12738 p/d ltr., bi-lingual brochure on their communications systems, radiotelephone marine frequency chart/fact sheet in Portuguese, and sticker with access codes in 29 ds. No V/s. Returned my IRCs stapled to outside of envelope! Address: EMBRATEL, Av. Pres. Vargas 1012, CEP 20179-900, Rio de Janerio, Brazil. (JC)

CANADA: VAR - Fundy Coast Guard Radio. 2749 f/d ltr. w/ map of Canada indicating Coast Guard station sites, and several info sheets in 17 ds. for a rpt. with ms. V/s: W.L. (Bill) Kerwin - A/OIC. Address: c/o Canadian Coast Guard Base, P.O. Box 700, Saint John, NB E2L 4B3, Canada. (JDS)

CROATIA: 9AR - Rijeka Radio. 8700 PFC and computer print out of frequencies, schedules and services in 17 ds. V/s: (Illegible). Address: Rijeka Radio/9AR, Obalna Radio Stanica, HR-51005, Rijeka, Croatia. (JC)

GERMANY: DHJ51 - Grengel Meteo. 7946.5 p/d QSL cd. in 13 ds. for a rpt. with return postage. V/s: Unreadable. Address: Grengel Meteo, Amt für Wehrgeophysik, Mont Royal, D-5684, Traben-Trarbach. (Larsen)

GERMANY: DEK88 - German Red Cross. 6998.5 n/d QSL cd., and anews article about their work in 32 ds. for a rpt. with return postage. No V/s reported. Address: Deutsches Rotes Kreuz, Funk-station DEK88, Auf dem Steinbüchel 22, 53340 Meckenheim-Merl, Germany. (Larsen)

GREECE: SXA24 - Greek Navy. 6470 p/d ltr. in 36 ds. V/s: Capitan K. Anastasatps H.N. - Hellenic Navy General Staff. Address: CISD, Holargos Athens, Greece. (JC)

GREENLAND: U.S. Air Force Base, Thule. 11175/15016 E-mail QSL with verification sent as a file attachment to printout in 52 ds. V/s: Hoyt K. Stevens - Thule Global Station Supervisor. Address: Thule Global HF Station, Unit 82501, APO AE 09704. Thanks to one of the list members who phoned Thule to get the correct address! (JS)

LIBYA: 5AT - Tripoli Radio. My report returned marked "Nonreclame" which I assume means "refused." Apparently they won't accept mail from Americans. (JC)

MONACO: 3AC - Monaco Radio. 8423.5 f/d large QSL cd. in 22 ds. for a rpt. with 1 IRC. V/s: M Labesse - Manager. Address: Chemin du Fort Antoine, B.P. 377, 98008 Monaco CEDEX, Monaco. (JDS)

NEW ZEALAND: ZLO - Irirangi Radio. 4263.5 f/d ltr. with great graphics and PFC in 25 ds. V/s: N. F. Maika - Chief Petty Officer and Radio Supervisor. Address: Communications Systems Manager, NAVCOMMSTA Auckland, Waiouru 849, New Zealand. (JC)

NORWAY: LGX - Rogaland Radio. 17074 PFC and p/d QSL cd. in 19 ds. V/s: (Illegible). Address: Rogaland Radio, P.B. 3070, N-4301 Sandnes, Norway. (JC)

TAIWAN: XSW - Kaohsiung Radio. 22565 f/d letter-size QSL in 27 ds. Most of page is color map of Taiwan that includes locations of all Taiwanese coast stations. One of the most striking ute QSLs I have ever received.

Returned my IRCs. V/s: (Illegible) - Station Master. Address: Kaohsiungradio/XSW, Maritime Radio Telegraph Coastal Station, 142 Jii-Tien Road, Kaohsiung, Taiwan, Republic of China. (JC)

UNITED STATES: WOM - Fort Lauderdale Radio. 17242 f/d QSL cd., "Fingertip Guide," and laminated 8x11 chart of KMI/WOM/WOO QRGs & info in 29 ds. V/s: Frank Beecher. Address: AT&T Station WOM, 1340 NW 40th Avenue, Fort Lauderdale, FL 33313. (JC)

AIRCRAFT

UPS 6572: 5616 QSL and ltr. in 42 ds. Aircraft is a 767-300. V/s: Mark A. Hagan - Global Network Systems. (JS)

UPS 6572: 5548 cd., ltr., and info in 44 ds. V/s: Mark A. Hagan - Global Network Systems. Address for both this and the a/c QSL above: United Parcel Service, Telecommunications, 911 Grade Lane, Building 113, Louisville, KY 40213, USA. (JS)

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OTHERNESS

Seems we have new information on the future closure of Portishead Radio, as mentioned in last months QSL Center. Larsen in Germany writes: "Note to Jim Cumbie about Portishead Radio in the last WUN-Infoletter: For three years Nov. 95 I received from them an QSL-letter. They told me that non QSL-card is available and closed the letter as following: "48 Radio Officers are employed at Portishead Radio at present, and we are still much in business - despite the growth in maritime satellite communication."

Your editor received an E-mail response recently to a reception report for Santa Maria Aeradio, which was posted on their website, as mentioned in last month's QSL Center. John Raynes writes to let us know that he also received a similar reply, and is now "waiting with bated breath to see what transpires". The text of the message follows:

"Thank you for your Reception report of Santa Maria Aeronautical Radio Station. In a few weeks you will receive our QSL Card.

best regards

de Luis Filipe Santos
CU1AH
luisfsantos@mail.telepac.pt
Personal home-page: http://www.terravista.pt/aguaalto/2009
Service home-page: http://www.terravista.pt/aguaalto/2010 "

Thanx, John and Larsen!
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Abbreviations used:

f/d = Full data	p/d = partial data	n/d = no data
cd.= QSL card	ltr = letter	PFC = Prepared Form Card
V/s = Verification Signer	ds = ds	wks = weeks
SASE = self addressed stamped envelope		ms = mint stamps

This month's illustrious contributors:

Jim Cumbie - Dallas, Texas, U.S.A. (JC)
Larsen - Germany (Larsen)
John Raynes - Immingham, U.K.
John Svendsen - Oslo, Norway (JS)
Your Editor - Madison, AL, U.S.A. (JDS)

Let us hear from YOU next month!!

73 de JDS.

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

* UWAGA -ATTENTION!- *

An unid Polish station has been reported on various occasions during the past months. Transmissions were noted on 3164, 5229 and 5388.5 kHz in voice USB, mostly in the European afternoon (1530-1700 UTC). Each message starts with the word 'Uwaga', meaning 'attention'. The messages are sent as broadcasts, like the USAF 'Skyking messages'. Here are a few message samples jotted down by Alf.

I have a .wav sound sample available. Send an e-mail to ary@luna.nl if you are interested.

```
  UWAGA, TU WARMIA, TU WARMIA RAPORT FALLA 62 ...
  UWAGA, TU WARMIA, TU WARMIA SKODDA FALLA 62 0...
  UWAGA, TU WARMIA, TU WARMIA SHAROTKA FALLA ...
  UWAGA, TU WARMIA, TU WARMIA KRATOR GRON 62 10
  UWAGA, TU SENIOR, TU SENIOR .... FALLA 62 06
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Info wanted !!!!!!!

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* TIMESIGNAL STATIONS *

Klaus Betke supplied the new winter schedule of the Russian stations on 25 kHz.

```
RJH63 Krasnodar:         1106-1140
RJH66 Bishkek (KGZ):     1006-1047 (no longer 2 slots)
RJH69 Molodecno (BLR):   0706-0747
RJH77 Arkhangelsk:       0906-0947
RJH99 Nizhniy Novgorod: 0506-0547
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Can someone fill us in on the situation re RAB99 in Khabarovsk?

Another TSS report came in from Karel Honzik in the Czech Republic. Karel's friend copied Thai navy station HSZ Bangkok, transmitting from the beautiful city of Thonburi. HSZ transmits TIME SIGNALS and WX on 6500 kHz. Sign on at ca. 0045 and 1245 with: CQ CQ CQ de HSZ HSZ HSZ
Time Signals at 0055 and 1255: second pips.
After 0100 and 1300: CQ WX, followed by a strange mixture of dots and dashes, probably Thai morse characters.

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The HAM Intruder Watch reported the following activity during the past month:

Freq: 21055 kHz Mode: USB Date: various Oct.'98 Time: 0800-1500 UTC
Somalian pirates, also on 21080, 21090, 21100 kHz. Often talking "al mukr"!

Freq: 21420 kHz Mode: USB Date: daily Time: 17 UTC and later
Also on 21410, 21430, 21440 kHz
Remarks: A man from a ship talking to his wife in Melilla (Spain)/North-Africa in Spanish language. Only family traffic, no calls!

Freq: 21133 kHz Mode: USB Date: 09-10-98 Time: 1310 UTC

A man and a woman in Arabian language, QTH Somalia.
Also on 21130, 21100 kHz

Freq: 14050 kHz Mode: USB Date: 09-10-98 Time: 1540 UTC
Remarks: A man and a woman talking in African and French,
could be Kongo.

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* DF-CIRCLE NDB NEWS *

Alan Gale reports: ''The end is in sight for most of the UK and Irish marine NDBs. It appears the big closedown date is going to be the 1st of February 1999 - anyone know if all the other European Marine Beacons will also close on this date?''

Recent issues of the Admiralty 'Weekly Notices To Mariners' listed the following closures:

Mizen Head	300.0	MZ	IRL	Delete wef 01.02.99 *)
Old Head of Kinsale	288.0	OH	IRL	Delete wef 01.02.99
Tuskar Rock Lt	286.0	TR	IRL	Delete wef 01.02.99
Baily Lt	289.0	BY	IRL	Delete wef 01.02.99
Baily Lt (Calib)	286.5	BC	IRL	Delete wef 01.02.99
Tory Island Lt	313.0	TY	IRL	Delete wef 01.02.99 *)
Eagle Island Lt	307.0	GL	IRL	Delete wef 01.02.99
Loop Head Lt	311.5	LP	IRL	Delete wef 01.02.99 *)
South Rock Lt Float	291.5	SU	G	Delete wef 01.02.99
Black Head Lt	294.5	BA	G	Delete wef 01.02.99
Rhinns of Islay Lt	293.0	RN	G	Delete wef 01.02.99
Butt of Lewis Lt	289.0	BL	G	Delete wef 01.02.99 *)
Sumburgh Head Lt	304.0	SB	G	Delete wef 01.02.99 *)
Duncansby Head Lt	290.5	DY	G	Delete wef 01.02.99
Kinnairds Head Lt	301.5	KD	G	Delete wef 01.02.99
Girdle Ness Lt	311.0	GD	G	Delete wef 01.02.99 *)
Fife Ness Lt	305.0	FP	G	Delete wef 01.02.99
Inchkeith Lt	286.5	NK	G	Delete wef 01.02.99
Fidra Lt	290.0	Fd	G	Delete wef 01.02.99

*) DGPS only after this date

Michael Oexner found unid Locator 'MF' on 421 kHz. This appears to be the new id for ex-'HS' in Halmstad, Sweden.

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* DRIFTNET BEACONS *

Karel Honzik told us that his friend -a sailor- heard many unid beacons during his trips. These are most likely driftnet beacons as used by countries like S.Korea, Japan, Taiwan and Indonesia. The fishing fleets of these and other countries attach beacons to their driftnets so that they can easily be located.

The format of the transmissions is as follows:

Callsign followed by a 3 seconds dash (3x)
Silence (5-10 minuntes)

This is the list of beacons that Karel's friend heard in the Far East:

freq	callsign	freq	callsign	freq	callsign
1740	DKR	1769	94C399	1769	94C321
1772	3T	1783	M01	1800	2CBP
1810	3JOU	1810	3JSK	1813.2	BT2
1823	3DTP	1863	3FQB	1868	1C
1901	C7	1970	3IQM	1980	3PMQ

2045	2CYH	2060	3FOT	2070.7	FA21
2092.8	BH7	2095.5	HY3	2096	CXW
2111.8	BK6	2113.8	BDO	2114.2	J17
2122	Y4	2122.8	BJF	2125	C94
2129	3IHK	2130.5	BH95	2132.7	BOB
2255	2DME	2157	DOK	2163	BSB
2177	3JBX	2177	A1	2180	W8
2185	BUC	2186.2	BA3	2189.5	CH41
2190	3OZH	2195.5	CC04	2196	A7D
2220	EHN	2240.5	CU96	2244	3GGG
2265	3PGK	2289	3FXE	2303	GAJ
2313	A5B	2316	1XH	2337	BE12
2346	K78	2349	AO19	2396.8	D66
2414	NY78	2420.7	FU1	2457.8	BQJ
2745.8	9Q1				

Any information about the driftnet beacons, either id's of the above mentioned beacons or any other info, is much appreciated.

<tnx Karel Honzik, Mike St. Angelo & Robin Harwood>

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* ADVICE WANTED *

Markus Buttinger <m.buttinger@salzburg.co.at> wants to buy a NRD 545 and a new Windows NT PC and asks WUN:

> ''I am considering to buy NRD's new 545 receiver, but before spending that much money, I would like to hear from others who know - or even own - the receiver and get feedback on how they like it.
>
> I am also considering to buy a new PC. What do I need to watch as I need many COM ports *simultaneously*? My future PC's configuration may look something like this:
>
> COM 1: Airmaster VHF-ACARS decoder
> COM 2: Code-3 Gold
> COM 3: remote control software for HF RX
> COM 4: remote control software for scanner
> (possibly more, like beam ant. control software, etc...)
>
> I am thinking of buying a 400 MHz PC w/ 128 MB RAM and I was told that only Windows NT is able to handle more than 2 COM ports, but then... will Code-3 Gold work in NT's DOS-box? What else do I need to watch in a situation like this? Has anyWUN come across something like that (I guess there must be someWUN :-) and how has he solved that problem? ''

Ok folks, if you have some advice for Markus, please write to him at the above mentioned e-mail address. Our Review Editor Bob Margolis <rttyman@wwa.com> welcomes test reports as well.

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* INDONESIA on HF *

The following info comes from Ian Julian's excellent home page
PACIFIC-RIM MONITOR at
http://www.geocities.com/CapeCanaveral/Launchpad/7769/main.html

Thanks a million, Ian!

::: Aeronautical

Bali Air
SEA-1 MWARA 3470, 6556, 10066, 13318 & 17907

SEA-2 MWARA 3485, 5649, 5655, 8942, 11396 & 13309
SEA-3 MWARA 3470, 6556, 10066, 11396 13318 & 17907
INDO-RDARA 3416, 5574, 6577, 8882 & 11309

Biak Air
INDO-RDARA 5580, 6631, 8834 & 11309

Denpasar Air
SEA-2 MWARA 3485, 5649, 5655, 8942, 11396 & 13309

Jakarta Air
SEA-1 MWARA 3470, 6556, 10066, 13318 & 17907
SEA-2 MWARA 3485, 5649, 5655, 8942, 11396 & 13309
SEA-3 MWARA 3470, 6556, 10066, 11396, 13318 & 17907
INDO-RDARA 3416, 6595, 8957, 11309 & 11366
LDOC 6637

Ujung Pandang Air
SEA-1 MWARA 3470, 6556, 10066, 13318 & 17907
SEA-2 MWARA 3485, 5649, 5655, 8942, 11396 & 13309
SEA-3 MWARA 3470, 6566, 10066, 11396, 13318 & 17904
INDO-RDARA 6544, 8918 & 11309

::: Diplomatic

Ministry of Foreign Affairs, Jakarta
SSB 17480 & 19755
RTTY 50 Bd 14501.5, 18321, 18401, 18451, 18508.8 & 18801.7
ARQ 18391.5, 19106.5, 19117.5, 19776.5, 20391, 20401.5 & 24007.7
ARQ-S/FEC-S 18411.5, 18056.5 & 19756.5

7RQ50 - Algerian Embassy : COQUELET 8 19031.5
Egyptian Embassy : ARQ-ATU-A 9216.7
Slovakian Embassy : RTTY 100 Bd 14401
SAM58 - Swedish Embassy : SWED-ARQ 100 Bd 18187.5 & 20959.9

::: Marine

Dept of Sea Transport ARQ 9111.7, 9961.7, 10226.7, 11061.7, 13445.7 & 14411.7, 14640.7 CW 8461, 12704.5 & 17239.7
PKA Sabang Radio 3180 (QSX 2080), 4387 (QSX 4095), 6513 (QSX 6212) & 8794 (QSX 8270) CW 8686 & 12970.5
PKB Belawan Radio 3180 (QSX 2080), 6510 (QSX 6209), 8746 (QSX 8222) & 13077 (QSX 12230) CW 4295, 8686, 12970.5 & 17239.7 FEC 16812 (QSX 16688.5)
PKC Palembang Radio 2690 (QSX 2090), 4396 (QSX 4104), 6510 (QSX 6209) & 8806 (QSX 8282) CW 4295, 6491.5, 8705.5
PKC4 Panjang Radio 2690 (QSX 2090), 6504 (QSX 6203) & 8806 (QSX 8282) CW 6355
PKD Surabaya Radio 2690 (QSX 2090), 6504 (QSX 6203), 8794 (QSX 8270) & 13110 (QSX 12263)
PKE Amboina Radio 2690 (QSX 2090), 4378 (QSX 4086), 8794 (QSX 8270) & 13104 (QSX 12257) CW 4295, 8473, 12682.5 & 17184.8
PKF Ujung Pandang Radio 2690 (QSX 2090), 4396 (QSX 4104), 6510 (QSX 6209), 8800 (QSX 8276) & 13077 (QSX 12230)
PKG Banjarmasin Radio 3180 (QSX 2080), 4387 (QSX 4095), 6504 (QSX 6203), 6510 (QSX 6209), 8764 (QSX 8240) & 13110 (QSX 12263) CW 4238, 6337, 8457, 12690
PKJ Tanjun Uban Radio 3180 (QSX 2080)
PKK Kupang Radio 6510 (QSX 6209) & 8794 (QSX 8270) CW 8445
PKM Bitung Radio 2690 (QSX 2090), 6510 (QSX 6209), 8806 (QSX 8282) & 13104 (QSX 12257) CW 6428.5, 8694 & 12704.5
PKN Balikpapan 2690 (QSX 2090), 4357 (QSX 4065), 6510 (QSX 6209) & 8746 (QSX 8222) CW 6499.9, 8705.4 & 12715
PKN6 Samarinda Radio 3180 (QSX 2080), 6510 (QSX 6209) & 8800 (QSX 8276) CW 6374.5 & 8445
PKO Tarakan Radio 3180 (QSX 2080) CW 6337 & 8445

PKP   Dumai Radio 3180 (QSX 2080), 4357 (QSX 4065), 6510 (QSX 6209),
      8764 (QSX 8240) & 13101 (QSX 12254) CW 6337, 8457, 12682.5, 17184.8
PKP2 Teluk Bayur Radio 3180 (QSX 2080) & 6513 (QSX 6212) CW 6355 & 8694
PKR   Semarang Radio 3180 (QSX 2080), 6510 (QSX 6209) & 8800 (QSX 8276)
      CW 6337, 6499.9, 8461 & 12912
PKS   Pontianak Radio 3180 (QSX 2080) & 6510 (QSX 6209) CW 6355 & 8473
PKT   Dili Radio 2690 (QSX 2090), 6510 (QSX 6209) & 8806 (QSX 8282)
PKX   Jakarta Radio 2690 (QSX 2090), 6501 (QSX 6200), 8752 (QSX 8228),
      13104 (QSX 12257), 17269 (QSX 16387) & 22795 (QSX 22099)
      CW 8542, 12970.5, 17239.7 & 22575.5
PNK   Jayapura Radio 3180 (QSX 2080), 4357 (QSX 4065), 6510 (QSX 6209),
      8800 (QSX 8276) & 13110 (QSX 12263) CW 8694, 12682.5 & 17074.4

::: Military - Navy

8AA Jakarta : CW 11060, 12065.5 & 20775
7CB Belawan : CW 9946, 12235 & 18982

::: Petroleum Industry

PERTAMINA
Bangsat   : ARQ 13234.5
Bodoh   : ARQ 8068.5
Gila   : ARQ 13234.5
Palusu   : ARQ 8068.5
Samarinda   : ARQ 9311

KODECO
KE5 Platform : ARQ 9944

::: Miscellaneous

Missionary Stations in Irian Jaya : 5115, 5150, 5195 & 5356

Other: Belawan   14695   Bengkulu 11470
       Bitung   7650   Gorontalo 10445
       Jakarta   13500   Manado   7405
       Palembang 10445   Sonder   10445
       Surabaya 14585   UNID   6926

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* SITE-SEEING *

Some of you asked for LF/VLF web sites. Here a couple URLs from my
bookmark file. Good luck!

* http://www.sat.dundee.ac.uk/~arb/surveying/csg.html
 BCRA Cave Surveying Group

* http://www.sat.dundee.ac.uk/~arb/creg/
 Cave Radio & Electronics Group

* http://www-star.stanford.edu/~scr/Research.html
 ELF/VLF Radio Atmospherics

* http://members.aol.com/lwcanews/index.html
 LWCA Longwave Home Page

* http://www.telemuseum.se/grimeton/grimeen.html
 Radio Station Grimeton (SAQ)

* http://w4u.eexi.gr/~sv1xv/lw.html
 The world below 535 kHz

* http://w3.nrl.navy.mil/projects/haarp/elf.html
 US Navy's ELF System

* http://www.ibmpcug.co.uk/~irdial/vlf.htm
 Natural VLF recordings

* http://www-pw.physics.uiowa.edu/mcgreevy/
 McGreevy VLF recordings

* http://www-star.stanford.edu/~vlf/Welcome.html
 VLF Group Home Page

* http://www.eexi.gr/spa/navaids.htm
 A listing of all NAVAIDS, both longwave NDB and VHF types like
 VOR/ILS/DME, in Athens FIR. The list includes callsigns, frequencies
 and locations wit 1" accuracy.

The correct URL for the Greek NDB page that I mentioned last month is
* http://w4u.eexi.gr/~sv1xv/lw-bcn.html

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THE MILITARY NEWSREEL

---- Military Information of use to the UTE monitor ----

David C. Wright, Editor

email: dcwright@gte.net or dcwright@usa.net
#monitor id: DaveWUN ----- AIM ID: DCWUN ----- IChat ID: Davewun
==========

First of all, some updates to the Royal Australian Navy article in the March edition of the Military Newsreel.

HMAS Ardent, Attack Class Navigational Training Vessel (AXL) A243 is due to be decommissioned. Most likely, by the time you read this column, it will have already taken place.

The HMAS Dechaineux, the fourth Collins-class submarine has begun sea trials. On November 4th, the Dechaineux departed Adelaide for apx 10 days of sea trials.

Lastly, on October 19th, the RAN announced that the HMAS Otama, formerly scheduled to be decommissioned this year will be retained until at least next year due to problems with the new Collins-class submarines. The possibility exists that the HMAS Onslow will also be retained.

USCG G-TOR Transmissions

The USCG had apparently adopted G-TOR has a ship-shore transmission mode. Recent loggings by various members of WUN have resulted in the following transmission data:

Logged frequencies		
6964.4	NMC	Night Coast
7442.3	USCGCs	Night Vessel
8315.0	possible	
9302.7	NOJ	
13950.2	NMC1	Day Coast (Simplex?)
13953.3	NMC	Day Coast

Callsigns Noted:	
Coast:	Vessels:

NMC	CAMSPAC	NAQD	USCGC Jarvis WHEC-725
NMC1	CAMSPAC*	NBTM	USCGC Polar Star WAGB-10
NOJ	COMSTA Kodiak	NDWA	USCGC Morgenthau WHEC-722
		NLVS	USCGC Rush WHEC-723
		NMAG	USCGC Hamilton WHEC-715
*Note:	NMC1 logged	NMEL	USCGC Mellon WHEC-717
	only on 13950.2	NRUC	USCGC Storis WMEC-38
		NRUO	USCGC Polar Sea WAGB-11
		NYCQ	USCGC Boutwell WHEC-719
		NZVE	USCGC Alert WMEC-630

NOTE Only the USCG Medium-Endurance, High-Endurance and Polar Cutters have been noted working in this mode. In addition, this mode has only been noted active in the Pacific region. No logs yet from CAMSLANT Chesapeake (NMN) or any Atlantic-region Cutters.

ANDREWS AIR FORCE BASE, Md. (AFPN) -- The 99th Airlift Squadron entered a new era of special air missions recently when the first C-37A, the Air Force's newest aircraft, was dedicated during a formal arrival ceremony here.

The 99th will add another C-37A, the military version of the Gulfstream V business jet, to its fleet later this year. These aircraft, along with the 1st Airlift Squadron's C-32As, are replacing the 89th Airlift Wing's aging C-137s (Boeing 707s), some of which have been in service since the late 1950s.

"You're not going to see it (the C-37A) at Andrews very much," said Brig. Gen. Arthur Lichte, 89th AW commander, "because it will spend so much time on the road. Once our nation's leaders fly it, they will want to be on this aircraft more than any other. It is the future of the 89th Airlift Wing."

The 99th has been flying Gulfstreams since 1983, when the Gulfstream III-based C-20 entered service. In 1992, two Gulfstream IVs were added and called the C-20H. With the addition of the C-37As, the 99th's fleet will consist of five C-20Bs, two C-20Hs, the two C-37As and three C-9Cs (DC-9s).

Since the first C-37A (tail No. 70400) arrived here Oct. 14, 99th members, as well as members of the 89th maintenance and aircraft generation squadrons have been training in all aspects of their job on the new aircraft. Pilots and flight mechanics began training early this year, while many communications system operators and flight attendants did not have an opportunity to train until the aircraft arrived, said Lt. Col. Mike Zepf, 99th AS commander. Zepf expects the aircraft will be mission ready by the first week in December.

The C-37A resembles the C-20H, but is eight feet longer, with a wider wing span, a more advanced avionics package and greater performance capabilities. Company officials call the Gulfstream V "the world's first ultra long-range business jet." The C-37A will be able to carry up to 12 passengers a distance 50 percent greater than in the C-20B models. This is because of the larger engines and the capability to fly at higher altitudes, taking advantage of better fuel consumption rates.

"It offers us a great deal of flexibility," Lichte said. "As our world becomes smaller and smaller we need to get to troublespots quicker and quicker. With (the addition of) this aircraft we can take more passengers to more airfields worldwide at a lower cost."

Titanium mufflers, vibration isolators, insulated side panels and re-engineered windows make the aircraft one of the quietest in production. The interior package includes a passenger flight information display system similar to those on the C-32As. They feature real-time global positioning on a moving world map, weather updates, news, and other information. The aircraft also features a unique 100 percent fresh air system for the cabin.

The avionics system includes a state-of-the-art Honeywell SPZ-8500 Flight Management System with integrated full-function Heads-Up Display. Important features that are not found on civilian Gulfstream Vs include Tactical Air Navigation equipment and a military

Identification Friend/Foe transponder.
"The crews I spoke with know what a piece of magic we have," said Lt. Gen. Maxwell Bailey, 21st Air Force commander. "I look forward to watching the history that this aircraft makes."
The Gulfstream V has quickly made its mark in aviation. It has set more than 45 world records, including the first nonstop flight from New York to Tokyo. This spring the aircraft was the recipient of the prestigious Collier Trophy, awarded annually by the National Aeronautic Association for "the greatest achievements in aeronautics or astronautics in America, with respect to improving the performance, efficiency, or safety of air or space vehicles, the value of which has been thoroughly demonstrated by actual use during the preceding year."

NNS4809. USS Juneau to be forward-deployed
by SURFPAC Public Affairs
SAN DIEGO (NNS) -- The U.S. Navy announced Nov. 3 that USS Juneau (LPD 10) will be forward-deployed to Sasebo, Japan, beginning July 30, 1999.
Juneau, currently homeported in San Diego, will replace USS Dubuque (LPD 8) as part of a planned rotation of the forward-deployed naval forces.
The crew from Dubuque will assume duties aboard Juneau. This cost-saving move will not result in a change to the Sasebo community.
USS Dubuque will return to the United States where it will be homeported in San Diego.

AVIANO AIR BASE, Germany (AFPN) -- The U.S. Air Force has formed four air expeditionary wings should NATO call for air strikes later this week.
The units were formed primarily to support the possibility of air operations over Serbia, according to Lt. Col. Joe Noland, director of the 16th Air Force Regional Operations Center, here.
The activation of an expeditionary command and control structure, under the leadership of Air Force Lt. Gen. Mike Short, 16th Air Force commander, signals a transition from military planning to military operations. Any decision to initiate military engagement in response to the situation in Kosovo, however, will require further action by NATO.
The AEWs were initially formed Oct. 11 to help simplify lines of command and control should a NATO-led force be directed on Kosovo.
"We've tailored our forces to this mission," Noland said. "It helps standardize the command and control structure, and gives the senior combat commander one Air Force senior officer to point to in order to direct air power.
"We'll be able to provide a lot of firepower directed through one commander who can present them to the joint commander in order to direct air operations should the need arise," he added. The AEWs include:
-- The 16th Air Expeditionary Wing-SA includes B-52 bombers capable of delivering conventionally armed cruise missiles, RC-135 reconnaissance aircraft, F-15C multi-role fighters, and KC-135 refuelers.
-- The 31st AEW-SA includes F-16C/CG multirole fighters, A-10 ground attack aircraft, EC-130 airborne battlefield command and control centers, U-2 reconnaissance aircraft and KC-135s.
-- The 86th AEW-SA includes C-130 airlift aircraft and KC-10 refuelers.
-- The 100th Expeditionary Air Refueling Wing-SA includes KC-135s.
"The AEWs are the result of three weeks of intense planning by people here at the regional ops center," Noland said. "We've worked a small cadre of logisticians and operations planners very hard to make this happen. Many experienced 18-hour days, every day. All this to ensure we could beddown airplanes when the time came."
The four new AEWs now join three Air Force wings already in Italy supporting air operations in Bosnia. About 65 Air Force aircraft are involved with this operation. Two other wings based at Incirlik Air Base, Turkey, currently support enforcement of the no-fly zone over northern Iraq. (Courtesy of U.S. Air Forces in Europe News Service)

Gary Tester has compiled an extensive list of aircraft nicknames. This listing includes most historic and modern aircraft, along with their manufacturers and notes. As this listing is rather lengthy it will be broken up over two or three months. Part I was last month. Here is Part II...

N A M E S & N I C K N A M E S

C-1 Trader Mfgr: Grumman
NICKNAME(S): C.O.D.; Mailman of the Fleet
NOTES: [C]arry [O]n-board [D]elivery

C-2 Greyhound Mfgr: Grumman
NICKNAME(S): SuperCOD
NOTES:

C-4 Academe Mfgr: Grumman
NICKNAME(S):
NOTES:

C-5 Galaxy Mfgr: Lockheed
NICKNAME(S): Aluminum Overcast
NOTES:

C-6 King Air Mfgr: Beechcraft
NICKNAME(S):
NOTES: 1 Built

C-7 Caribou Mfgr: DeHaviland
NICKNAME(S):
NOTES:

C-8 Buffalo Mfgr: DeHaviland
NICKNAME(S):
NOTES:

C-9 Nightingale/ Skytrain II Mfgr: McDonnell Douglas
NICKNAME(S):
NOTES: Medevac

KC-10 Extender Mfgr: McDonnell
NICKNAME(S):
NOTES:

C-11 Gulfsrteam II Mfgr: Grumman
NICKNAME(S):
NOTES:

C-12 Huron/Super King Air Mfgr: Beechcraft
NICKNAME(S):
NOTES:

YC-14 [AMST] Mfgr: Boeing
NICKNAME(S):
NOTES: 2 Built

YC-15 [AMST] Mfgr: McDonnell Douglas
NICKNAME(S):
NOTES: 2 Built

C-17 Globemaster III Mfgr: McDonnell Douglas
NICKNAME(S):
NOTES:

C-20 Gulfsrteam III/IV Mfgr: Grumman
NICKNAME(S):
NOTES:

C-21 Learjet Mfgr: Learjet
NICKNAME(S):
NOTES:

C-23 Sherpa Mfgr: Shorts
NICKNAME(S):
NOTES:

C-25 Air Force One Mfgr: Boeing
NICKNAME(S):
NOTES: ONLY when US President Aboard

C-26 Metro III/IV Mfgr: Fairchild
NICKNAME(S): San Antonio Sewer Pipe; Death Tube
NOTES:

C-31 Friendship Mfgr: Folker

NICKNAME(S):
NOTES:

C-45 Expeditor Mfgr: Beechcraft
Buzz: CC
NICKNAME(S):
NOTES:

C-46 Commando Mfgr: Curtis
Buzz: CD
NICKNAME(S):
NOTES:

C-47 Dakota Mfgr: Douglas
NICKNAME(S): Gooney Bird
NOTES: Commomwealth Name

C-47 Skytrain Mfgr: Douglas
Buzz: CE
NICKNAME(S): Gooney Bird
NOTES: U.S.A. Name

AC-47 Spooky Mfgr: Douglas
NICKNAME(S): Puff (the Magic Dragon); Dragon Ship
NOTES:

C-53 Skytrooper Mfgr: Douglas
Buzz: CH
NICKNAME(S):
NOTES:

C-54 Skymaster Mfgr: Douglas
Buzz: CJ
NICKNAME(S):
NOTES:

C-56 Lodestar Mfgr: Lockheed
NICKNAME(S):
NOTES:

C-64 Norseman Mfgr: Noorduyn
NICKNAME(S):
NOTES:

C-65 Skycar Mfgr: Stout
NICKNAME(S):
NOTES:

C-66 Lodestar Mfgr: Lockheed
NICKNAME(S):
NOTES:

C-69 Constelation Mfgr: Lockheed
Buzz: CM
NICKNAME(S): Connie
NOTES:

C-71 Executive Mfgr: Spartan
NICKNAME(S):
NOTES:

C-74 Globemaster I Mfgr: Douglas
Buzz: CN
NICKNAME(S):
NOTES:

C-76 Caravan Mfgr: Curtis
NICKNAME(S):
NOTES:

C-78 Bobcat Mfgr: Cessna
Buzz: CP
NICKNAME(S):
NOTES:

C-81 Reliant Mfgr: Stinson
NICKNAME(S):
NOTES:

C-82 Packet Mfgr: Fairchild
Buzz: CQ
NICKNAME(S): Crowd Killer
NOTES:

UC-83 Cub Mfgr: Piper
NICKNAME(S):
NOTES:

C-85 Orion Mfgr: Lockheed
NICKNAME(S):
NOTES: Model 9D2 Orion
C-87 Liberator Express Mfgr: Consolodated
Buzz: CR
NICKNAME(S):
NOTES:
C-90 Silvaire Mfgr: Luscombe
NICKNAME(S):
NOTES: * Built
C-93 Conestoga Mfgr: Budd
NICKNAME(S):
NOTES:
C-94 Airmaster Mfgr: Cessna
NICKNAME(S):
NOTES:
C-95 Grasshopper Mfgr: Taylorcraft
NICKNAME(S):
NOTES:
C-97 Stratofreighter Mfgr: Boeing
Buzz: CS
NICKNAME(S):
NOTES:
C-100 Gamma Mfgr: Northrop
NICKNAME(S):
NOTES:
C-101 Vega Mfgr: Lockheed
NICKNAME(S):
NOTES:
C-102 Sportster Mfgr: Rearwin
NICKNAME(S):
NOTES:
C-106 Loadmaster Mfgr: Cessna
NICKNAME(S):
NOTES:
C-107 Skycar III Mfgr: Stout
NICKNAME(S):
NOTES:
C-109 Liberator Mfgr: Consolodated
NICKNAME(S):
NOTES:
C-117 Skytrooper Mfgr: Douglas
Buzz: CU
NICKNAME(S):
NOTES:
C-118 Liftmaster Mfgr: Douglas
Buzz: CV
NICKNAME(S):
NOTES:
C-119 Packet Mfgr: Fairchild
NICKNAME(S): Flying Boxcar; Dollar Nineteen
NOTES:
AC-119 Shadow Mfgr: Fairchild
NICKNAME(S): Stinger
NOTES:
YC-119H Skyvan Mfgr: Fairchild
NICKNAME(S):
NOTES: 1 Convertd
C-120 Packplane Mfgr: Fairchild
NICKNAME(S):
NOTES:
C-121 Constellation Mfgr: Lockheed
Buzz: CW
NICKNAME(S): Connie
NOTES:
C-122 Avitruc Mfgr: Chase
Buzz: CY
NICKNAME(S):

NOTES:
C-123 Provider Mfgr: Fairchild
Buzz: CZ
NICKNAME(S):
NOTES:
AC-123 Black Spot Mfgr: Fairchild
NICKNAME(S):
NOTES:
C-124 Globemaster II Mfgr: Douglas
NICKNAME(S): Old Shakey
NOTES:
C-125 Raider Mfgr: Northrop
NICKNAME(S):
NOTES:
C-130 Hercules Mfgr: Lockheed
NICKNAME(S): Herk; Bleed Air Blimp
NOTES:
AC-130 Spectre Mfgr: Lockheed
NICKNAME(S):
NOTES:
EC-130E Volant Solo II Mfgr: Lockheed
NICKNAME(S):
NOTES:
EC-130H Compass Call Mfgr: Lockheed
NICKNAME(S):
NOTES:
MC-130E Combat Talon I Mfgr: Lockheed
NICKNAME(S):
NOTES:
MC-130H Combat Talon II Mfgr: Lockheed
NICKNAME(S):
NOTES:
C-131 Samaritan Mfgr: Convair
Buzz: CP
NICKNAME(S):
NOTES:
AC-131 Mfgr: Convair
NICKNAME(S):
NOTES: 1 off
C-133 Cargomaster Mfgr: McDonnell Douglas
NICKNAME(S):
NOTES:
C-135 Stratolifter Mfgr: Boeing
NICKNAME(S):
NOTES:
KC-135 Stratotanker Mfgr: Boeing
NICKNAME(S):
NOTES:
C-140 JetStar Mfgr: Lockheed
NICKNAME(S):
NOTES:
C-141 Starlifter Mfgr: Lockheed
NICKNAME(S):
NOTES:
CF-100 Canuck Mfgr: Avro
NICKNAME(S): Clunk
NOTES:
CF-105 Arrow Mfgr: Avro
NICKNAME(S):
NOTES:
CL-13 Sabre Mfgr: Canadair
NICKNAME(S):
NOTES: Under licence from North American
CL-28 Argus Mfgr: Canadair
NICKNAME(S):
NOTES: [CP-107]
CL-30 Silver Star Mfgr: Canadair
NICKNAME(S):

NOTES: RR Nene powered T-33 [CT-133]

CL-41 Tutor Mfgr: Canadair
NICKNAME(S):
NOTES: [CT-114]

CL-44 Yukon Mfgr: Canadair
NICKNAME(S):
NOTES:

CL-84 Dynavert Mfgr: Canadair
NICKNAME(S):
NOTES: Experimental Tilt-wing

CL-90 Starfighter Mfgr: Canadair
NICKNAME(S):
NOTES: Under licence from Lockheed

CL-215 Waterbomber Mfgr: Canadair
NICKNAME(S): Canadair; Super Scooper
NOTES:

CL-600 Challenger Mfgr: Canadair
NICKNAME(S):
NOTES:

CL-601 Challenger Mfgr: Canadair
NICKNAME(S):
NOTES:

CL-601R Regional Jet Mfgr: Canadair
NICKNAME(S):
NOTES:

DO217 Mfgr: Dornier
NICKNAME(S):
NOTES:

E-1 Tracer Mfgr: Grumman
NICKNAME(S): Willie Fudd
NOTES:

E-2 Hawkeye Mfgr: Grumman
NICKNAME(S):
NOTES:

E-3 Sentry Mfgr: Boeing
NICKNAME(S):
NOTES:

E-5 Eagle Mfgr: Windecker
NICKNAME(S):
NOTES: Synthetic Reasearch Aircraft

E-6 Mercury Mfgr: Boeing
NICKNAME(S):
NOTES:

E-8 J-STARS Mfgr: Boeing
NICKNAME(S):
NOTES:

F2H Banshee Mfgr: McDonnell
NICKNAME(S): Banjo
NOTES:

F2Y-1 SeaDart Mfgr: Convair
NICKNAME(S):
NOTES:

F3D Skynight Mfgr: Douglas
NICKNAME(S):
NOTES:

F3H Demon Mfgr: McDonnell
NICKNAME(S): Screamin' Demon; Ensign Killer
NOTES:

F4D Skyray Mfgr: Douglas
NICKNAME(S): Ford
NOTES:

F4F Wildcat Mfgr: Grumman
NICKNAME(S):
NOTES:

F4U Corsair Mfgr: Vought
NICKNAME(S):
NOTES:

F5D Skylancer Mfgr: Douglas

NICKNAME(S):
NOTES:

F5F Skyrocket Mfgr: Grumman
NICKNAME(S):
NOTES:

F6F Hellcat Mfgr: Grumman
NICKNAME(S):
NOTES:

F6U Pirate Mfgr: Vought
NICKNAME(S):
NOTES:

F7F Tigercat Mfgr: Grumman
NICKNAME(S):
NOTES:

F7U Cutlass Mfgr: Vought
NICKNAME(S): Gutless Cutlass
NOTES:

F8F Bearcat Mfgr: Grumman
NICKNAME(S):
NOTES:

F8U Crusader Mfgr: Vought
NICKNAME(S):
NOTES:

F9F-2/5 Panther Mfgr: Grumman
NICKNAME(S):
NOTES:

F9F-6/8 Cougar Mfgr: Grumman
NICKNAME(S):
NOTES:

F10F Jaguar Mfgr: Grumman
NICKNAME(S):
NOTES:

F11F Tiger Mfgr: Grumman
NICKNAME(S):
NOTES:

F-1 Fury Mfgr: North American
NICKNAME(S):
NOTES: Previous FJ-1

F-2 Banshee Mfgr: McDonnell
NICKNAME(S):
NOTES: Previous F2H

F-3 Demon Mfgr: McDonnell
NICKNAME(S):
NOTES: Also F3H

F-4 Phantom II Mfgr: McDouglas
NICKNAME(S): Rhino; Double Ugly
NOTES:

F-5A/B Freedom Fighter Mfgr: Northrop
Buzz: FA
NICKNAME(S):
NOTES:

F-5E Tiger II Mfgr: Northrop
Buzz: FA
NICKNAME(S):
NOTES:

F-6 Skyray Mfgr: Douglas
NICKNAME(S):
NOTES: Also F4D

F-7 Sea Dart Mfgr: Convair
NICKNAME(S):
NOTES: Previous F2Y

F-8 Crusader Mfgr: Vought
NICKNAME(S): Gator
NOTES:

F-9 Cougar Mfgr: Grumman
NICKNAME(S):
NOTES: Previous F9F

F-10 Skynight Mfgr: Douglas

NICKNAME(S):
NOTES: Also F3D

F-11 Tiger Mfgr: Grumman
NICKNAME(S):
NOTES: Previous F11F

YF-12 Mfgr: Lockheed
Buzz: FX
NICKNAME(S):
NOTES:

F-14 Tomcat Mfgr: Grumman
NICKNAME(S):
NOTES:

F-15 Eagle Mfgr: McDonnell Douglas
NICKNAME(S): Rodan
NOTES:

F-16 Falcon Mfgr: General Dynamics
NICKNAME(S): Lawn Dart; Electric Jet; Viper
NOTES:

F-18 Hornet Mfgr: McDonnell
NICKNAME(S):
NOTES:

F-20 Tigershark Mfgr: Northrop
NICKNAME(S):
NOTES: Non-Production

F-21 Kfir Mfgr: I.A.I.
NICKNAME(S):
NOTES: Leased from Israel USN Agressor Sqdn.

F-22 Lightning II Mfgr: Lockheed
NICKNAME(S):
NOTES:

YF-23 Not Offically Named Mfgr: Northrop
NICKNAME(S):
NOTES:

F-47 Thunderbolt Mfgr: Republic
NICKNAME(S):
NOTES:

F-51 Mustang Mfgr: North American
NICKNAME(S):
NOTES:

F-80 Shooting Star Mfgr: Lockheed
Buzz: FT
NICKNAME(S):
NOTES:

F-82 Twin Mustang Mfgr: North American
NICKNAME(S):
NOTES:

F-84 Thunderjet Mfgr: Republic
Buzz: FS
NICKNAME(S): Ground Hog
NOTES:

F-84F Thunderstreak Mfgr: Republic
NICKNAME(S):
NOTES:

GRF-84F FICON Mfgr: Republic
NICKNAME(S):
NOTES: Parasitic Fighter

RF-84F Thunderflash Mfgr: Republic
NICKNAME(S):
NOTES:

XF-85 Goblin Mfgr: McDonnell
NICKNAME(S):
NOTES: Parasitic Fighter

F-86 Sabre Mfgr: North American
Buzz: FU
NICKNAME(S):
NOTES:

XF-87 Blackhawk Mfgr: Curtis
NICKNAME(S):

NOTES:
XF-88 Voodoo Mfgr: McDonnell
NICKNAME(S):
NOTES: Predecessor to F-101
F-89 Scorpion Mfgr: Northrop
Buzz: FV
NICKNAME(S):
NOTES:
F-89 Falcon Mfgr: Hughes
NICKNAME(S):
NOTES: Missile
XF-90 Mfgr: Lockheed
NICKNAME(S):
NOTES:
XF-91 Thunderceptor Mfgr: Republic
NICKNAME(S):
NOTES:
XF-92 Dart Mfgr: Convair
NICKNAME(S):
NOTES:
YF-93 Mfgr: North American
Buzz: YF
NICKNAME(S):
NOTES:
F-94 Starfire Mfgr: Lockheed
NICKNAME(S):
NOTES:
F-99 Bomarc Mfgr: Boeing
NICKNAME(S):
NOTES: Missile
F-100 Super Sabre Mfgr: North American
Buzz: FW
NICKNAME(S): Hun
NOTES:
F-101 Voodoo Mfgr: McDonnell
Buzz: FB
NICKNAME(S): One o' Wonder
NOTES:
F-102 Delta Dagger Mfgr: General Dynamics
Buzz: FC
NICKNAME(S): Deuce
NOTES:
XF-103 Thunderwarrior Mfgr: Republic
NICKNAME(S):
NOTES:
F-104 Starfighter Mfgr: Lockheed
Buzz: FG
NICKNAME(S): Widow Maker; Man in a Missile; Zipper
NOTES:
F-105 Thunderchief Mfgr: Republic
Buzz: FH
NICKNAME(S): THUD; Ultra Hog
NOTES:
F-106 Delta Dart Mfgr: General Dynamics
Buzz: FC
NICKNAME(S): Six; Caddilac
NOTES:
XF-107 Mfgr: North American
NICKNAME(S): Super Super Sabre
NOTES:
XF-108 Rapier Mfgr: North American
NICKNAME(S):
NOTES:
XF-109 Mfgr: Bell
NICKNAME(S):
NOTES: VTOL Fighter
F-110 Spectre Mfgr: McDonnell
NICKNAME(S):

```
    NOTES: Became F-4 Phantom
F-111                                       Mfgr: General Dynamics
    NICKNAME(S): Aardvark; MacNamara's Folly
    NOTES:
EF-111                  Raven               Mfgr: General Dynamics
    NICKNAME(S):
    NOTES:
F-117                   Nighthawk           Mfgr: Lockheed
    NICKNAME(S): Wobbly Goblin; Black Jet; Bat Plane
    NOTES:
FH-1                    Phantom             Mfgr: McDonnell
    NICKNAME(S):
    NOTES:
FJ-1                    Fury                Mfgr: North American
    NICKNAME(S):
    NOTES:
FM-1                    Airacuda            Mfgr: Bell
    NICKNAME(S):
    NOTES:
FV-1                    Salmon              Mfgr: Lockheed
    NICKNAME(S):
    NOTES:
FW109                                       Mfgr: Focke-Wolfe
    NICKNAME(S):
    NOTES:
FY-1                    Pogo                Mfgr: Convair
    NICKNAME(S):
    NOTES:
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     ============================================================
     WUN Loggings Column                              November, 1998
         Editor: Donald E. Stidwell (dstidwe@pilot.infi.net)
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     ============================================================
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Note that in the contributors list, I have several contributors whose initials I don't have a name or any information for. If you are one of those contributors, please drop me an email so I can add your name to the master contributors list.

Ary's Numbers and Oddities column for October immediately follows the end of this column.

Great month of loggings, so without further ado:

```
   18.2 VTX3: Ny Vijayanarayanam (this is not Vishakapatnam) 0910 CW
        "vvv vtx3" (25/Oct) (KB)
   24.8 UNID: 0147  15/Oct   200bps MSK, tfc (MC)
   45.9 UNID: 0149  15/Oct   200bps MSK, tfc (MC)
  133.1 UNID: 0218  15/Oct   75bd/85 FSK UNID System, sync, cont, ACF=0
        (MC)
  292   Cheboygan DGPS: IL 0109  11/Oct   200bps MSK, DGPS info
        confirmed via ref. stn. ID=112 (MC)
  297   Milwaukee DGPS: WI 0109  11/Oct   100bps MSK, DGPS info
        confirmed via ref. stn. ID=106 (MC)
  300   Sandspit DGPS: BC  0125  11/Oct   200bps MSK, DGPS info
        confirmed via ref. stn. ID=307 (MC)
  301   Saginaw Bay DGPS: MI 0112  11/Oct   100bps MSK, DGPS info
        confirmed via ref. stn. ID=114 (MC)
  304   DGPS Sumburgh Head Lt, Shetland Isl 1855 DGPS/MSK 100; few syncs
        with Id=685. Later masked by DGPS Turku, FIN (25/Oct) (KB)
  307   Fox Island DGPS: NS 0218  26/Oct   200bps MSK, DGPS info
        confirmed via ref. stn. ID=337(MC)
  310   Memphis DGPS: TN 0133  11/Oct   200bps MSK, DGPS info confirmed
```

via ref. stn. ID=152 MC)
313 Moisie DGPS: Quebec 0319 26/Oct 200bps MSK, DGPS info confirmed via ref. stn. ID=320 (MC)
UNID: 0318 26/Oct 200bps MSK, DGPS info with ref. stn. ID=42 (MC)
317 St Paul DGPS: MN 0046 17/Oct 200bps MSK, DGPS info confirmed via ref. stn. ID=158 (MC)
321 Trois-Rivieres DGPS: Quebec 0052 17/Oct 200bps MSK, DGPS info confirmed via ref. stn. ID=314 (MC)
518 A: Corsen 20:05 FEC NAVTEX. navs (6 Nov) (KMH)
D: Coruna 00:12 FEC NAVTEX. navs (7 Nov) (KMH)
G: Cullercoats 07:06 FEC NAVTEX. gale wng (6 Nov) (KMH)
J: Gislovshammer 23:34 FEC NAVTEX. navs (6 Nov) (KMH)
L: Rogaland 22:37 FEC NAVTEX. gale wng (6 Nov) (KMH)
M: Oostende 10:00 FEC NAVTEX. navs (6 Nov) (KMH)
O: Portpatrick 07:10 FEC NAVTEX. gale wng (6 Nov) (KMH)
P: Ijmuiden 07:51 FEC NAVTEX. navs (6 Nov) (KMH)
Q: Split 02:44 FEC NAVTEX. wx + navs (7 Nov) (KMH)
S: Niton 20:30 FEC NAVTEX. navs (6 Nov) (KMH)
T: Oostende 0650 FEC NAVTEX. wx/navs (6 Nov) (KMH)
W: Valentia 23:40 FEC NAVTEX. test (6 Nov) (KMH)
X: Valencia 23:50 FEC NEVTEX. Locust wng + navs (6 Nov) (KMH)
0115 SITOR-B NAVTEX WX conditions 10/17
A: CORSEN 0001 fec NAVTEX ovrnt to disc. Wx, navs (5/Nov) (DW)
B: BODOE 0001 fec NAVTEX ovrnt to disc. Navs, wx. (5/Nov) (DW)
F: ARKHANGELSK 0001 fec NAVTEX ovrnt to disc. Navs. (5/Nov) (DW)
G: CULLERCOATS 0001 fec NAVTEX ovrnt to disc. Navs, gale.
J: GISLOVSHAMMER 0001 fec NAVTEX ovrnt to disc. Gales, navs.
K: NITON 0001 fec NAVTEX ovrnt to disc. Navs (5/Nov) (DW)
L: ROGALAND 0001 fec NAVTEX ovrnt to disc. Nav, wx, gale. (5/Nov)(DW)
M: OOSTENDE 0001 fec NAVTEX ovrnt to disc. Navs. (5/Nov) (DW)
O: PORTPATRICK: 0001 fec NAVTEX ovrnt to disc. Gale, navs (5/Nov) (DW)
P: IJMUIDEN: 0001 fec NAVTEX ovrnt to disc. Navs, gale. (5/Nov) (DW)
R: REYKJAVIK: 0001 fec NAVTEX ovrnt to disc. Nav (5/Nov) (DW)
S: NITON: 0001 fec NAVTEX ovrnt to disc. Navs (5/Nov) (DW)
T: OOSTENDE: 0001 fec NAVTEX ovrnt to disc. Navs. (5/Nov) (DW)
U: TALLINN: 0001 fec NAVTEX ovrnt to disc. Navs (5/Nov) (DW)
X: VALENCIA 0001 fec NAVTEX ovrnt to disc. Navs. (5/Nov) (DW)
1665 LGT: Tjoeme radio nav wrng 442 17.07 USB (BVR)
1930 LFI: Rogeland, Norway 18.00 ARQ Globe Wireless station idling and sending some tfc (03 Nov). (PT)
1952.1 UNID: 0101 17/Oct 300bps/200 FSK, DGPS info (MC)
2182 7TA: Alger radio ff ann 17.05 USB (BVR)
ASCOT 2269: RAF VC-10 0708 USB wkg Sydney CG Radio, is on-scene at F/V Atlantic Pride, has lights in the water, also has distress signal on 121.5 Mhz, but only has fuel for 1 more orbit. (RB)
Aberdeen CG clg all ships for pan pan mgs abt FV Provider (BF 136) who was taking water POB (see log on 2187.5) 19.10 USB (BVR)
CROSS Mede??? ann "metreologique" 16.50 USB (BVR)
Cross Corssen ff ann 18.15 USB (BVR)
FFM Marseille radio ff ann 06.10 USB (BVR)
IPP: Palermo radio clg turkish ship 17.28 USB (BVR)
LAFP4: Sternberg 0702 USB Norwegian-flagged bulk carrier, wkg Sydney CG Radio, is diverting for F/V Atlantic Pride, ETA 4 hours. (RB)
LFO: Oerlandet radio ann 17.33 USB (BVR)
LGL Floroe radio ann no traffic on hand 06.33 USB (BVR)
LGT: Tjoeme radio ann 1665 for nav wrng 17.05 USB (BVR)
LGZ: Farsund radio no traffic on hand 17.34 USB (BVR)
LYCG: ML Kapitonias Mesleriakov 0712 USB bulk carrier, wkg Sydney CG Radio, also diverting for F/V Atlantic Pride. (RB)
OXZ: Lyngby radio ann gale wrng 17.04 USB (BVR)
PCEQ Unid clg Humber radio qsy to 2202/2684 05.42 USB (BVR)

Rig Santa Fe 135 clg the Anglian Duke qsy to 2201khz 05.45 USB (BVR)
Rig Santa Fe 135 clg the Anglian Duke qsy to 2246khz 05.39 USB (BVR)
Rig Santa fe 140 clg Smitlloyd 10 no joy 16.47 USB (BVR)
VCO: CCG, Sydney CG Radio, NS,CAN 0626 SB wkg unid VCIQ who is diverting to location SAR location for F/V Atlantic Pride, ETA 6 hours. (RB)
VTFF: Maratha Mission 0628 USB bulk carrier, wkg VCP, Canadian CG, St Lawrence CG Radio (RB)
2187.5 Aberdeen CG: 232- 4 BQ to 354-607000 for test call 18.07 GMDSS 100 (BVR)
Aberdeen CG: clg all ships for urgency mgs on 2182.0 khz usb (see log 2182) 19.08 GMDSS 100 (BVR)
Cross Lagarde: 002275400 clg itself testing?? 06.44 GMDSS 100 (BVR)
Cross? La Garde: 227- 5400 clg 227-5400? routine testing?? 06.45 GMDSS 100 (BVR)
EJK: Malinhead radio 250 - 100 clg all ships for tx on 1677 20.39 GMDSS 100 (BVR)
EJK: Malinhead radio 250- 100 clg all ship for 1677 16.33 GMDSS 100 (BVR)
Falmouth Coastguard: 232- 14 BQ to test call from 232-3353 20.25 GMDSS 100 (BVR)
Falmouth Coastguard: 232- 14 BQ to 309-184000 03.56 GMDSS 100 (BVR)
GMDSS ALERT CHANNEL 2005 DSC//100/170 14 pckts in 1hr. 5 illegal i/ship. 1 urgency fm Ijmuiden cg for qso on 2182. 5 fm Corsen(CROSS) first routine, ltr urgency qso 2677/polling/psn update rq to 2 shps. 2 all shps safety bdcasts anncng nav or wx bdcst (fm/on) Farsund/1785 and Rogaland/1692 (24/Oct)(DW)
Holyhead Coastguard: 232- 18 BQ to call from 310-159000 J3E on 2182 khz 19.42 GMDSS 100 (BVR)
Humber Coastguard: 232- 7 distress call about eprib tx 54.13n 2.19e ships id 1272-727272 20.35 GMDSS 100 (BVR)
LGN: Bergen radio 257- 400 clg all ship for tx on 1728 21.03 GMDSS 100 (BVR)
LZW: Varna radio 207- 810 clg all ship safty mgs on 3740/4115.7 khz 19.08 GMDSS 100 (BVR)
OFJ: Helsinki radio 230- 1234 BQ to test call from 230- 91100 18.12 GMDSS 100 (BVR)
OST: Oostende radio 205- 480 test with 237-901000 15.41 GMDSS 100 (BVR)
OXF: Qaqortoq radio 331- 1000 clg all ships for tx on 2265 22.20 GMDSS 100 (BVR)
OXJ: Tornshavn radio 231- 1000 clg itself for J3E on1641/2066 07.04 GMDSS 100 (BVR)
OXZ: Lyngby radio 219-1000 BQ to testcall from 304-10614 16.51 GMDSS 100 (BVR)
OZL: Ammassilik radio 331- 4000 clg all ships for tx on3250 khz 22.34 GMDSS 100 (BVR)
OZL: Ammassilik radio 331-4000 clg Aasiaat radio 331-3000 for telephone call on 2182.0 khz 03.40 GMDSS 100 (BVR)
PBK: Ned CG 244- 2000 clg all ships safety mgs on 3673 khz 19.10 GMDSS 100 (BVR)
Rogaland radio: 257- 300 BQ to testcall from 234-31000 00.19 GMDSS 100 (BVR)
SDJ: Stockholm radio 265- 2000 BQ to test from 273-139100 04.48 GMDSS 100 (BVR)
SPS: Witowo radio 261- 210 BQ to call from 261-25000 08.59 GMDSS 100 (BVR)
Shetland cg: 232- 1 BQ for test from 233-940000 18.43 GMDSS 100 (BVR)
Stornoway Coastguard: 232- 24 clg Clyde Coastguard 232- 22 for test 02.56 GMDSS 100 (BVR)
Stornoway Coastguard: 232- 24 BQ to call from 232- 2143 qsy telephone call on 2182.0 khz 06.21 GMDSS 100 (BVR)
Tyne tees Coastguard: 232- 6 clg Clyde Coastguard 232- 22 for

test 23.41 GMDSS 100 (BVR)
UK Coastguard Milford Haven: 002320017 testing to Mv 250058000 04.06 GMDSS 100 (BVR)
UKCG: Clyde clg ukcg Stornoway for test 22.51 GMDSS 100 (BVR)
UKCG: Holyhead BQ to testcall from mv 250075000 01.39 GMDSS 100 (BVR)
UKCG: Stornoway 002320024 clg ukcg Clyde 002320022 for J3E on 2182khz 22.49 GMDSS 100 (BVR)
Unid: mv 247- 7000 clg 247-3000 for telephone call on 2177 khz 18.52 GMDSS 100 (BVR)

2203 MGJ: RN Faslane, G 0.26 (Oct 31) RTTY 75bd CARB (AB)
2246 Smit-lloyd 10 ww Santa Fe 140 about ETA 35 miles to go 16.56 USB (BVR)
2307 Dutch Ny Den Helder giving first aid and medical support to unid ship 2100z (AB5)
2342 DHJ51: Grengel Meteo 0500 FAX 240/576 poor quality (27/Oct) (KB)
2423.5 SAB: GOETEBORG RADIO 0752 arq Chan free marker (Maritex) "ererer". Selcals IQFY XSSI. (3/Nov) (DW)
SAB: Goteborg Radio, S 0.17 (Oct 31) ARQ 100bd clg ERXV (AB)
2608.4 FUO: Toulon, France 17.30 RTTY 75/825 French Navy with RY's, SG's and ID (03Nov). (PT)
2618.5 GFA: BRACKNELL MET 2141 FAX 120/288/N/800 N/Atlantic sfc analysis (1800z) (14/Oct) (DW)
2656 IPA: Ancona Radio 2045 USB wx in EE; computer voice (27/Oct) (KB)
2670 NMA10: USCG Group Mayport 0628 USB w/MIB broadcast and communications info. Strong signal. (25/Oct) (DW2)
2680 4XZ: Israeli navy Haifa, ISR 0.15 (Oct 31) CW VVV marker (AB)
IDC: Cagliari Radio 2025 USB nav wngs (15/Oct) (KB)
2719 IZN: Porto Torres Radio 2025 USB computer voice reading nav warnings in II and EE (15/Oct) (KB)
2787 FUE: Brest, France 18.02 RTTY 75.850 French Navy with "XAA AA ..... de FUE" (31 Oct). (PT)
2824 PCG: Scheveningen Radio, HOL 0.10 (Oct 31) USB Voice mirror (AB)
2829.5 SPB28: Szczecin Radio, POL 0.05 (Oct 31) ARQ 100bd Idling (AB)
2840.7 DBPG: German CG vessel Mellum login 89440 german mgs 09.05 ARQ 100 (BVR)
2844 ?: Mossad, ? 0.00 (Oct 31) AM YHF + 5LG (AB)
2845 PBB: Dutch navy Den Helder, HOL 0.00 (Oct 31) RTTY 75bd CARB (AB)
2857.3 6WW: FN Dakar SEN Rtty 75/170 0732z Msgs 6thOct 98 [BC3]
2961 M26: ??? 17.00 (Oct 19) CW //4106 kHz. '99 10654', 31 31 31 + 5FGs etc (AB)
2996.2 CCM: CN Magallanes Chile 0935 UTC RTTY 100 Bd/850 with 5Lgs (6/OCT) (IJ)
3029.7 Unid: sc putp german CG net 4.37 ARQ 100 (BVR)
3119 NOY: USCG Group Galveston, Tx 1544 USB clg CG 6027, QSY'ed here from 3122. (RB)
3128 Unid: Polish maritime? comms, "Rotterdam" mentioned, very strong signal male/male simplex 16.28 USB (BVR)
3133 NATO Mil: 0137 17/Oct 75bd/850 FSK UNID System, revs, "vmgtcnjbh" lead-in, ACF=0 tfc, revs (MC)
3199 RFFEDFG, France 00.40 ARQ-E 72/390 tfc in FF headed "ANIMATION" via "UGF" cct (04 Nov). (PT)
3237 Unid: 75bd/190hz no acf 17.50 75 (BVR)
3288.5 Germany(??) 00.42 ARQ-E 86/161 Idling then encryption (04 Nov). (PT)
3333 Unid: Fisherman's comms heavy accent 17.15 USB (BVR)
3335 Unid: Dutch fisherboats with intership comms 2109z (AB5)
3360 ?: Kiev Meteo, UKR 22.40 (Oct 31) FAX 120bd / 576 Wx chart (AB)
3391 Dutch fishermen 1949 USB under heavy local QRN (AB5)
Unid: Dutch intership comms 17.17 USB (BVR)
3550 RFFHCFP: France 21.26 ARQ-E 72/360 Tfc to "Marseille" via "UPF" circuit.(PT)
3599 RFFXCFD: France 18.00 ARQ-E 72/360 RY's, Le Brick (still spelt

wrong) via "UFD" cct (03 Nov). (PT)
3640 Mossad, ISR 23.15 (Oct 23) AM MIW2 (AB)
3651 Russian Air Defense, RUS 22.57 (Oct 23) CW BT?? etc (AB)
3680 Unknown, France 00.50 ARQ-E 72/380 Relaying Favieres' Controle de Voie via "UFC" cct (04 Nov). (PT)
3757 Unid, ??? 20.40 (Oct 25) CW 'the pip' (AB)
3815.5 FDI8: FAF Nice, F 23.59 (Oct 30) RTTY 50bd Voyez le brick (AB)
3830 Moscow Meteo: (tent) 1625 FAX 120/576 //5008 //6987; 50 ms ahead //8083 //9150 Tashkent Meteo. Chart compiled at Moscow, labeled RUMS (26/Oct) (KB)
3838 Russian Air Defense, RUS 20.02 (Oct 24) CW BT?? etc (AB)
3977.5 FDI8: FAF Nice, F 23.57 (Oct 30) RTTY 50bd Voyez le brick (AB)
3995 FDI8: FAF Aix testing 400hz voyez le brick geant que je xamine pres du grand wharf 0123456789 ryryry 17.13 BAUD 50 (BVR)
3996 FDI8: FAF Nice, F 17.16 (Oct 31) RTTY 50bd Voyez le brick (AB)
4012 Unid: Rus navy bee 36-50 encrypted tfc 18.09 36-50 50 (BVR)
4018 XW6T: Czech Border Guards, CZE 21.02 (Oct 10) RTTY 50bd Starting up gear. First 50bd RTTY burst, then briefly into Crowd36, then Polytones (!) and back to 50bd RTTY changed freq to 4020, then RY's + c/s XW6T. Lateron they switched again, now to 4016 kHz (AB)
4022 FDI8: AF Nice 1955, RTTY 50/400 Le brick geant... 1958 s/off. (PIRI)
4024 RFFBBYM: Unid F mil 2000 ARQ-E 72/400 5LGs. (PIRI)
RFFHCFP: France 18.10 ARQ-E 72/357 "Controle de Voie" message to self via "UPF" circuit.(PT)
4031 RFFXCFD: presume France 18.07 ARQ-E 72/383 RY's, Le Brick etc. on "UDF" circuit (31 Oct). (PT)
4035 M51, F 21.39 (Oct 15) CW 5LG's (AB)
Numbers Sta: CUB 0438 AM YL/SS/5FG in progress, "finale" 3X at 0444. 12/Oct (RM)
4035 "Favieres": France 20.26 ARQ-E 72/386 Tfc via "UCF" circuit, poor rx (03 Nov). (PT)
4042 FDI8: FAF Nice, F 18.23 (Oct 25) RTTY 50bd Voyez le brick test tape(AB)
4042.7 FDI8: FAF Nice, F 22.39 (Oct 29) RTTY 50bd 'voyez le brick' tape (AB)
4051 FDI8: FAF Nice, F 22.33 (Oct 31) RTTY 50bd Voyez le brick (AB)
4062 Unid 0020 RTTY 300.3/848hz unid mode acf large peak at 450. (PIRI)
4065 TBO: Turkish navy Izmir, TUR 22.36 (Oct 31) CW TBDJ DE T23C TBO (AB)
4100.2 BAA: Beijing Meteo 2101 RTTY 50/800 cq de baa 2/4/9/21/23/25 ryry... (PIRI)
4106 M26: ??? 16.50 (Oct 18) CW '99 10704'. At 1700 '99' for 3 mins, then resumes the '99 10704' routine. Changed msg at 1900 to '99 10528' // 2961 kHz. (AB)
4200 Dutch fishermen 1957 USB under RTTY QRM (AB5)
4207.5 GMDSS: ALERT CHANNEL 0001 DSC 100/170 16 packets in 9 hrs. 4 tests, 1 announcement (fm Varna/LZW for fec bdcast, pkt partially corrupt, no frequency obtained). 11 illegals, (intership calling). (9/Nov) (DW)
4214 ZRH/ZSC: Hydrosan Silvermine 1019 fec Navarea V11 Warnings - fishing boat lost!(04/Nov)(RH2)
4214.5 SAB209: GOETEBORG RADIO 0757 arq Chan free marker (Maritex) "ererer". Selcals IQXS. (3/Nov) (DW)
4263.5 ZLO: Ny Irirangi, NZ, CW "DE ZLO A1A 4 8 12 ZNI 1A 8 12 16 22 ZNI 2B 8 12 AR AR AR" RTTY QRM 12:19 18/OCT(JRC)
4268.6 SAB23: GOETEBORG RADIO (SAB23) 2316 fec Running continuously "stby-px" interleaved with short block of alphas. 2320z Swedish ship press. (28/Oct) (DW)
SAB23: GOETEBORG RADIO 0759 arq Chan free marker (Maritex) "ererer". Selcals EDVK. (3/Nov) (DW)
4270 Mossad, ISR 23.00 (Oct 23) AM PCD + 5LGs (AB)

4273 FUJ: FN Noumea NCL Rtty 75/381 1122z FUJ Test Tape 5th Oct 98 [BC3]
4274 GKB2: Portishead Radio, G 20.37 (Oct 25) CW DE GKB2 (AB)
4283 XSV: TIANJIN RADIO 1619 CW. Nav wngs. Just audible. (8/Nov) (DW)
4307 RN NORTHWOOD: 0940 FAX fax running -but black tone missing. (16/Nov) (DW)
4322.1 MGJ: RN Faslane, G 1.10 (Oct 31) RTTY 75bd CARB (AB)
4328 JOS: Nagasaki, Japan, High speed CW CQ marker, 12:26 18/Oct JRC)
4331 4XZ: Israeli Navy Haifa, ISR 22.13 (Oct 10) CW VVV de 4XZ + lengthy off line encrypted + pl msgs (AB)
4336 OKLA: Prague Meteo 0230 RTTY 50/491 wx. (PIRI)
4350 TBB5: Turkish navy Ankara, TUR 23.43 (Oct 30) CW TBDJ de TBB5 (AB)
4360 Mossad, ISR 22.45 (Oct 23) AM SYN2 (AB)
4394.4 FOXTROT TANGO: USN Link-11 Coordination NCS 0015 USB wkg HOTEL, NOVEMBER, TANGO, other SLCS's w/link-11 coord tfc. (RB)
4438 QJTV: UNID 1845 CW. "3MFZ de J8AM" also "3MFZ de QJTV" "qsa? "qsa2". "3MFZ de 6EGM" - 3MFZ not hrd. (25/Oct) (DW)
4455 9BOG: Unid, ? 23.40 (Oct 30) CW OGYR DE 9BOG (AB)
4456 4R9Z: Unid, ? 23.35 (Oct 30) CW SP3X DE 4R9Z QSO? EGA9 DE 4R9Z QYD? (AB)
4460 Mossad, ISR 23.00 (Oct 23) AM FTJ + 5LGs (AB)
E10 Mossad 0001 USB FTJ Cont'd - f/EE - Mon. 26/Oct (LBJ)
E10 Mossad 2205 USB 5LGs - f/EE - Fri - suspect FTJ. 30/Oct (LBJ)
E10 Mossad 2300 USB FTJ Cont'd - f/EE - Sun. 25/Oct (LBJ)
4464 C7GC: Czech Border Patrol, CZE 23.00 (Oct 31) RTTY 50bd changed freq from 4512 to 4465. Tests conducted from 2300-2350 on 4464/4465 USB/LSB. Endless RY's + test run of the new c/s series: C7GC, VG6Q, NJW5, DPF2 (AB)
4471 ?: Ticking station, ? 23.09 (Oct 31) CW irregular clicks, sounds like pockpock pock :-) (AB)
Unid: (see also 4489 kHz), ??? 20.00 (Oct 25) CW Cyrillic 5LG. Each msg ends with = 699 K. Not // 4489 (AB)
WWAN: Unid (Russian mil?), 21.22 (Oct 10) CW WWAN clg 8DQN, 9XCX and GCCD. Msg 616 92 11 = T 47 into 92 5LG's (Cyrillic alfabet). Ends with = 186 K K (AB)
4474 ICT: Italian Navy, Taranto, I 2041 USB wkg "DI" (not hrd), probably IGDI, Italian Navy auxiliary vsl Capri (A-5353). (thanks to tip on #monitor IRC) (RB)
4482 DFZG: MFA BELGRADE 0600 rtty 75/R/400 Prebroadcast startup marker "DFZG DFZG DFZG qtc ry's" and tfc list. Then into online encrypted tfc after "xyxyxy" string. (15/Oct) (DW)
4485 ?: S17 Czech Lady, CZE 13.55 (Oct 30) AM 555(3x) 313 (3x) 05 92 92 05 05 90091 (10x) 42 42 05 05 (AB)
4488 ND8X: Unid, ??? 22.02 (Oct 14) CW clg 3ONS for a couple of mins (AB)
4489 Unid: (see also 4471 kHz), ??? 20.05 (Oct 25) CW Cyrillic 5LG. Each msg ends with = 699 K. Last 5LG starts with the same 3 letters 'wtp..' which equals the figures '250..' (AB)
4500 AFA2WK: U.S. Air Force MARS 0042 USB wkg AFA2FZ. (RB)
4511.5 N8IT: UNID 1855 CW. Working unid stn (unhrd). Tfc in offline encrypt - 5 fig grps.(25/Oct) (DW)
4512 PV3Z: Chech Border Guards, CZE 18.45 (Oct 25) RTTY 50bd RY (AB)
TS4X: Czech Border Patrol, CZE 1.15 (Oct 31) RTTY 50bd RY + c/s (AB)
V8GM: Czech Border Patrol, CZE 0.47 (Oct 31) RTTY 50bd RY + c/s(AB)
XW6T: Czech Border Patrol, CZE 23.45 (Oct 30) RTTY 50bd RY + c/s (AB)
4513.5 NNNOMDV: NAVMARCORMARS HF Mailbox 0316 PACTOR 200/200 w/MARSECOMEX 98 msg. (RB)
4515.7 Unid: 0428 UNK 192/200 unable to synch. (RB)
4516 Russian Mil: 0036 17/Oct 200bd/500 FSK UNID System, sync, cont, ACF=0 (MC)
4570 DGJ51: Jeddah Meteo, D 19.35 (Oct 25) RTTY 100bd Weather (AB)
4570 DHJ51: Grengel Meteo 0931 FAX 120/288 CTF - central tactical forecast, 3 maps (27/Oct) (KB)

DHJ51: GRENGEL MET 1640 FAX 240/576/N/800 lsb of 4591.9. Two chartlets - graphs of temp/height? Multipath fuzziness. Occ qrm (psk comms?) (27/Oct) (DW)

4571 HZN46: Jeddah Meteo, ARS 16.49 (Oct 31) RTTY 100bd Weather (AB)

4583 DDK2: Hamburg Meteo, D 19.38 (Oct 25) RTTY 50bd Weather (AB)

4583 DDK2: Hamburg meteo wx 17.03 BAUD 50 (BVR)

4588.6 Unid: 100.1/836hz no acf synchron continue 17.01 (BVR)

4595.5 FDI8: FAF Nice, F 20.35 (Oct 25) CW DE FDI8 (AB)

4598 FDI8: FAF Nice, F 15.40 (Oct 30) CW VVV marker (AB)

4601.5 Unid: Irish mil mgs abt satcom problems, mgs to 61,84 and 92 probably OA Dublin 16.54 ARQ 100 (BVR)

4602 OA: Irish Navy Dublin, IRL 15.30 (Oct 30) ARQ 100bd routine msgs (AB)

4610 GFA: BRACKNELL MET 1541 FAX 1200z sfc analysis but multipath distortion. (4/Oct) (DW)
GFA: BRACKNELL MET 2153 FAX 120/288/N/800 FXNT 48hr sea and swell prog. (14/Oct) (DW)

4620 English Man, RUS 21.45 (Oct 14) AM Tests at 2145-2150, calls 813 in Russian and English (AB)
English Man, RUS 22.00 (Oct 14) AM 813 (R4) 246 109 5FG (AB)
English Man, RUS 22.03 (Oct 13) AM in progress (AB)

4625 Buzzer, RUS 21.59 (Oct 15) BURSTS Bursts change to 'siren' (no stops between the bursts) between 21.59m30s and 22.00 UTC (AB)

4643 Unid: 150bd/840hz no acf synchron continue 16.45 150 (BVR)

4645 Tallin ATIS: 2002 USB Information Hotel temp -00 (AB5)
Tallinn Volmet: EST 19.40 (Oct 25) USB (AB)
Tallin air wx 16.43 USB (BVR)

4665 E10 Mossad 2315 USB KPA2 Cont'd - f/EE - Sun. 25/Oct (LBJ)
Mossad, ISR 23.15 (Oct 23) AM KPA2 (AB)

4666 Unid: ??? 23.15 (Oct 23) CW Lots of 'VVVVVVVV ?????????? K' 'HHHHHHH VVVVVVVV' etc (AB)

4701.2 RFLIGE: FF, French Guiana 0750 ARQ-E 192/238 (assumed C.I. GEG) idling.(RB)

4706 KINLOSS RESCUE: at 2035 wkg SRG 137 (10/Nov) (AG)

4711 Unid: 75.1/850 no acf/ acf 64 synchron continue 16.39 (BVR)

4718 ARCHITECT: at 1653 with - "Testing 1-2-3-4-5!" (03/Nov) (AG)
COASTGUARD OSCAR CHARLIE: at 1802 in r/check with Kinloss Rescue(20/Oct) (AG)
KINLOSS RESCUE: at 2133 wkg Rescue 12 (02/Nov) (AG)
NAVY 177: at 1852 in r/check w/Kinloss Rescue (03/Nov) (AG)
RESCUE 131: at 1825 in r/check w/Kinloss Rescue (25/Oct) (AG)
RESCUE 13: at 1850 in r/check w/Kinloss Rescue (02/Nov) (AG)
SIERRA 193: at 1801 in r/check with Kinloss Rescue (20/Oct) (AG)
SRG 122: at 1850 in r/check w/Kinloss Rescue (03/Nov) (AG)
SRG 125: at 1651 in r/check w/Kinloss Rescue (03/Nov) (AG)
SRG 137: at 1720 in r/check w/Kinloss Rescue (03/Nov) (AG)

4721 Offutt: 0550 USB wkg unid with signal check. 30/Oct (JJ)
REACH 019: 0216 USB wkg Offutt, on this discrete, for pp to HILDA WEST re 05z ETA Los Alamos (or Alamitos sounded like). 18/Oct (JJ)

4731 MKL: RAF Kinloss, G 17.08 (Oct 30) CW Wx (AB)

4739 RESCUE 106: CanForces a/c 0442 USB wkg Halifax Military w/pp Halifax Search (RB)

4742 Architect: G 18.20 (Oct 25) USB w/Rescue 11. Radio check (AB)

4790 Unid: 0432 USB sounded like a/c in unid lang., have source that lists this as a Carnary Island aviation freq, any info? (RB)

4798 Germany(??) 17.00 ARQ-E 86/165 Continuous encryption (03 Nov). (PT)

4880 E10 Mossad 2300 USB ULX Cont'd - f/EE - Sun. 25/Oct (LBJ)
Mossad, ISR 23.00 (Oct 23) AM ULX + 5LGs (AB)

4889 DPQT: Unid, ? 16.12 (Oct 30) CW M5RT DE DPQT QTC 58 20 30 1727 = 744 M5RT =(5FG)= DPQT (AB)

4906.7 Unid: 0439 TWINPLEX weak, kept breaking synch w/CW exchanges between transmissions. (RB)

4924.6 SUU: CAIRO MET 1915 FAX 120/576/R/800 lsb of 4526.5. Very fizzy chart with obliterating black areas.Charts for N/Africa and Med. (25/Oct) (DW)

4940 Germany(??) 17.00 ARQ-E 86/165 Continuous encryption (03 Nov). (PT)
5008 Moscow Meteo: (tent) 1520 FAX 120/576 //3830 //6987 (24/Oct) (KB)
5018 "FAVIERES": presume France 13.20 ARQ-E 72/373 Message to RFFXCFD plus relaying his transmissions via UDF circuit (30 Oct). (PT)
5027 ?: S17 Czech Lady, CZE 13.55 (Oct 30) AM 555(3x) 313 (3x) 05 92 92 05 05 90091 (10x) 42 42 05 05 (AB)
5028 Unid: 48.3bd/236hz at 18.04 s/off no time for classification 18.03 48 (BVR)
5036.7 MFA Cairo: EGY 23.09 (Oct 12) SITOR-A 100bd Msg to Doha (AB)
5050 Unid: 75.04bd/830hz no acf synchron continue 18.05 75 (BVR)
5058 M10: Brit. Mil 0852 USB/RTTY 75 rtty coord. 14/Oct (WP3)
FDG: Bordeaux, France 16.10 RTTY 50/400 Le Brick, RY's and TEST DE FDG.(PT)
5097 CFH Halifax, Canada 07.55 RTTY 75/850 Wx tfc "de CFH" (04 Nov). (PT)
5100 AXM32: CANBERRA MET 0640 FAX Very weak pix. (4/Oct) (DW)
5103.5 RUD: England 10.40 VFT ARQ-M2 96/340 "CH DE RUD" on "ANO" circuit.(PT)
5113 Unknown: 16.10 VFT RTTY 75/85 Two channels; one unknown mode, the other sending FOXES, count and TEST but no ID. Then changes to same mode as other channel.(PT)
5114 Unid: Rus 80.9bd/240hz no acf encrypted tfc 18.08 81-81 (BVR)
5119.9 Unid: 149.9bd/334hz no acf synchron continue 18.10 150 (BVR)
5134 RFFXCFB: Thionville, France 22.55 ARQ-E 72/396 DECOLTRANS DEUX THIONVILLE with EXERCICE traffic to RFFEDFA, DECOLTRANS UN LAVAL and RFFXCFD, DECOLTRANS QUATRE ISSOIRE. Also what looks like command tfc from SOUGE. Perhaps this is the transmitter and the others are routeing through it? Circuit used is "UAF". This station is still on the air at 08.20Z. 07-10-98 (PT)
5141.5 Russian Air Defense, RUS 23.04 (Oct 12) CW BT99T3T3?8????? (AB)
5170 Mossad, ISR 22.45 (Oct 23) AM CIO2 (AB)
5178 Backwards music station 20:08 USB (AB5)
5180 DoD Cape: (via Cape Radio patch) 1815 USB wkg USS O'Bannon, KING 1 advising of resumption of count-down, in support of STS-95. (RB)
NTLW: USS O'Bannon (DD-987) 1715 USB Spruance-class destroyer wkg DoD Cape reporting on-scene, & passing on-scene wx, in support of launch of shuttle Discovery for STS-95 (aka 'the John Glenn mission'). (RB)
5190 RFFHCFP: France 15.40 ARQ-E 72/364 Tfc to Marseilles via "UPF" circuit.(PT)
5210 : Australian Fishing Boats 0905 USB 2 OMs w/chat & plenty of swearing. (21/Oct) (IJ)
5215.6 Unid: 149.98bd/825hz no acf synchron continue 18.14 150 (BVR)
5221 Unid: 0243 RTTY 75/170 Encryption. 21/Oct (RM)
5246 WRPH: M/V Liberty Star 1907 USB SRB recovery vsl wkg BRD (Booster Recovery Directory, via Cape Radio patch) w/comms re recovery of right booster, later with additional reports to well after 2300z, in support of STS-95 (Discovery OV-103). (RB)
5251 Unid: 200.2b/400hz no acf 18.16 200 (BVR)
5277 19 CHARLIE: USCG HH-60J #6019 (OPBAT) 2259 USB clg PANTHER no joy. (RB)
SHARK 04: USCG Cutter on drug interdiction mission 0005 USB probably WMEC-904 USCGC Northland, clg PANTHER, no joy. (RB)
SHARK 04: USCG Cutter on drug interdiction mission, probably WMEC-904 USCGC Northland, 0343 USB wkg PANTHER, DEA HQ Bahamas re freq, PANTHER passes 11184. (RB)
RFFXCFB: Thionville, France 19.42 ARQ-E 72/324 DECOLTRANS DEUX THIONVILLE with EXERCICE tfc to RFFEDFA, DECOLTRANS UN LAVAL via "UFB"circuit.(PT)
5280 : French Mil stations French Polynesia 0545 USB departure msgs. One of the stations signed off with FOXTROT ALPHA SIERRA (12/Oct) (IJ)
5287.5 RETWVZ: Zamora, Spain 17.30 ARQ 100/400 JECOR ZAMORA with tfc in SS to RETWVL "JECOR LEON", RETWVS "JECOR SALAMANCA", RETWVV "JECOR VALLADOLID", RETWCR "JECOR ORENSE" and RETWVP "JECOR

PALENCIA. These are all regional capital cities in the N.E. corner of Spain.(PT)
5293 FDI8: Nice, France 19.12 ITA2 50/340 RY's and TEST messages.(PT)
5305.5 Unid: 48.4bd/240hz at 18.20 s/off so no classification for mode 18.19 48 (BVR)
5312 DFZG: MFA Belgrade 0555 RTTY 75/500 RY (15/Oct) (IJ)
DFZG: MFA BELGRADE 0608 rtty 75/R/400 Diplo tfc broadcast - online encrypted. (15/Oct) (DW)
5317.5 BJZ: 27 Wuchan Meteo CHN Rtty 75/170 1925z 5 Ltr Wx Grps 3 Nov98 [BC3]
5320 NMN70: USCG Group Eastern Shores,Va 2021USB wkg Group Atlantic City w/radio ck. (RB)
NMN80: USCG Group Hampton Roads, Va 0120 USB clg unid unit in the clear. (RB)
5339 TMS: Mossad (E10), ISR 21.45 (Sept 14) AM TMS2 (AB)
5350 Unid: URS 81bd/230hz no acf encrypted tfc 18.23 81-81 81 (BVR)
5351 UNID: Commercial stations Australia 0930 UTC USB YL & OM with a chit-chat (6/OCT) (IJ)
5353.5 Unid: GC 100bd/400hz online encrypted? tfc 18.25 ARQ 100 (BVR)
5373 RFFEDFG: France 16.25 ARQ-E 72/390 Controle de Voie to self via "UGF" circuit (03 Nov). (PT)
5377 : 20 & 30 Army net New Zealand 1950 UTC USB inquiring what kind of HF antennas they were using. One of them was using an inverted V, while the other was using a 90Ft longwire 4Ft off the ground. They were waiting for LIMA TANGO NOVEMBER (Sunray) to come up (8/OCT) (IJ)
5380 CITY Base: Presumed Govt Community net, PNG 0905 USB wkg CITY 1; 2 OMs in Pidgin EE discussing next days plans (22/Oct) (IJ)
5422 : Lincolnshire Poacher No Station 1815 UTC USB YL with numbers (10/OCT) (IJ)
5427.8 Unid: 0110 PACTOR 200/200 weak, only synched for a few letters. (RB)
5442.2 Unid: Burst like Sitor A but longer pause at 17.05 s/off Berne radio listed at this qrg 17.04 100 (BVR)
5448 Unid: ??? 14.34 (Oct 25) CW 'the pip' (AB)
5450 MVU: RAF W.Drayton Volmet, G 14.35 (Oct 25) USB (AB)
5484.7 : US Fishing Boats 0805 USB 2 OMs w/chit-chat. (22/Oct) (IJ)
5505 Shannon Volmet, IRL 14.35 (Oct 25) USB (AB)
5517 5A-DDB: Light Air. 2110:USB: Wkg Tripoli. (IB)
CTP-8418: Tashkent Aircraft Co. 2134:USB: Wkg Khartoum FL280 (IB)
Djibouti Air-800: 0219:USB: Wkg Addis Ababa. FL350. (IB)
LBY: Benghazi Aero (LBY). 2102:USB: Wkg Corsair-910. (IB)
MHS-200. UNID: 2216:USB: Wkg Khartoum. (IB)
PES-0505: UNID. 1635:USB: Wkg Tripoli, qsy to 5517khz. (IB)
SBZ-014: Scibe Airlift. 0221:USB: Wkg Sana a. FL280. (IB)
STV-300: Southern Aviation, Ghana. 2124:USB: Wkg Khartoum. (IB)
Uganda-536: 1719:USB: Wkg Addis. Entebbe to Dubai. FL370. (IB)
5530 E10 Mossad 2315 USB MIW2 Cont'd - f/EE - Sun. 25/Oct (LBJ)
YHF: Mossad 2318 USB YL/EE w/"YHF2", very faint. (RB)
5541 Stockholm LDOC (EU-LDOC) 2315 USB wkg "TKBM" w/pp. (RB)
5550 NAVY LV612: P-3B/C or EP-3J of VP-66 "Liberty Bells" (USNR), NAS Willow Grove, Pa 0023 USB wkg New York, adv level at FL 310. (RB)
5598 Speedbird Concorde 3: 2015 USB wkg Shanwick FL500 QSY (AB5)
5658 IRP-4662: Payam Air Service. 2122:USB: Wkg Delhi. (IB)
IYE-850: Yemeni. 1926:USB: Wkg Bombay. SELCAL-PRCH. (IB)
KGA-2095: Kyrgystan Airlines. 2022:USB: Wkg Urumchi, and Lahore. (IB)
5680 ALPINE 20: 1501 USB in r/check w/Kinloss Rescue (18/Oct) (AG)
ALPINE 24 at 1733z in r/check w/Kinloss Rescue (23/Oct) (AG)
ALPINE 24: 1645 USB in r/check w/Kinloss Rescue (18/Oct) (AG)
ALPINE 24: at 1733z in r/check w/Kinloss Rescue (23/Oct) (AG)
ALPINE 95: at 1729 in r/check w/Kinloss Rescue (23/Oct) (AG)
BELGIAN AIR FORCE 95: at 1156 clg for r/check with Koksidje Rescue (20/Oct) (AG)
BELGIAN AIR FORCE 95: at 1227z in r/check with Koksidje Rescue (19/Oct) (AG)

BODOE RESCUE: at 1534 wkg Sabre 32 (20/Oct) (AG)
BOULMER GROUND CREW: at 1322 in r/check w/Kinloss (31/Oct) (AG)
CHURCHILL RADIO: at 2247 in r/check w/St.Anthony Radio (08/Nov) (AG)
COASTGUARD OSCAR CHARLIE: 1323 USB in r/check w/Kinloss Rescue (18/Oct) (AG)
DRBP: (FGS-56 Dommel, Schnellboot): at 1655 in Ops Normal with Glucksburg Rescue (12/Nov) (AG)
DRFL: (FGS Siegburg - M1098 Minesweeper): at 1432 in r/check w/Glucksburg Rescue (03/Nov) (AG)
DRFL: at 1023 USB in r/check w/Glucksburg Rescue (19/Oct) (AG)
GERMAN NAVY 4783: at 1059 in r/check w/Glucksburg Rescue (11/Nov) (AG)
GOTLAND RESCUE: at 1304 clg Riga Rescue for r/check (20/Oct) (AG)
GOTLAND RESCUE: at 1306 clg Kuresaare Rescue for r/check (19/Oct) (AG)
GOTLAND RESCUE: at 1308 clg Tallin Rescue for r/check (19/Oct) (AG)
HOTEL 90: at 1848 wkg Sweden Air Rescue (20/Oct) (AG)
HOTEL 96: at 1651 wkg Sweden Air Rescue (20/Oct) (AG)
HOTEL 98: at 0824 wkg Sweden Air Rescue (23/Oct) (AG)
JULIET SEVEN HOTEL (J7H): at 1616 wkg Kinloss Rescue (This was an unidentified Royal Navy ship!) (05/Nov) (AG)
KARUP RESCUE: at 1339 in r/check w/Kinloss Rescue (04/Nov) (AG)
KINLOSS RESCUE: at 1507 wkg Medevac 178 (05/Nov) (AG)
KOKSIDJE RESCUE: at 1206 in r/check w/Kinloss Rescue (30/Oct) (AG)
KOKSIDJE RESCUE: at 1311 in r/check with Ijmuiden Rescue (16/Nov) (AG)
KURESAARE RESCUE: at 1305 in r/check w/Gotland Rescue (06/Nov) (AG)
LNLMX: LIMA NOVEMBER LIMA MIKE X-RAY at 1510z wkg Longyear Radio (11/Nov)(AG)
LUETJENS - 'DRAE': (German Navy destroyer D-185 clg Glucksburg Rescue for a r/check - no reply! (11/Nov) (AG)
MALIN HEAD RADIO: at 1525 clg Rescue 110 (14/Nov) (AG)
MISSION 4823: at 1353 in r/check with Glucksburg Rescue (20/Oct)(AG)
MRCC BREMEN: at 1411 in r/check w/Glucksburg Rescue (04/Nov) (AG)
NAVY 318: at 1540 wkg Kinloss - "Lynx helo from RAF Valley with 4 pob, rqst r/watch!" (31/Oct) (AG)
NAVY 703: at 1102 in r/check w/Kinloss Rescue (22/Oct) (AG)
NAVY 705: at 1235 in r/check w/Kinloss Rescue (21/Oct) (AG)
NAVY 824: at 1132 wkg Kinloss Rescue (19/Oct) (AG)
NORWEGIAN SEA KING RESCUE HELO: at 1831 in r/check w/Kinloss Rescue with radio check (10/Nov) (AG)
PAVE FOUR MAINTENANCE: (US a/c) at 1406 clg Kinloss for r/check (03/Nov) (AG)
PC 336: at 1000 in r/check with Glucksburg Rescue (20/Oct) (AG)
PC 338: at 1400 in r/check w/Glucksburg Rescue (21/Oct) (AG)
PC 341: at 1515 in r/check with Glucksburg Rescue (22/Oct) (AG)
PC 371: at 1513z in r/check w/Glucksburg Rescue (16/Nov) (AG)
RESCUE 122: at 1332 wkg Kinloss Rescue (19/Oct) (AG)
RESCUE 169: 0101 USB wkg Kinloss Rescue (17/Oct) (AG)
RESCUE 177: 1654 USB wkg Kinloss Rescue (17/Oct) (AG)
RESCUE STANDBY at 0940 in r/check with Kinloss Rescue (20/Oct) (AG)
RUSSIAN MAN at 1800z with 4 minute broadcast (20/Oct) (AG)
RUSSIAN MAN: at 1757 with "624" spoken just once (20/Oct) (AG)
SAREX 12: at 1701 wkg Kinloss Rescue (23/Oct) (AG)
SAREX 131: at 1743 in r/check w/Kinloss Rescue (21/Oct) (AG)
SAREX 51: at 1559z wkg Kinloss Rescue (16/Nov) (AG)
SH-96: 2017 USB clg Kinloss Rescue, no joy (AB5)
SIERRA 193: 0932 USB wkg Kinloss Rescue (17/Oct) (AG)
SIERRA HOTEL ZERO TWO TWO SEVEN: at 1125z in r/check with Kinloss Rescue - "Wessex helo out of Aldergrove en-route to

Baldonnel in Ireland,rqst list. watch over Irish Sea!" (19/Oct) (AG)
SRG 07: at 1119 in r/check w/Kinloss Rescue (22/Oct) (AG)
SRG 123: at 1018 in r/check w/Kinloss Rescue (21/Oct) (AG)
SRG 125: at 1217 in r/check with Kinloss Rescue (19/Oct) (AG)
SRG 128: 1222 USB in r/check w/Kinloss Rescue (18/Oct) (AG)
SRG 129: at 1545 wkg Kinloss Rescue (11/Nov) (AG)
SRG 131: 1124 USB in r/check w/Kinloss Rescue (18/Oct) (AG)
SRG 132: at 1447 at in r/check with Kinloss Rescue (20/Oct) (AG)
SRG 137: 1230 USB in r/check w/Kinloss Rescue (18/Oct) (AG)
SRG 32: at 1135 in r/check w/Kinloss Rescue - "Exercise Yellow Scorpion - airborne RAF Valley (11/Nov) (AG)
SRG 34: at 1828 in r/check w/Kinloss Rescue (12/Nov) (AG)
SRG 34: at 1917 in r/check w/Kinloss (05/Nov) (AG)
STAVANGER RESCUE: at 1802 wkg Sabre 50 (21/Oct) (AG)
SWALLOW FORMATION: at 1020 wkg Kinloss Rescue "Wessex helo with 5 pob, and Lynx helo with 3 pob. En-route from EGAA (Aldergrove) to EGNC (Carlisle) - rqst list. watch!" (26/Oct) (AG)
SWANSEA COASTGUARD: at 1344 wkg Rescue 193 (04/Nov) (AG)
SWEDEN AIR RESCUE: at 1412 wkg Tallin Rescue (08/Nov) (AG)
TARTAN ONE: at 1837z clg J7H (Id'd as a Sea King helo formerly Med Rescue 178) (05/Nov) (AG)
THREE MIKE INDIA (3MI): at 1418 in r/check w/Kinloss Rescue (04/Nov) (AG)
TIGER 94: at 1212 clg Kinloss Rescue for r/check (11/Nov) (AG)
WARLOCK FORMATION: at 1321 in r/check w/Kinloss Rescue - "Two Pumas from Sennybridge to RAF Benson - rqst list.watch - 3 pob each aircraft!" (31/Oct) (AG)
WESTLAND FOUR: at 1601 in r/check w/Kinloss Rescue (12/Nov) (AG)
YANKEE 69: at 1648 wkg Sweden Air Rescue (20/Oct) (AG)

5687 : RNZAF Auckland & IROQUOIS BLACK, NZL 2005 USB closing down watch (13/Oct) (IJ)

5696 1503: HC-130H 0532 USB clg 6026: HH-60J air-to-air. No joy. (25/Oct) (DW2)
AIR FORCE 5415: 0135 USB wkg CAMSLANT w/radio checks. 5415 originally called "COMMSLANT". (3/Oct) (DW2)
AIRCRAFT 393: 0649 USB wkg STRAIGHT 801: US Customs P-3 AEW a/c, w/Hotel Fox radio check. (27/Oct) (DW2)
CAMSLANT CHESAPEAKE: at 2337z wkg CG 2115 - "Accecpt your guard at minutes 38 - Primary 5, Secondary 8!" (12/Nov) (AG)
CAMSLANT CHESAPEAKE: at 2347 wkg CG 1720 (12/Nov) (AG)
CAMSLANT CHESAPEAKE: at 2349 wkg CG 1716 (12/Nov) (AG)
CAMSLANT CHESAPEAKE: at 2354 wkg Kilo Four X-Ray - (12/Nov) (AG)
RESCUE 193: at 2110 clg Culdrose Ops (02/Nov) (AG)
STRAIGHT 801: US Customs P-3 AEW a/c 0700 USB wkg CAMSPAC. QTH: 1104N 09435W. (27/Oct) (DW2)
CG 6021: USCG HH-60J 0420 USB clg "Cape Air" no joy.(RB)
Culdrose Op's Royal Navy AS Culdrose 0247 USB wkg unid a/c w/wx info. (RB)
KING 53: USAF HC-130 #64-14853 1639 USB 71st RQS, Moody AFB, wkg CAMSLANT re assuming his radio guard. (RB)
NCF: USCG Group Miami, Fl, USA 2229 USB clg KING 52, USAF HC-130P #61-4852, no joy. (RB)
NLPM: USCGC Chase (WHEC-718) 0717 USB wkg NMC, CAMSPAC Point Reyes, Calif, att to contact NOJ, CommSta Kodiak, rare HF appearance by a WHEC. (RB)
NMN: CAMSLANT Chesapeake, Va 0618 USB wkg VICTOR 1 SIERRA re Dist.1 diverting them to SAR at 44-00N/052-31W re distressed F/V Atlantic Pride (RB)
NMR1: GANTSEC, USCG Greater Antilles Section,"CG San Juan", PR 0446 USB wkg CG 6510 w'flight op's. (RB)
NOF: USCG AirSta Clearwater, Fl 0247 USB "Clearwater Air", clg RESCUE 6024. (RB)
NOJ: USCG CommSta Kodiak, Ak, USA 0718 USB clg Coast Guard cutter Chase. (RB)
RESCUE 1500: USCG HC-130H 0713 USB wkg NMN, CAMSLANT Chesapeake for update, is advised ASCOT 2269 on-scene, also passes ETA of

ships. RESCUE 314, a Labrador helo is enrt from CFB Greenwood. RESCUE 1503 will be launching shortly to relieve the 1500. (RB)
RESCUE 1501: USCG HC-130H 1836 USB wkg NMN, CAMSLANT Chesapeake for radio guard, enrt (unid) SAR at 33-15N/73-35W. (RB)
RESCUE 1501: USCG HC-130H 1949 USB wkg NMN, is flying cover for the HH-60J RESCUE 6031 on scene at SAR for the S/V Papa (Papaw), the 6031 is conducting hoisting operations. (RB)
RESCUE 1503: USCG HC-130H 0825 USB wkg NMN, is on-scene at SAR for F/V Atlantic Pride, has located a raft in the water. (RB)
RESCUE 6026: USCG HH-60J 1953 USB wkg NMN, is being diverted to unid SAR, reported PIW (Person In Water). (RB)
STRAIGHT 801: USN C-130T? 0539 USB a frequent "flyer" these days wkg w/USCG, wkg CAMSPAC Point Reyes, after CAMSPAC called PAPA 6332, 801 enrt North Isle fm Corpus w/10 POB, 801 req (interrogative) if NMC has had comms w/EVERGOLD? (neg). Other logs out there of 801? (RB)

5699 G-BDIJ: 1908 USB in r/check with Kinloss Rescue (17/Oct) (AG)
RESCUE 11: 1807 USB wkg Kinloss Rescue (17/Oct) (AG)
RESCUE 177: 1659 USB in r/check w/Kinloss Rescue (17/Oct) (AG)
RESCUE 178: 1830 USB wkg Kinloss Rescue (17/Oct) (AG)

5703 Unid LDOC: S. Pacific Regional Airliner 0745 USB OM & YL w/chit-chat mentioned about the mixup between the passengers & the freight of cava. He had to make an extra flight to pickup the cava. (17/Oct) (IJ)

5731 BAA: Beijing METEO China 0900 UTC RTTY 50 Bd/850 with RYRY & WX synopsis (6/OCT) (IJ)

5781 German Diplo?: 0815 15/Oct 85.7bd/170/4/I ARQ-E, on-line crypto(MC)

5812 YUGOSLAV EMB: ? ?LOC 0702 FEC/A 144/I/400 Tfc in online encrypt. Crypto key string "letletlet". ends with"qru 73 ske" (15/Oct)(DW)

5830 ?: M3, ? 16.30 (Oct 31) CW 287/00 (R5) = = 000 (AB)

5831 ?: MFA Tunis, ALG 16.38 (Oct 31) RTTY 50bd Various msgs (AB)

5851.4 UNID: 0021 17/Oct PacTOR-2, tfc (MC)

6242 UNID: 2235 16/Oct ANDVT, tfc from many stations(MC)

6314.5 SAB301: GOETEBORG RADIO 0802 arq Chan free marker (Maritex) "ererer". Selcals RFBM. (3/Nov) (DW)

6315 7TF4: Boufarik Radio 0441 CW marker - QSX (15/Oct) (TR2)

6333.5 IGJ43: Ny Augusta 1215 RTTY 100/850 carb msg. 14/Oct (WP3)

6340.5 NMF: USCG BOSTON 2036 FAX Strong pix but detail fuzzy. 500hpa prog for W N/Atlantic. (29/Oct) (DW)

6348.1 HWN: Ny Paris 1057 RTTY 150/850 faaa de hwn testing. 7/Oct (WP3)

6357 SAA: Karlskrona Radio 1050 CW tfc list. 7/Oct (WP3)

6358 PBC: Ny Goerree 1458 RTTY 75/850 carb. 7/Oct (WP3)

6376 WCC: Chatham Radio 0430 CW marker - QSX (13/Oct) (TR2)

6382 TBA6: Turkish Navy Aankara, TUR 23.31 (Oct 23) CW VVV TBDJ de TBA6 (AB)

6385 SXA3: GN SPATA 2053 CW. Marker "K13A/G de SXA/G/3G/4G" (29/Oct)(DW)

6388 EBA: Madrid Naval R 1617 CW Navarea three Oct 25 (PvdE)

6389.2 AQP4: PN KARACHI 2102 CW. Marker "vvv AQP2/4/5/6" (29/Oct) (DW)

6396.1 KAWN: 0351 RTTY 75/850 USB R 10/3. Looks like WX

6422 PWZ33: BN RIO DE JANEIRO 2114 rtty 75/850 Msgs in Portuguese. Ends with "eof cq de PWZ-33 qru/zkm". (29/Oct) (DW)

6434.2 RN Preston: G Rtty 100/216 2040z Encrypted Tfc 19th Oct 98 [BC3]

6445.9 MURMANSK MET: 1949 FAX 120/576/R/1000 lsb of 6447.8. Chart of N/Atlantic, Artic, N/Europe and W Russia.New chart 2005z N/Norway, Finland, Russia, Artic Ocean. (16/Nov) (DW)

6452.5 GYA: RN NORTHWOOD 1550 FAX 1200z sfc analysis but single phase slip during transmission. (4/Oct) (DW)

6452.5 RN NORTHWOOD: 0938 FAX Fax running - but missing the black tone. (16/Nov) (DW)

6460 SAB33: GOETEBORG RADIO 0804 arq Chan free marker (Maritex "ererer". Selcals MPFCTPV OSDQ (3/Nov) (DW)

6460.7 SAB 33: Goeteborg R. S. Sitor-A 1953z 3Nov 98 [BC3]

6465 UWS: KIEV RADIO 1550 CW. Blind tfc brdcst in weak, fast cw. Msgs originating in "Kiew". (13/Nov) (DW)

6470 SXA24: Ny Spata Attikis 0425 CW marker - QSX (13/Oct) (TR2)
6475 UNID 0739 Pactor I soundalike, in maritime band. Unable sync before offair. (12/Nov) (DW)
6482 CLA: Habana Radio 0437 CW marker - QSX, 15 Oct, (TR2)
6491.5 JOS: Nagasaki, Japan, CW V marker/Traffic List/High speed CQ,
6496.7 CFH: CF Halifax N.S CAN Rtty 75/170 1058z WX Forecasts 3 Nov98[BC3]
6502 TBB6: Ny Ankara, 0420 CW marker - QAP (13/Oct) (TR2)
6509 UNID: 0140 11/Oct 75bd/850 Baudot, METAR WX for US aerodromes (MC)
6550 PBK: Coastguard Center ww Falcon about "TS6" 17.24 USB (BVR)
DLH8189: Swk/57n30w 1700 F350 57n20w 1733 56n10w sel/HMAJ DABYZ (RD3)
ELY851: Swk/52n15w 1657 F320 51n20w 1726 50n30w sel/ADFM 4XAXL B747. 29/10 (RD3)
N75HS: Swk/55n20w 1701 F410 55n10w 1736 TEDEX ? To Sc.125.67 Citation-X 29/10 (RD3)
N8JC: Swk/55n30w 1655 F410 55n40w 1623 54n15w sel/GPJQ Citation-X 29/10 (RD3)
6666 4 BRAVO OSCAR 2152 USB w/EAM during last weekend in Oct. exercise.(RB)
6683 : ANDVT comms noted 0458 USB approx. Air Force 1's departure time from Los Angeles. 25/Oct (JJ)
6685 "Jeddah": Jeddah LDOC, Saudi Arabia 0346 USB wkg Saudi 003 w/flt info, some EE. (RB)
6692 Various: 0530 USB w/Russian Far East ATCs: Petropavlovsk (YL/RR), Yuzhnyj (Sakhalinsk) (YL/RR), Khabarovsk (OM/RR) and one aircraft #85430 (OM/RR). (20/Oct) (DW2)
6702 Unid: 0550 FSK? 75/850 Unid FSK like mode. (RB)
6719.4 HABITAT: 1854 USB wkg PAPA-2-KILO and others in very active net comms. 24/Oct (JJ)
6720.5 Unid: 2010 USB OM constantly repeating CHARLIE (15/Oct) (IJ)
6726 UNID: 2146 18/Oct 75bd/850 FSK UNID System, Revs, ACF=64 lead-in, ACF=0 tfc, Revs(MC)
6729 NATO Mil, 0015 17/Oct 75bd/850 FSK UNID System, Revs, "vmgtcnjbh" lead-in, ACF=0 tfc, revs (MC)
6730 IAF: Sigonella 2027 USB wx in II to a/c (9/Oct) (LAR)
SAM 201: 1727 USB O DV + 4, outbound San Francisco for Andrews AFB, wkg Andrews VIP for a pp to SAM Command re: a 2155z ETA. 30/Oct (JJ)
SAM 203: 1658 USB inbound Portland, ETB 1725z, wkg Andrews VIP. 30/Oct (JJ)
6753 Backwards music station 20:27 USB (AB5)
6760 KINLOSS RESCUE: at 1623 in r/check w/Rescue 193 (02/Nov) (AG)
KINLOSS RESCUE: at 1624 in r/check w/Rescue 12 (02/Nov) (AG)
KINLOSS RESCUE: at 1625 in r/check w/Rescue 13 (02/Nov) (AG)
RESCUE 13: at 1650 wkg Rescue 193 (02/Nov) (AG)
6761 TROUT 99: 0315 USB wkg Andrews VIP for pps. 31/Oct (JJ)
Unid-51: 0520 USB clg 52 no joy, sounded like JETT/JEBB... (RB)
6768 Unknown V2 0103 USB 5FGs - f/SS - Sat - weak. 31/Oct (LBJ)
6779 DRDT: FGS U-26 (S-175) 2236 USB German Navy 'unterseeboot' (diesel attack sub) wkg DHJ59, Wilhelmshaven Naval w/digital mode coordination. (RB)
6792 DFZG: MFA Belgrade Yugoslavia 0555 UTC RTTY 75 Bd/500 with RYRY, FOR ALL then encryption (6/OCT) (IJ)
DFZG: MFA BELGRADE 0611 rtty 75/R/400 Diplo tfc broadcast - online encrypted. (15/Oct) (DW)
6815 ICI03: Compamare Roma? 1019 USB wkg "rescue imy" & "rescue imz". Tfc in EE & II. 14/Oct (WP3)
UNID: Commercial stations Australia 0855 UTC USB 2 OMs with a chit-chat, mentioned about containers, boxes, pallets & about the price of cattle (8/OCT) (IJ)
6820 : ARIA 1, ARIA 2 & ARIA CONTROL: 0720 USB various comms. (17/Oct) (IJ)
6840 E10 MOSSAD 1958 AM EZI (10/Oct) (JRU)
6844.5 FDC: AF Metz 1716 CW "vvv de fdc" (11/Oct) (JRU)
6868.2 Unid: 1201 FEC-A 192; 3-ch-fec. 14/Oct (WP3)
6871 HEP7: Kantonspolizei Zuerich 0225 CW "vvv de hep7". 12/Oct (RM)

HEP7: Kantonspolizei Zuerich 1443 CW marker. 14/Oct (WP3)
HEP7: Cantons Police, Zuerich 0751 18/Oct CW, "vvv vvv vvv de hep7 hep7 hep7 ar" marker (MC)

6871.5 Unid: 0135 USB Repeats in FF, "ceci est un test de mission en morse" until 0158. 12/Oct (RM)

6880 TAVOLA: Italian Navy, unid 2114 USB wkg DORIA. (thanks to tip on #monitor IRC) (RB)

6881 NNN0MUA: NAVMARCORMARS HF Mailbox 2119 ARQ wkg NNN0TNS w/"no traffic" msg. (RB)

6891 FAPSI Moscow: RUS 19.20 (Oct 18) RTTY 75bd Many long msgs to RAD on link 70037 (AB)

6908 WHISKEY 1 CHARLIE & 4 ROMEO TANGO: Aus Army net 0850 USB radio cks (21/Oct) (IJ)

6920 VJC: RFDS Broken Hill 0800 USB wx, road reports (16/Oct) (IJ)

6929 RFFHC: ARQ Ajjacio, Corsica 13.20 ARQ-E 192/120 Test message to self, including RY's and "Le Brick" via "EHR" circuit.(PT)

6930 Unid: ??? 23.36 (Oct 23) ARQ-E 192bd Idling for hours (AB)

6959 E3: LP 1703 USB ID: 61238 //8464 (12/Oct) (JRU)

6959 Lincolnshire Poacher: E3 2200 (12 Oct) USB Tune, msg (HS)

6961.7 UNID 1938 arq Single freq ops. Unable to sync due buried well in noise/static/qrm. Previously logged SS on this freq. (27/Oct)(DW)

6962 RFFXCFD: France(?) 15.03 ARQ-E 72/398 RY's, Le Brick(still with WHRAF), Controle de Voie to self via "UDF" circuit (02 Nov).(PT)

6963.8 RFLIGA: FF KOUROU 2024 ARQ/E 192/I/200 4rc. Poor singal/sync. Tfc in FF. ID assumed (30/Oct) (DW)
RFLIGA: FF KOUROU 2256 ARQ/E 192/I/170 4RC. Betas. ID assumed. (26/Oct) (DW)

6977 FDG: Bordeaux, France 23.25 ITA2 50/400 French Air Force with RY's, "le brick" etc.(PT)

6981 RFFXCCS: presume France 13.00 ARQ-E 72/394 Message in FF to RFFXCFC via UCF circuit (30 Oct). (PT)

6983 Atencion V7: 0220 (10 Oct) AM In progress (HS)

6987 Moscow Meteo: (tent) 1440 FAX 120/576 //3830 //5008 (24/Oct) (KB)

6992.5 MFP34: RN Cadets, G 10.08 (Oct 11) USB Stations on line: MFP34, MFM38, MFJ04, MFQ40C (AB)
NIGHTWATCH 01: 0155 USB wkg Andrews with data comms. 15/Oct (JJ)
ANDREWS: USAF 1347 USB working SAM 693 with signal check, QSY 204 HF, nothing heard, last freq I have for that 12057 (MW)
ANDREWS: USAF 1353 USB SAM 201 w phonepatch to CP (MW)
EXEC 1 FOXTROT: USAF 1551 USB working ANDREWS, patched to SAM CP (MW)
EXEC 1 FOXTROT: USAF 1452 USB calling ANDREWS wth request to transfer to CP (MW) (Should this be ECHO 1 FOXTROT? - ed.)
EXEC 1 FOXTROT: USAF 1453 USB request for metro for Detroit (MW)
SAM 201: USAF 1448 USB calling SAM 683, no joy (MW)
SAM 204: USAF 1404 USB working ANDREWS for signal check (MW)
SAM 204: USAF 1457 USB calling EXEC 1 FOXTROT with a "Hi" (MW)

6997 2TQ: IAF sta 1435 USB radio check with "Rome" (9/Oct) (LAR)

6997.3 PPR: RIO DE JANEIRO 2045 CW. Weak cw marker "vvv de PPR qtc" Occ Portuguese(?). Freq unlisted against PPR - spurious? (30/Oct) (DW)

6998.5 DEK88: DRK Bonn, D 14.44 (Oct 11) CW Test de DEK88 (AB)
DEK88: DRK Bonn 1440 CW "TEST DE DEK88" (9/Oct) (LAR)

7185 WA3NAN: Goddard Amateur Radio 1820 LSB w/rebroadcast of shuttle comms for STS-95 w/lift-off of Discovery (OV-103) // 14295//21395. (RB)

7378.5 NNN0PRQ: NAVMARCORMARS 1813 USB wkg NNN0TBV w/voice MARSGRAM traffic. (RB)

7404.9 ATA57: NEW DELHI MET 1519 FAX End of chart - distinctive wide borders. (23/Oct) (DW)

7470 VLM: CASEY MET 2230 FAX 10 mins late in starting? 2240 24hr wave ht fcst. Unid charts starting 2300, 2320 and 2340z - new schedule? Signal slowly deteriorating. (3/Nov) (DW)

7484 POLISH EMB BUCHAREST ? 1611 ARQ/POL 100/250 QSL file. (23/Oct)(DW)

7508.2 ZRO2: PRETORIA MET 2158 FAX 120/576/R/800 Weak chart, hazy outlines in noise. Scheduled sfc analysis for 2200z appears to have started early. (14/Oct) (DW)
7535 NIYJ: USNS Invincible (T-AGOS-10) 1736 USB Stalwart-class ocean surveillance ship w/several quick checks with SESEF Norfolk. (RB)
7535 NJLH: USS John L. Hall (FFG-32) 1736 USB Oliver Hazard Perry-class guided missile frigate, wkg SESEF w/HF testing. (RB)
NNGH: USS Gunston Hall (LSD-44) 1514 USB clg Norfolk SESEF, then into ANDVT after contact. (RB)
NNKP: USS Kearsarge (LHD-3) 1530 USB wkg SESEF w/plain & ANDVT cks up to transmitter #10. (RB)
NRAR: USS Monterey (CG-61) 1456 USB Ticonderoga-class Aegis missile cruiser, wkg SESEF Norfolk w/HF testing, ANDVT tests. Later testing URT23 #1. (RB)
7561 Russian Mil, 0023 17/Oct 200bd/500 FSK UNID System, sync, cont, ACF=0 (MC)
7570 Fishing Boats: NZL 0620 USB 2 OMs w/chat (17/Oct) (IJ)
7572 : Backward Music Station 2040 (12/Oct) (LAR)
7575 UNID: 1041 11/Oct 75bd/150 FSK UNID System, sync, cont, ACF=0 (MC)
7605 E10 MOSSAD 0446 AM SYN2 (14/Oct) (JRU)
Mossad SYN2 E 0245 (10 Oct) R3E No msg, gone at 0250 (HS)
SYN2: MOSSAD No station 1950 UTC USB with YL repeating SYN2 (9/OCT) (IJ)
7606.7 RFFA: French MoD, Paris, F 0250 ARQ-E3 192/425 (assumed C.I. "LFA") idling. (RB)
7610 Unid: 2351 USB Inverted speech. Also on 7609.2 LSB, but w/a diff xmsn. 21/Oct (RM)
7612 : ZERO ALPHA, ZERO BRAVO, MIKE 51, 20, 21, 40 & 60: Australian Army Relief OPs net, PNG 0805 USB radio checks (22/Oct) (IJ)
7615 Unid US Mil sta: 0835 USB mentioned heading back to Japan & they should be at home base at 055 (17/Oct) (IJ)
7625 HZN47: Jeddah Meteo, Saudi Arabia 0247 RTTY 100/750 w/meteo codes, poss. AAXX reports. (RB)
7644.7 RFFV: French Forces, Paris, F 0105 ARQ-E3 100/425 (assumed C.I. RUN) idling. (RB)
7646 DDK2: 2337 RTTY 50/??? USB N 10/14 cq de ddk2 ddh7 ddk9
7646.4 DDA7: Hamburg Meteo. D Rtty 50/170 2016z Ry's 3Nov 98 [BC3]
7659 HBD20: MFA Berne Switzerland 0540 UTC ARQ with 5Lgs (6/OCT) (IJ)
Unid: 0745 USB OM in RR (16/Oct) (IJ)
7674.9 UNID Papua New Guinea stations 0905 UTC USB with 2 OMs in Pidgin EE (11/OCT) (IJ)
7682 GXQ: London, England 10.37 VFT ITA2 50/340 Foxes, RYI's and "TEST DE GXQ".(PT)
7682.3 AFA1AS: USAF MARS 2330 PACKET 300/170 to AFA1QW. 21/Oct (RM)
7691 : US Fishing Boats 0625 UTC USB 2 OMs with a chit-chat. Off the Hawaiian Island chain. (6/OCT) (IJ)
7696 Unid stas: 0018 USB net/SS. 22/Oct (RM)
7710.2 VFF: CCG Iqaluit, NWT 2356 FAX 120/576 Wx chart. 21/Oct (RM)
7715 RCU 71: Novosibirsk Meteo RUS Rtty 75/866 2020z unid Msgs 3Nov98 [BC3]
7735 UNID: Commercial stations Australia 0940 UTC USB with 2 OMs discussing the next days work sked (6/OCT) (IJ)
7737 Unid: 0012 USB Inverted speech in SS. Also on 7740, LSB, but w/a diff xmsn. 22/Oct (RM)
7755.2 : Paris France 20.00 ARQ-E 100/386 Relaying Controle de Voie message from RFQP, Djibouti to itself, via "RQG" circuit.(PT)
7755.3 RFQP: French Forces, Djibouti 0055 ARQ-M2 200/425 (assumed) idling both channels. (RB)
7760 E10 Mossad 0100 USB ULX Cont'd - f/EE - Sat - //6270. 31/Oct 98 (LBJ)
7808 DFZG: MFA BELGRADE 0613 rtty 75/R/400 Diplo tfc broadcast - online encrypted (15/Oct) (DW)
MFA BELGRADE: 0634 FEC/A 144/I/400 Tfc in online encrypt. Occ header (typ.) "0098 252578 12444 9808 vvvvvv:" (13/Oct) (DW)
7810 UNID: 0139 16/Oct 200bd/200 PacTOR, tfc (MC)

7811 E10 Mossad 0045 USB CIO2 Cont'd - f/EE - Sat - //5170. 31/Oct (LBJ)
CIO2: MOSSAD No station 1945 UTC USB with YL repeating CIO2 (9/OCT) (IJ)

7822.3 RFFA: French MoD, Paris, F 0502 ARQ-E3 200/400 (assumed, "FDX" to RFFVAE Dharan) idling. (RB)

7831 5ST: ASECNA Antananarivo 0300 ARQ-E3 48/400 RQ sig. 21/Oct (RM)

7832 Russian PTT: 0146 17/Oct 1280bps OQPSK (MC)

7850 DEPEND: Unid Caribbean island 0248 USB Wkg ANNA (?). 21/Oct (RM)
UNID: French Polynesian stations 0705 UTC USB with 2 OMs in FF & ALE Bursts (6/OCT) (IJ)

7850.5 Unid (Still) 0401 PACTOR-1 200/200 nightly but weak 0000/0500 e-mail ref, Venezuela ref, whoizit? (RB)
Unid: Venezuelan? 0240 PACTOR-1 200/200 w/ref to Ciudad Bolvar & Orinoco River in Venezuela. Need to watch this one, its becoming a regular. (RB)

7862.2 UNID: Philippines station 0915 UTC USB with OM spelling out a WX forecast (11/OCT) (IJ)

7863.5 SPW: Warsaw Radio, Poland 0052 CW w/CW marker. (RB)

7865 SPW: Warszawa Radio 1812 USB ID and kind of vm in polish (11/Oct) (JRU)

7887.2 UNID: 0158 16/Oct PacTOR-2, tfc (MC)

7907 MURMANSK MET: 1455 FAX 90/576/R/1000 End of chart. Noisy. lsb of 7908.8 (8/Nov) (DW)

7914.5 AFA2BA: U.S. Air Force MARS 0050 FEC as NCS opening "AF MARS Digital Net". (RB)

7915 AFA2BA: USAF MARS 0057 FEC Leading net of stas in rgns 1, 2, 3 & 4. 22/Oct (RM)

7918 E10 MOSSAD 1803 AM ongoing msg, just missed callup, most likely yhf (10/Oct) (JRU)

7921.5 BOOKSHELF: 0136 USB wkg ZAPPER and FOCUS for signal check on "Gray 4" re go to "Red 11" for a check in the "green". 24/Oct (JJ)

7927 Unid: two boaters 0105 USB Thick accents, poss Scandinavian. 22/Oct (RM)

7934 DEWPOINT: 0100 USB wkg TYPHOON re possible hostiles on track 213. TYPHOON had an accent, maybe Japanese. 12/Oct (JJ)

7941.5 UNID: 1845 CW. Tfc in mix of ltrs, figs and acctd ltrs. QSL fm second stn on net. Signoff 1856. (8/Nov) (DW)

7946.5 DHJ51: GRENGEL MET 1246 rtty 100/R/425 Met tfc inc KAWN relay with local ETGT(Traben-Trarbach) and EDZW data. (27/Oct) (DW)

7951.5 WSW462: Unid 0112 Unid digital mode at 400/170. CW s/off at 0115. Returned at 0117 w/more tfc. Whenever idling, it had pulses similar to the various idling ARQ modes. CW s/off at 0129. CW ID every 3 mins. thereafter. 22/Oct (RM)

7965 Unid ship: 0610 UTC ARQ "WE LEAVE SATURDAY NIGHT OR SUNDAY MORNING THEN THENCE SOUTH TO HOLLYWOOD ..." (15/Oct) (IJ)

7978.3 LUM: Martienso Antarctica 0910 UTC RTTY 100 Bd/850 with RYRY & 5Lgs (6/OCT) (IJ)

7983.6 RFTJ Dakar, Senegal 01.00 ARQ-E3 48/363 Tfc to RFTJF, Port Bouet, via "TJF" cct (04 Nov). (PT)

7983.7 RFTJ: French Forces, Dakar, SEN 1925 ARQ-E3 48/425 w/controle de voie on circuit TJF. (RB)

8000 JJY: Tokyo Time Station 0604 USB w/time ticks. (20/Oct) (DW2)
JJY: Tokyo, Janpan. Time signals. 12:34 24/Oct (JRC)
FDG: FAF BORDEAUX 1857 CW. Marker "vvv de FDG ar" (8/Nov) (DW)

8015 RFFXCFC: France(?) 15.30 ARQ-E 72/386 Controle de Voie to self via "UCF" circuit (02 Nov). (PT)

8020 HMF85: KCNA PYONGYANG 1510 rtty 50/250 Press in English. Poor copy. (13/Oct) (DW)

8026 EXECUTIVE-1-FOXTROT: 0020 USB outbound Jacksonville for Salina KS, wkg Andrews VIP re 0255z ETA. 30/Oct (JJ)
SAM 204: 0015 USB onground Elmendorf wkg Andrews VIP prior to a 0140z departure for Wright Patterson. 20/Oct (JJ)
SAM 683: 2355 USB inbound Andrews, wkg Andrews VIP for pp re write-ups. 29/Oct (JJ)

8032 SAM 201: 0216 USB ETA Andrews 0305z, wkg Andrews VIP. 19/Oct (JJ)

8034 UNID: Russian station 0415 UTC USB with a YL in RR (9/OCT) (IJ)
8036 SAM 375: 2155 USB DV-2 + 4, outbound Travis for Andrews AFB, wkg Andrews VIP on F-003 for pp to SAM Command re 0200z ETA. 25/Oct (JJ)
8037 WOLFMAN: 0023 USB wkg ICEMAN and EAGLE 40 w/net comms. 13/Oct (JJ)
8040 GFA: Bracknell Meteo 2307 FAX 120/576 Wx chart. 29/Oct (RM)
GFA: BRACKNELL MET 1541 FAX 120/288/N/800 Sfc analysis. (23/Oct)(DW)
GFA: BRACKNELL MET 1905 FAX Fuzzy, upper air charts. (8/Nov) (DW)
8045.5 CAJUN 0105: USB wkg WOLF (sounded like) re vehicles out of Yuma. 12/Oct (JJ)
TECG AFLOAT: USMC tactical 0454 USB wkg TECG REAR after clg POINT LOMA no joy. (RB)
8047 ANDREWS: USAF 1404 USB working SAM 201 with phonepatch (MW)
SAM 201: USAF 1414 USB working ANDREWS QSY 311 (11220), phonepatch to 314-232-2917 (Boeing Ops-St. Louis) (MW)
8056 SHADOW: Unid military 0153 USB clg unid stn, no joy. (RB)
8057 UNID: 2121 18/Oct 16 tone UNID modem, pilots at +600, +2900Hz (MC)
8058 UNID: 1928 PICCOLO On standby. No tfc. (8/Nov) (DW)
8061.9 MKD: Royal Air Force, Akrotiri 2359 14/Oct VFT: 2ch of Piccolo-6, crypto(MC)
8063.3 RFFA: MoD Paris, F 0335 ARQ-M2 200/342 (assumed) both channels idling. (RB)
8071.7 HEC?: Bern Radio, Switzerland? 0122 16/Oct PacTOR-2, tfc (MC)
8083 RIJ75: Tashkent Meteo 2310 FAX 120/576 Wx chart. 29/Oct (RM)
8083.4 MKK: London, England 10.35 VFT ITA2 50/340 Foxes, RYI's and "TEST DE MKK".(PT)
8100 Unid: 1519 ARQ QRN-covered sig.; can't decode. 21/Oct (RM)
8111.7 GXQ: British Army, London 0201 15/Oct VFT: 5ch of 50bd/170 Baudot, "iry qbf figs test de gxq" marker (MC)
8117 BMB: TAIPEI MET 2244 CW. Wx forecast - mentions "violent storm 11 to over hurricane 14". (15/Oct) (DW)
8122 SHOALWATER: Bay Class MHI M-81 0619 USB wkg CANBERRA CONTROL. (20/Oct) (DW2)
8122 BAF36: BEIJING MET 2305 FAX Weak rythmic beat. Only dead zone discernable. qrm. (15/Oct) (DW)
Unid: E-eur (rus?) telephone call 18.18 USB (BVR)
8123.5 Unid Telecom South Pacific: 0825 USB YL passing Phone No, then comms in a Pacific Island language (22/Oct) (IJ)
8126.6 UNID: 2010 30/Oct 125bd MIL-188-141 ALE (MC)
8127 E10 MOSSAD 1448 AM KPA59, still active at 1505 (10/Oct) (JRU)
8146.6 IMB55: ROME MET (IMB55) 0917 FAX Upper air prognosis (3/Oct)(DW)
8148 SNN299: MFA WARSAW 0952 ARQ/POL 100/250 Tfc in Polish (2/Oct) (DW)
8153 UNID: Philippines Naval or Coast Guard vessel 1000 UTC USB spelling out msgs about Observing a Taiwanese Fishing boat (7/OCT) (IJ)
8160 : English Lady Numbers Station 0237 USB in progress, YL/EE w/5Fx2 to 0334 off w/00000. (RB)
8176 VIM: Melbourne Radio 20:27 USB with traffic, under splatter (AB5)
8184.5 Russian Mil: 0203 15/Oct 200bd/500 FSK UNID System, sync, cont, ACF=0 (MC)
Unid: 199.98/476 no acf synchron continue 16.27 200 (BVR)
8194 Unid: 2248 RTTY 75/170 QRN-covered sig.; can't decode. 21/Oct (RM)
8200 Unid: 0701 USB two OM in german, sounds like ship/ship comms, re new outboard motor (18/Oct) (JRU)
8222 WCW4123: Tug Susan M. 2304 USB wkg WOM (on 8746) for radiotelephone tfc. (RB)
8227 UNID: 0205 15/Oct 75bd/190 FSK UNID System, ACF=0 (MC)
8240 N/A: M/V Sovereign 0120 USB wkg Group Mobile (on 8764!) for comms guard after vessels tow, the 470 foot M/V Golden Star,

broke loose during Hurricane Georges. Tow was drifting towards an oil platform in the Gulf of Mexico, later was able to take the vsl under tow again. (RB)
NCRG: USCGC Courageous (WMEC-622) 1937 USB wkg NMN (on 8764) re info for crewmember. (RB)
NRPJ: USCGC Laurel (WLB-291) 1706 USB wkg CAMSLANT (on 8764) for posn/op's report. (RB)
P3PX3: MV Bauska clg Portishead radio 16.34 USB (BVR)
UCOM: TKH Yakov Reznchenko 0501 USB Russian-flagged 2,360 DWT bulker, clg/wkg Portishead Radio (on 8764) for R/T tfc, posn given as "N.Atlantic". (RB)
8264 4JHA: 1659 USB wkg SPC42 (8788); pp to Azerbaidjan (12/Oct) (JRU)
8272 RDL2: Unid 0644 USB OM/EE gives relief operations account of major storm damage to a huge net, which included EEP1, MTS2, EGP2, RLD1, and many others. He ment'd Mindanao and other islands in the Philippines. 29/Oct (RM)
8272 Unid: 0337 USB clg JJD, reportedly Japanese Self-Defense Force/Maritime, Tokyo. (RB)
8298.2 RBSL: Ny Bombay 1940 RTTY 50/850 RY (15/Oct) (IJ)
8303 LOR: Ny Puerto Belgrano 2252 RTTY 75/387 5LGs between ZSYNZ & ZENDZ, fol'd by navareas and nx/SS. 21/Oct (RM)
LOR: AN PUERTO BELGRANO 2112 rtty 75/R/170 "de LOR....f013 013 k" then idle on space for period. Offair2121z. (11/Oct) (DW)
8316 RNZN Auckland & HMNZS TARAPUNGA, NZL 0850 USB nav wngs about the sunken Korean Fishing vessel Don Jong. Scene Commander says the area is off limits (22/Oct) (IJ)
8316 RNZN: Auckland & FOXTROT 1 INDIA New Zealand 2115 UTC USB FOXTROT 1 (9/OCT) (IJ)
8328 UNID 2045 rtty 75/N/850 Brief signal - established baud/shift only. Data (very short possibly online encrypted. (26/Oct) (DW)
8330 RFVI: FF Le Port ARQ-E3 100\414 2007z Idle Mode 24Oct98 [BC3]
8335.2 DRHH: Unid vsl 0906 USB/RTTY wkg DHJ59. 18/Oct (WP3)
8380.5 CBCN: M/N Condor 0020 ARQ Chilean-flagged freighter w/CHILRP formatted msg to DIRSOMAR. (RB)
8383.5 UWD~: SHIP FATEV 2135 arq TH Fatev MRU/MMF. Tfc in 3sc via Mariupol. QTH ~33155N 0762121WW (14/Oct) (DW)
8386.5 VRUQ7: M/V United Purpose 0317 ARQ Hong Kong-flagged 43,991 DWT bulker w/AMVER/FR, login 03127 UPR. (RB)
8392.5 ELOB4: SCF Endurance 2306 ARQ Liberian-flagged 96027 DWT combination tanker w/tlx tfc, login 24410 ELOB4. (RB)
ELTH8: TK Tikhoretsk 2155 ARQ Liberian-flagged, Russian crewed tanker w/RR tlx via UFN. (RB)
UCUT: TK Burgas 2206 ARQ Russian-flagged tanker w/admin tfc fm master KM Papulov via UFN, login 54651 UCUT. (RB)
UDEN: TKH Sergo Zakariadze 2131 ARQ Russian-flagged 23,940 DWT bulker (Novorossiysk Shpg) w/tlx re: departure from Norfolk bound Montreal, login 66165 UDEN. (RB)
8392.5 UWKX: TK Kapitan Ostashevskiy 0110 ARQ 67,958 DWT tanker (Novoship) w/DISP-1 report to Novorossiysk fm master KM Koval', login 54969 UWKX. (RB)
8395 WGLA: M/V Lykes Explorer 0333 ARQ U.S.-flagged 45,688 DWT container ship w/tlx re arrival Miami, login 11732 WGLA. (RB)
8397 UCBM: TKH Mekhanik Pustoshnyy 0354 ARQ Russian-flagged 54,636 DWT bulker w/RR tlx, login 54636 UCBM. (RB)
UCMP: TKH Vera Mukhina 0618 ARQ Russian-flagged timber carrier, w/admin msg via UCE from master, KM Sedki. (RB)
UCOL: TKH Vekaterina Belashova 0511 ARQ Russian-flagged 4,471 DWT bulk timber carrier, w/msg ck, login 54788 UCOL. (RB)
UCON: TKH Pioner Moldavii 0610 ARQ Russian-flagged 6,070 DWT bulker (Northern) wkg UCE,login 66199 UCON. (RB)
UGOK: TKH Teodor Nette 0621 ARQ Russian-flagged 7,850 DWT dry cargo (Northern) wkg UCE. (RB)
XU7RR: TKH Mekhanik Pyatlin 0528 ARQ Russian-flagged 2,657 DWT dry cargo vsl (Northern) wkg UCE w/tlx to Arkhangelsk. (RB)
8398 ELTD6: M/V Otrada 0612 CW clg unid stn re QSY 8412. (RB)
8414 unid: 0438 SITOR-B WX 10/30

8414.5 MV 273349500 clg mv 273346500 for ships position update (BVR)
Unid: mv 242006000 clg unid mv 242005000 for J3E on 8500 khz 18.19 GMDSS 100 (BVR)
8419.5 SAB407: GOETEBORG RADIO 0807 arq Selcals OSDQ. Chan free marker (Maritex) "ererer" (3/Nov) (DW)
8420.5 HEC18: Bern Radio, SUI 12.07 (Oct 25) CW HEC marker (AB)
8426 EAD: Madrid Radio, E 12.11 (Oct 25) CW EAD marker (AB)
EAD: MADRID RADIO 1145 arq Chan free marker "EAD". (3/Nov) (DW)
8427 OXZ: Lyngby radio dnk nx 8.39 FEC 100 (BVR)
8428 UTQ: Kiev Radio, UKR 12.10 (Oct 25) SITOR-A 100bd Tfc (AB)
SAB424: GOETEBORG RADIO 0810 arq Selcals OUXP. Chan free marker (Maritex) "ererer" (3/Nov) (DW)
SAB424: GOETEBORG RADIO 0810 arq Selcals OUXP. Chan free marker (Maritex) "ererer" (3/Nov) (DW)
8429 EAD: MADRID RADIO 1143 arq Chan free marker "EAD". (3/Nov) (DW)
8431 XSQ: GUANGZHOU RADIO 1920 arq Chan free marker (Maritex) "ererer". Barely audible in qrn, poorsync. (3/Nov) (DW)
8448 A9M: Bahrain Radio 1829 CW marker - CQ (12/Oct) (TR2)
A9M: Hamala Radio, BHR 2000 CW marker (23/Oct) (IJ)
A9M: BAHRAIN RADIO 1921 CW. Marker "cq de A9M" (12/Oct) (DW)
8453 FUG: FN LA REGINE 1924 rtty 75/850 Marker "FAAA de FUG testing ry's sg's FUG 5/7 5/17 kx" (12/Oct) (DW)
8457 PKP: Dumai R 1341 CW CQ QRU Oct 11 (PvdE)
8461 PKR: Semarang R 1344 CW CQ QSX QRU? Oct 11 (PvdE)
8462 unid: 0342 CW 10/27 WX
8465 E10 MOSSAD 1401 AM VLB2 (10/Oct) (JRU)
8470 XVG: Haiphong R 1602 CW traffic list QSX Oct 25 (PvdE)
8473 SUP: Post Said R 1533 CW CQ QRU? Oct 25 (PvdE)
8473 HLG: Seoul R., 1716z, CW, Marker QSX, 11 Nov, (TR2)
8473.5 A7D: Doha Radio 1825 CW marker - vvv de A7D (12/Oct) (TR2)
8473.6 WLO: 0306 SITOR-B 10/27 m/v Catalina selcall 1090
8476 A7D: Doha Radio, Qatar, CW "DE A7D" marker, 02:15 18/Oct (JRC)
8480 HZY: Ras Tanurah R 1611 CW end of traffic list DE QTC QRU? Oct 25 (PvdE)
8497 HLJ: Seoul R., 1722z, CW, Marker QSX, 11 Nov, (TR2)
8500 Unid: mv clg other mv for intership talks, after gmdss call on 8414.5 khz 18.20 USB (BVR)
8510 UBB4: KALININGRAD RADIO? 1502 CW. Hi spd [33/34 wpm] in Russian with broadcast, apparently wx. Assembled qry list of Russian ships, then works them. (Nov/6) (DW)
8511 XSW2: Taichung R 1454 CW CQ QSX Oct 25 (PvdE)
XSW2: TAICHUNG RADIO 0850 CW. Marker "cq de XSW2 qsx 500 khz and 8 mhz". (Nov/6) (DW)
XSW2: TAICHUNG RADIO 0850 CW. Marker "cq de XSW2 qsx 500 khz and 8 mhz". (Nov/6) (DW)
8515 5AT: Tripoli Radio 1818 CW marker - QSX (12/Oct) (TR2)
8543.5 61KOS: UNID 0815 rtty 100/850 Startup marker "qbf figs ry's sg's int zbz test de 61KOS". 0818z switched into online encrypted mode. Offair 0823z. Resumed unid rtt 0824 for 2 mins. (15/Oct) (DW)
8556 SAB44: GOETEBORG RADIO 0814 arq Chan free marker (Maritex) "ererer". (3/Nov) (DW)
8565 D3E51: Luanda Radio 0421 CW wx bulletin (15/Oct) (TR2)
8568.5 FUV: FN JUBUTI DJI Rtty 75/170 2158z De FUV Test Ry's 26 Oct 98 [BC3]
8570 unid: 0334 CW 10/27 WX
8571 JNA: Tokyo Coast Guard 1950 CW marker - cq (14/Oct) (TR2)
UFN: Novorossiyk Radio Russia 0405 UTC CW with DE UFN (11/OCT) (IJ)
UFN: Novorossiysk, Russia, CW "DE UFN x" marker where x was an incrementing number, 4, 8, 12, 16, 22. Each group sent 3 times ie "DE UFN 4 DE UFN 4 DE UFN 4," etc, 04:10 18/Oct(JRC)
8571 JNA: Tokyo Coast Guard, 1728z, CW, Nav warning, 11 Nov, (TR2)
8573 CLA21: Habana Radio 0418 CW marker - QSX (15/Oct) (TR2)
CLA21: Habana Radio, 0414 CW marker - QSX (13/Oct) (TR2)
8573 JNA: Tokyo, Japan, CW CQ marker, 12:42 18/Oct(JRC)
8574 LGB: Rogaland Radio, NOR 12.15 (Oct 25) CW LGB marker (AB)
8577 HLO: Seoul R., 1741z, CW, Marker QSX, 11 Nov, (TR2)

8589 HPP: Panama Intelmar Radio 0414 CW tfc list (15/Oct) (TR2)
VTK: Tuticorin naval R 1507 CW VVV DE Oct 25 (PvdE)
HPP: 0332 CW 10/27 msg to ship to contact agent
8598 OXZ4: Lyngby Radio, DNK 12.16 (Oct 25) CW Tfc list (AB)
8600 XSV: Tianjin Radio 1625 CW "CQ DE XSV QRU? QSX 4 8 AND 12 MHZ BK K" (2/Oct) (LAR)
8600 XSV: Tianjin Radio 1955 CW marker - QSX (14/Oct) (TR2)
8601.3 ZLO4: Navy Irirangi, 1750z, CW, wkg unid, 11 Nov, (TR2)
8605 ZRH: SAN Silvermine 1047 rtty 75/170 RY/ID/SG + ZRH 2/4/5/6 S12S (15/Oct)(RH2)
8618 KPH: San Francisco R 1502 CW CQ Oct 25 (PvdE)
8622 PCH41: Scheveningen Radio, HOL 12.17 (Oct 25) CW DE PCH41 (AB)
8624 XSQ: Guangzhou Radio 1959 CW marker - QSX (14/Oct) (TR2)
XSQ: Guangzhou R., 1759z, CW, QSX tfc list, 11Nov, (TR2)
8634 PPR: Rio de Janeiro Radio 0410 CW marker - QSX (15/Oct) (TR2)
8636 HLW: Seoul R., 1812z, CW, Marker QSX, 11 Nov, (TR2)
8638 VNG: Llandilo, Austalia, time sigs & cw ID. 12:45 24/Oct (JRC)
8646 VTP: Vishakhapatnam naval R 1600 CW VVV DE Oct 25 (PvdE)
8649 MGJ: RN Faslane, G 12.18 (Oct 25) RTTY 75bd CARB (AB)
8651 XSI: Sanya R., 1704z, CW, Marker QSX, 29 Oct, (TR)
XSI: Sanya Radio 1704 CW marker QSX (29/Oct) (TR2)
8658 ASK: Karachi R 1607 CW VVV QSX QRJ Oct 25 (PvdE)
8662 TAH: Istanbul Radio Turkey 0415 UTC CW with CQ TAH (11/OCT) (IJ)
8674.4 VWM: CHENNAI RADIO 1648 CW. Marker "cq de VWM qsa? qsx v" (8/Nov) (DW)
8677 CBV: Valparaiso FAX 2314 sfc analysis (4/Oct) (DW)
8680 XUK3: Kompong Som Ville R., 1659z, CW, Marker QSX tfc list, 29 Oct, (TR)
XUK3: Kompong Som Ville Radio 1659 CW tfc list (29/Oct) (TR2)
8685 VRX: Hong Kong, China, CW CQ marker-not listed here, 12:43 18/Oct(JRC)
8686 CNP: Casablanca R 1509 CW CQ QSX Oct 25 (PvdE)
PKM9: Donggala Port R., 1651z, CW, Marker QSX, 29 Oct, (TR)
8687 PKE: Makssar Radio, Indonesia, CW "CQ DE PKF QRU? K" mkr, 12:34 18/Oct(JRC)
8688.5 ZSC6: Capetown, So Africa, CW CQ marker, 03:41 7/Oct (JRC)
8694 XSZ: Dalien R 1351 CW CQ QRU? QSX Oct 11 (PvdE)
XVN3: Nhatrang R., 1644z, CW, Marker QSX, 29 Oct, (TR)
8698 9MG2: Penang R., 1640z, CW, Marker QSX, 29 Oct, (TR)
9MG2: Penang Radio 1640 CW marker QSX (29/Oct) (TR2)
JOS: Nagasaki R 1338 CW CQ QSX Oct 11 (PvdE)
JOS: Nagasaki Radio 1753 CW marker - QSX (12/Oct) (TR2)
JOS: Nagasaki Radio 1950 CW marker (23/Oct) (IJ)
JOS: Nagasaki R., 1820z, CW, Nav warning, 11 Nov, (TR2)
8734 SVN42: Athens Radio, Greece 2218 USB wkg vessel w/c/s P3??? w/R/T tfc. (RB)
8736 Unid: ??? 23.06 (Oct 23) ARQ 100bd clg QCXT (= mv Heito c/s LN7040)(AB)
8737 5BA42: Cyprus Radio, CYP 23.09 (Oct 23) USB Voice mirror (AB)
8743 HSW: Bangkok Meteo, Thailand 2205 USB YL w/wx in between music box like chime (thanks Rob!). (RB)
SVN44: Athens Radio, Greece 2138 USB YL/Greek w/voice frequency marker, ann of Hellenic Tele-communications Organization (OTE) services separated by door-bell like chime. (RB)
Unid: 2207 USB OM w/traffic list in unid language, who has traffic list here at this time? (RB)
8746 LZW: Varna Radio 1408 USB tfc list (10/Oct) (JRU)
8749 WOO: AT&T Coastal Stn New Jersey 0400 USB w/traffic list. (RB)
8764 NMN: CAMSLANT Chesapeake, Va 1800 USB clg USCGC Hammerhead (WPB-87302), no joy. (RB)
NOQ: USCG Group Mobile, Al, USA 0120 USB wkg M/V Sovereign (see 8240 for details), 1st time I've seen a Group use a SCN pair. (RB)
8776 NEW GUARD 0344 USB w/EAM broadcast. (RB)
SVN48: Athens Radio, Greece 2212 USB YL/Greek w/voice frequency marker, ann of Hellenic Tele communications Organization (OTE) services separated by door-bell like chime. (RB)
8825 New York ATC: (NAT-E MWARA) 0011 USB wkg Iberria 6603 for posn.

(RB)
8861 CC-CDM: LAN Chile. 0649:USB: Wkg Dakar. (IB)
CPM-102: UNID. 1629:USB: Wkg Canarias. FL160. (IB)
MPD-92:. UNID: 2152:USB: Wkg Dakar. SELCAL-MRGH (IB)
Mauritius Aero: (MAU) 2040:USB: Wkg Cargolux-761. (IB)
PT-WLZ: UNID. 0647:USB: Wkg Canarias. SELCAL-MSGB. (IB)
: Dakar, SEN (SAT-1 MWARA) 0351 USB wkg unid flt 701 w/posn. (RB)
8867 Air Vanuatu-30: 0739:USB: Wkg Brisbane. FL330. (IB)
National Jet-98: 0616:USB: Wkg Brisbane. (IB)
8892 7CE/7CA: Unid Indonesian Mil prob Ny 2220 CW 5LGs and clear msgs re ships' cargo. 21/Oct (ML2)
Shanwick Radio: G 12.24 (Oct 25) USB w/various aircraft (AB)
8894 BFB-345: BF Cargo (Belgium). 1621:USB: Wkg Niamey. a/c-AN-12. (IB)
XA-BAL: Aerovics, SA. 1801:USB: Wkg Algiers. Dest:LETO. Madrid/Torrejon/ FL430. (IB)
ZS-SPE: Mozambique-707. 1813:USB: Wkg Algiers. FL370. SELCAL-CKEF. from Lisboa to Maputo. (IB)
Algeirs Radio: ALG, (AFI-2 MWARA) 0157 USB wkg Speedbird 238 w/posn report, then Sabena 552 reporting level 310, est JANET(?). (RB)
Niamey Radio: NGR(AFI-2 MWARA) 0156 USB wkg Speedbird flt att to relay posn to another unid stn. (RB)
8903 AFP-0059: Portuguese AirForce. 1820:USB: Clg Luanda. (IB)
Air Gabon-117: 1807:USB: Wkg Luanda. (IB)
DTA-059: TAAG Angola. 1806:USB: Wkg Kinshasa. (IB)
Sudan-422: SudanAir. 0612:USB: Wkg N`djamena. (IB)
8906 AMX002: S.Maria/45n3422w 1637 F330 46n40w 1710 46n50w sel/BCQR XARKI B767 Aeromexico. 29/10 (RD3)
8930 AIR FRANCE 042: 1323 USB s/c ck BM-HS, onground Paris-CDG. a/c is a B767, reg. F-GHGJ (18/Oct) (JRU)
AIR FRANCE 322: 1323 USB s/c ck JK-AP. a/c is a B767, reg. F-GHGG (18/Oct) (JRU)
ALITALIA 620: 0722 USB onground Rome-F. s/c ck FK-DJ (17/Oct) (JRU)
COA 4: 0744 USB s/c ck DK-BF, wx for London/Gatwick (17/Oct) (JRU)
KOREAN AIR 905: 1420 USB s/c ck BG-RS, a/c is a B744(?), reg. HL-7485 (18/Oct) (JRU)
SDJ: Stockholm Radio, S 14.23 (Oct 25) USB w/unid aircraft (AB)
UNITED 911: 1505 USB s/c ck AQ-BM, a/c is a B777, reg. N770UA (18/Oct) (JRU)
UNITED 931: 1314 USB s/c ck AR-BF, SDJ asks for confirmation but gets no reply. a/c is a B777, reg. N782UA (18/Oct) (JRU)
8942 Vietnam-940: 1702:USB: Wkg Hong Kong. FL330. (IB)
8957 Shannon Volmet: IRL 14.20 (Oct 25) USB (AB)
8968 SHUCK 91: 0040 USB over the Great Lakes area, wkg Trenton for a pp to RAYMOND 24 and msg relay to CHECKMATE 01. 29/Oct (JJ)
8974 AF ANZAC: 0900 radio ck with AF Darwin, Perth, Townsville, Auckland, Sydney (31/Oct) (NJ)
AF DARWIN: 0859 USB wkg STALLION 123; cargo 1.3G 1.4S tanker required 16000L refill wx YBCS (CAIRNS) YBTL (Townsville) (31/Oct) (NJ)
RAAF Townsville, AUS: 0615 USB wkg TROJAN 008 (C-130); wx forecasts (19/Oct) (IJ)
8980 RESCUE 1502: USCG HC-130H 1532 USB wkg NMN, CAMSLANT Chesapeake w/pp update for SAR (RB)
STINGRAY 33: USCG HU-25 #2133 1600 USB wkg CAMSLANT
8983 CAMSLANT: 1628 USB wkg P9W. (27/Oct) (DW2)
CAMSLANT: 1630 USB wkg GAF. (03/Oct) (DW2)
CAMSPAC: 0248 USB wkg STRAIGHT 801: US Customs Service P-3 AEW a/c?. Accept your radio guard. Understand your homeplate is Corpus Christi, 13 souls on board. (25/Oct) (DW2)
NMB9: USCG AirSta Savannah, Ga. 1247 USB wkg CAMSLANT for radio ck. (RB)
NMB9: USCG AirSta Savannah, Ga. 1549 USB wkg CAMSLANT re CG 6027, 1st time logging of this AirSta. (RB)

RESCUE 1502: USCG HC-130H 2004 USB wkg NMN (RB)
RESCUE 1715: USCG HC130H7 1542 USB wkg CAMSLANT re S/V Seeker/Cheeker (RB)
RESCUE 1718: USCG HC130H7 1520 USB wkg CAMSLANT re debris sited, believed to be from S/V Fantome. SAR involved at least 4 C-130's & Royal Navy vsl HMS Sheffield. (RB)
STRAIGHT 801: USN C-130T? 1743 USB wkg CAMSLANT re ETA (RB)
8988 UNID: 2348 14/Oct 75bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
8989.9 : Philippines Military station 1005 UTC USB spelling out msgs. (7/OCT) (IJ)
8992 TAILSPIN: 0604 USB wkg HICKAM. (25/Oct) (DW2)
8992 CSE: Portuguese AF, Lisbon 0126 USB "Lisboa", wkg unid a/c re wxPGAK. (RB)
8993 : WHISKEY WHISKEY, CLEARWATER, SIERRA 1, KILO 1 & PAPA PAPA Presumed Fishing Boat net 0920 UTC USB with various stations calling each other, then WHISKEY WHISKEY contacted PAPA PAPA (11/OCT) (IJ)
9002 RAAF Sale: VIC, Australia, HUDSON 611 & HUDSON 612 0810 UTC USB with various comms. (8/OCT) (IJ)
KINLOSS RESCUE: at 1433 wkg Rescue 13 (02/Nov) (AG)
RESCUE 12: at 1407z in r/check w/Kinloss Rescue (02/Nov) (AG)
RESCUE 193: at 1408z in r/check w/Kinloss Rescue (02/Nov) (AG)
9027 SPAR 66: 2327 USB over Tennessee, ETA Gander 0300z, wkg Andrews VIP re checking F-005. 19/Oct (JJ)
9030.9 unid: 1342 RTTY 75/850 LSB R 10/3
9034 EIGHT SIERRA JULIET (8SJ): at 1427 clg RESCUE 11 (20/Oct) (AG)
RESCUE 11: at 1407 in r/check with Kinloss Rescue (20/Oct) (AG)
9041 5YE: Nairobi Meteo 1516 RTTY 100/850 ryr air wx. 12/Oct (WP3)
9041.5 5YE: Nairobi Meteo KEN Rtty 100/170 1923z 5Ltr Wx Grps 6 Oct 98[BC3]
9044 5YE: Nairobi Meteo 2327 FAX 120/576 wx chart. 29/Oct (RM)
9046 DFZG: MFA BELGRADE 0614 ITA2//75/R/400 Diplo tfc broadcast - online encrypted (15/Oct) (DW)
DFZG: MFA BELGRADE 0614 ITA2//75/R/400 Diplo tfc broadcast - online encrypted (15/Oct) (DW)
9050.5 MKD: Royal Air Force, Akrotiri 2247 14/Oct VFT: 2ch of Piccolo-6, eng. ch. (MC)
MKD: Royal Air Force, Akrotiri 2248 14/Oct VFT: 2ch of Piccolo-6, crypto (MC)
Unknown British Mil.: 11.02 Piccolo 6 Lots of op chat but no callsign given. Op chat more verbose than usual with less use of radio type abbreviations. Goes off air 11.25.(PT)
9057 DFZG: MFA BELGRADE 1400 rtty 75/R/400 Diplo tfc bdcast after qtc list - online encrypted. (15/Oct) (DW)
9065.7 GYU: RNy Gibraltar 2330 VFT RTTY 75/350 All ch encrypted. 29/Oct (RM)
9066 : Moscow Russia 15.55 POL-ARQ 200/233 Polish embassy with 5-lg tfc. At end of message slows down to 100 baud for sign off.(PT)
Moscow, Russia 14.22 POL-ARQ 150/236 Polish Embassy with tfc in PP. This guy must be trying all the different baud rates (30 Oct). (PT)
9079.6 RFQP: FF Jibuti DJI ARQ-E3 100\425 2102z cct Jibuti\Le Port [DJI] 24Oct98 [BC3]
9080 Unid South Pacific Shipping Company: 0550 USB YL & OM w/chat (19/Oct) (IJ)
9085 MKD: NATO Mil, 2234 25/Oct 75bd/850 FSK UNID System, revs, "vmgtcnjbh" lead-in, ACF=0 tfc, revs (MC)
9119.7 8WB6: (??), location unknown 15.20 ITA2 50/400 Calling 8WD4, New Delhi(?) with RY's and what looks like "The little dog jumped over the lazy cat". Rx very poor so callsign of sender very doubtful, although 8WD4 appeared a few times. Is this an Indian Embassy?(PT)
9120 SAM 203: 2330 USB out of Nellis for Barksdale, wkg Andrews VIP re a 0005z ETA. 12/Oct (JJ)
SPAR 66: 0038 USB wkg Andrews VIP for 0300z wx at Gander. 20/Oct (JJ)
9121.7 UNID: Egyptian Embassy, 2245 25/Oct 100bd/170/E SITOR-A, End

of message to MFA Cairo statistics(MC)
9122.5 WUE1: Unid USACE stn 1658 USB U.S. Army Corps of Engineers, wkg unid stn re ALE & ANDVT check. ALE hrd after. (RB)
9130 E10 MOSSAD 1404 AM ongoing msg (10/Oct) (JRU)
E10 Mossad 2200 USB EZI2 Cont'd - f/EE - Fri. 30/Oct (LBJ)
MGJ: Ny Faslane 2332 RTTY 75/850 CARB msgs. 29/Oct (RM)
MGJ: RN FASLANE 0545 rtty 75/340 CARB (15/Oct) (DW)
9135 MKD: RAF Akrotiri, CYP 2334 VFT All ch idle. 29/Oct (RM)
9149 RUD: England 10.40 VFT ARQ-M2 96/340 "CH DE RUD" on "ANO" circuit.(PT)
9165 HLL5: SEOUL MET 0746 FAX Weak signal with moderate qrm. Vague outlines. (4/Oct) (DW)
9181 Unid: 2336 CW Sloppy fisting. Second sta. on 9181.1 at 2339 probably tells other sta. to quit sending, which he did. 29/Oct (RM)
9186 HEP9: Canton Police, Switzerland 0046 11/Oct CW, "vvv vvv vvv de hep9 hep9 hep9 ar" mkr (MC)
9198 POLISH EMB BRUSSELS: 0958 ARQ/POL 100/250 Idling on betas. Small section ":wyslij: Bruksela gr" then offair. (2/Oct) (DW)
9215 ABNORMAL 20: Wheeler AFB, HWA 0655 USB cl ARIA 1 (17/Oct) (IJ)
9221.7 Egyptian MFA: Cairo 0055 25/Oct 100bd/170/E SITOR-A, ATU-80 MSGs to various embassies (MC)
Egyptian MFA: Cairo 2252 25/Oct 100bd/170/E SITOR-B, Calling Embassy Washington for QSX on 13026.7kHz (MC)
9225 UNID Stations: 1015 UTC USB with 2 OMs one had an Aussie accent, while the other had a US accent. (7/OCT) (IJ)
9251 E3 LP 2200 USB Music 49894 Cont'd - f/EE - Fri. 30/Oct (LBJ)
Lincolnshire Poacher: E3 1900 (12 Oct) USB Tune, msg (HS)
9293 UNID: 0048 11/Oct 75bd/140 FSK UNID System, sync, cont, ACF=0 (MC)
9331.7 Egyptian MFA Cairo: 0000 29/Oct 100bd/170/E SITOR-A&B, Calling Havana selcal "IPTX" QSX 11023.7kHz (MC)
UNID: 0159 11/Oct 75bd/140 FSK UNID System, sync, cont, ACF=0 (MC)
9438 JMJ3: TOKYO MET 0758 FAX Vague outlines. (4/Oct) (DW)
9830 UNID: 1301 17/Oct 75bd/850 Baudot, AAXX WX for Brazilian land stations (MC)
10000.1 RFFXL: Naqoura, Lebanon 11.47 ARQ-E 72/379 TFC to RFFAB designated from "XXXXX" to "YYYYY". Message contains only one word "DNDJEJKSLE". This message repeated several times via "ZXL" circuit.(PT)
10027 Speedbird: -? 0035 USB unid flt, clg unid stn. Mis-dial from 10072? (RB)
10030 Aerolineas Argentinas LDOC: ARG 0034 USB wkg unid flt, sounded like 4-digit flt number. (RB)
10072 ANZ: 19 BA Lon/On ground FRA(1622) pre flt check sel/BKFH ZKNZV B747. 23/10 (RD3)
10072 BAW6866: BA London/p/p Duty Ops LGW/Fl/t 45mins late inb/d Gatwick eta1845. Fl/t out to OPORTO dep.2000 with 45 pax. 29/10 (RD3)
10100.5 DDK2: 2336 RTTY 50/??? USB N 10/14 cq de ddk2 ddh7 ddk9
10100.6 DDK9: Hamburg Meteo Rtty 50/457 1950z 5 Ltr Wx Grps 26 Oct 98 [BC3]
10112.2 Unknown: 10.09 ITA2 75/400 Sending foxes for about an hour and a half with no ID. Strange thing is that "FOX" is spelt "FOR".(PT)
10113 RFGXXBF: Mulheim, Germany 16.35 ARQ-E 72/394 "Brigfrancal Mulheim" with non protege tfc to RFFXCFC, "DFBFA, Oberlausitz" via "UCF" cct. I wonder if some of the other French stations heard this week are based in Germany too? (06 Nov). (PT)
10116.9 BAF4: BEIJING MET 0859 FAX Vague outlines in noise. cw qrm. (4/Oct) (DW)
BAF4: BEIJING MET 2317 FAX Weak outlines. Double chartlets. (15/Oct) (DW)
10121.1 SUU2: CAIRO MET 1319 FAX lsb of 10123. Grainy pix. (4/Oct) (DW)
10132.2 TNL: ASECNA Brazzaville 1646 rtty 50/400 Aero Wx and Info (12/Nov)(RH2)
10192.5 DRAF: FGS Molders (D-186) 2301 USB German Navy guided missile

destroyer, clg DHJ59, German Navy Wilhelmshaven no joy. (RB)
10194.4 AK: loc. unknown 10.45 VFT RTTY 75/340 "AK" send short stream of RY's then unknown RTTY mode. When he stops "59" calls him in USB asking him to repeat. Speaks in English but sounds poss German.(PT)
10200 MKK: RAF London G VFT 50Bd 2014z Test Ry's & QBF's 26Oct 98 [BC3]
10202 MKK: London, England 15.53 VFT ITA2 50/340 Foxes, RYI's and "TEST DE MKK".(PT)
10205 RTP78: Irkutsk Meteo, RUS 0008 RTTY 50/850 w/AAXX meteo info. (RB)
10212 RUD: (RUDLOE MANOR?), United Kingdom 15.20 VFT ARQ-M2 96/340 RAF VFT channel with "CH DE RUD" on "ANO" circuit.(PT)
10242 US Customs: 0615 USB scrambled comms & Selscan bursts (22/Oct) (IJ)
10264.1 UNID: 0040 25/Oct 100bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
10314 UNID: 0712 USB east-european language, several stns checking in, mention of primary, control, hrd before on Aug/98 (18/Oct) (JRU)
MFA Warsaw: 1611 Pol-Arq 100/240 Claris Msgs\Pol (29/Oct) (RH2)
10315 AJE: Croughton GHFS, UK 2026 LSB wkg Incirlik coordinating PSK send on 10316.7, both faint here. (thanks to tip on #monitor IRC) (RB)
10348 2310 25/Oct 228.7bd/170 RS-ARQ, ALIS procedure (MC)
10381.6 2239 15/Oct 250bd/170 UNID ARQ System, ACF=75 (15 too?), PRF=300ms(MC)
10401.7 MFA Cairo: 2340 ARQ ATU-80 tfc to Pyongyang. 11/Oct (ML2)
10417.9 Unid: 0042 RTTY 075/851 U/I signal. 27/Oct (WJL)
10423 YMA20: Ankara Meteo, TUR 15.02 (Oct 30) RTTY 50bd Cavok (AB)
10460 Warsaw Poland 11.14 ITA2 50/400 Tfc in Polish, mentions "Liban" and signs off "Warszawa".(PT)
10466.5 Unid: USA 0002 USB talk about college basketball games. Lots of XXX-rated lang. 30/Oct (RM)
10477.9 British Mil: 0115 16/Oct VFT: 2ch of Piccolo-6, crypto (MC)
10514 Russian Mil: 0153 11/Oct MS5 12 tone vocoder (3300Hz pilot), tfc (MC)
10521.6 RFLI: FF Fort de France, MRT 0051 ARQ-E3 "DE RFLI". 27/Oct (WJL)
10536 CFH: CF Halifax 0056 RTTY 075/750 wx. 27/Oct (WJL)
CFH: CF HALIFAX 1455 rtty 75/700 Met tfc. (7/Nov) (DW)
CFH: CF HALIFAX 1524 FAX 1200z sfc analysis. (4/Oct) (DW)
10542.2 AOK: USN ROTA 1306 FAX Virtually continuous fax output. Chart weak and hazy. Just discernable as 500mb upper air and for Europe/Med. (4/Oct) (DW)
10576.4 Unid: 0106 RTTY 075/851 U/I signal. 27/Oct (WJL)
10580 HMF46: KCNA PYONGYANG 1517 rtty 50/250 Press in English. (13/Oct) (DW)
10584.3 GYU: RN GIBRALTAR 1516 Fleet broadcast vft on usb with CARB at +1000 and encrypted channel +1500hz. (7/Nov) (DW)
10585.3 GYU: Gibraltar 12.00 VFT RTTY 75/340 Two narrow shift cannels of encryption plus this one with channel availability and ID (06 Nov). (PT)
GYU: RN GIBRALTAR 1520 rtty 75/R/200 CARB. Chan in vft. (7/Nov)(DW)
10626 RFFXL: FF NAQOURA ? 1541 ARQ/E 84.6/I/400 8rc. Betas. No tfc in 3.5 hrs. (7/Nov) (DW)
10656 MKK: London, England 18.55 VFT ITA2 50/340 Foxes, RYI's and TEST DE MKK.(PT)
10712.5 FDY: FAF Paris 2250 RTTY 50/400 bricks 1-0 RYs FDYs TEST DE FDY. 18/Oct (ML2)
10779 SDJ: Stockholm LDOC (EU-LDOC) 2014 USB YL in Dutch wkg "593" w/pp. (RB)
10780 CLEARANCE 1 1622 USB wkg Cape Radio for ETA, was in support of launch of shuttle Discovery for STS-95 (aka 'the John Glenn mission'). At 1644 reports "on station". (RB)
Cape Radio: USAF ETR, Cape Canaveral AFS, Fl. 1613 USB wkg CU456 for relay of info, unk if related to STS-95 launch. (RB)
FISHER (Cape Radio) 1625 USB att to work NTLW, Sprunace-class

destroyer USS O'Bannon (DD-987) in support of STS-95 launch. (RB)
JSTARS 03 1709 USB wkg FISHER (Cape Radio) for rdo ck, unknown if was in support of STS-95. (RB)
KING 3: USAF HC-130 1655 USB wkg Cape Radio, followed by KING 2 w/status, KING 2 relays to USS O'Bannon to switch to 5180.0 kHz. (RB)
RED RIVER TANKER 1543 USB wkg Cape Radio for rdo ck. (RB)
10798.3 RFLI: FF FT DE FRANCE 2328 ARQ/E3 192/I/400 8rc. Betas. 2346z cct [IRT] Controle de voie svc RFLI de RFLI. (7/Nov) (DW)
10822 DFZG: MFA BELGRADE 0645 FEC/A 144/I/400 Tfc in oonline encrypt after "rdrdrd" string. Tfc includes multiple address msg. (15/Oct) (DW)
MFA BELGRADE 0640 FEC/A 144/I/400 Idling on rq's "gjer gjer ry's" then offair. Then "gjer" and "56-58 xj qsl?" and sent qtc in online encrypt. (13/Oct) (DW)
10856.4 GXQ: Royal Navy, London 0255 14/Oct VFT: 50bd/170 Baudot, "ryiryi" loop (MC)
10873.6 FF Le Port, REU: (tent) 0111 ARQ-E3 idle. 27/Oct (WJL)
10892.8 GXQ: London, England 16.08 VFT RTTY 50/340 Foxes, RYI's and ID (03 Nov). (PT)
10900 MKK: RAF London 2340 PICCOLO-6 svc msg to unid. 19/Oct (ML2)
10905 UNID: 0117 16/Oct 50bd/850 FSK UNID System, sync, cont, ACF=0 (MC)
10917.6 RGTJ: FF Dakar 0801 arq-e3 48/400 CdeV on TJF cid (11/Nov)(RH2)
10954.9 Unid: 0123 RTTY 047/851 U/I signal. 27/Oct (WJL)
10979.9 RDD79: MOSCOW MET 1009 FAX 120/288/N/800 Various charts. (11/Oct) (DW)
10990 HSW62: Bangkok Meteo 1454 rtty 50/150 Wx codes (12/Nov) (RH2)
10997.4 unid: 2026 RTTY 75/??? USB R foxes, testing, 10 count 10/17
10998.7 USAF AWS: 0029 14/Oct 75bd/850 Baudot, AIREP data and WX from "KAWN" (MC)
10998.8 Unid: 2135 RTTY 75/850 Continuous repeats of foxes, 10C, and "test". 15/Oct (RM)
11026.7 Egyptian MFA: Cairo 2158 16/Oct 100bd/170/E SITOR-A, 5LGs to Embassy Havana (MC)
11030 AXM34: CANBERRA MET 0600 FAX Gradient level wind analysis. Shows typhoon Zeb. (13/Oct) (DW)
11033 G8T: F Emb Belgrade 1105 FEC-A 192 "PP RFGW DE G8T #003" into 5FGs (12/Oct) (LAR)
11034.7 EGY Emb: Pyongyang (tent) 1605 arq Tfc\AA. No call or ID seen (14/Oct) (RH2)
Unid Egy Diplo: 1620 arq Tfc\AA with back slashes not normally seen (29/Oct)(RH2)
11035.6 UNID: 1608 Piccollo Heavy QRM fm EGY arq station just below (14/Oct) (RH2)
11039 DDH8: Hamburg Meteo 2140 RTTY 50/400 Wx 15/Oct (RM)
11051 McClellan: (?) 1633 USB EAM preamble abruptly cutoff (assumed off freq). 17/Oct (JJ)
11051.7 PAKISTAN EMB: ?LOC 1610 TWINPLEX 100bd -200/-85/85/600. F7b-1. Good signal but failing to sync. (Nov/6) (DW)
11053 SAM 202: 0343 USB DV-2 + 8, outbound Wake for Hickam, wkg Andrews VIP re: a 0600z ETA. 30/Oct (JJ)
SAM 375: 0245 USB 0 DV + 0, inbound Andrews, wkg Andrews VIP for pp to SAM Cmd. Also found on 8047 and 11220 LSB. 16/Oct (JJ)
11059 SPAR 66: 2325 USB over Tennessee, ETA Gander 0300z wkg Andrews VIP. 19/Oct (JJ)
G8T: FRENCH EMB BELGRADE 1625 FEC/A 192/I/400 Traffic in offline encrypt with ltr grps var length. Log period of idle - occ op chat. (30/Oct) (DW)
11072.5 RFGW: MFA PARIS 0858 FEC/A 192/400 Tfc in offline encrypt with variable 5,6 or 7 ltr grps. QRM. Tfc transmitted to H6L/Algiers. (21/Oct) (DW)
11080 ?: SANA Damascus, SYR 14.09 (Oct 30) RTTY 50bd News (AB)
YKP80: SANA Damascus, SYR 14.54 (Oct 25) RTTY 50bd English news (AB)
SANA DAMASCUS 1404 rtty 50/R/425 Press in FF (20/Oct) (DW)

SANA: Damascus 1543 rtty 50/400 Nx\AA (12/Nov) (RH2)
11092 VA3MQ: Ontario? Canada. CW:"VE3XEB DE VA3MQ ..-.... ? K" 22:24
11092.5 ZHH: Radio St. Helena USB-Cable & Wireless xmtr. 22:22-22:58
11095 Unid Italian mil station: 0730 USB calling MONGOOSE then into PSK data (17/Oct) (IJ)
11104 Russian Navy: 2257 25/Oct 50bd/250 BEE, tfc (MC)
11107.5 RETWBB: Barcelona, Spain 15.00 ARQ 100/400 "JECOR BARCELONA" with Spanish tfc to RETXX, "SUBOPEGUCI (SALA SERVICIO) MADRID"
11119.2 Unid: 0129 RTTY 075/900 U/I signal. 27/Oct (WJL)
11123 Unid: 0133 RTTY 075/855 U/I signal. 27/Oct (WJL)
11137 RFFXCFC: presume France 12.34 ARQ-E 72/379 Message in FF to RFFXCCS via UFC circuit (30 Oct).(PT)
DFZG: MFA BELGRADE 0615 rtty 75/R/400 Diplo tfc broadcast - online encrypted (15/Oct) (DW)
DFZG: MFA BELGRADE 0627 rtty 75/R/400 Diplo tfc broadcast - online encrypted. Completed 0633z. (15/Oct) (DW)
11146 UNID 0653 CW (F1A) "zrj2 zar zno zrd" followed by unid rtt mode (ACF=0). Shift 250hz. (15/Oct) (DW)
11153 SAM 203: 1845 USB inbound Nellis, wkg Andrews VIP. Also on 6730 and 9027. 11/Oct (JJ)
11153.2 DOR***: Bulgarian MFA, Sofia 2113 15/Oct 300.3bd/500 ASCII-ARQ, tfc (MC)
11159 UNID: NATO Mil, 0138 25/Oct 75bd/850 FSK UNID System, revs, "vmgtcnjbh" lead-in, ACF=0 tfc, revs(MC)
11175 AIR EVAC 226: 1406 USB wkg Croughton with pp to Ramstein dsn#, mcd speaking, re. medication of a 77 yrs old patient aboard (17/Oct) (JRU)
BROKE 22: (sounds like) 1514 USB clg Mainsail and raising Thule pp to dsn# 6763528 re. problems with an electronic device aboard (9/Oct) (JRU)
CANFORCE 92: (sounds like; can anywun confirm ?) 1909 USB wkg Thule, eta 2135z Frankfurt (11/Oct) (JRU)
Croughton: 1443 USB "Skyking, Skyking, do not answer. XP3, time 43, authentication IZ, more to follow, Croughton out" (14/Oct) (JRU)
HUSKY 35: ICW "COVERT CONTROL via Andersen 0910z . Landed Pelau 0223z, dep Pelau 0315z, landed Kota Kinabalu 0554z, dep KK 0702z, ETA Bangkok 1000z, will call again on the ground Bangkok. (JB4)
JAKAL 16 (MC-130P from 17SOS Kadena) ICW Andersen 0933z ETA 1200z. During conversation mention made of Andersen being very busy tonight with aircraft coming in from Kadena due to typhoon evac. Most visitors being parked on north ramp. All sigs +10dB and wouldn't you know it I've got to go out (JB4)
KANTO 27: (C-130) at N35.32 E133.41 0927z ETA Yokota 1030z. (JB4)
LC 466: 1510 USB rdo ck w/Thule (17/Oct) (JRU)
RAIDER 05: 1527 USB eta Ramstein 17z, pp between Brian (the pilot) and Petra who seems to be his girlfriend (17/Oct) (JRU)
REACH 3602: 1543 USB posrpt (16/Oct) (JRU)
REACH 5267: 1718 USB pps to Hilda East and Trenton Metro via Thule (17/Oct) (JRU)
REACH 55: 1638 USB a/c is a C17, pirep (14/Oct) (JRU)
REACH 7R1: 1759 USB gets wx for McGuire from unid ghfs-stn with a female op which seems to be slightly off freq. (11/Oct) (JRU)
REACH 9189: USAF C-17 2356 USB wkg ASCENSCION w/pp to McGuire CP and METEO w/PIREP. (25/Oct) (DW2)
REACH G7: 1548 USB wkg Thule with pp (17/Oct) (JRU)
RED DEER 06: called Navy PF-675 for air-air radio check.0925z (JB4)
SCOTT SOUTH: 1702 USB wkg ANDREWS for radio check. (26/Oct) (DW2)
SWAP 12: 1908 USB just caught the end of a pp (11/Oct) (JRU)
VOICE 99 HEAVY: 1558 USB rdo ck with Thule (7/Oct) (JRU)
WING 56: 1435 USB clg and raising Croughton, pp to Mildenhall Metro re. wx for CYAW and CYJT (17/Oct) (JRU)
ZULU 61: 1531 USB pp to Greenwood ops via Thule (17/Oct) (JRU)
American 2161 0131 USB wkg Andrews GHFS after clg Albrook, pp

Howard meteo, wx for MPHZ Panama, was 190 miles N/NE San Andres Island, ID'ed as 727 during PIREP. (RB)
BRIT87: USB Andrews pp to DSN 424-6543 (Pope AFB Metro) re 2200z Pope AFB arrival. [2032z; 13 Oct] (AS).
Belgium AF 696 2048 USB wkg Andrews GHFS w/pp Langley Op's (RB)
Citation 305PA: 1404 USB clg MacDill for several mins, and not getting a reply for the obvious reason. (RB)
GORDO 25: E-4B "front end" callsign 1958 USB wkg Offutt w/pp Offutt meteo. (RB)
NAVY AJ601: E-2C of VAW124, Bear Aces, Norfolk, Va. 2132 USB wkg Thule w/att pp, QSY 8992, no joy. Later back here wkg Ascension. (RB)
NAVY RU710: C-130T of VR-55 0043 USB wkg Hickam GHFS w/pp Barbers Point base op's, passes ETA, self-ID's as a C-130. (RB)
OPUS 11: MC-130H, 550th SOS/58th SOW, Kirtland AFB, NM 2318 USB , wkg Offutt GHFS w/pp to Kirtland AFB. (RB)
PE55-? 1330 USB PAPA ECHO 55 -something, YL/accented EE, clg mainsail, no joy, Dutch AF? (RB)
PINION 20: U-2 (1st Recon Sqd, 9th SRW Training Sqd, Beale AFB, Ca.) 1736 USB clg Offutt GHFS no joy, had him up on UHF (252.1) a few mins prior clg SCREAMER (probably his "mobile" on the ground). (RB)
REACH6605: USB Andrews pp re security required whie on ground. [2036z; 13 Oct] (AS).
TEAL 01: WC-130 "Hurricane Hunter" of 53rd Wx Recon Sqd, Keesler AFB, Ms 1916 USB wkg Andrews w/pp re reported aboard doing "live" broadcast to stn from "TEAL 01". (RB)
TEAL 28: WC-130 "Hurricane Hunter" of 53rd Wx Recon Sqd, Keesler AFB, Ms 0031 USB wkg Ascension w/pp Miami Monitor, passes line report. (RB)
TEAL 28: WC-130 "Hurricane Hunter" of 53rd Wx Recon Sqd, Keesler AFB, Ms 0031 USB wkg Ascension w/pp Miami Monitor, passes line report. (RB)
WARSHIP 47: Probably USS Ticonderoga (CG-47) 1926 USB clg "mainsail", Andrews answers, is not hrd. (RB)

11212 MKL: RAF Edinburgh 0208 CW Tfc w/occasional ID. 29/Oct (RM)

11214 BANDSAW HOTEL: 1915 USB wkg Trenton for pp to AWACS Ops re getting the complete set of RMAs (?) off of tail #0138 at Nellis AFB. 17/Oct (JJ)
DARKSTAR NOVEMBER: USAF 1519 USB working OAKGROVE. Working TRENTON MILITARY for phonepatch to NIGHTWATCH (MW)
DARKSTAR NOVEMBER: USAF 15561 USB working TRENTON MILITARY for phonepatch to unknown QTH. (MW)
SENTRY 60: 966th AACTS/552nd ACW E-3 AWAC (training sqd) Tinker AFB 1714 USB wkg Trenton Military w/pp EAGLE 3 at RAYMOND 24 (Tinker AFB). (RB)
VENUS 73: 89th Wing flt 1455 USB clg RAYMOND 24 no joy, then any stn for signal ck. (RB)
VENUS 73: 89th Wing flt 1455 USB clg RAYMOND 24 no joy, then any stn for signal ck. (RB)

11217 61: 0029 USB clg JAYHAWK OPS. 29/Oct (JJ)
RNZAF Auckland New Zealand & HUDSON 611 0835 UTC USB calling each other, with no contact (8/OCT) (IJ)

11220 SAM 201: 1450 USB wkg Andrews VIP. 20/Oct (JJ)

11226 Offutt: 2302 USB wkg McClellan for signal checks; comms preceded with ALE. 18/Oct (JJ)

11232 TRENTON MILITARY: 1629 USB wkg unid CANFORCE a/c w/wx info for EKCH: Copenhagen, and EKYT: Alborg and selcal check. (27/Oct) (DW2)
RESCUE 333: CanForces a/c 2052 USB wkg Trenton Military re pp RCC, getting clothing description of person being looked for, second pp for wx at QDWG. (RB)

11244 Elmendorf GHFS Ak, USA 0129 USB clg UV797 w/all frequency request. (RB)
TURBO 65: KC-135, 22nd ARW, McConnell AFB, Ks 1519 USB wkg NIGHTWATCH 01 w/msg of 1 group, then clg SKYMASTER, SPACE BAR answewrs, passes same to them. (RB)

11255 : MacMurdo & South Pole Antarctica 0320 UTC USB Relaying WX info

to ICE 04 (9/OCT) (IJ)
11285 Chennai Aero: (IND). 1648:USB:Wkg Jordanian-187 w/ SELCAL check.(IB)
11297 Kiev Meteo, UKR 15.24 (Oct 25) USB Volmet (AB)
Rostov Meteo, RUS 15.25 (Oct 25) USB Volmet (AB)
St.Petersburg Meteo, RUS 15.35 (Oct 25) USB Volmet (AB)
11300 LAA-2038: LIBAIR. 1100:USB: Wkg Tripoli. (IB)
RZL-500: Zambian-500. 2052:USB: Wkg Cairo. (IB)
SU-GAS: Egyptair. 1939:USB: Clg Cairo. (IB)
SU-NAT: UNID. 1633:USB: Wkg Khartoum. (IB)
SWR293 Tripoli/OBD1712 F350 ORNAD 1813 KFR 1846 29/10 (RD3)
Yemeni Airforce-180: 1349:USB: Clg Sana`a. Regn: 7O-ADE. (IB)
11306 BLX186: Portishead/Called at 1647 a/c SEDUO B757 23/10 (RD3)
11309 Santa Maria Aeradio, AZR 15.20 (Oct 25) USB w/KLM 783 Request for oceanic clearance. Selcall AHGP (AB)
11318 Syktyvkar Meteo, RUS 15.03 (Oct 25) USB Volmet (AB)
11336 Gander Aeradio, CAN 15.40 (Oct 25) USB w/Continental Airlines Selcall AEGJ (AB)
11341.9 MFA COPENHAGEN 1121 TWINPLEX 100bd -400/-200/200/400. F7b-1. Single freq ops. Tfc in online encrypt. Ends qso 1142z. Selcalls TPIX (Kiev), brief opchat, Online encrypted tfc. (9/Oct) (DW)
AIR FRANCE 6441: 1431 USB flying for GEMINI AIR CARGO, posrpt and s/c ck (missed the selcal) (18/Oct) (JRU)
CONTINENTAL 43: 1520 USB s/c ck CM-DG. I have two different COA-a/c with this selcal in my database (18/Oct) (JRU)
ECGUG: 1525 USB selcalled and qsy'd to 12201 (18/Oct) (JRU)
FGHUL: 1522 USB rdo ck (8/Oct) (JRU)
FGKZL: Stockhlm/Stock' called flight many times-no answer. Belair. 23/10 (RD3)
NAF-42: Netherlands AirForce. 0745:USB: Wkg Stockholm, w/ p/p`sto WhiteHorse ops. en route-TNCC Curacao. (IB)
TOWER 280: 1603 USB dept Mildenhall 1520, eta Baltimore 2250z, pax 364, s/c ck CK-DF with SDJ (16/Oct) (JRU)
VOLARE 1630: 1708 USB s/c ck FQ-AE, but was not successful (18/Oct) (JRU)
11407 UNID: 1218 17/Oct VFT: 2ch of 2400bps PSK UNID System, centre of 600Hz guard-band (MC)
11430 HMF55: Pyongyang, N. Korea 14.50 ITA2 50/220 KCNA with RY's and frequency, also gives HMF35 on 13780.0 kHz.(PT)
11437.9 MFA OSLO: ? 0910 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc in offline encrypt. Ends without opchat or ID. (14/Nov) (DW)
11440 E5 TCS 2203 USB 198(x3) 1234567890. Cont'd - f/EE. 30/Oct (LBJ)
11446.8 UNID: 1645 Piccollo Unable decode (14/Oct) (RH2)
11450 Unid: 0217 LSB 2 OM radphone comm in unid E. Asian lang. 29/Oct (RM)
11455.5 AT6TFC: US Army MARS 0321 25/Oct 200bd/200 PacTOR, MSGs to AA0USA (MC)
11458 US Tuna Fishing: 1950 LSB scrambled comms (15/Oct)
11460 EXECUTIVE-1-FOXTROT: SAM 682 w/Hillary Clinton 2230 USB inbound Des Moines wkg Andrews VIP re 2315z block time. 31/Oct (JJ)
11468 Unid: 0254 RTTY 50/170 Crypto. 29/Oct (RM)
Russian Navy 1601 36-50 50/250 Unable decode (12/Nov) (RH2)
11476 HMF52 KCNA News, Pyongyang 1802 17/Oct 50bd/200 Baudot, Korean press review in EE (MC)
HMF52: KCNA Pyongyang, N. Korea 0030 FAX 60/288 w/wirephoto of lady standing in courtyard, Korean text down side. (RB)
11483 RFGW: MFA PARIS 0918 FEC/A 192/400 Tfc in offline encrypt with v/length 5, 6, or 7ltr grps and 5ltr grps fixed. Tfc to SRZ944/Warsaw embassy. (21/Oct) (DW)
11487 V7: SPANISH MAN 0600 AM 434 434 434 000 (13/Oct) (JRU)
11494 NIGHTWATCH 01 2342 USB w/AKAC 369 msg of 19 groups. (RB)
11514.5 UNID: British Mil 005511/Oct Piccolo-12, idle (MC)
11527.4 : Algeria 10.55 Coquelet 8 Tfc in AA and FF from Alger-Port to various including immigration.(PT)
11536 HMF49 KCNA News, Pyongyang 1805 17/Oct 50bd/250 Baudot, Korean press review in FF (MC)
11545 E3 LP 1400 USB 85866 Music 85866. Cont'd - f/EE - Sun - //15682

//14487. 25/Oct (LBJ)
11545 E3 LP 1702 USB Music - too weak to copy - Sun. 25/Oct (LBJ)
11545 E3 LP 1705 USB tune, ID: 51315, into 5FG*2 by this lovely computer voice. //12603, 13375 (18/Oct) (JRU)
11565 E10 MOSSAD 1432 AM EZI, msg followed. //13533 (10/Oct) (JRU)
11585.5 UNID: British Mil 2242 29/Oct Piccolo, idle (MC)
11631.6 Unid: 0144 ARQ-E3 idle. 27/Oct (WJL)
11664 UNID: 2236 15/Oct 300.3bd/700 ASCII-ARQ, tfc (MC)
12075 8BY: UNID 1453 CW Marker "vvv 8BY 960/862/863/709/533" (25/Oct)(DW)
12090.2 RFTJ: FF DAKAR 1457 ARQ/E3 192/400 8rc. weak sync. Bdcst qrm. In tfc but stuck in rq loop. (25/Oct) (DW)
12112.5 EAE220: MFA MADRID 1137 TWINPLEX 100bd -200/-85/85/200. F7b-1. Working weaker unid embassies. Op chat in SS. Tfc in 10ltr offline encrypt being received. (Nov/6) (DW)
12134.2 RFHI: FF Noumea NCL ARQ-E3 100/425 2200z C De V FN Noumea NCL 6th Oct 98 [BC3]
12134.9 FAPSI: 1540 rtty 100/500 5LG on Link 00247 (15/Oct)(RH2)
12135 Unid: FAPSI 1240 RTTY 100/500 5LGs link 00149. 23/Oct (ML2)
12135.3 FAPSI 1734 rtty 100/450 5LG on Link 10149 (previously logged at 00149!)(03/Nov) (RH2)
12137 Fapsi Moscow: RUS 14.35 (Oct 12) RTTY 75bd Many long msgs to RAD on link 70037 (AB)
Fapsi Moscow: RUS 15.30 (Oct 13) RTTY 75bd Msgs to RAD on link 70037 (AB)
12144.6 Unid: 0446 RTTY 100/848 poss on-line scrmblr. 27/Oct (WJL)
12174 ?: Fapsi Moscow, RUS 14.15 (Oct 30) RTTY 75bd Long msgs to RAD (link 70037) (AB)
12174.6 Unid: 1545 ??? 108.8/150 Have had this one before-still no clues !? (15/Oct)(RH2)
12174.7 Unid: 1552 ?? 108.8/158 No ideas about this one ?? seen before. (12/Nov)(RH2)
12180 English Man, RUS 19.15 (Oct 18) AM 607+5FG ends with 00000 (AB)
12183 FAPSI: 1638 rtty 75/500 5LG on Link 20043 (14/Oct) (RH2)
12194 Fapsi Moscow: RUS 14.10 (Oct 13) RTTY 75bd Msgs to KUL on link 0142 (AB)
12201 ECGUG: 1525 USB with a pp to ops (FUTURA). Never hrd SDJ on this freq before, nor are they listed here. New? (18/Oct) (JRU)
12210.2 PWX: Brazil Navrad 1902 rtty 75/850 Tfc\PP Crypto (28/Sep) (RH2)
12220 VTP35: Ny Vishakhapatnam 1000 RTTY 50/850 clg VTK36 Tuticorin w/VTK36 DE VTP35 INT QRK K. 22/Oct (ML2)
12225.7 Spanish Navy Granada: 2205 16/Oct VFT: 2ch of 100bd/170 FSK UNID System, ACF=151 (MC)
12264 UNID: 1256 17/Oct 228.7bd/170 RS-ARQ, tfc in IRS mode (MC)
12317 P3IM4: United Confidence 1856 USB bulk carrier, clg Cyprus Radio, no joy. (RB)
SV5460: Vivi M. 1856 USB clg Berne Radio, no joy. (RB)
12395 Dynacom, Athens: 0146 17/Oct 100bd/170/E SITOR-A, Bulk discharge times and selcal MPKV (MC)
12415.5 PHQW: SHIP STELLA NOVA (PHQW) 1210 arq Tfc and qrg report via Rogaland/LFI (Globe) (28/Oct) (DW)
12474 UETB: UNID Russian ship 0435 UTC CW with DE UETB, UETB (11/OCT) (IJ)
12477.5 : MV .... (login 56780 exom x) 3 day's notice eta Elbe 10.00lt 07 sept??? 08.50 ARQ 100 (BVR)
12480.5 P3AP6: M/V Thalassini Niki 2144 ARQ 73,277 DWT bulker w/AMVER/PR, login 29450 NIKI. (RB)
12481 CBAL: M/V Alerce 0026 ARQ Chilean-flagged 21,992 DWT bulker, w/CHILRP, login 19036 CBAL. (RB)
CBND: M/V Andino 2352 ARQ Chilean-flagged 3,256 DWT dry cargo vsl, w/CHILRP-PR (AMVER), login 19007 CBND. (RB)
CBTL: M/V Tocpilla 0112 ARQ Chilean-flagged 22,059 DWT bulker, w/CHILRP, login 19023 CBTL. (RB)
CCES: Esmeralda (BE-43) 2345 ARQ Chilean Navy 4-masted training sailing schooner, w/tlx via CBV, login 19006 ESME. (RB)
N/A: M/V Romer 0149 ARQ 15,754 DWT dry cargo ship w/FAX telex to Peru via CBV, Playa Ancha Radio. (RB)

YTJJ: M/V Motovun 2218 ARQ 13,914 DWT dry cargo vsl (Croatia Line) w/tlx, login 27812 MOTO. (RB)
12483 WAN6433: Big Orange 29 0124 ARQ 1,313 DWT offshore vsl, w/Globe QRGmsg. (RB)
12491.5 PPRS: Unid mv ww Rio de Janeiro rdo on 12594.0mhz 07.35 ARQ 100 (BVR)
12494 V2SS: MV Atlantic Mercado 72 hrs notice tlx 18 morning sailed Annaba, eta El Brega 20 evening 06.10 ARQ 100 (BVR)
12500 WCY5535: Seacor Vanguard 0015 ARQ U.S-flagged offshore/supply vsl w/tlx to Seacor, login 268900000 WCY5535. (RB)
12513 J8RR3: Balakleya 1946 ARQ Ro-Ro car carrier, w/tlx to Carfleet Japan re posn, login 376253000 J8RR3. (RB)
12513 SHIP UNID: 1856 arq 100/I/170 Permanent betas. Synched with Barbados/8PO. Finally closed downwith no exchange of msg/cmds. (13/Nov) (DW)
12522 SWIU: C/V Pelamber (239446000 swiu x) eta Valencia 051300 09.52 ARQ 100 (BVR)
12522 WRC5536: MV Bulk bets?? tlx tfc 16.55 ARQ 100 (BVR)
12562.5 UYDV: RKTS More Sodruzhestva 2105 RTTY 50/170 Ukrainian-flagged trawler w/RYRY/DE to URL, & w/admin TG from master KM Faskheev, also sends same for UUUO, RKTS Marshal Sudets fm KM Rakov; UWRY, RTMS Znamya Truda fm KMD Agarkvov, while UVXR, RTMS General Ostryakov was referenced. (RB)
12563.5 9ANF? M/V Kupari 2059 ARQ w/tlx for ETA Huelvac, login 27823 KUPAR. (RB)
12565 UUUQ: PB Pribalktika 2320 RTTY 50/170 w/crew TG's to Kholmsk. (RB)
12568 UCUE: RTMKS Kapitan Bogomolov 2153 RTTY 50/170 Russian-flagged stern ramped super trawler/freezer w/RYRY/DE to UDK2, Murmansk Radio, no joy here, didn't find him on 8 or 16 Mhz after. (RB)
12577 ASK: Karachi MRCC 463- 4060 BQ to test call from mv 419-169000 14.29 GMDSS 100 (BVR)
12577 NMA: USCG Miami 003669997 BQ to testcall from mv 259901000 18.03 GMDSS 100 (BVR)
12577 NMF: USCG Boston 003669991 BQ to testcall from mv 308106000 17.30 GMDSS 100 (BVR)
12577 NMF: Uscg Boston BQ to testcall from 239026000 14.27 GMDSS 100 (BVR)
12577 NMG: USCG New Orleans 003669998 BQ to testcall from mv 309052000 18.09 GMDSS 100 (BVR)
12577 NMN: Uscg Portsmouth (camslant) 003669995 BQ to testcall from 636001513 16.14 GMDSS 100 (BVR)
12577 NMR: USCG San Juan 003669992 BQ to testcall from 308106000 17.28 GMDSS 100 (BVR)
12577 Unid: mv 273439710 pos rpt to 273417410 59.39n 20.15e at 13.49 another report pos then 59.47n 19.47e 11.47 GMDSS 100 (BVR)
12577 Unid: mv 309-242100 clg 309-868000 with ships position update 12.32n 0.00e 13.43 GMDSS 100 (BVR)
12577 VIB: Brisbane radio 503- 330 BQ to testcall from 212-592000 15.46 GMDSS 100 (BVR)
12579 NMF: Uscg Boston wx 16.50 FEC 100 (BVR)
12579.5 9VG: Singapore radio ww P3FA5 mv id "9vg serdio rs$" 14.42 ARQ 100 (BVR)
12579.5 YLQ: Riga radio tfc lst/freq's/exchange rate/wx/nx 11.10 FEC 100 (BVR)
12580 GKE5: Portishead radio info tfc lst 13.00 FEC 100 (BVR)
12581 LSD836: Argentina radio tlx tfc to 56150/p3gf4 10.41 ARQ (BVR)
12582 SAB606: GOETEBORG RADIO 0816 arq Chan free marker (Maritex) "ererer". Ans back "maritex s". Rcvng tfc fm ship. Selcals OTFS. (3/Nov) (DW)
12582 SAB: Goeteborg radio erer sc ybpk 10.19 ARQ 100 (BVR)
12583 HPP: PANAMA INTELMAR RADIO 1055 arq Chan free marker (Maritex) "ererer". Selcals MVPFPVV. (3/Nov) (DW)
12585.5 VRX: Honkong radio tfc lst 16.00 FEC 100 (BVR)
12587 LZW: Varna radio tfc lst 06.47 FEC 100 (BVR)
12590 EAD: Madrid Radio, E 11.38 (Oct 25) CW EAD marker (AB)
12590 EAD: MADRID RADIO 1140 arq Chan free marker "EAD" (3/Nov) (DW)
12590 EAD: Madrid radio cw/marker xvxv string 10.24 ARQ 100 (BVR)

12591 SAB: GOETEBORG RADIO 0823 arq Selcals OTFS. Chan free marker (Maritex) "ererer". Selcals UESK. (3/Nov) (DW)
12591 SAB: Goeteborg radio ererer 10.25 ARQ 100 (BVR)
12593 ESA: Tallin radio cw/arq marker 13.49 ARQ 100 (BVR)
12593.5 9VG: Singapore radio ww unid mv id as "9vg seradio" 14.10 ARQ 100 (BVR)
12594 PPR: Rio de Janeiro radio cw marker 06.35 ARQ 100 (BVR)
12594.5 A9M: Hamala radio cw marker/mcmcmcmcmc 06.50 ARQ 100 (BVR)
12597.5 UFN: Novorossiysk Radio, RUS 11.36 (Oct 25) CW UFN marker (AB)
12597.5 UFN: Novorossiysk radio ww 54837 udeo connection time = 04 mins 06.54 ARQ 100 (BVR)
12598 SPA62: Gdynia Radio, POL 11.36 (Oct 25) CW SPA marker (AB)
12599.5 UAT: Moscow Radio, RUS 11.34 (Oct 25) SITOR-A 100bd Msg to EUPQ (AB)
12599.5 UAT: Moscow radio cw/marker/kyv 08.14 ARQ 100 (BVR)
12601.5 OXZ: Lyngby radio opr chat to unid mv 10.30 ARQ 100 (BVR)
12602.5 IAR: Rome radio cw/marker 08.12 ARQ 100 (BVR)
12603 E3 LP 1500 USB ID: 58687 //11545 //13375 (9/Oct) (JRU)
12603.5 SVU: Athens radio grc beta status/ww c4xb "c4xb de svs 2 mins er nil tks gm su +? bi " 07.00 ARQ 100 (BVR)
12604 LSD836: ARGENTINA RADIO 0825 arq Selcals RXRC. Chan free marker (Maritex) "ererer". Selcals QTIV. (3/Nov) (DW)
12608 UAT: Moscow radio tlx tfc to unid mv 08.00 ARQ 100 (BVR)
12610.5 VCT: Globe wireless Tors Cove sc psiopvv 16.09 ARQ 100 (BVR)
12615 USU: Mariupol Radio, UKR 12.00 (Oct 25) SITOR-A 100bd Msg to UWFU (AB)
12615 USU: Mariupol radio tlx tfc 7.25 ARQ 100 (BVR)
12615.5 8PO: Globe wireless Barbados sc mrtc 07.27 ARQ 100 (BVR)
12622.5 XSQ: GUANGZHOU RADIO 0833 arq Chan free marker (Maritex) "ererer". Selcals EXVV BYPC. (3/Nov) (DW)
12627.5 USU: Mariupol Radio, UKR 11.32 (Oct 25) SITOR-A 100bd Msg to UYCF(AB)
12634.5 TAH: Istanbul radio cw marker 07.23 ARQ 100 (BVR)
12647 LPD: General Pacheco radio cw marker 07.19 ARQ 100 (BVR)
12649.5 XSG: Shanghai radio ww unid mv 07.06 ARQ 100 (BVR)
12662 7TF8: Boufarik Radio, Algeria 2336 CW w/CW, DE marker. (RB)
12670.5 WNU: Slidell Radio, La, USA 2014 ARQ w/sitor free signal, CW ID. (RB)
12673.5 CLA33: Havana Radio, Cuba 2016 CW w/QSX marker. (RB)
12675.5 A4M: Muscat R 1241 CW DE Oct 11(PvdE)
12676 HMZ: Pyongyang R 1303 CW CQ Very bad handkeying, but definitely them! Oct 11 (PvdE)
12678 9MG3: Penang R 1524 CW CQ QSX Oct 25 (PvdE)
12682.5 PKE: Amboina R 1138 CW CQ QRU? Oct 11 (PvdE)
12682.5 PKF: Makassar R 1239 CW CQ QRU? Oct 11(PvdE)
12690.7 FUX: FN Le Port 1123 rtty 75/850 RY/ID Test tape (30/Oct) (RH2)
12693.9 ZRQ5: SAN SILVERMINE 2142 CW. Marker "vvv ZRQ 2/3/4/5 S13S" (6/Oct) (DW)
12695 XSX: Keelung R 1306 CW CQ QSX Oct 11 (PvdE)
12695.5 KFS: Palo Alto Radio, Ca, USA 2017 CW w/QSX marker. (RB)
12695.5 KFS: SAN FRANCISCO 2146 CW. Marker "cq de KFS /b qsx 4 6 8 12 16 22 mhz k", Tfc of Golden Falcon/SZPP 2200z. (6/Oct) (DW)
12696.3 ZRQ: Ny Cape Town 0530 CW, V-S ZRQ 2/4/5/6. 27/Oct (WJL)
12697 USU: Mariupol Radio, UKR 11.28 (Oct 25) RTTY 50bd Msgs to various vessels (AB)
12698 ZSC: CAPETOWN RADIO 2210 CW. Marker "cq de ZSC monitoring 4/8/12/16 mhz w/t de ZSC ar" (6/Oct) (DW)
12700.4 ZSC: Cape Town Radio 0534 CW cq. 27/Oct (WJL)
12701.5 CKN: Vancouver Military, BC, CAN 2025 RTTY 75/850 w/NAWS marker. (RB)
12704.5 LOV3: AN ? LOC 2219 rtty 100/R/170 Each msg starts "de LOV3 LOV3 LOV3" twice then "snr xxx". Tfc in offline encrypt (5 ltr grps). (6/Oct) (DW)
12708 A9M: Bahrain Radio, CW CQ marker, 14:17 17/Oct (JRC)
12720 ZLO: Irrirangi (?) R 1333 CW DE Oct 11 (PvdE)
12728 NMC: CAMSPAC PT REYES 2148 FAX Basic rythym heard but weak and buried under rtt qrm. (4/Oct) (DW)
12738 PPR: Rio de Janeiro Radio 1955 CW marker - QSX (12/Oct) (TR2)

12745.5 JJC: TOKYO 0901 FAX//60/576/N/800 Japanese script (4/Oct) (DW)
12748 IRM8: CIRM Roma, I 11.22 (Oct 25) CW VVV de IRM (AB)
12750 NMF: USCG Boston 0238 FAX 120/576 Wx chart. 21/Oct (RM)
12750 NMF: USCG BOSTON 2152 FAX Satellite image of n/Atlantic, Caribbean followed by 1800z sfc anal for E N/Atlantic then W N/Atlantic. (4/Oct) (DW)
12754.3 UNID: Sitor-A 2256z Test Pattern Figs/Ltrs 28Oct 98 [BC3]
12780 D3E51/62: Luanda R 2145 CW CQ QSX Oct 24 (PvdE)
12780 D3E61: Luanda Radio 1945 CW marker - QSX (12/Oct) (TR2)
12799.5 PCH51: Scheveningen, Netherlands, CW DE marker, 14:21 17/Oct(JRC)
12801 TAH: Istanbul Radio, TUR 11.58 (Oct 25) CW DE TAH QSX (AB)
12802 TAH: Ankara, Turkey, CW DE marker, 14:22 17/Oct (JRC)
12808.7 VTG7: IN MUMBAI 2102 CW. Marker "vvv VTG 4/5/6/7". Faulty transmitter, signal breaking up, 200hz high. Msg to VWGZ (All IN ships?) to units addressed JFR KSC KLC DIF, Tfc offline encrypted 4 fig grps. (21/Oct) (DW)
12818 SAB63: GOETEBORG RADIO 0830 arq Chan free marker (Maritex) "ererer". Selcals IKYF (3/Nov) (DW)
12823.5 CTP: NATO LISBON 2112 CW. Marker "2000z-0800z de CTP qsx 4 6 8 12 mhz ar". (21/Oct) (DW)
12823.5 CTP: NATO Oeiras, POR 11.18 (Oct 25) CW DE CTP QSX (AB)
12840 JMC5: Tokyo Meteo 2010 CW wx synopsis (23/Oct) (IJ)
12851 LSD836: Argentina radio tfc lst 11.02 FEC 100 (BVR)
12856 XSG: Shanghai Radio 1940 CW marker - QRU ? (12/Oct) (TR2)
12857 6WW: FN DAKAR 2119 rtty 75/850 Marker - badly distorted due propagation. (21/Oct) (DW)
12857 6WW: French Navy, Dakar, SEN 2348 RTTY 75/850 w/le brick, RY/SG's, ID. (RB)
12886.4 WLO: MOBILE RADIO 2130 CW. End of tfc list for WLO/WSC/KLB. 100hz low. (21/Oct) (DW)
12887.1 unid: 1309 RTTY 50/200 LSB R 10/3
12887.5 EAD44: Madrid Radio, E 11.12 (Oct 25) CW DE EAD44 (AB)
12903 RBSL: IN Bombay 1750 rtty 50/733 RY/ID + 4LG (29/Oct)(RH2)
12904 RBSL: IN Bombay Rtty 50/767 2153z Test Ry's 20th Oct 98 [BC3]
12906 DZJ: Manilla R 1319 CW CQ QSX Oct 11 (PvdE)
12923 HLW2: Seoul Radio 1357 CW marker - QSX (13/Oct) (TR2)
12923 HLW2: Soul R 1320 CW CQ QSX Oct 11 (PvdE)
12932.5 Navy Madrid (tent), E 10.53 (Oct 25) RTTY 100bd On-line encrypted tfc (AB)
12935 HLG: Soul R 1321 CW CQ QSX Oct 11 (PvdE)
12939 SPH63: Gdynia Radio, POL 11.08 (Oct 25) CW Tfc list (AB)
12940 LZW51: Varna, Bulgaria, CW DE marker, 13:57 17/Oct (JRC)
12950 CWA: Cerrito R 2145 CW CQ QSX Oct 24 (PvdE)
12950 E10 MOSSAD 1447 AM VLB2, //8465 //10125, going on until at least 1505 when last checked (10/Oct) (JRU)
12952.5 VIP: Perth Radio 1405 CW marker - QSX (13/Oct) (TR2)
12964 A7D: Doha Radio, Qatar, CW "DE A7D" mkr. Weak but readable 13:59
12965 USO5: Izmail Radio, UKR 11.02 (Oct 25) CW Tfc list (AB)
12965 USO5: Izmail Radio, UKR 1533 CW "DE USO6/USO5 QSW 525.7 4277 6386.5 8586 12965 16909.7" (4/Oct) (LAR)
12967 A7D: Doha R 1322 CW DE Oct 11 (PvdE)
12967 UJE: Nizhnij-Novgorod Radio, RUS 10.58 (Oct 25) CW w/unid vessel (AB)
12969 XSV: Tianjin Radio 1922 CW marker - QRU ? (12/Oct) (TR2)
12969 XSV: Tianjin Radio, CHN 10.57 (Oct 25) CW CQ de XSV (AB)
12970.5 PKB: Belawan Radio 1350 CW marker - QRU? (13/Oct) (TR2)
12984 VNG: Landilo 1527 timesignals Oct 25 (PvdE)
12988 LPD88: General Pacheco R 1251 CW VVV QSX Oct 11(PvdE)
13005.5 OLP5: PRAGUE RADIO 1038 Tfc list in cw. rptd in fec. "OLGX de OLP gd wx zatazeno temp 5cqtc P3FB7 9HHB5" rtn cw "de OLP5 qsx 448". then "qsy OLP6". 448 could be 12448 (ship cw wkng freq). OLGX - collective csign? (16/Nov) (DW)
13011 AQP: Karachi R 1324 CW VVV Oct 11 (PvdE)
13015.5 IAR: Roma Radio, I 10.50 (Oct 25) CW VVV de IAR (AB)
13020 VRX60: Hongkong R 1254 CW CQ QSX Oct 11(PvdE)
13022 SPE: Szezecin Radio, POL 2113 ARQ w/sitor free marker, CW ID. (RB)

13024.5 ASK: Karachi R 1556 CW VVV QSX QRJ Oct 25 (PvdE)
13031 FUF: French Navy, Ft de France 2116 RTTY 75/850 w/RYRY, SGSG and ten count. (RB)
VRX62: HONG KONG RADIO 1320 CW. Weather forecast. Just audible. (7/Nov) (DW)
13031.2 FUF: FN FORT DE FRANCE 2053 rtty 75/850 Marker "de FUF testing ry's sg's figs" (21/Oct) (DW)
13042.5 FUV: FN DJIBOUTI 2055 rtty 75/850 Marker "FAAA de FUV ry's sg's" (21/Oct) (DW)
13044 VRX61: Hongkong R 1255 CW CQ QSX Oct 11(PvdE)
13054 UIW: Kaliningrad Radio, RUS 10.45 (Oct 25) RTTY 50bd RY CQ de UIW (AB)
13059 EBA: SN MADRID 1705 rtty 75/170 Nav wngs in SS. (8/Nov) (DW)
13062 CLA32: Havana, Cuba. CW CQ marker. Very Loud, 12:05 17/Oct(JRC)
13065 ESP: PARNU RADIO 1658 CW. Tfc to ship. Then cq announcement or tfc list at hispd. (8/Nov) (DW)
13065.8 EBA: SN MADRID 1702 rtty 75/170 Marker "cq de EBA Navarea three Navarea tres". Nav wngs in EE then SS. This is a spurious emission fm 13059. (8/Nov) (DW)
13073.7 UNID: 2246 25/Oct 2400bps PSK UNID System, tfc (MC)
13089 CAMSPAC: 1800 USB w/MIB. (27/Oct) (DW2)
13095 SVN53: Athens Radio, Greece 2120 USB wkg unid vsl w/"this is Athens Radio" then into another lang, poss Greek for R/T tfc. (RB)
13101 ZSC27: Cape Town Radio, RSA 2122 USB concluding 6 min R/T call for unid vsl. (RB)
13122 SPC61: Gdynia Radio, POL 2139 USB YL/EE w/"this is Gdynia Radio" answering a ship. (RB)
13176 EHY: Madrid Radio, Spain 2126 USB concluding R/T call in SS, then answering unid vsl in SS. (RB)
13200 JPF: 0012 USB clg ASCENSCION GLOBAL and "Any Global Station." No joy. (26/Oct) (DW2)
MCCLELLAN: 0012 USB clg REACH 5411: No joy. (26 Oct) (DW2)
ASCOT 4984: RAF Transport a/c 1916 USB wkg Offutt w/pp to unid CP for ETA. (RB)
Israeli AF: 010 1600 USB clg McClellan, Offutt answers, 010 req wx for unid loc, however pp dropped due to poor signal. (RB)
13206 SHADO 92: 0000 USB inbound Edwards, wkg Trenton for pps re a 0130z ETA. 4/Nov (JJ)
13211 EXECUTIVE-1-FOXTROT: 2224 USB DV-2 + 21, inbound Los Angeles, wkg Andrews VIP re: a 2315z arrival at KLAX. 30/Oct (JJ)
SAM 202: 0007 USB DV- 2 (Secretary of Defense William S. Cohen) + 8, outbound Hickam for Travis and then on to Andrews, wkg Andrews VIP for pp. 31/Oct (JJ)
13217 SAM 203: C-20B tail 86-0203 2142 USB Special Air Mission VIP flt, wkg Andrews VIP w/pp SAM Command reporting in the blocks. (RB)
13227 Unknown: 1730 (10 Oct) USB Loud swept-audio tone, no fading, might be local (HS)
13236.3 unid: 1317 RTTY 75/850 LSB R 10/3
13242 Andrews AFB: 1811 USB clg NIGHTWATCH 01 on "13242" (vs. the Zulu designator) 30/Oct (JJ)
REACH 5411: 2100 USB inbound Howard AFB, wkg Andrews for pp to McGuire AFB (sounded like) re instrument failures/okay to continue on to Howard. 25/Oct (JJ)
13244 WWJ85: FHWA Ames, Iowa 1558 PACTOR-1 100/200 SHARES tfc. 21/Oct (RM)
13245 STRIPLING 1835: USB wkg NIGHTWATCH 01 on Z220 w/request. (RB)
13253 Unid 2143 USB OM's in SS, sounded somewhat professional. (RB)
13366 LQQQ: UNID 0603 CW. Calls "1EQT de LQQQ" "as" then various op sigs Z/Q/abbrevs (of EE origin words. (6/Oct) (DW)
13375 ?: Lincolnshire Poacher, CYP 16.00 (Oct 30) USB id 65726 (AB)
Lincolnshire Poacher: E3 1500 (8 Oct) USB My initial intercept of a daily schedule on this freq at 1500, 1600, 1700, and 1800. Tune and callup at hour, message, three beeps and tune at xx45, sine wave test tone at xx47, tune and broadcast again at next hour. 1800 transmission only had //11545 and //16084. These continued for the entire 2-week time period. (HS)

13385.2 Unid: FAPSI sta. 1541 RTTY 75/500 5LGs until 1555. 27/Oct (RM)
13387 V7 SPANISH MAN 0610 AM 434 434 434 000 (13/Oct) (JRU)
13397 DFZG: MFA BELGRADE 0616 rtty 75/R/400 Diplo tfc broadcast - online encrypted. (15/Oct) (DW)
DFZG: MFA BELGRADE 0616 rtty 75/R/400 Diplo tfc broadcast - online encrypted. (15/Oct) (DW)
13399 DFZG: MFA BELGRADE 1405 rtty 75/R/400 Diplo tfc bdcast - online encrypted. (15/Oct) (DW)
13404 UNID 0637 CW. Op signals Z/Q/ok, as, r - no ID's (6/Oct) (DW)
13405.9 UNID: 29/Oct 100bd/700 FSK UNID System, sync, cont, ACF=0 (MC)
13423 Fapsi Moscow, RUS 9.00 (Oct 13) RTTY 75bd Msgs to WQL on link 80061 (AB)
13446.7 Pakistani Emb Dhaka: BGD 1040 ARQ local nx. 25/Oct (ML2)
Pakistani Embassy: 1706 15/Oct 100bd/170/E SITOR-A, Calling MFA Islamabad with selcal KMEU (MC)
13450 Unknown: TCS/E5 1700 USB Too weak to copy/QRM - f/EE 1234567890. 25/Oct (LBJ)
13479.5 AAOUSA: USAF MARS 0128 15/Oct 200bd/200 PacTOR, Bulletins to all member stations (MC)
13502 RFFXCFD: presume France 11.55 ARQ-E 72/398 RY's Controle de Voie and Le Brick (with WHARF spelt WHRAF) to self via UFD circuit (30 Oct).(PT)
13510 CFH: CF HALIFAX 1528 FAX 1200z sfc analysis. (4/Oct) (DW)
13526.5 DHJ51: ? Grengel Meteo (tent) 1624 rtty 75/810 No ID seen and not logged recently.(10/Nov) (RH2)
13527.8 P***: Russian Navy 2343 15/Oct CW, "P" continuously (MC)
13528 C***: SLHFB 2342 15/Oct CW, "C" continuously (MC)
13528.1 "F": Channel Marker CW Vladivostok R..10 Nov 98 [BC3]
13529.5 KAWN: ? VTP? Unid Meteo 0719 rtty 75/800 Wx\EE + Wx codes. No ID; could be KAWN? Unlisted.(05/Nov) (RH2)
13539 Unid: 1332 RTTY 200/500 Encryption. 22/Oct (RM)
13542 ZRO3: Petroria Meteo, RSA 0020 RTTY 75/425 w/AAXX meteo info. (RB)
ZRO3: Pretoria Meteo 1714 rtty 75/400 SIGMET reports of icing in the Stockolm FIR & turbulence in Rome FIR, plus usual Met. Stuff. Not seen these SIGMETS before down here!! (Oct/30) (RH2)
13545.2 PCW1: Dutch MFA, Den Haag 2115 18/Oct CW, "pcw1" marker plus SITOR phasing bursts (MC)
13550.1 ZKLF: AUCKLAND MET 0845 CW. End of wx forecast, plus note re cessation cw 1/Feb/99. (12/Nov) (DW)
13550.5 ZKLF: Auckland Meteo 1810 CW "PLEASE NOTE VA MORSE BROADCASTS WILL CEASE FROM ZKLF AT 0000UTC FEBRUARY 1999" (17/Oct) (LBJ)
13556 Counting Station, ??? 14.39 (Oct 25) AM in progress (AB)
13560 BMB: T'ai-pei Meteo CW 0950z 10 Nov 98 [BC3]
13566 Unknown: 19.15 VFT ARQ-M2 96/340 Both channels idling.(PT)
13580 HMF36: KCNA News, Pyongyang 1226 17/Oct 50bd/400 Baudot, NX in EE about problems with S. Korea(MC)
HMF36: KCNA Pyongyang, N. Korea 0025 FAX 60/288 wirephoto of group of happy people, photo was // 11476. (RB)
13597.4 IMB56: ROME MET (IMB56) 0917 FAX // with 8146.6. This freq has been reported moved. Still here - still mutual qrm with JMH4/13597. (3/Oct) (DW)
IMB56: Rome Meteo 1450 FAX 120/576 sig wx chart (24/Oct) (KB)
13665 6VU73: Dakar Meteo, SEN 2149 RTTY 50/850 w/AAXX metro data. (RB)
13669.6 6VU73: DAKAR MET 1815 FAX 120/576/R/550 Dead zone (white) discernable. Starting on start tones despite being weak. No discernable pix. Shift 550hz and trnsmssn unstable. Bdcst qrm. For white to be higher tone rx on lsb of 13671.5 to invert (15/Oct) (DW)
13824 UNID: Russian Mil 1235 17/Oct MS5 12 tone vocoder (3300Hz pilot), tfc (MC)
13840.9 GXQ: London, England 15.30 VFT ITA2 50/340 Foxes, RYI's and "TEST DE GXQ".(PT)
13845 POLISH EMB: ? LOC 0915 ARQ/POL 100/250 "end of file: qsl" plus some Polish opchat (poor copy) and sign off. (2/Oct) (DW)
13846.6 RFVIT: Le Port, Reunion 15.50 ARQ-E3 100/400 5-lg tfc to unknown station.(PT)

13852 POLISH EMB MADRID: 1114 ARQ/POL 100/250 qsl file. then closes down. (2/Oct) (DW)
13870 UNID: 0147 11/Oct 50bd/850 FSK UNID System, ACF=0(MC)
13870.3 Unid: 1906 RTTY 75/850 Encryption. 27/Oct (RM)
13870.5 UNID: Russian PTT 2033 15/Oct VFT: 3ch of 144bd/200 FSK UNID System, ACF=0 (QSX 14126.55kHz)(MC)
13875.4 HGX62: Tripoli, Libya 12.10 DUP-ARQ 125/170 Tfc to HGX21, Budapest, headed "TRIPOLI 1998.10.26".(PT)
13881 MKK: RAF London 1903 VFT RTTY 50/170 Foxes, 10C, ryi. 27/Oct (RM)
13882.5 DDK6: Hamburg Meteo 1900 FAX 120/576 Wx chart. 27/Oct (RM)
13927 AFA1AD: USAF MARS 1908 USB pp's to home. 27/Oct (RM)
13932 DOR***: Bulgarian MFA, Sofia 2035 15/Oct 300.1bd/500 ASCII-ARQ, tfc (MC)
Unid: 2003 IRA-ARQ? 300/500 strong, don't have this mode. (RB)
13932.1 UNID 2018 unid FSK 210/469 w/repetitious idle signal. Sounded like RYs. Code-3 Gold unable to ID. QRT at 2024. (30/Sep) (DW2)
13947 ROM5: Tashkent Meteo, UZB 1339 FAX 60/576 Wx chart. 22/Oct (RM)
13950 Unid 2136 USB ANDVT tfc. (RB)
13952.2 HBD20: MFA Berne SUI Sitor-A 0931z 5Ltr Grps 30Sept98 [BC3]
13956.5 DCH: Unid Tunisian Diplo: 2033 FEC w/5LGs end w/"@@@@@@@@@@@ int recu k?" At 2045, clg IZU "qru (x6) qrx (x2) arararararar" C/Ss passed w/typical Tunisian Diplo "stretch" (ddddddddccccccccchhhhhhh) (30/Sep) (DW2)
TUNISIAN EMBASSIES: ? LOC 1408 fec qsl of tfc, opchat in FF, qru's fm embassies with current tactical c/signs C9I FJG PCH QJH EID OE5. (2/Oct) (DW)
UNID: Tunisian MFA, Tunis 2027 16/Oct 100bd/170 SITOR-B, 5LGs, calls JDX, RAC, L5Y, 3YQ (MC)
V5C: MFA TUNIS 1408 fec Tfc in offline encrypt. Msg rptd. (2/Oct) (DW)
13960 SAM 375: 1828 USB DV-2 + 4, ETA Travis AFB 2105z, wkg Andrews VIP re: Air Force 1's take-off time. Andrews, although willing, is unable to provide a take-off time because "Air Force 1 is not using our service today". 25/Oct (JJ)
13965 AA0USA: US Army MARS, ??? 2225 15/Oct 300bd/200 Packet Radio, Mailbox tfc(MC)
AAA0USA: Army MARS Ft.Lewis, Wa 2133 PACKET 300bd western U.S. Army MARS gateway, wkg AT7TMO, note first "A" from c/s is dropped due to packet protocol. (RB)
13965 AT5TIN: US Army MARS, ??? 2223 15/Oct 300bd/200 Packet Radio, Reading mail on AA0USA (MC)
HBD20: MFA Berne 1756 ARQ 5LGs. 27/Oct (RM)
13977 HBD20: MFA Berne 1346 ARQ 5LGs. 22/Oct (RM)
13993 AFA5EX: USAF MARS 1611 USB wkg AFA6EX w/ragchew. (20/Oct) (DW2)
13993 AFA5EX: USAF MARS 1750 USB Chatting w/AFA5GG. 27/Oct (RM)
14352 BPA: FAPSI 2238 RTTY 075/499 rptd msg at 2230 on 14843. 27/Oct (WJL)
14362 Unknown: 14.51 RTTY 75/480 Sending 179/179/179/..... repeatedly (02 Nov). (PT)
14367 BAF8: BEIJING MET 2310 FAX Weak rythmic beat. Dead zone discernable. Hazy outlines. RT qrm. (15/Oct) (DW)
14373.4 ASAFO?: MNRV (Monrovia?) 1750 G-Tor 200 Usual undecodeable stuff except for call - ASAFO DE MRNV (14/Oct) (RH2)
14373.5 Unid: ICRC sta 1730 PACTOR-2 Sig. too weak to decode. 27/Oct (RM)
14379.9 T0C: location unknown 14.05 Packet T0C (tango zero charlie) is a mailbox, accessed by T0B, T1H, T3B and T6C. T0B downloads binary files. Error messages are signed "HAMDY"; using the amateur FBB mbx. (31 Oct). (PT)
14383 GXQ: London, England 14.23 VFT RTTY 50/340 Foxes, RYI's and "TEST DE GXQ".(PT)
14402 Fapsi Moscow, RUS 12.10 (Oct 13) RTTY 75bd Msgs on link 00104 (AB)
14411 Unid: 1454 RTTY 50.3/250 Encrypted. 14/Oct (RM)
14441.5 NNN0NJK: Unid 1706 USB clg 'any stateside MARS stn' w/beam heading of south for routine pp tfc. (RB)
14442.5 CIW602: CFARS Station 1620 USB wkg CIW607: CFARS Station

w/chatter regarding HF radio, satellite and GPS problems in far north. Referenced being active due to satellite failure and much chatter about changes being made in military and military-affiliated radio. (06/Oct) (DW2)
14470 NNN0CAA: USNS Stalwart (T-AGOS-1) 2217 USB (MARS) wkg unid stn after pp tfc. (RB)
14473.5 MKD: Akrotiri, Cyprus 11.15 Piccolo 6 One channel encryption, other idling with some op chat to MKK, London.(PT)
14481.7 RFTJ: FF Dakar 1336 ARQ-E3 48/400 Unclassified msgs. 28/Oct (RM)
RFTJ: French Forces Dakar 1623 ARQ-E3 48/400. At 1645, CdV msg on ckt TJF. At 1646, 1333 5LGs from RFTJA: French Navy Dakar to various units. (20/Oct) (DW2)
14487 E3 LP 1317 USB ongoing 5 fg*2 by YL, //15682 //16084 (10/Oct) (JRU)
14504.5 Unid: Egyptian E Sitor-A 1000z Numerious Msgs 30Sept98 [BC3]
14509.9 Unid: 1733 RTTY 075/859 poss on-line scrmblr. 27/Oct (WJL)
14511.5 MKK: DCN London (tentative ID) 2056 PICCOLO-6 Idling. Only ch hrd. 16/Oct (RM)
MKK: London, England 11.30 Piccolo 6 Op chat to unknown station then shut down.(PT)
MKK: RAF London 2306 PICCOLO-6 Idle. 28/Oct (RM)
14530 U3H: French Emb Moscow 1210 FEC-A 192/850 5LGs. 13/Oct (ML2)
14532 AFA4GN: USAF MARS 1343 PACKET 300/170 Tfc to AFA3EA. 28/Oct (RM)
14536.4 GYU: Gibraltar 10.50 Piccolo 6 Royal Navy station with op. chat to unknown.(PT)
14538 Unid 1920z Fec-A 800/192b with 5lg's {very weak sig here} (AD3)
14545.5 BAF8: BEIJING MET 0653 FAX lsb of 14547.5. Weak. End of double charlets. New (and agn) double chartlets. (4/Oct) (DW)
14564 Unid: US Mil 1419 USB rolling-code speech inversion. 27/Oct (RM)
14567.5 HMF32: KCNA Pyongyang KRE Rtty 50/520 Eng News 1051z 9th Nov 98 [BC3]
14573 5AQ70: JANA Tripoli 1430 RTTY 50/387 Nx/AA. 15/Oct (RM)
14606.6 RFHI: FF Noumea 1526 arq-e3 100/400 CdeV on HII cid (12/Nov)(RH2)
RFHI: FF Noumea NCL ARQ-E3 100/425 1028z C De V Noumea/Le Port cct [HII] [BC3]
14606.7 RFHI: FF Noumea (tent) 1611 arq-e3 100/360 Idling. Good sigs, not often heard here ! (01/Nov)(RH2)
14633.3 Unid: 1743 ARQ-E3 idle. 27/Oct (WJL)
14664 Unid: Russian Navy? 2102 36-50? 50/200 Encrypted, poss 36-50 mode. (RB)
14674 DFZG: MFA BELGRADE 0617 rtty 75/R/400 Diplo tfc broadcast - online encrypted (15/Oct) (DW)
14675.7 Unid: J diplo 1703 RTTY idling or w/crypto. QRT 1725. 27/Oct (RM)
14676 V5G: MFA BUCHAREST 0905 FEC/ROU 164.5/R/400 Tfc in online encrypt and Roumanian. To Tunis. (13/Oct) (DW)
14680.9 V5G: MFA BUCHAREST 1100 FEC/ROU 164.5/R/400 Diplo bdcst. Period of online encrptd tfc (after cw start) followed (1140z) by period of Romanian "radiograma - circulara". Bit inv=24) In parallel with 8028 10493 16332 18552 18762 19853 (27/Oct) (DW)
14692.5 JMJ4: TOKYO MET 0800 FAX Upper air chart then qrm fm rtt wiping out pix. (4/Oct) (DW)
14698 GOLF-9-INDIA: 1915 USB w/EAM: 7CG37J... maybe simulcast on 16117. 31/Oct (JJ)
14718.3 RFHI: FF Noumea, NCL 1440 ARQ-E3 idle. 26/Oct (WJL)
14719 OST: Oostende Radio 0620 FEC tfc list. (PIRI)
14731 BPA: FAPSI 1516 RTTY 075/473, QRU SK nil hrd 10328. 26/Oct (WJL)
14761.1 Unknown: 17.00 VFT ARQ-M2 96/340 Both channels idling.(PT)
14761.2 Unknown: British Mil. 15.15 VFT ARQ-M2 96/340 Idling with a few AFTN type messages on "HNO" cct.(PT)
14772.5 Unid: in MEX 1442 USB Net/SS. 23/Oct (RM)
14801.5 RFVI: FF Le Port REU ARQ-E3 100/425 1100z Le Port/Noumea cct [VII] [BC3]
14808.9 RUD: (Rudloe Manor??), UK 16.20 VFT ARQ-M2 96/340 Ch 1: Idling with occasional "CH DE RUD" on "ANM" circuit, Ch2: Almost contiuous meteo tfc for European airfields.(PT)
14815.3 Interpol: Japan Sitor-A 1007z Msgs to various World Capitols.

2nd Oct98 [BC3]
14817.5 INTERPOL NET 0941 arq Selcals IPIX but no subsequent qso. At 0942, 1000, 1018 and 1027. (14/Oct) (DW)
IP ..... online encrypted mgs at 10.27 s/off nothing in clear 09.23 ARQ 100 (BVR)
JPA: Interpol Tokyo 0600 ARQ, 50 letter strings and s/c IPIX. (PIRI)
JPA: Tokyo, Japan 09.51 ARQ Interpol tfc about stolen cars. TFC bound for Kuala Lumpur, New Delhi, Katmandu, Colombo and "IPLTPE".(PT)
JPA?: Interpol 0711 arq Crypto. Word MUSCAT repeated (05/Nov)(RH2)
14837 ATV65: New Delhi Meteo, IND 14.19 (Oct 11) RTTY 50bd Synops (AB)
14837 VVD65: Delhi Meteo 0610 RTTY 50/206 wx. (PIRI)
14837.1 RTH: New Delhi, India 14.16 ITA2 50/195 Foxes, RY's and "THIS IS RTH NEW DELHI TESTING". 07-10-98 (PT)
14841.9 ATP65: NEW DELHI MET 1500 FAX "chart not available" type? service. Wide black borders. 1505 then offair. (23/Oct) (DW)
14843 BPA: FAPSI 2230 RTTY 075/488 one 5LG msg (01177 00127 26966 27252 01349). 27/Oct (WJL)
14849.4 MKK: London, England 15.16 VFT ITA2 50/340 Foxes, RYI's and TEST DE MKK.(PT)
14857.4 DOR2: Sofia, Bulgaria 14.15 ITA2 210/491 "DOR2 DOR2 RYRYRY....." plus gives operating frequencies as "8099, 10484, 12144, 13933, 14855, 16030, 19068".(PT)
14867 MFA Cairo: (tent) 1610 arq Very long & strong signal in AA. Numbered paras. Looked like a heavy policy statement to all Embs, prob about Iraq!! (12/Nov) (RH2)
14894 POLISH EMB ANKARA: 1123 ARQ/POL 100/250 Tfc in offline encrypt (5 fig grps) and in Polish. Ends "ok vy tks 73 hej hej" (2/Oct) (DW)
14912 DFZG: MFA Belgrade, YUG 1446 RTTY 75/400 Crypto after XYXYXY. 29/Oct (RM)
14912 DFZG: MFA BELGRADE 1409 rtty 75/R/400 Diplo tfc summary - online encrypted. (15/Oct) (DW)
14912.7 DFZG: MFA Belgrade, YUG 14.22 (Oct 11) RTTY 75bd On-line encrypted msgs (AB)
14927.5 RFTJ: FF Dakar SEN ARQ-E3 192/493 Idle Mode 0850z 11 Nov 98 [BC3]
14931 8BY: French Intell. Paris CW 1446 3FGs. 23/Oct (RM)
14937 Unid: FAPSI 1422 RTTY 75/500 & CW 5LGs in progress. To CW 1425-1454, then back to RTTY for an additional minute. 27/Oct (RM)
14975 RFGW: MFA PARIS 0937 FEC/A 192/400 Tfc in offline encrypt. A little opchat and signoff. (21/Oct) (DW)
15016 AAC2: 0923 USB AAEE position report via pp from ANDERSON (31/Oct) (NJ)
NAVY LC765: P-3C of VP-8 "Tigers" NAS Brunswick, Me. 1532 USB clg mainsail for rdo ck. (RB)
NAVY LC765: P-3C of VP-8 "Tigers" NAS Brunswick, Me. 1532 USB clg mainsail for rdo ck. (RB)
15031 TRENTON MILITARY: 1724 wkg CANFORCE 86. QSY to 13257. (27/Oct) (DW2)
15094 Andrews AFB: 1842 USB clg NIGHTWATCH 01 on "15094". NIGHTWATCH 01 (unheard by Andrews) replies also using "15094" (vs. the Zulu designator) 30/Oct (JJ)
SAM 375: 1650 USB wkg Andrews VIP for wx at Misawa AB and Hakodate, ETA 2125z. 17/Oct (JJ)
15319.6 BABJ: Beijinj Meteo CHN Ratty 75/170 0949z Wx grps 28Oct 98 [BC3]
15634 HMF26: KCNA Pyongyang KRE Rtty 50/170 E- News 28 Oct 98 [BC3]
15727 TAD: MFA Ankara 0750 FEC-A 144/850 rpt of tfc ex Embs & 5LGs. 19/Oct (ML2)
15797.5 GYU: Gibraltar 16.00 Piccolo 6 Op chat to unknown station.(PT)
15818.8 Unknown: 17.10 VFT ARQ-M2 96/340 Both channels idling.(PT)
15821 64: 0030 USB clg 61 for radio ck. 16/Oct (JJ)
15837 Unid: FAPSI 0930 RTTY 75/500 5LGs link 40034. 9/Oct (ML2)
15873 RFGW: MFA PARIS 0941 FEC/A 192/400 Op chat in FF (after idle period) "as as pour les qsl toujours pas de reponse de

lexploit". Long periods of idle mode. Occ op chat. Later calls J5W/Rabat de P6Z. (21/Oct) (DW)
15915 A9C: Bucharest, Roumania 14.18 FEC-A 192.353 French embassy with 5-lg tfc to Paris.(PT)
15944 FDY: FAF Paris 2100 RTTY 50/400 bricks 1-0 RYs FDYs TEST DE FDY. 19/Oct (ML2)
15956.5 Unid: 1451 ARQ Idling then goes QRT 1/2 min. later. 16/Oct (RM)
15962 NECESSITY: 1818 USB wkg unids with "HOTEL" date/time msgs. IDed freq. generically as "15 upper". 21/Oct (JJ)
NIGHTWATCH 01: 0018 USB clg NAMESAKE on Z-250. No joy. 22/Oct (JJ)
15973.8 Unid: 1459 RTTY 196/200 Unid system, can't decode. 14/Oct (RM)
15994 FDY: FAF Orleans 1537 RTTY 50/376 "test de fdy" + le brick + 10C + ry + fdyfdyfdy... 16/Oct (RM)
16011.7 Unid: EGY diplo 1507 ARQ idling. 27/Oct (RM)
16014.3 RFVI: FNy Le Port, REU 1512 ARQ-E3 100/400. 27/Oct (RM)
16025 BAF9: BEIJING MET 0701 FAX Double chartlets. (4/Oct) (DW)
16035 9VF252: KYODO SINGAPORE 1605 FAX//60/576/N/800 Japanese script. (4/Oct) (DW)
9VF252: KYODO SINGAPORE 1828 FAX 60/576/N/800 Text in English. Suddenly offair mid column 1850z. (13/Oct) (DW)
16039.5 MKK: RAF London 1935 RTTY VFT 50/350 Foxes, 10C, ryi, alternating normal and reverse polarities on all ch. 28/Oct (RM)
16045 FUV: FN Jibouti 0620 RTTY 75/850 w/FAAA DE FUV TESTING RYs SGs INT ZBZ KKKKKKK KILO, same tape on usual 16905 22447 plus 18493.5 at same time. 19/Oct (ML2)
16050 Unid: 1646 USB OM & YL spx radphone comm in unid E. Euro lang. Beeps hrd and OM op cut in briefly before couple resume their conversation. 15/Oct (RM)
16061.7 MFA Islamabad: 1030 ARQ nx EE. 19/Oct (ML2)
16074 MFA Warsaw: 1615 Pol-Arq 100/240 Betas only (29/Oct)(RH2)
MFA Warsaw: 1633 Pol-Arq 100/240 Claris tfc\Pol to Pretoria Emb., - booming in here !!! (14/Oct)(RH2)
16084 Lincolnshire Poacher: E3 1334 (12 Oct) USB Weak, in progress (HS)
16101 HBD20: MFA Berne 1514 ARQ 5LGs. 27/Oct (RM)
UNID: Swiss Diplo (prob HBD20) 1503 ARQ w/5LGs. (06/Oct) (DW2)
16106.9 SAM: MFA STOCKHOLM 0958 ARQ/SWE 100/I/400 CHB22. Offline encrypted tfc to Kuwait. (15/Nov) (DW)
16107.9 FAPSI 1528 rtty 75/500 5LG No Link seen (12/Nov) (RH2)
16117 ROMEO-O-SIERRA: 2148 USB w/EAM: WPOW6S... 31/Oct (JJ)
16141.7 KDAKRFR: MFA Cairo 1710 arq Tfc\AA to unk (28/Sep) (RH2)
MFA Cairo: 1636 arq Tfc\AA to unk (ylhs rfkfs?) (02/Nov)(RH2)
16146 MKD: Akrotiri, Cyprus 11.45 VFT ITA2 75/340 Foxes, RYI's etc. and TEST DE MKD.(PT)
16163.5 GYU: Gibraltar 11.30 Piccolo 6 Test with RY's and foxes, then op chat to unknown station (04 Nov). (PT)
16165.2 FF PARIS 1110 ARQ/342 200/400 4RC. 2 chan tdm. Poor sync. Ch:A cct ID corrupt. Tfc addressed RFQP (Djibouti) subsiduaries and in offline encrypt. Ch:B betas. (11/Oct) (DW)
16165.3 RFFA: French MoD, Paris, F 1439 ARQ-M2 200/400 (assumed) both channels idling, should be C.I."PQA/PQB" to DJI. (RB)
16167.7 FF PARIS 1125 ARQ/E3 200/400 8rc. Weak sync. Betas. Cct [FDX] to "R~F~AEA RFFV~E (Dharhan?)de RFFAB. Single msg in off line encrypt. (11/Oct) (DW)
16168 Unknown: 14.50 ITA2 75/461 Sends "/132/132/132:12152:12152/132/132/132:12152:12152" repeatedly then shuts down.(PT)
16186.6 MFA CAIRO 1028 arq Tfc in Arabic (ATU80). Const space btwn bursts. Little op chat then into irs mode. 1051z tfc to Islamabad (kpdkjkykm). Sign off. (21/Oct) (DW)
16218.2 Unid: FAPSI 2000 RTTY 75/500 "HZW 1/82" Preamble: 11177 00117 00000 28127 01821. 5FG w/QRU QRU SK SK at 2004. 28/Oct (RM)
16234 Russian Navy 1516 36-50 36/240 Unable decode (13/Nov) (RH2)
16235.5 MKD: Akrotiri, Cyprus 10.37 Piccolo 6 RAF station with lengthy set of foxes, RYI's and TEST DE MKD". 07-10-98(PT)
16257 Unid: 1636 HC-Arq? 200/334 C3G uncertain about arq mode. On

top of FAPSI freq! (20/Sep) (RH2)
16259.9 RFGW: MFA Paris 0624 fec-a 192/400 5LG Circular to Embassies (28/Sep) (RH2)
16260 Unid: 2030 ARQ-M2 192/425 Yes, 192 baud!, Hoka ID'ed it and it synched, but still not 100% sure! Idle both channels for over an hour. (RB)
16278.6 MFA: Alger mgs to Cairo 8.44 COQ 8 26 (BVR)
16280.2 MoD Paris: 1001 ARQ-M 200 "rr rfqpmcr znr uuuuu/iiiii/ppppp zoy rfflcr, rr rffindi rfqpmcr rfflv, de rfqpmql 0006 2890519" into 5FGs (LAR)
16295 DFZG: MFA BELGRADE 0618 rtty 75/R/400 Diplo tfc broadcast - online encrypted (15/Oct) (DW)
16302 DFZG: MFA Belgrade, YUG 14.25 (Oct 11) RTTY 75bd On-line encrypted msgs (AB)
16302 DFZG MFA Belgrade 1458 rtty 75/400 Crypto (13/Nov) (RH2)
DFZG: MFA BELGRADE 1409 rtty 75/R/400 Diplo tfc bdcast - online encrypted. (15/Oct) (DW)
16302.1 DFZG: MFA BELGRADE 1426 rtty 75/R/400 Diplo bdcast start up marker (winter schedule). In parallel with 7808 13399 14912 17432 18055 22888(?) (29/Oct) (DW)
16305 Unid: 2105 USB Net/SS. Brief CW heard in background. 28/Oct (RM)
16310.2 FF PARIS 1518 ARQ/E3 200/400 8RC. Betas. Poor copy but occasionally " FKW025, FKW027" also "aussi ton FKW01~" (also your FKW01~) - Suggests this is Paris talking to Sarejevo. (11/Oct) (DW)
16310.3 RFFA: French MoD, Paris, F 1432 ARQ-M2 200/425 (assumed) idling both channels. (RB)
16316 Unid: FAPSI sta 1406 CW at 169 bpm. 5FGs, 0 cut as T, until 1427. Then buzzer-like tones in a melody that sounded like a Russian folk tune until 1432. Back to CW w/"989" rptd until 1441, then into 5FG's until 1517. No s/off. 22/Oct (RM)
Russian Navy 1605 36-50 36-440 Idling. Unable decode (12/Nov)(RH2)
16317 POL Emb., Kinshasa 1503 Pol-Arq 100/240 Pol, Emb., Kinshasa, clg "msnn2999nad.wyslij.001" (11/Nov) (RH2)
16318.6 MFA CAIRO 1515 arq 100/170 Tfc in AA (ATU80) and offline encrypt to Tunis (hlg---p). Constant mark between bursts. (29/Oct) (DW)
16320 Unid: 1523 USB OM/GK dpx comms. Mentd "telex" many times, and also Balboa (Panama) and Mexico. 22/Oct (RM)
16320.4 FAPSI: 1640 rtty 75/500 5LG. No Link seen. (28/Sep) (RH2)
16332 MFA Bucharest: 1027 RUM-FEC 164 encrypted (10/Oct) (LAR)
16335 FZS63: St Denis Meteo 0900 fax 120/576 Weak signal & poor Wx chart(30/Oct) (RH2)
16386.7 MFA Islamabad: 1620 arq Msg\EE to Sialkot Chamber of Commerce (14/Oct)(RH2)
16390 Unid: 2113 PICCOLO-6 Idling on shipping ch 1611. 28/Oct (RM)
16405 P3QW5: M/V Tropic Confidence 1909 USB Ship-shore call to Philippines via KMI, Dixon R., Ca., USA. 23/Oct (RM)
16428.1 POLISH EMB NAIROBI: 1138 ARQ/POL 100/250 Tfc in Polish followed by offline encrypt. (2/Oct) (DW)
16453.5 HGX: Unid 1650 Dup-Arq 125/170 Good synch but garbage (or goulasch?) on screen (14/Oct) (RH2)
16454.2 HGX21: MFA Budapest 1640 Dup-Arq 125/170 5LG to unk (28/9)(RH2)
16531 ZLM: RNZN Auckland NZ SSB 0940z WX Forecast & Bulletins 2nd Oct 98 [BC3]
16711 EAD: MADRID RADIO 1126 CW. Chan free marker "EAD". This is ITU ch:1656 ship freq (used by Lisbon/CUL). On M:S burst has 340hz shift ie 2nd harmonic of 8355.5 but nil hrd on that frequency. All expctd EAD mrkrs in place (3/Nov) (DW)
16747 Unid: vsl 1818 FEC Nx re PHL in EE. 22/Oct (RM)
16787.5 Unid: vsl 1822 FEC Nx re PHL in EE 22/Oct (RM)
16806.5 NMC: USCG San Francisco 1824 FEC Wx synops, forecast, navareas & hydropacs. 22/Oct (RM)
16809.5 EAD: MADRID RADIO 1135 CW. Chan free marker "EAD" (3/Nov) (DW)
16809.5 EAD: Madrid Radio, E 11.41 (Oct 25) CW EAD marker (AB)
16813.5 SAB814: GOETEBORG RADIO 0837 arq Selcals OBYF. A/back. Rcving tfc fm ship. Selcals BCCB. (3/Nov) (DW)
16822.5 HPP: PANAMA INTELMAR 1655 arq Tfc to unid ship. Chan free marker

(Maritex) "ererer". Weak, poor sync. Selcals TCQV. (3/Nov) (DW)
16830.5 SVA: Athens, Greece 14.00 FEC Tfc in anglicised Greek, looks like soccer fixtures.(PT)
16838 SAB864: GOETEBORG RADIO 0840 arq QSL for ship tfc. Selcals MQDZPVV. Chan free marker (Maritex)"ererer" (3/Nov) (DW)
16839.5 UFN: Novorossiysk Radio, RUS 11.44 (Oct 25) SITOR-A 100bd Msgs to various vessels (AB)
16854 XSQ: GUANGZHOU RADIO 0845 arq QSL for ship tfc. Selcals MPFCTPV. Chan free marker (Maritex) "ererer" (3/Nov) (DW)
16865 XSQ: GUANGZHOU RADIO 0856 arq Selcals RFBM. Chan free marker (Maritex) "ererer". Working ship,qsl tfc. Selcals CSBQ RXRC. (3/Nov) (DW)
16888 LSD836: ARGENTINA RADIO 0907 arq Selcals EZQK. Chan free marker (Maritex). "ererer". Selcals ICIF. (3/Nov) (DW)
16898.5 UAT: Moscow Radio, RUS 11.46 (Oct 25) SITOR-A 100bd Msgs to various vessels (AB)
16900 LSD836: ARGENTINA RADIO 0911 arq Selcals KBSV. Chan free marker (Maritex) "ererer" (3/Nov) (DW)
16904 Victoria Harbour Meteo: HKG 1130 FAX 120/576 some kind of analysis chart (12/Oct) (KB)
VICTORIA HARBOUR HONGKONG 0807 FAX Sea state chart for NW Pacific. Second chart started 0815z. (4/Oct) (DW)
16914.3 FUX: FN Le Port REU Rtty 75/408 0950z Test RY's 11 Oct [BC3]
16914.5 SPH84: Gdynia R. 1630 CW/ARQ ID/Marker. Bad QRM fm FUX-FN Le Port (28/Sep) (RH2)
16927 UIW: Kaliningrad, Russia 11.18 ITA2 50/170 Kaliningrad Radio with RY's, ID etc.(PT)
16932 7TF10: Boufarik Radio 1851 CW CQ marker. 22/Oct (RM)
16932 7TF: Boufarik Radio 1900 CW marker - QSX (12/Oct) (TR2)
16936.7 RN Preston: (assumed) 1645 rtty 100/170 Unable decode. Coming in strong here! (28/Sep) (RH2)
16940 XSW: KAOHSIUNG RADIO 0928 CW. Marker "cq de XSW hr tfc list cmg as". 0930z tfc list then rtn tomarker "cq de XSW k". (7/Nov)(DW)
16951.5 6WW: F Ny Dakar 1856 RTTY 75/850 Le bricks + "1 2 3 ... 15" + sg's. 22/Oct (RM)
16955 YLQ: RIGA RADIO 1113 fec 100/170 Marker "cq de Riga radio YLQ info/blind qss 8432.0/12579.5/16955.0 khz" then bdcst of tfc, wx, news in Russian - all rptd. (7/Nov) (DW)
YLQ: Riga, Latvia 11.12 FEC Riga Radio with tfc list, exchange rates and Latvian weather.(PT)
16961.5 FUF: F Ny Fort de France, MRT 1915 RTTY 75/850 ry & testing. 22/Oct (RM)
16969 WLO: Mobile Radio 1604 CW w/tfc list and chatter. Good clean CW readable by decoder. (06/Oct) (DW2)
16971 JJC: TOKYO 0904 FAX//60/576/N/800 Japanese script. (4/Oct) (DW)
16979.9 PWZ33: BN RIO DE JANEIRO 1745 FAX Pix starts, but sig keeps cutting out. Restarted 1755z sea levelpressure chart (phasing shift in middle) followed by sea levelwater temp (Av for Oct). (13/Oct) (DW)
16984 PPR: Rio de Janeiro Radio 1915 CW marker - QSX (12/Oct) (TR2)
16997.6 WLO: Mobile Radio 1600 FEC w/freq usage information and storm track data. (06/Oct) (DW2)
17024 SAB83: GOETEBORG RADIO 0913 arq Working ship, qsl for tfc. Selcals IKYF. (3/Nov) (DW)
17053 XSX: Keelung Radio 1310 CW marker - QSX (13/Oct) (TR2)
17054.4 NBA: USNy Balboa, PNR 1925 RTTY 75/85 (narrow shift) encryption. 22/Oct (RM)
Unid: 1607 VFT RTTY 75/85 Encrypted. CFL-99 says NBA, USN, Balboa, PNR, but I don't think so. 14/Oct (RM)
17055.1 MGJ: Ny Faslane 1922 RTTY 75/350 CARB msgs. 22/Oct (RM)
MGJ: RN Faslane 1611 VFT RTTY 75/350 CARB msgs. 14/Oct (RM)
17055.5 MGJ: RN Faslane 1615 VFT RTTY 75/85 encrypted. 14/Oct (RM)
17066.5 A9M: Hamala Radio, BHR 1625 ARQ Op msgs to unid vsl. 14/Oct (RM)
17069.6 JJC: TOKYO 0907 FAX//60/576/N/800 Japanese script. (4/Oct) (DW)
17074.4 LGX: Rogaland Radio 1558 CW w/"CQ DE LGW LGB LGJ LGX". (06/Oct) (DW2)

17113 GKB6: Portishead Radio 1927 CW DE marker. 22/Oct (RM)
17151.2 NMC: CAMSPAC PT REYES 2134 FAX Weak, noisy but with few discernable fronts. Ends 2145 then new chart. (4/Oct) (DW)
NMC: USCG CAMSPAC Point Reyes 1543 FAX 120/576 w/chart (06/Oct) (DW2)
17151.2 NMC: USCG San Francisco 1607 FAX 120/576 wx chart. 27/Oct (RM)
17155.4 8PO: Barbados Radio 1612 ARQ & CW marker "8PO". 27/Oct (RM)
17180 FUG: FN La Regine, F 1507 RTTY 075/848 FAA DE FUG Testing RY/SG's. 26/Oct (WJL)
FUG: La Regine(?), France 11.09 ITA2 75/940 RY's, SG's and "FAAA DE FUG".(PT)
17206.1 IAR7: Rome Radio 1632 CW VVV marker. 27/Oct (RM)
17211.4 KFS: San Francisco Radio 1635 CLOVER-II & CW Ch. marker "KFS". 27/Oct (RM)
17211.5 Unid cw\fec burst Globe? 16.49 FEC 100 (BVR)
17223.9 Unid: 1642 RTTY 100/850 Encryption. 27/Oct (RM)
17224 A4M: Muscat R 1023 CW DE Oct 11(PvdE)
17227.6 ZLO6: Ny Irirangi 1318 CW marker - QSX (13/Oct) (TR2)
ZLO6: RNZN IRIRANGI 1150 CW. Variable length marker. barely audible. (8/Nov) (DW)
17236.3 UNID: 1619 PACKET 250/250 17236.33. Unusual parameters for this mode, also this is a maritime band. Calls in use AG4 AG5. Text seen in SS, commands in EE(eg 90654 bytes available). qrm occ fm Kaliningrad/UIW 17236.4 (11/Nov) (DW)
17236.4 UIW: KALININGRAD RADIO 1204 CW. Working ships. (8/Nov) (DW)
17239.7 PKX: Jakarta Radio 1324 CW tfc list (13/Oct) (TR2)
17416.9 SAM: MFA Stockholm 1559 Swed-Arq 100/400 5LG to Ambassaden Addis Abeba (SAM70) (11/Nov) (RH2)
SAM: MFA Stockholm 1530 Swed-Arq 100/400 5LG to unk (10/Nov) (RH2)
17428.8 SAM: MFA STOCKHOLM 1402 ARQ/SWE 100/I/400 22 chb. Tfc in offline encrypted. (16/Nov) (DW)
17429.9 FAPSI: 0611 rtty 75/500 5LG on Link 30044 (28/Sep) (RH2)
17430 9VF209: KYODO SINGAPORE 1612 FAX//60/576/N/800 Japanese script inc Kyodo News Sports. (4/Oct) (DW)
17430.5 Kyodo Singapore: 1622 fax 60/576 JJ Newspaper. Unable decode! (28/Sep) (RH2)
17432 DFZG: MFA BELGRADE 1410 rtty 75/R/400 Diplo tfc bdcast - online encrypted. (15/Oct) (DW)
17441.6 Unid: 1810 RTTY 100/851 wx reports from land stns in Africa (probably 5YE: Nairobi -LOGS). 27/Oct (WJL)
17445.6 5YE: Nairobi Meteo 1924 FAX 120/576 Wx chart. 23/Oct (RM)
17461 MFA Rome: (tent) 1553 RS-Arq 228.3/170 Unable decode (15/Oct) (RH2)
17463.4 FAPSI: 1626 rtty 75/500 5LG + opchat. No Link seen (28/Sep) (RH2)
17499.7 Unid: 1927 Unid VNS RTTY sys at 90/60. Undecodeable. 23/Oct (RM)
17521.8 HSW61: Bangkok Meteo 1451 rtty 50/150 Wx codes (12/Nov) (RH2)
17934.5 Unids 2242 USB with ANDVT and some brief garbled voice comms. 31/Oct (JJ)
18013.7 Unid: 1936 USB Unid device. Sounded like a chattering chipmunk. 22/Oct (RM)
18032.5 CLP1: MFA Havana 1900 RTTY 50/600 circulars/SS. Still sending at 2300. Notice that the shift has been upped 100 Hz. 29/Oct (RM)
18032.7 CLP1: MFA Havana 2122 RTTY 50/600 Circular in EE. 15/Oct (RM)
18032.8 CLP1: Cuban Ministerio de las Relaciones Exteriores (MINREX), Havana, Cuba 1953 RTTY 50/500 w/MINREX circulars to Embacubas. (RB)
unid: 2001 RTTY 45/??? USB R 10/17 Cuban station
18040.4 HGX21: MFA Budapest 1524 DUP-ARQ 125/170 5LG msg to HGX41, HNG Emb. Damascus. 15/Oct (RM)
18040.8 HGX21: MFA BUDAPEST 1530 ARTRAC 125/170 News summary in Hungarian. Occ test sequencing of all channels based 18040 carrier. 1600z off air abruptly - swap to another frequency? (10/Nov) (DW)
18042 Unid: YUG diplo 1402 RTTY 75/400 Crypto after XKXKXK. 28/Oct (RM)

18042.6 Port Bouet: Ivory Coast 15.55 ARQ-E3 192/383 Relaying Controle de Voie message from RFTJ back to RFTJ via "JDJ" circuit.(PT)
18046 MKK: DCN London 1628 VFT RTTY All 16 ch's idle. 15/Oct (RM)
18055 DFZG: MFA Belgrade 1438 RTTY 75/400 ID, ry, & crypto. 26/Oct (RM)
DFZG: MFA Belgrade, YUG 14.28 (Oct 11) RTTY 75bd On-line encrypted msgs (AB)
18055 DFZG: MFA BELGRADE 1410 rtty 75/R/400 Diplo tfc bdcast - online encrypted (15/Oct) (DW)
18057.4 MKK: DCN London 1609 PICCOLO-6 Idling engnr's ch. 15/Oct (RM)
18057.5 MKK: London, England 13.32 Piccolo 6 Single channel idling with op chat to MTS Port Stanley, Falkland Islands.(PT)
18057.9 MKK: DCN London 1609 PICCOLO-6 Encrypted. 15/Oct (RM)
18064 SNN299: MFA Warsaw 1526 POL-ARQ 100/250 Visa info. 16/Oct (RM)
SNN299: MFA Warsaw 1606 POL-ARQ EE tfc to Luanda. 16/Oct (WP3)
18064 SNN299: MFA WARSAW 1150 ARQ/POL 100/250 Idling betas then qsl file to Lagos. (2/Oct) (DW)
18088 U3H: Moscow, Russia 14.20 FEC-A 192/810 French Emb. with 5-lg tfc and unusual wide shift (02 Nov). (PT)
18183.4 LGS: Lagos, Nigeria(?) 09.55 Coquelet 8 Algerian MFA tfc some looks to be sent by Algiers but then some op chat "DE LGS" then tfc from Lagos Embassy.(PT)
18183.5 MFA Algiers 1300 Coq8 26.67 Relay fm Washington Emb to Ambalgs at Kampala, Harare, Kinshasa, Yaounde, Dakar, Lagos, Ougadougou, N'Djamena, Libreville, Cairo, Addis Abeba, Nairobi. Subject: UN Policy Statement re African Refugee Problems. Each Ambalg replied individually with QSL/QRU on same freq. All in FF. Nice load of African Coq! (13/Nov)(RH2)
18206.5 Damascus, Syria 12.24 ARQ-S 96/200 Indonesian emb. with tfc "Ex Damaskus". Poor rx (03 Nov). (PT)
18206.5 Jakarta Indonesia: (??) 13.30 ARQ-S 96/200 End of tfc. Signs off with"tks pak jan an jadi jadi cfm nya".(PT)
18220 JMH5: Tokyo Meteo 1000 FAX 120/576 wx. 18/Oct (WP3)
JMH5: Tokyo Meteo 2128 FAX 120/576 Wx chart. 15/Oct (RM)
JMH5: TOKYO MET 0905 FAX NW Pacific analysis ASAS showing typhoon over Taiwan. Pix fuzzy. (16/Oct) (DW)
18234.2 GFL25: Bracknell Meteo (tent) 1658 rtty 75/400 Wx codes, no ID - Bracknell listed at 18230.0?? (03/Nov) (RH2)
18236.9 BAF33: BEIJING MET 0722 FAX svc bulletin in Chinese script and English "Notification due to some technical reason ~~~ will not be available today". (4/Oct) (DW)
18238.2 ZRO4: PRETORIA MET 1505 FAX lsb of 18240. Grainy pix with noise easing towards end. S African coast just discernable. (4/Oct) (DW)
18258.5 HBD20/6: MFA Berne 1417 ARQ Only an ID after a long idle. 29/Oct (RM)
HBD20: MFA Berne 1531 ARQ Severe QRN prevents decoding. 22/Oct (RM)
18261 GFA: Bracknell METEO 1533 FAX 120/576 w/chart. (06/Oct) (DW2)
GFA: Bracknell Meteo 1532 FAX 120/576 Wx chart. 22/Oct (RM)
18269 HBD20: MFA Berne 1635 ARQ 5LG circular to Ottawa. 14/Oct (RM)
18269.8 HBD20: MFA Berne 1514 ARQ Circular to Ottawa. 14/Oct (RM)
18301.9 Poss. Baghdad, Iraq 12.15 IRA-ARQ 212.6/533 Slovakian tfc. In ASCII it looks like tfc from Baghdad (although it could be tfc to Baghdad)(03 Nov). (PT)
Unknown: (Bulgaria???) 12.55 ASCII 212.6/400 Comes out garbage except for "TELEGRAMAR".(PT)
18331.9 FAPSI 0750 rtty 75/500 5LG No Link seen (11/Nov) (RH2)
18334.5 Unid: 1646 CW Repeats "VVV H" until 1651. 27/Oct (RM)
18334.7 74: MFA Cairo 1558 arq Tfc\AA. kds "74" seems a new ID for Cairo (12/Nov) (RH2)
18336.4 Unid: 1756 CW at 105 bpm. Text in alphanums. Lots of text strings such as "dmchieigjelaxuuggde", "veukeg/knv", "kaseeivcemkhs" and "fdeea ctm xmuje." Nmbrs used were 3 thru 7. Msgs separated by "ar." Msg at 1817 began "nr45n w57 = 7ai76in46ii". Soft-sounding, uncentered tones. 21/Oct (RM)
18365 Unid: 1500 RTTY 100/850 Encryption. 28/Oct (RM)
18380.2 FF PARIS: 1700 ARQ/E3 100/E/400 8rc. Cct [IRE]. 1706 controle de

v svc RFVI de Paris. Tfc in offline encrypt and FF. (30/Oct) (DW)
18400.4 HGX21: Budapest, Hungary 14.22 ARTRAC 125/170 Tfc to HGX44, Baghdad.(PT)
18415 8BY: French Intell. Paris 1453 CW 3FG. 28/Oct (RM)
18419 MKK: London, England 14.43 Piccolo 6 Single channel with Op chat to MTS Port Stanley (30 Oct). (PT)
18425.1 : Warsaw Poland 15.25 FEC Sports news in Polish.(PT)
18429.4 SPW: WARSAW RADIO (SPW) ? 1400 fec Polish press. Transmitter frequency drifting (upwards) by 1421z at 18430.8 (27/Oct) (DW)
18441.2 JMJ5: TOKYO MET 0803 FAX Upper air chart. (4/Oct) (DW)
18446.3 MKK: London, England 14.05 VFT ITA2 50/340 RYI's and "TEST DE MKD" etc.(PT)
18447.7 RFTPA: N'djameina, Chad 11.05 ARQ-E3 200/360 5-lg tfc to RFFUAJ via "FDZ" cct.(PT)
18449.5 MKK: RAF London 2000 RTTY 50 VFT all channels RYIRYI & Quick Brown Fox tests (13/Oct) (IJ)
18493.5 FUV: FN Jibouti 1020 RTTY 75/850 w/FAAA DE FUV TESTING RYs SGs INT ZBZ KKKKKKK KILO, same tape on usual 16905 22447 plus 16045 at same time. 19/Oct (ML2)
18496.1 CNM80: MAP Rabat 1540 RTTY 50/425 Nx/AA. 22/Oct (RM)
18513.9 Unid: DNK or NOR diplo 1402 TWINPLEX Idling & QRT 1419. 28/Oct (RM)
18522 V5G: MFA Bucharest 1139 Rum-Fec 164.5/400 Nx\Rum Circulara (29/Oct)(RH2)
18529.4 Unknown Algerian Embassy: 10.22 Coquelet 8 Tfc in FF about Russian passport holders.(PT)
18585 SDJ: Stockholm Radio 1256 USB private pp to a Saudia flt 07/Oct (MB3)
18597.5 EAE220: MFA Madrid 1653 TWINPLEX Idling. 14/Oct (RM)
18648.5 CLP1: Cuban Ministerio de las Relaciones Exteriores (MINREX), Havana, Cuba 1449 RTTY 50/500 w/MINREX circulars to Embacuba Guinea. (RB)
18648.5 SPW: Warsaw Radio 1424 FEC Nx/PP. 29/Oct (RM)
SPW: Warsaw Radio, Poland 1449 FEC w/maritime nx in Polish on SOT265B. (RB)
18673 Unid: FAPSI 1250 RTTY 75/500 5LGs link 20076. 23/Oct (ML2)
18677.7 : Havana Cuba 13.28 ITA2 50/551 MINREX HABANA with 5-ng tfc to EMBACUBA KINSHASA.(PT)
18678.8 CLP1: MFA Havana 2150 RTTY 50/500 nx in SS (16/Oct) (IJ)
18757.8 SAM: MFA Stockholm 1046 Swed-Arq 100/400 Statement\EE re Gothenburg Disco tragedy (04/Nov) (RH2)
18879.5 MTS: DCN Pt Stanley, FLK 2116 PICCOLO-6 Idle. 29/Oct (RM)
MTS: RAF PORT STANLEY 1522 PICCOLO 18879.510. Idle till 1826z. 6 tone. Opchat to MKK re qsy to F79.This is an ITU duplex telex ship frequency. Been logged here before. (14/Nov) (DW)
18966.7 RFHJ: French Forces, Papeete, Tahiti 2254 ARQ-E3 96/425 w/Control de voie on circuit HJL. (RB)
18966.7 poss RFHJ: French Forces Papeete 1523 ARQ-E3 96/380 w/idle signal. Slightly better signal than on 18986.7 (06/Oct) (DW2)
18972 DFZG: MFA BELGRADE 0621 rtty 75/R/400 Diplo tfc broadcast - online encrypted (15/Oct) (DW)
18973.6 TAD: AA Ankara 1510 fec-a 144/850 Nx\Turk (13/Nov) (RH2)
18986.6 RFHJ: FF Papeete Tahiti,OCE ARQ-E3 100/425 0057z Idle Mode 13 Nov 98 [BC3]
18986.7 poss RFHJ: French Forces Papeete 1520 ARQ-E3 100/400 w/idle signal. Heavy fading. (06/Oct) (DW2)
18992.5 SPW: Warsaw Radio 1518 CW w/calltape. (06/Oct) (DW2)
19013.5 OST: Ostende, Belgium 15.20 FEC Short "AUTOMATIC MAILBOX" info msg then shut down.(PT)
19031.3 Unid: 1428 ARQ Sig too weak to decode. 14/Oct (RM)
19036.5 Unid: 0815 Coq8 26.67 Endless on/off tx but only gbge on screens! (11/Nov)(RH2)
19040.2 Unknown Spain(??): 14.35 ITA2 75/296 Tfc in Spanish then a bit of op chat which ends "DE 446". Then a little SSB and shut down.(PT)
19048.7 RFFA: French MoD, Paris, F 1509 ARQ-E3 192/425 (assumed) idling. (RB)

19056 Unid: 1445 81-81 81/500 Encrypted. 13/Oct (RM)
19058 MKD: Akrotiri, Cyprus 10.28 Piccolo 6 One ch. encrypted and op. chat to unknown on other.(PT)
19101.7 RFLI: FF, Ft de France, Martinique 1512 ARQ-E3 192/328 w/Control de Voie on C.I. "BFL". (RB)
19131 FLINT 113: Unid DEA aircraft 1548 USB Check-in to ATLAS. 22/Oct (RM)
ATLAS: DEA comms center, Rockwell-Collins, Cedar Rapids, Iowa 1629 USB wkg "12 CHARLIE" (USCG) for flt op's. (RB)
WRANGLER -? 1702 USB wkg ATLAS for flt op's, missed numbers after call. (RB)
19216.7 RFLI: FF FT DE FRANCE 1435 ARQ/E3 96/400 8rc. In tfc but stuck in rq loop. (27/Oct) (DW) RFLI: FF FT DE FRANCE 1958 ARQ/E3 96/400 8rc. Betas. 2027z cct [LIH] controle de voie svc RFLI de RFLI (27/Oct) (DW)
19216.7 RFLI: FF Fort De France MRT ARQ-E3 96/840 0629z C De V Fort De France/Papeete [LIH] 10th Oct [BC3]
RFLI: Fort de France, Martinique 15.50 ARQ-E96/386 Controle de voie messages to self via "LIH" (Martinique - Papeete) circuit. Also relaying Controle de voie messages from RFHJ, Papeete.(PT)
19217 DFZG: MFA BELGRADE 0624 rtty 75/R/400 Diplo tfc broadcast - online encrypted. (15/Oct) (DW)
19229.5 UNID: Sitor-A 0642z Cryptic Msgs 10th Oct [BC3]
19231.2 OZU25?: MFA Copenhagen (tent) 1300 Twinplex 100/170 Weak sigs - C3g would not synch (10/Nov) (RH2)
19241.4 DEJO03: (that's oscar zero three), loc.unknown 13.45 PACTOR 100/200 Working 5HMPI (Tanzania???). Long QSO in German, mentions the Congo, also what looks like chat about radio stuff.(PT)
Unknown: 10.50 Pactor 100/200 Some sort of automatic file transfer process. Files being transmitted into directory C:\PAC-DISK/MT-GERM/REMOTE. Text files have German looking peoples names.(PT)
19256 Unid: 1454 RTTY 50.3/200 Encrypted. 16/Oct (RM)
19297.3 RFQP: Djibouti 13.55 ARQ-M2 200/370 "Controle de Voie" to self via "QPB" cct.(PT)
19313 HCBENC: location unknown 14.50 PACTOR 200/200 Working unknown station then sends callsign about 20 times (could this be Cotonou, Benin??).(PT)
19427.5 MKD: Akrotiri, Cyprus 12.51 Piccolo 6 One ch. encrypted, one idling and op chat on engineer's channel to unknown station (03 Nov). (PT)
19462.8 Khartoum Sudan: 16.00 RTTY 50/170 SUNA news agency with reports in French.(PT)
19462.9 SUNA: Khartoum 1617 rtty 50/190 Nx\FF (28/Sep)(RH2)
19498.8 RFHI: FF Papeete Tahiti ARQ-E3 100/425 0030z Noumea/Papeete [BC3]
RFHI: ff Papeete Tahiti ARQ-E3 100/425 C DE V Noumea/Papeete cct [HIJ] 01 Oct 98 [BC3]
19510 LGOS: ? FF Emb., Lagos (tent) 1052 arq6-90 200/400 5LG ending - sv dipl de LGOS . Not heard 6-90 from Lagos before, or seen callsign - LGOS (05/Nov)(RH2)
19510 LGOS: FF Emb., Lagos 1045 arq6-90 200/400 5LG to MFA Paris. Seems to be a reg sked; 2nd time heard this week at same time! (07/Nov) (RH2)
19510 XLGS: location unknown 15.35 ARQ6-90 200/400 Un-ID French embassy with RY's, ID and 5-lg msgs.(PT)
19640 W3S: French Emb Islamabad 1100 FEC-A 192/850 5LGs to Paris. 20/Oct (ML2)
19682 KPH: Globe Wireless Station San Francisco 1510 ARQ w/system test message to a variety of vessels. (06/Oct) (DW2)
KPH: San Francisco Radio 1931 ARQ & CW marker. 27/Oct (RM)
KPH: SAN FRANCISCO RADIO 1600 arq 100/170 Chan free marker (Globe) "KPH". Selcalls VRYV. Response to unid ship.(31/Oct)(DW)
19685.5 WLO: MOBILE RADIO 1631 arq 100/170 Tfc to unid ship, ARA news bulletin. Chan free marker "WLO". (31/Oct) (DW)
19692.5 ZSC: CAPETOWN RADIO 1638 arq 100/170 Selcalls OCQB. Chan free

marker (Globe) "ZSC". (31/Oct) (DW)
19692.5 ZSC: Cape Town Radio 1937 ARQ & CW marker. 27/Oct (RM)
19696.5 8PO: Barbados Radio 1945 ARQ & CW marker "8PO". 27/Oct (RM)
19698 OST69: OOSTENDE RADIO 1641 CW. Chan free marker "OST". (31/Oct) (DW)
19810.4 HGX21: Budapest, Hungary 10.50 DUP-ARQ 125/170 Sign off "HGX37 de HGX21".(PT)
HGX21: Budapest, Hungary 11.16 ARTRAC 125/170 Long tfc in French to HGX37.(PT)
19860 MGJ: Ny Faslane 1552 RTTY 75/350 CARB msgs. 22/Oct (RM)
20012.8 Unknown: 15.05 ITA2 50/510 Poss. Cuban MFA with tfc in Spanish, mentions Cuba. Very rough sounding tones.(PT)
20035.4 HGX21: Budapest, Hungary 14.30 DUP-ARQ 125/170 Very long 5-lg msg to HGX41, Damascus (06 Nov). (PT)
20047.8 P: Ny Kaliningrad, RUS 1559 CW Beacon. 28/Oct (RM)
20048 C: Ny Moscow 1559 CW Beacon. 28/Oct (RM)
20091.7 wsgzkpk: EGY Emb., Kinshasa 1156 arq 8 pages of 5LG to Kds4, and also kdakrfr (MFA Cairo), then short fec burst AA to kdfespsr (MFA Cairo?) (10/Nov) (RH2)
20096.7 Unid: 1605 ARQ Idling & QRT 1615. 28/Oct (RM)
20132 DFZG: MFA Belgrade 0605 RTTY 75/500 ry (22/Oct) (IJ)
20155.7 RFFVAE: Dahran, Saudi Arabia 12.30 ARQ-E3 200/338 Tfc to RFFUGO, Orange, and RFFUDF, Dijon, via "DET" circuit.(PT)
RFFVAE: FF Dhahran, ARS 1150 ARQ-E3 200/400 5LGs to Paris cct DET. 15/Oct (ML2)
20180.2 RFVI: FF Le Port 1620 rtty 100/400 CdeV on IRE cid (02/Nov)(RH2)
20286.7 SPW: Warsaw Radio 1800 FEC Nx/PP. 28/Oct (RM)
20300 Unid: 1858 RTTY 75/850 Encryption. 23/Oct (RM)
20326.5 RFHI: FN Noumea ARQ-E3 100/425 0454z C De V Noumea /LePort [HII] 11 Oct [BC3]
RFVI: FF Le Port REU .ARQ-E3 100/425 0500z Cde V Noumea/Papeete cct [HII] 2nd Oct 98 [BC3]
20326.5 RFVI: FF Le Port REU ARQ-E3 100/425 0500z C de V Noumea/LePort [HII] 2nd Oct98 [BC3]
20336.5 Unid: 1901 RTTY 75/850 Encryption. 23/Oct (RM)
20358.5 Unknown British Mil.: 11.00 Piccolo 6 Shuts down as soon as I lock on.(PT)
20378.9 Unid: poss in MRC 1623 CW tfc/FF w/sloppy fist. 28/Oct (RM)
20426 Rabat Morrocco: 11.35 ITA2 50/850 MAP press agency with reports in French.(PT)
20426.2 MAP RABAT 1528 rtty 50/850 Press in French. Believed 2nd harmonic of 10213. Note doubled shift. (15/Oct) (DW)
20560 5AQ88: JANA Tripoli 1610 RTTY 50/425 nx/EE. 23/Oct (RM)
20581.4 LJN: Spitzbergen(???), Norway 13.00 ITA2 50/400 Lengthy period of RY's and "QRU DE LJN".(PT)
20584 "Chantier de Garafiri": Guinea(?) 11.28 ARQ Traffic mainly about equipment orders but some about movement of personnel. Messages originate with "Chantier", "DPO1/" and "Kankan". Kankan is a city in Guinea but other locations unknown.(PT)
20590.2 HBD20: MFA Berne 1621 ARQ 5LGs to Brazil. 22/Oct (RM)
HBD20: MFA Berne 1633 ARQ 5LGs to Brazil. 28/Oct (RM)
20595.8 SAM: MFA Stockholm 1232 Swed-Arq 100/400 5LG to unk (11/Nov) (RH2)
20633.7 RFVI: FF LE PORT 1535 ARQ/E3 100/400 8rc. Betas. 1610 Controle de voie Paris de Paris. 1620 Cde de v RFVI de RFVI. Cct [REI] (15/Oct) (DW)
RFVI: FNy Le Port, REU 1717 ARQ-E3 100/400 5LGs to Naval HQ, Paris on REI circuit. 23/Oct (RM)
20699.8 SAM: Stockholm, Sweden 11.37 SWE-ARQ 100/400 Encrypted tfc to Harare embassy (30 Oct).(PT)
20699.9 SAM: MFA Stockholm 0810 SWED-ARQ 100/400, 5LGs to Pretoria. (PIRI)
20780 RFGW: MFA Paris France 0715 FEC-A 192 Bd/400 with 5Lgs (6/OCT) (IJ)
20815 ICRC: (??) Geneva, Switzerland 13.50 Pactor 200/200 "Exte: FED Geneva" then shutdown (30 Oct). (PT)
20852 Y9L: Location Unknown 14.45 FEC-A 192/820 Calling P6Z, Paris,

with "C'EST UN BANDE TEST" and RY's.(PT)
20909.9 RDHX: Ryadh, Saudi Arabia 12.00 ARQ6-90 200/400 French embassy with 5-lg tfc "DE RYAD".(PT)
20917 EGYPTIAN EMB KENYA?: 1132 arq 100/170 Tfc in offline encrypt. (13/Nov) (DW)
20924.8 NDJA: N'Jameina, Chad 15.45 ARQ6-90 200/400 5-lg tfc signed "NDJA".(PT)
20925 NDJA: F Emb N'Djamena 0755 ARQ6-90 200 "Uu cc, sv dipl, tt, de ndja 48 48 422 422" into 5FGs (16/Oct) (LAR)
NDJA: FRENCH EMB NDJAMENA 1529 ARQ/6 200/400 ACF90. Tfc in offline encrypt. "qrx 140700z 70/17". (13/Nov) (DW)
20925 RFGW: MFA PARIS ? 1404 ARQ/6 200/400 French diplo. ACF90. Betas and signoff. "ok r r r r 695 pse qrx1515z 70/17" (13/Nov) (DW)
20933.5 SPW: Warsaw Radio 1424 FEC PP nx. 26/Oct (WJL)
20944 SAM: MFA Stockholm Sweden 0430z SWED-ARQ 11 Oct [BC3]
20959.8 SAM: MFA STOCKHOLM 1016 ARQ/SWE 100/I/400 Tfc in offline encrypt. CHB3/9/22. (27/Oct) (DW)
20960 SAM: MFA Stockholm 0647, SWED-ARQ 100/385 5LGs to Nairobi.(PIRI)
20986.9 SAM: MFA STOCKHOLM 1000 ARQ/SWE 100/I/400 CHB22. Tfc in offline encrypt and Swedish. (27/Oct) (DW)
20991 Unid: FAPSI 0920 RTTY 100/500 5LGs link 00099. 15/Oct (ML2)
22370 HZN50: JEDDAH MET 1507 rtty 100/R/675 Met tfc. (3/Nov) (DW)
22377 GKE7: PORTISHEAD RADIO 1611 CW. Chan free marker "GKE7" (1/Nov)(DW)
22377.5 KFS: PALO ALTO RADIO 1602 arq 100/170 Selcals PIXVTVV. Chan free marker (Globe) "KFS". Selcals POUKPVT. (1/Nov) (DW)
22383.5 WLO: MOBILE RADIO 1610 CW Chan free marker "WLO" (1/Nov) (DW)
22384.5 SVV: Athens radio, GRC 11.48 (Oct 25) CW DE SVV (AB)
22385 OXZ: LYNGBY RADIO 1616 CW. Chan free marker "OXZ" (1/Nov) (DW)
22387.5 SVT7: ATHENS RADIO 1617 CW. Chan free marker "de SVU" (1/Nov)(DW)
SVV: Athens radio, GRC 11.53 (Oct 25) CW DE SVV (AB)
22389.5 NMN: USCG PORTSMOUTH 1619 CW. Chan free marker "NMN" (1/Nov) (DW)
22389.5 NMN: USCG PORTSMOUTH 1950 arq 100/170 Giving ship QSL for OBS. (1/Nov) (DW)
22391.5 HPP: PANAMA INTELMAR 1640 arq Tfc to unid ship [211135 alta gr]. Selcals OTPK. (3/Nov) (DW)
WNU: SLIDELL RADIO 1622 arq 100/170 Selcals MVTVQTV. Chan free marker (Maritex). ID assumed. Selcalls KPITIVV. (1/Nov) (DW)
22392 SAB932: GOETEBORG RADIO 0919 arq Chan free marker (Maritex) "ererer". Selcal TCQV. (3/Nov) (DW)
22396 LSD836: ARGENTINA RADIO 0938 arq QSL for tfc. Selcals MYEY. Chan free marker (Maritex) "ererer". A/back, tfc to unid ship, weak, poor sync. (3/Nov) (DW)
UNID (MARITEX) 1648 arq 100/170 Chan free marker (Maritex) "ererer" string. Selcals EZKY KPITIVV. Only Seattle listed here. No maritex stn listed on this freq. (1/Nov) (DW)
22401 HEC62: BERN RADIO 1657 CW. Chan free marker "HEC". (1/Nov) (DW)
22403 WLO: MOBILE RADIO 1659 CW. Chan free marker "WLO". (1/Nov) (DW)
22412 WLO: MOBILE RADIO 1700 CW. Chan free marker "WLO". (1/Nov) (DW)
22435 XSQ: GUANGZHOU RADIO 0946 arq Selcals USEK. Chan free marker (Maritex) "ererer". (3/Nov) (DW)
22447 FUV: Djibouti 10.15 ITA2 75/850 French Navy station with RY's & "FAAA DE FUV".(PT)
22461.3 8PO: Barbados Radio 1730 ARQ & CW marker. 28/Oct (RM)
22461.5 FUJ: FF Noumea NCL Rtty 75/850 2225z FUJ Testing RY's 11 Nov 98 [BC3]
22475.5 PWZ33: BN RIO DE JANEIRO 1333 rtty 75/850 Tfc in Port. Poor copy fading. Poss offline enc tfc using a/n but no symbols, space and on fixed line length 64 cpl. Typ heading "eofzia zrnr 366 zia zrnr 366 zdnr 366 preferential p-081203z/out/98 de grnhid paa nocacm." Ref in one msg to 20.30S 40.15W Porto Vitoria (10/Oct)(DW)
22521.8 Unid: 1736 ARQ 75/850 Encryption. 28/Oct (RM)
22537 FUF: FNy Fort de France, MRT 1736 RTTY 75/850 DE FUF (6x) testing testing ry, sg, 0->9->0, testing testing. 28/Oct (RM)
FUF: FN FT DE FRANCE 1524 rtty 75/R/850 Marker "de FUF testing

ry's sg's figs testing" (10/Oct) (DW)
22542 JJC: TOKYO 0912 FAX//60/576/N/800 Japanese script. (4/Oct) (DW)
22561 FUJ: FN Noumea NCL Rtty 75/850 FUJ Test Tape 01Oct 98 [BC3]
FUJ: FN Noumea NCL Rtty 75/850 0018z FUJ Test Tape 01OCT98 [BC3]
22563.8 9AR: RIJEKA RADIO 1531 CW. Marker "vvv de 9AR 3/7/9 ch 3/4/7 k"(10/Oct) (DW)
22592.5 A9M: BAHRAIN RADIO 1545 CW. Marker "cq de A9M qsx ch 2/3/4 k"(10/Oct) (DW)
22607.3 SAB93: GOETEBORG RADIO 1550 arq Selcals OBSM. Chan free marker (Maritex) "ererer" string. (10/Oct) (DW)
SAB93: GOETEBORG RADIO 1648 arq Chan free marker (Maritex) "ererer". Selcals KUSV. (3/Nov) (DW)
22610.5 CLA50: HAVANA RADIO 1555 CW. Marker "cq de CLA qsx c/11 8368/12552/16736 tx 8573/12673.5/16961 qsw CLA 20/32/41/50 qrj c/1217 k" (10/Oct) (DW)
CLA50: Havana Radio 1749 CW CQ-QSX-QSW-QRJ marker. 28/Oct (RM)
22614.5 Unid: 1755 RTTY 75/850 Encryption. 28/Oct (RM)
22655 UFL: Vladivostok. R RUS Rtty 50/140 0001z WX & News 01 Oct 98[BC3]
22687.7 Unid: 1756 RTTY 150.7/850 Encryption. 28/Oct (RM)
23129 P6Z: MFA Paris 0930 ARQ6-90 200/4OO 5LGs to RYAD Riyadh. 21/Oct (ML2)
23238.3 Unid: 1744 RTTY 75/850 Encryption. 27/Oct (RM)
23301.7 UNID 1455 arq Weak, in irs until offair 1504z (3/Nov) (DW)
23370 HZN50: JEDDAH MET 1455 rtty 100/R/850 Met tfc. (15/Oct) (DW)
HZN50: Jeddah, Saudi Arabia 15.30 RTTY 100/850 Jeddah Meteo with meteo tfc.(PT)
23522.9 JMH6: TOKYO MET 0750 FAX Tropical cyclone forecast chart (WTAS07). Slight background echo. (17/Oct) (DW)
JMH6: TOKYO MET 0942 FAX Chart of nw Pacific (FSAS07) followed by FXAS50. (16/Oct) (DW)
23522.9 JMH6: Tokyo Meteo 0714 FAX 120/576 Sat picture. (PIRI)
23626 RYAD: French Emb Riyadh 0950 ARQ6-90 200/400 5LGs to Paris. 21/Oct (ML2)
23632.5 UNID. 1516 PACTOR I? End seconds of possible PactorI qso. (3/Nov) (DW)
24367 RFGW: MFA PARIS 1100 FEC/A 192/400 Tfc in offline (5ltr grps) encrypt. (13/Nov) (DW)
24370 P6Z: MFA Paris 1249 fec-a 192/400 Calling L9C (FF Emb., Buenos Aires) (10/Nov)(RH2)
RFGW: MFA Paris 1050 fec-a 192/400 594xLG to P9C Beirut, then 60 mins+ 5LG to D4B Damascus (10/Nov) (RH2)
26075 Unid: 1515 USB OM/FF radphone comm. 16/Oct (RM)
29705.3 Unid: 1510 RTTY 50/170 Deep fadeing prevent decoding. 16/Oct (RM)

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Tks and a tip of the hat to this month's contributors:

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(AB5) Arno Bollen, Sittard, NLD
(AS) Andrew R. Sutcliffe, G or Al Stern (I show AS for both. Whose logs are these in this month's column?)
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(JRU) Jascha Ruesseler, Marburg, D
(KB) Klaus Betke, Oldenburg, D

(KMH) Sorry, I have no record of whose initials these are - ed.
(LAR) Larsen, D
(LBJ) Jean-Paul LeBlanc, Ontario, Canada
(MC) Mike Chace, Bath, G
(MC2) Mark Chinsky, Glenhead, NY, USA
(ML2) Murray Lehman, Perth, AUS
(NJ) Noel Jones, Auckland, NZL
(OTE) Sorry, I have no record of whose initials these are - ed.
(PIRI) Pim Ripken, Eemnes, HOL
(PT) Peter Thompson, Crewe, Cheshire, G
(PvdE) Peter van den Esschert, Arnhem, NLD
(RB) Rick "RD" Baker, Austintown, OH, USA
(RD3) Rob Davies, Northwich, Cheshire, G
(RH2) Robert Hall, Cape Town, AFS
(RM) Robert Margolis, Lake Forest, IL, USA
(TR) Tom Roach, San Jose, CA, USA
(TR2) Thomas Roth, D
(WJL) William J. Lazur, QTH?
(WP3) Wolfgang Palmberger, near Munich, D

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*** NUMBERS & ODDITIES ***
Edited by Ary Boender
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2961 M26, ??? 17.00 (Oct 19) CW //4106 kHz. '99 10654', 31 31 31 + 5FGs etc (AB)
3091 E10 MOSSAD 1946 (7 Oct) AM CIO 2 (JRU)
3164 unid sta 2300 (24 Sept) txm 509 for 5 mins in CW (JAMMO)
3389 V2 Atencion 0100z (06-10-98 Tue) AM 75691 39246 34342 all #s uncertain - very faint & slightly obscured (PFR)
3595 XXX FAST CW PIPS 1950 (7 Oct) CW vy fast w-pips and a sound like an old door which is opened in regular intervals. (JRU)
3640 Mossad, ISR 23.15 (Oct 23) AM MIW2 (AB)
3651 Russian Air Defense, RUS 22.57 (Oct 23) CW BT?? etc (AB)
3757 XX PIP 1948 (7 Oct) CW a continuous pip of the same time length (JRU)
3757 Unid, ??? 20.40 (Oct 25) CW 'the pip' (AB)
3838 M21. Russian Air Defense, RUS 20.02 (Oct 24) CW BT?? etc (AB)
3927 Atencion stn V2 (10-04-98) 0102Z AM in progress (BR)
4015 Cherta (S12) 2103 (7/Oct 98) USB id 971 null message format (DR)
4016 cut no's stn M8 (09-28-98) 0305Z CW in progress (BR)
4017 M12 2240 (02/Oct) CW Repeat of 5317 (VM)
4017.5 ANDUWRIGMT/M8 0200 Thursday 10/21/98 CW 5F/L/G. (JM4)
4027 M8 Cut-numbers 0600z (29-09-98 Tue) CW RRWIA IDUDN DAAAA (PFR)
4027 M8 Cut-numbers 0306z (02-10-98 Fri) CW in progress (PFR)
4028 unk unk 1010 AM (In tfc - fem/SS - thurs) 1 Oct 98 (LBJ)
4028 V2 Atencion 0500z (25-09-98 Fri) AM voice very faint - can't make out (PFR) 4028 unknown V2 1000 AM (Too weak to copy - Fem/SS -Thurs) 15 Oct 98 (LBJ)
4028.5 ANDUWRIGMT/M8 0300 Friday 10/23/98 5F/L/G in progress (JM4)
4029 unknown V2 1000 AM ATTENTION 60450 66200 66473 (Cont'd - Fem/SS - Thurs - weak) 8 Oct 98 (LBJ)
4029 unknown V2 1100 AM ATTENTION (QRM -Fem/SS - Mon) 19 Oct 98 (LBJ)
4029 unknown V2 1015 AM (In 5fig/tfc/Fem/SS - Mon) 19 Oct 98 (LBJ)
4035 M51, F 21.39 (Oct 15) CW 5LG's (AB)
4036 unknown V2 1105 AM (In tfc - Fem/SS - Wed) 7 Oct 98 (LBJ)
4036 unknown V2 1100 AM ATTENTION (too weak to copy - Fem/SS - Wed) 14 Oct 98 (LBJ)
4036 unknown V2 0412 USB (In 5fig/tfc - Fem/SS - Mon) 12Oct 98 (LBJ)
4106 M26, ??? 16.50 (Oct 18) CW '99 10704'. At 1700 '99' for 3 mins, then resumes the '99 10704' routine. Changed msg at 1900 to '99 10528' // 2961 kHz. (AB)
4165 VLB2 Mossad/E10 0047 USB VLB2 (Cont'd - Fem/EE - Tue) 20 Oct 98 (LBJ) VLB2 Mossad/E10 0145 USB VLB2 (Mon) 12 Oct 98 (LBJ) VLB2 Mossad/E10 0045 USB VLB2 (Mon) 12 Oct 98 (LBJ) KPA2 Mossad /E10 0120 USB KPA2 (Mon) 12 Oct 98 (LBJ) VLB2 Mossad/E10 2346

USB VLB2 (Cont'd - Sun) 11 Oct 98 (LBJ)
4173 unknown M8 1100 CW IMNRN NWUND IGGNA (Sun) 25 Oct 98) (LBJ)
4175 unknown V2 1008 AM (In tfc - Fem/SS - Wed) 7 Oct 98 (LBJ)
4175 unknown V2 1004 AM ATTENTION (too weak to copy - Fem/SS - Wed) 14 Oct 98 (LBJ)
4270 Mossad, ISR 23.00 (Oct 23) AM PCD + 5LGs (AB)
4360 Mossad, ISR 22.45 (Oct 23) AM SYN2 (AB)
4460 Mossad, ISR 23.00 (Oct 23) AM FTJ + 5LGs (AB)
4461 FTJ Mossad/E10 2303 USB FTJ (Cont'd - Fem/EE - Sat) 24 Oct 98 (LBJ)
4462 unknown V2 1111 AM (In 5fig/tfc - Fem/SS - Sun) 25 Oct 98 (LBJ)
4485 //5027 Czech lady control S17 1356 mon 5 Oct USB YL/CZ 555 (x3) 313(x3) 05 (JD)
4478 cut no's stn M8 (9/26/98) 0315Z CW in progress (BR)
4479 V2 Atencion 0401z (02-10-98 Fri) AM voice VERY faint - carrier quite strong (PFR)
4506 cut no's stn M8 (9/24/98) 0100Z CW msgs URMWA DIDUN WNTDA (BR)
4506 cut no's stn M8 (10-01-98) 0100Z CW msgs DWGGN IDUDD AUINA (BR)
4506 M8 Cut-numbers 0401z (02-10-98 Fri) CW AWUIN UIIGN TRADA very faint (PFR)
4530 German Lady (G7) 2052 (5/Oct 98) AM sked 418 key 2437 gc 52 (DR)
4560 YHF2 Mossad/E10 0402 USB YHF2 (Mon) 12 Oct 98 (LBJ)
4612.2 SPOOK CW 0400 "483 483 483 00000" repeated, good, cut 0 = T. (11 OCT) (ANUS)
4620 German Lady (G7) 2050 (28/Sep 98) AM sked 359 key 181 gc 53 (DR)
4620 English Man, RUS 22.03 (Oct 13) AM in progress (AB)
4620 English Man, RUS 21.45 (Oct 14) AM Tests at 2145-2150, calls 813 in Russian and English (AB)
4620 English Man, RUS 22.00 (Oct 14) AM 813(R4) 246 109 5FG (AB)
4620 On October 14, at 22:00-22:23 UTC, Russian Man(?) in English on 4620 (SIO 544 here in Vilnius; AM mode; QRM from UZB-76 on 4625 kHz). Carrier from 21:40; 1 kHz tones from 21:45. Test ann. "813" in Russian and English! New frequency? Any comments? (RP)
4625 S28 THE BUZZER 1722 (7 Oct) mode ? buzzing as always (JRU)
4625 Buzzer, RUS 21.59 (Oct 15) BURSTS Bursts change to 'siren'(no stops between the bursts) between 21.59m30s and 22.00 UTC (AB)
4640 //5046 E5 Counting Station 0008z (07-10-98 Wed) AM 178 count - could not hear groups because of fading and interference (PFR)
4640 //5046 TCS/E5 0000 Thursday 10/21/98 YL/EE rptg 924 Count 56 into 3/2FG. (JM4) 4640//5046 TCS/E5 0000 Thursday 10/15/98 YL/EE rptg 178. Count 88 into 3/2FG. (JM4)
4665 // 3270 Mossad E10 2148z mon 12 Oct USB YL/EE KPA 59 (JD)
4665 KPA2 Mossad/E10 0115 USB KPA2 //5230 24 Oct 98 (LBJ) Mossad, ISR 23.15 (Oct 23) AM KPA2 (AB)
4780 E10 MOSSAD 1717 (7 Oct) AM MIW 2 //5530 (JRU)
4815 SPOOK 3-NOTE ODDITY 0405 3-tone IS to 0410, then GG W 5FGs 2x. Good level, first time heard here. (11 OCT) (ANUS) * note time! -jru *
4880 ULX2 Mossad/E10 0130 USB ULX2 //6270 24 Oct 98 (LBJ) Mossad, ISR 23.00 (Oct 23) AM ULX + 5LGs (AB) ULX2 Mossad/E10 0400 USB ULX2 (Mon) 12 Oct 98 (LBJ) ULX2 Mossad/E10 0130 USB ULX2 (Mon- //6270) 12 Oct 98 (LBJ) ULX Mossad/E10 2300 USB ULX (Cont'd - Sun) 11 Oct 98 (LBJ) ULX Mossad/E10 0230 USB ULX (Cont'd - Sun) 11 Oct 98 (LBJ)
4915 SPOOK 3-NOTE ODDITY 0442 GG W 5FG 2x already in progress, fair. (11 OCT) (ANUS) * note time ! -jru *
5015 Two-Letter German 0130 Tuesday 10/20/98 YL/GG rptg "Golf Kilo" w/a 77 group message for 577. It appears Tuesday/Thursday at 0130 on 4-5mhz freqs will be this winter's GK schedule. (JM4)
5071 UNID EE Man Numbers Stations (USB) Sep 25, 0426 UTC Tuned in at the end of transmission: 106 106 000. Open carrier untill s/off at 0427. (KH)
5091 MOSSAD (E10) 2033Z (13.08.98) USB id JSR grp 84 (SD)
5092 E10 MOSSAD 1701 (7 Oct) AM JSR, msg followed (JRU)
5116 cut no's stn M8 (9/25/98) 0200Z CW msgs URMWN UIUGN WWAGD (BR)
5117.5 ANDUWRIGMT/M8 0200 Friday 10/16/98 5F/L/G in progress. (JM4)
5127 From 1950 to 2000 German YL calling out the following sequence : 3 times "771" and after an about 2sec gap "1" (sieben sieben

eins ....eins). From 2200 hrs onwards "960 149" and read 149 x 5G.Following this "202 000" was announced and cut off the carrier (no message for 202?). The reading was quite uniformally tempoed at 50 5G in 5 min. (AC)

5167 M12 1854 (27/Sep) CW ID 105 Null message (VM)

5170 // 7811 Mossad E10 (JD) 2150z mon 12 Oct USB YL/EE CIO 2 (JD) Mossad, ISR 22.45 (Oct 23) AM CIO2 (AB)

5178 BACKWARDS MUSIC STATION (XM) 2003Z (29.08.98) USB (SD)

5178 XM BACKWARDS MUSIC STATION 1954 (7 Oct) USB with the usual sound (JRU)

5230 E10 MOSSAD 1718 (7 Oct) AM KPA 2 (JRU) KPA2 Mossad/E10 2206 USB KAP2 18 Oct 98 (LBJ) KPA2 Mossad/E10 0315 USB KPA2 (Wed) 14 Oct 98 (LBJ) KPA2 Mossad/E10 2205 USB KPA2 (Tue) 13 Oct 98 (LBJ) KPA2 Mossad/E10 0415 USB KPA2 (Mon - // 4665 //6745) 12 Oct 98 (LBJ) KPA50L8 Mossad/E10 2203 USB KPA50L8 (Cont'd) KPA2 (2205Z) 11 Oct 98 (LBJ) KPA2 Mossad/E10 2315 USB KPA2 (Cont'd - Sun) 11 Oct 98 (LBJ) KPA2 Mossad/E10 0315 USB KPA2 (Cont'd -Sun //4665) 11 Oct 98 (LBJ) KPA2 Mossad/E10 0215 USB KPA2 (Cont'd - Sun - //4665) 11 Oct 98 (LBJ)

5243 German Lady (G7) 2030 (12/Oct) AM sked 418 key 1531 gc 73 (DR)

5317 M12 2222 (02/Oct) CW ID 730 Two messages. 1st: 8696 68, 2nd: 4637 65 (VM)

5330 M51 0438 (07/Oct) CW "NR 75 O 07 06:38:31 1998" (VM)

5419 M8 Cut-numbers Morse 0300z (24-09-98 Thu) CW WGIID WMIND RUTTD (PFR) 5419 M8 Cut-numbers 0300z (01-10-98 Thu) CW AWUIA UIIGA AIIDA lots of noise and buzz obscuring txmn (PFR) M8 Cut-numbers 0221z (03-10-98 Sat) CW in progress (PFR)

5419.5 ANDUWRIGMT/M8 0200 Monday 10/19/98 5F/L/G. (JM4)

5435 MOSSAD (E10) 2032Z (13.08.98) USB id ART (SD)

5448 Unid, ??? 14.34 (Oct 25) CW 'the pip' (AB)

5448U SPOOK "The Pip" 0445 fair w/ 1 sec raspy beep repeated, sorta like 4625 before its reincarnation as The Buzzer. Haven't heard it since, and nothing on 3757 either. (11 OCT) (ANUS)

5530 MOSSAD (E10) 2016Z (13.08.98) USB id MIW2 (SD)

5530 MIW2 Mossad/E10 0315 USB MIW2 (Cont'd - Sun) 11 Oct 98 (LBJ)

5530 MIW2 Mossad/E10 0315 USB MIW2 (Wed) 14 Oct 98 (LBJ)

5530 MIW2 Mossad/E10 0117 USB MIW2 (Sat) 24 Oct 98 (LBJ)

5629 // 3640 Mossad E10 (JD) 2149z mon 12 Oct USB YL/EE VLB 2

5688 CUBA Babbler 1252 (1 OCT) idle tx w/ hum, first time heard in a while (ANUS)

5732 Two-Letter German/G16 0130 Thursday 10/21/98 YL/GG rptg Golf Kilo w/another 77 group message for 577. QRM from USCG/Customs wkg C7.(JM4) Two-Letter German/G16 0130 Thursday 10/15/98 YL/GG rptg "Golf Kilo" w/electronic tune. At 0135, "Messages for 577.. 577; 77 gruppen... Achtung!" and into 3/2FGx2. S9 - winter DX is back! (JM4)

5746 M51 0631 (29/Sep) CW in progress (VM)

5758 M8 Cut-numbers 0306z (02-10-98 Fri) CW in progress (PFR)

5758.5 ANDUWRIGMT/M8 0300 Friday 10/23/98 5F/L/G in progress. (JM4)

5762 Atencion/V2 0200 Saturday 10/3/98 YL/SS 5FG in progress. (JM4)

5762 V2 Atencion 0221z (03-10 Sat) AM in progress - very faint (PFR)

5791 M12 2104 (30/Sep) CW ID 957, preamble: 7197 105 (VM)

5800 Atencion stn V2 (09-28-98) 0305Z AM in progress (BR)

5823 English man E7 2115 (05/Oct) ID 888 Null message (VM)

5834 Phonetic alphabet pre NATO E15 1908 sat 10 Oct USB OM/EE QRU callsign missed (JD)

5922 M51 2220 (30/Sep) CW "NR 81 O 01 00:20:34 1998" (VM)

6270 unk Mossad/E10 0105 USB (In 5 ltr tfc female/EE- suspect ULX - sun) 27 Sep 98 (LBJ) E10 MOSSAD 1533 (7 Oct) AM ongoing msg (JRU) ULX MOSSAD/E10 0100 USB ULX (Cont'd - //7760 - Mon) 5 Oct 98 (LBJ) MOSSAD/E10 0100 Sunday 10/11/98 YL/EE rptg ULX into 5LG. (JM4) MOSSAD/E10 0100 Thursday 10/21/98 YL/EE rptg ULX weak. (JM4) MOSSAD/E10 0100 Monday 10/19/98 YL/EE rptg ULX into 5LG.(JM4) MOSSAD/E10 0100 Wednesday 10/14/98 YL/EE rptg ULX into 5LG.(JM4) ULX Mossad/E10 0430 USB ULX (Mon - //4880) 12 Oct 98 (LBJ)

6575 Mossad E10 2035 (30/Sep) repeating HNCU until 2036 (VM)

6575 Mossad E10 2320 (01/Oct) HNCM (VM)

6650 964 V2 1000 AM ATTENTION 964 03 (fem/SS - fri) 2 Oct 98 (LBJ) 964 V2 1003 AM (5FG tfc - Fem/SS -Fri) FINALE (x2) (1004Z) ATTENTION 964 0. (Cont-d) 9 Oct 98 (LBJ). V2 1003 AM (In 5FG tfc - Fem/SS - Fri) 23 Oct 98 (LBJ) V2 1000 AM ATTENTION (Too weak to copy - Fem/SS -Fri) 16 Oct 98 (LBJ)

6658 MIW2 Mossad/E10 0415 USB MIW2 (Mon - //5530) 12 Oct 98 (LBJ)

6745 E10 MOSSAD 17.15 (8 Oct) AM KPA2 (LAG)

6753 XM BACKWARDS MUSIC STATION 1956 (7 Oct) USB sounded vy much like a male voice, scrambled, with tones over it. Acc. to the last numbers and oddities column this is a NATO comms device from Palermo, Sicily, Italy. (JRU)

6767 M8 1200 CW UIMMA TDRUN NUWUS (Sun) 25 Oct 98 (LBJ) M8 1215 CW (In 5ltr/cut/nrs) AR(x3) IAUTD (x5) BT(x3) ATTWR AWUNR ... (1226z - Sun) 11 Oct 98 (LBJ)

6768 Atencion stn V2 (9/26/98) 0100Z AM (BR) V2 Atencion 0409z (28-09-98 Mon) AM in progress (PFR) M8 Cut-numbers 1125z (02-10-98 Fri) CW in progres - slightly obscured; very faint (PFR) V2 0405 USB (In 5fig/tfc - Fem/SS - Mon) 12 Oct 98 (LBJ)

6782 V2 Atencion 0306z (02-10-98 Fri) CW in progress - no // found (PFR). Atencion/V2 0300 Friday 10/23/98 YL/SS rptg "A 35455 98092 95381" into 5FG. (JM4)

6785 M8 1306 CW (In 5ltr/cut/nrs - Sun - Having problems with his xmitter) 25 Oct 98 (LBJ)

6786 SPANISH LADY (V2) 0622Z (16.08.98) AM in progress (SD). SPANISH LADY (V2) 0804Z (25.09.98) AM in progress (SD)

6786 M8 1006 CW (In 5ltr/cutnrs - Wed - +30db) 23 Sep 98 (LBJ). M8 1004 CW (In 5ltr/cutnrs - Fri) WGITN BT(x3) UTAAW TUATU 25 Sep 98 (LBJ). M8 1000 CW AUDMD TNMTD RNMMD (Cont'd - wed) 30 Sep 98 (LBJ). M8 1106 CW (In 5ltr/cutnrs - sat) 3 Oct 98 (LBJ). M8 1000 CW IUDDD WMNMD GNTNA (Cont'd - Wed) 7 Oct 98 (LBJ). M8 1000 CW RAATN WNINA GNTND (Fri) 9 Oct 98 (LBJ)

6786 V2 Atencion 0600z (27-09-98 Sun) AM 20551 04223 77722 rare high-pitched voice (PFR). V2 Atencion 0800z (02-10-98 Fri) AM in progress - very faint (PFR)

6786 M8 Cut-numbers 0600z (29-09-98 Tue) CW IDMIA NIATN RUDD (PFR) M8 0600 (22/Sep) IDs: IRNNA NMTAD ARUDA (VM). M8 1000 CW MGAMA GADMN MDUTA (Fri) 23 Oct 98 (LBJ). SPOOK CW (most likely M8) 2200 "730 730 730 1" rptd, cut 0 = T, 20 wpm. 2205:30 went into 35 wpm 5FGs 2x. (13 OCT) (ANUS). M8 1000 CW GRATW IWRUD RUTIA (Wed) 14 Oct 98 (LBJ). M8 1000 CW WADUN RAITA RUTID (Fri) 16 Oct 98 (LBJ). M8 1007 CW (In 5ltr/cut/nrs - Mon) 19 Oct 98 (LBJ). M8 1000 CW RAATN WNINA GNTND (Fri) 9 Oct 98 (LBJ). M8 1008 CW (In 5ltr/cutnrs)(Tue) AR (x3) WUMDN (x5) BT(x3) ATNNT RAWRT ...(1015z) 22 Sep 98 (LBJ)

6787 728 V2 1006 AM ATTENTION 728 06 (Cont'd) 06 64 (Cont'd - thurs - fem/SS - Second SS nr stn in tfc on same freq, but different from 728 sked)1 Oct 98 (LBJ). V2 1003 AM (In tfc - Fem/SS - Thurs - weak) 8 Oct 98 (LBJ). M8 1005 CW (In 5 ltr/ cut/nrs - Tue) 6 Oct 98 (LBJ). V2 1002 AM ATTENTION 06192 54772 89032 (Cont'd - Fem/SS - Thurs) 22 Oct 98 (LBJ). V2 1000 AM (Too weak to copy - Fem/SS -Thurs) 15 Oct 98 (LBJ)

6787 M8 1000 CW DRGRA NGAMN MARWU (Tue) 13 Oct 98 (LBJ)

6797 V2 Spanish Atencion 0500z (24-09-98 Thu) AM Carrier only until 0504z then "Atencion 10121" then cut off; started for good at 0505z 10121 71952 44042 (PFR)

6790 German Lady (G6) 2008 (5/Oct) AM sked ??? key 524 gc 136? (DR)

6796 M8 1208 CW (In 5ltr/cutnrs - sat - weak) 3 Oct 98 (LBJ)

6796 Atencion/V2 0200 Monday 10/19/98 YL/SS rptg "A 01953 30941 35452" into 5FG. (JM4). Atencion/V2 0200 Monday 10/5/98 YL/SS rptg "A 39343 66392 52353" into 5FG. Rare LSB! (JM4). V2 Atencion 0512z (01-10-98 Thu) AM in progress (PFR)

6817 M13 0500 (09/Oct) CW 365 = 169 20 = (VM)

6825 M8 (10-01-98) 1204Z CW in progress (BR). M8 0200 CW AUATN ANNMA RANNA (Tue) 20 Oct 98 (LBJ). M8 1000 CW WUUAA IWRMN MNADA (Tues) 22 Sep 98 (LBJ). M8 1000 CW AUDMU BT(x3) MTAAW TWADT (Thurs) 1 Oct 98 (LBJ). M8 1000 CW (In 5ltr/cutnrs - sat) 3 Oct (LBJ).

6826 Atencion stn V2 (09-28-98) 0305Z AM in progress (BR). V2 0324

AM (In 5fig/tfc - Fem/SS - Wed) 14 Oct 98 (LBJ)
6826 M8 1000 CW IUDDN GDGWN WTUMD (Cont'd - Tue) 6 Oct 98 (LBJ). M8 1000 CW TWMRN RWRTN MNWGA (Cont'd - Wed) 7 Oct (LBJ). M8 1000 CW RAATA GDGWD RDMID (Cont'd - Thurs) 8 Oct (LBJ). M8 1000 CW WADUA GNNGD RNMGN (Thurs) 15 Oct (LBJ). M8 0606 (24/Sep) CW in progress (VM). M8 1000 CW GRATU GNNGN GWNGU (Tue) 13 Oct (LBJ)
6827 M8 1005 CW (In 5ltr/cutnrs - Wed - +20db) 23 Sep 98 (LBJ). M8 1000 CW DTNUA GGTAD DAIIN (Cont'd - wed) 30 Sep (LBJ). M8 0712 (20/Sep) CW in progress (VM). M8 0700 (27/Sep) CW IDs: DMDID MTGRN MDGAD (VM). M8 1000 CW DRGRN MINMA DGAGA (Wed) 14 Oct (LBJ).
6830 Atencion YL/SS 6830 0300 Sept/30/98 in Denver. USB (ED)
6840 E10 Mossad No. Stn. 0503 (6 Oct) AM ongoing msg (JRU)
6840 E10 MOSSAD 1600 (7 Oct) AM EZI, msg followed also at 1630 with EZI2 // 9130 and at 0731 with EZI and msg, // 9130 agn (JRU)
6840 E10 MOSSAD 1958 (10 Oct) AM EZI (JRU)
6840 E10 MOSSAD 1731 (11 Oct) AM EZI, msg, groups 31 (JRU)
6843 Two Letter (G16) 2131 (28/Sep) USB ????? 846 59 gruppen (DR)
6853(qrg?-jru) Two Letter (G16) 2130 (5/Oct 98) USB id Golf Kilo (DR)
6855 Atencion stn V2 (09-28-98) 0305Z AM in progress (BR)
6855 M8 Cut-numbers 0911z (03-10-98 Sat) CW in progress (PFR)
6855 M8 0527 (05/Oct) CW in progress (VM)
6856 M8 Cut-numbers 0605z (10-10-98 Sat) CW in progress (PFR)
6856 M12 1800 (28/Sep) CW ID 658 (VM)
6866 M8 Cut-numbers 1303z (26-09-98 Sat) CW In progress (PFR)
6891 FAPSI Moscow, RUS 19.20 (Oct 18) RTTY 75bd Many long msgs to RAD on link 70037 (AB)
6932 M8 1313 CW (In 5ltr/cutnrs - sat - weak) AR(x3) NDWGN (x5) BT(x3) DUIGU ...(1314z) 3 Oct 98 (LBJ)
6933 M8 Cut-numbers 0800z (02-10-98 Fri) CW in progress (PFR)
6957 English Man (E7) 2043 (28/Sep) AM sked 319 key 1409 gc 60 (DR)
6957 English Man (E7) 2040 (30/Sep) AM sked 319 key 1409 gc 60 (DR)
6957 German Lady G7 2012 (21/Sep) ID 359, preamble: 181 53 (VM)
6959 // 8464 E3 LP 1703 (12 Oct) USB ID: 61238 (JRU)
6959 Lincolnshire Poacher E3 2200 (12 Oct) USB Tune, msg (HS)
6976 M51 0613 (05/Oct) CW "NR 12 O 05 08:13:52 1998" (VM)
6976 M51 0638 (08/Oct) CW "NR 62 O 08 08:42:25 1998" (VM)
6982 M8 (09-27-98) 1310Z CW in progress (BR). M8 (09-28-98) 1204Z CW in progress (BR). M8 (10-04-98) 1310Z CW in progress (BR) M8 (10-05-98) 1203Z CW in progress (BR). M8 1300 CW UIMMA TDRUN NUMUA (Sun - Having problems with his xmitter) 25 Oct (LBJ). M8 1303 CW NIDW. MN... IAUT. (Very weak - Sun) 11 Oct 98 (LBJ)
6983 Atencion stn V2 (9/25/98) 0200Z AM (BR). V2 0200 Friday 10/9 YL/SS rptg A 35451 35132 59853 and into 5FG. (JM4). Atencion V7 0220 (10 Oct) AM In progress (HS). Atencion/V2 0200 Friday 10/16 YL/SS rptg "A35454 01952 51192" into 5FG. (JM4)
6984 V2 1105 AM (In tfc - Fem/SS - Thurs) 8 Oct 98 (LBJ)
6984 V2 1100 AM ATTENTION 06192 54772 89032 (Cont'd - Fem/SS - Thurs) 22 Oct 98 (LBJ). V2 1100 AM ATTENTION 06191 54771 89031 (Fem/SS - Thurs) 15 Oct 98 (LBJ)
7472 Atencion stn. V2 0614 (24/Sep) in progress (VM)
7519 M8 0410 (07/Oct) CW in progress. 2nd ID: TWMRA, 3rd: RDMIN (VM)
7529 RUSSIAN MAN (S7) 0500Z (06.08.98) AM call-up 549 549 549 1 id 248 72 (SD). RUSSIAN MAN (S7) 0500Z (20.08.98) AM call-up 549 549 549 1 id 248 72 (SD)
7532 Two Letter (G16) 2000 (7/Oct 98) USB id Golf Kilo (DR)
7540 German Lady (G6) 1903 (5/Oct 98) AM sked 907? key 524 gc 136? (DR)
7572 Backward Music Station 20.45 (12 Oct) (LAG)
7581 M8 1008 CW (In 5 ltr/cut/nrs - Thurs) 8 Oct 98 (LBJ). M8 0500 (24-09-98 Thu) CW IRNNN NIATA ARUDN (PFR). M8 0512z (01-10-98 Thu) CW in progress (PFR). M8 1000 CW DRGRD RINUA RUTIN (Thurs) 15 Oct 98 (LBJ)
7584 V2 1003 AM (In 5fig/tfc - Fem/SS - very weak - Mon) 19 Oct 98 (LBJ). V2 0200 AM ATTENTION 37453 38432 01971 (Fem/SS - Wed) 14 Oct 98 (LBJ)
7591 M12 2050 (30/Sep) CW in progress (VM)

7605 E10 MOSSAD 16.45 (8 Oct) AM SYN2 (LAG)

7605 Mossad SYN2 E 0345 (10 Oct) R3E No msg, gone at 0350 (HS)

7605 Mossad SYN2 E 0245 (10 Oct) R3E No msg, gone at 0250 (HS)

7679 //7680 M8 Cut-numbers 0509z (26-09-98 Sat) CW Definitely sounded on two different frequencies - twiddling USB knob between 7679 & 7680 would cause one pitch to go up while other went down! 7680 was a lot stronger though. First time I've ever noticed anything like this... reminiscient of the few times someone has reported two V2 on the same or adjacent frequencies. (PFR)

7680 //7682 M8 Cut-numbers 0409z (28-09-98 Mon) CW similar to Saturday's txmn, but 7680 (lower freq) much stronger - in progress (PFR). M8 0403 CW (In 5ltr/cut/nrs - Mon) 12 Oct 98 (LBJ)

7725 M8 Cut-numbers Morse 0300z (24-09-98 Thu) CW WUATU WUMDD WRDTN (PFR)

7726 SPANISH LADY (V2) 0547Z (19.08.98) AM in progress (SD)

7737 RUSSIAN MAN (S7) 0520Z (25.09.98) AM call-up 973 973 973 1 (SD)

7737 RUSSIAN MAN (S7) 0520Z (26.09.98) AM call-up 973 973 973 1 id 168 111(SD)

7743 Russian man S7 2101 (01/Oct) ID 934 Null message (VM). Russian Man (S7) 2102 (8/Oct 98) sked 934 null message format (DR)

7760 MOSSAD/E10 0100 Monday 10/5/98 YL/EE rptg "ULX" and into 5LG. (JM4). MOSSAD/E10 0100 Sunday 10/11/98 YL/EE rptg ULX into 5LG. (JM4). ULX Mossad/E10 0102 USB ULX (Cont'd - Fem/EE - Tue) 20 Oct 98 (LBJ). MOSSAD/E10 0100 Wednesday 10/14/98 YL/EE rptg ULX into 5LG. (JM4). MOSSAD/E10 0100 Friday 10/16/98 YL/EE rptg ULX into 5LG. (JM4). MOSSAD/E10 0100 Monday 10/19/98 YL/EE rptg ULX into 5LG. (JM4)

7795 M23 1909 (03/Oct) CW ID 286, groups 68 (VM)

7811 E10 MOSSAD 20.45 (12 Oct)AM CIO2 (LAG). CIO2 Mossad/E10 0045 USB CIO2 (Fem/EE - Tue) 20 Oct (LBJ). CIO2 Mossad/E10 2145 USB CIO2 (Fem/EE - Mon -//5170) 19 Oct 98 (LBJ). CIO2 Mossad/E10 2245 USB CIO2 (Fem/EE - Sun - //5170) 18 Oct 98 (LBJ). CIO2 Mossad/E10 2045 USB CIO2 (Fri) 16 Oct 98 (LBJ). CIO2 Mossad/E10 0443 USB CIO2 (Mon) 12 Oct 98 (LBJ). CIO2 Mossad/E10 0145 USB CIO2 (Mon) 12 Oct 98 (LBJ). CIO2 Mossad/E10 0045 USB CIO2 (Mon) 12 Oct 98 (LBJ). CIO2 Mossad/E10 2345 USB CIO2 (Sun - //5170) 11 Oct (LBJ). CIO2 Mossad/E10 0150 USB CIO2 (Sun) 11 Oct (LBJ)

7820 UNID long, short, long, short, long, long tones repeated over and over. when tuned in usb these tones sound like played on a xylophone. hrd at ard. 2015 on Oct 7. any info ? (JRU)

7830 M51 2058 (01/Oct) CW (VM)

7845 M8 1100 CW TWMRN RWRTN MNWGA (Wed) 7 Oct 98 (LBJ). M8 1100 CW DRGRA NGAMN MARWU (Tue) 13 Oct (LBJ). M8 1100 CW WUATD WUNDN WRDTA (Tues) 22 Sep 98 (LBJ). M8 1102 CW WUATU GGTAA AIIMD (Wed) 23 Sep 98 (LBJ). M8 1100 CW DTNUA GGTAD DAIIN (wed) 30 Sep 98 (LBJ). M8 1100 CW TWMRA MUGGD MDDWD (Tue) 6 Oct (LBJ). M8 1100 CW DRGRN MINMA DGAGA (Wed) 14 Oct 98 (LBJ).

7854 Atencion/V2 0100 Sunday 10/18/98 YL/SS 5FG in progress. Note new schedule. (JM4)

7863 unid 1006 AM (In 5fig tfc - fem/SS - Sat) 3 Oct 98 (LBJ)

7887 Atencion/V2 0200 Sunday 10/11/98 YL/SS rptg "A 35452 41341 95941" into 5FG. (JM4). Atencion/V2 0200 Sunday 10/18/98 YL/SS rptg "A 35455 41342 95942" into 5FG. (JM4)

7888 V2 0200 AM ATTENTION 37452 41341 97941 (Cont'd - Fem/SS - Sun) 11 Oct 98 (LBJ)

7889 M8 Cut-numbers 0100z (06-10-98 Tue) CW missed header (PFR)

7918 MOSSAD (E10) 0504Z (25.09.98) USB in progress (SD). MOSSAD (E10) 0504Z (26.09.98) USB id YHF (SD). MOSSAD/E10 0200 Sat. Oct/3/98 YL/EE rptg YHF and into 5LG. (JM4). E10 Mossad No. Stn. 0504 (6 Oct) AM ongoing msg. (JRU). MOSSAD/E10 0200 Mon. 10/5/98 YL/EE rptg "YHF" and into 5LG. (JM4). MOSSAD/E10 0200 Friday 10/9/98 YL/EE rptg YHF and into 5LG. (JM4). MOSSAD/E10 0200 Sunday 10/11/98 YL/EE rptg YHF into 5LG. (JM4). E10 MOSSAD 1803 (11 Oct) AM ongoing msg, just missed callup, most likely yhf. (JRU). MOSSAD/E10 0200 Thursady 10/21/98 YL/EE rptg YHF weak. (JM4) MOSSAD/E10 0200 Monday 10/19/98 YL/EE rptg YHF into 5LG. (JM4). MOSSAD/E10 0200 Sunday 10/18/98 YL/EE rptg YHFinto 5LG. (JM4). YHF Mossad/E10 0200 USB YHF (Cont'd - Sun) 11 Oct

(LBJ). MOSSAD/E10 0200 Thursday 10/15/98 YL/EE rptg YHF and into 5LG. (JM4)

7987 M12 2041 (30/Sep) CW ID 098 Null message (VM)

7990 M8 1100 CW DTNUN MWIDN UDGWA (Cont'd - thurs)(Also similar signals on 8000 / 8010 / 8020 /8030 Signal on 8010 was the strongest of all. This is the second such intercept I have had on all of these freqs. Suspect very strong signal with sidelobs. 1 Oct 98 (LBJ)

8000 M8 1104 CW (In tfc 5 ltr/cut/nrs - too weak to copy - Thurs) 8 Oct 98 (LBJ). M8 1100 CW GADMA TRMUN ANNDO (Thurs - sidelobs on 8000 and 8020) 22 Oct 98 (LBJ). M8 1100 CW DRGRD RINUA RUTIN (Thurs) 15 Oct 98 (LBJ).

8020 M8 1100 CW TWMRD GITRA GNTNN (Cont'd - Thurs) 8 Oct 98 (LBJ)

8054 M8 Cut-numbers 0306z (02-10-98 Fri) CW in progress - VERY faint & obscured (PFR)

8064 M8 Cut-numbers 0500z (25-09-98 Fri) CW WGITA NIRRA TNMTA - appeared to be jammed, but not very effectively (PFR)

8065 +/- 0600z no sign of last week's V2 transmission

8066 M8 1100 CW UTWWA DTNUD UDGWN (Cont'd - Fri) 2 Oct 98 (LBJ)

8066 M8 Cut-numbers 1125z (02-10-98 Fri) CW in progress (PFR)

8066 M8 1100 CW WADUN RAITA RUTID (Fri) 16 Oct 98 (LBJ)

8066 M8 1100 CW MGAMA GADMN MDUTA (Fri) 23 Oct 98 (LBJ)

8067 M8 1100 CW AUDMD TNMTD RNMMD (Cont'd - wed) 30 Sep 98 (LBJ)

8067 M8 1100 CW INAMD WTUMN MUGGN (Cont'd - Mon) 5 Oct 98 (LBJ)

8067 M8 1100 CW IUDDD WMNMD GNTNA (Cont'd - Wed) 7 Oct 98 (LBJ)

8067 M8 1100 CW AUATN DRMDD ANNMA (Mon) 19 Oct 98 (LBJ)

8067 M8 1100 CW GRATW IWRUD RUTIA (Wed) 14 Oct 98 (LBJ)

8067 M8 1108 CW (In 5ltr/cut/nrs - Sun) 25 Oct 98) (LBJ)

8068 M12 1811 (04/Oct) CW in progress (VM)

8081 X6 1618 (05/Oct) Ended at 1630 (VM)

8125 993 TCS/E5 2205 USB 993 (x3) 1234567890 (Cont'd - Fem/EE - Sun - //10423) 18 Oct 98 (LBJ)

8127 VLB2 Mossad/E10 2345 USB VLB2 (fri - female/EE) 25 Sep 98 (LBJ)

8127 E10 MOSSAD 1448 (10 Oct) AM KPA59, still active at 1505 (JRU)

8157.5 989 1005 989 (Cont'd) 125(x2) 20(x2) BT(x2) 15603 33898... (Keyed cxr - QSZ - Tue - 25 WPM - Msg rptd - no ending) 13 Oct 98 (LBJ)

8173 Two Letter (G16) 1902 (28/Sep 98) USB ????? 846 59 gruppen (DR)

8173 Two Letter (G16) 1900 (5/Oct 98) USB id Golf Kilo ????? 846 59 gruppen (DR)

8177 M12 2110 (15/Sep) CW in progress (VM)

8186 M8 1100 CW IUDDN GDGWN WTUMD (Tue) 6 Oct 98 (LBJ)

8186 M8 1102 CW GRATU GNNGN GWNGU (Tue) 13 Oct 98 (LBJ)

8187 M8 1104 CW (In 5ltr/cutnrs - sat) INAMA (Cont'd) BT(x3) DTAAW TRAWR ... 3 Oct 98 (LBJ)

8187 M8 1100 CW RAATA GDGWD RDMID (Cont'd - Thurs) 8 Oct 98 (LBJ)

8187 M8 1100 CW WADUA GNNGD RNMGN (Thurs) 15 Oct 98 (LBJ)

8187 M8 1100 CW DNUUD NNNDD WWNMA (Thurs) 22 Oct 98 (LBJ)

8192 English Man (E7) 2022 (28/Sep) AM sked 319 key 1409 gc 60 (DR)

8192 English Man (E7) 2020 (30/Sep) AM sked 319 key 1409 gc 60 (DR)

8232 M53(?) 1000 CW VVV CQ 747.821 (Cont'd) (Tues)(Distorted/weak) 22 Sept 98(LBJ)

8232 M53(?) 1010 CW (In 5 fig tfc - weak T=0) AR(x2) VA(x2)(1012z) 2 Oct 98 (LBJ)

8232 M53 1000 CW VVV CQ 747.486 (Cont'd - Tue) 6 Oct 98 (LBJ)

8253 unid 1000 AM (In 5 fig tfc - female/SS - wed) 23 Sep 98 (LBJ)

8253 674 V2 1000 USB ATTENTION 674 09 (Cont'd) 09 65 (Cont'd) 89326 47896 ... (Wed - fem/SS) 30 Sep 98 (LBJ)

8254 V2 1003 AM (In tfc 09 65 (Cont'd - Fem/SS) 89326 47896 ...- Wed) 7 Oct 98 (LBJ). V2 1000 AM (In 5fig/tfc - Fem/SS - Wed) 21 Oct 98 (LBJ)

8300 New Star Broadcasting/V13 1300 Wednesday 10/14/98 YL/CC 4FGx2 in progress. (JM4)

8375 New Star Broadcasting/V13 1300 Wednesday 10/14/98 YL/CC 4FGx2 in progress. (JM4)

8465 E10 MOSSAD 1401 (10 Oct) AM VLB2 (JRU)

8641 E10 Mossad No. Stn. 0446 (6 Oct) AM ID: SYN2 // 7605 (JRU)

8909 V2A Atencion Old Format 0600z (29-09-98 Tue) AM started late at

0604z Atencion 663 01 584 03 repleated then 01 44 (5x) then 5FG w/ 2x "final" Then 03 48 (5x) then 5FG w/ 2x "final" and off at around 0612z - first time I've seen two messages go out; usually just a repeat of one message (PFR). 0613z (29-09-98 Tue) AM repeated BOTH messages from 0600z (PFR)

9015 unid 1130 9/26/1998 AM 1 ol in Spanish 5fgs BTW the audio was sub par. (CT)

9063 am - yl - ss - five number read. Off @ 0245z with short cw send No carrier @ 0251z 8 Oct 98 (AD) 9063 Atencion? 0200 Thursday 10/21/98 carrier on - no broadcast materialized. (JM4)

9130 E10 MOSSAD 1404 (10 Oct) AM ongoing msg. (JRU)

9130 EZI Mossad/E10 2230 USB EZI (Cont'd - Fem/EE - Sun - //6840) 18 Oct 98 (LBJ)

9153 SPANISH LADY (V2) 0535Z (19.08.98) AM in progress (SD)

9160 MOSSAD/E10 0100 Monday 10/19/98 YL/EE rptg EZI2 then down. (JM4)

9216 GMN Fapsi stn M42 (9/24) 0052Z RTTY sending 46's - no tfc (BR)

9216 The English Man/E6 0215 Friday 10/23/98 OM/EE (hermaphrodite voice) rptg 132 then 950 950 82 82 and into 5FGx2. Down w/950 950 82 82 00000. Carrier on at :00 w/test tones, and a one-time 182 call-up. OP forgot to stop test tones when broadcast started, (JM4)

9216 English Man/E6 0215 Thursday 10/21/98 OM/EE (hermaphrodite voice) w/132 call-up, then 950 950 82 82 and into 5FGx2. Down at :33 w/950 950 82 82 00000. May repeat tonight. (JM4)

9226 HIGH PITCHED POLYTONE (XPH) AM 0600Z (05.08) AM (SD)

9226 HIGH PITCHED POLYTONE (XPH) AM 0600Z (19.08) AM null msg (SD)

9231 979 V2 1000 AM ATTENTION 979 04 (Fem/SS - Mon) 5 Oct 98 (LBJ)

9231 979 1000 AM ATTENTION 979 02 71106 (Fem/SS) (2nddifferent Nr/ Stn on same freq - Fem/SS) ATTENTION 35064 .1993 ..606) (Mon) 19 Oct 98 (LBJ)

9238 SPANISH LADY (V2) 0618Z (05.08.98) AM in progress (SD)

9251 LINCOLNSHIRE POACHER (E3) 2025Z (13.08.98) USB in progress (SD) E3 LP 2001 (7 Oct) USB tune, ID: 92340, // 6959 (JRU) LP/E3 2204 USB (Too weak to copy - //6959 - Tue) 6 Oct 98 (LBJ) 22833 LP/E3 2104 USB (Music) 22833 (Fem/EE - Sun) 18 Oct (LBJ) 58921 LP/E3 2100 USB (Music) 58921 (Fem/EE - Fri) 16 Oct 98 (LBJ). 34440 LP/E3 2100 USB (Music) 34440 (weak - //12603 - N/H on 7337- Wed) 14 Oct 98 (LBJ). 58684 LP/E3 2100 USB (Music) 58684 (Fem/EE - Tue - //12603 //7337) 13 Oct 98 (LBJ). LP E3 1900 (12 Oct) USB Tune, msg (HS). 91854 LP/E3 2100 USB (Music) 91854 (Fem/EE - Sun) 11 Oct 98 (LBJ)

9262 M13 2128 (15/Sep) CW in progress. 746 = 173 20 = (VM)

9285 M23 1505 (28/Sep) CW ID 579 No message (VM)

9331 cut no's stn M8 (9/23/98) 1215Z CW in progress (BR)

9337 RUSSIAN MAN (S7) 0520Z (29.09.98) AM call-up 973 973 973 1 id 168 111 (SD)

9382 Mossad E10 0430 (09/Oct) AM YHF, groups 10. New frequency? (VM)

9429 RUSSIAN MAN (S7) 0520Z (04.08.98) AM call-up 549 549 549 1 id 248 72 (SD). RUSSIAN MAN (S7) 0520Z (20.08.98) AM call-up 549 549 549 1 id 248 72 (SD)

9468 Atencion stn. V2 0731 (20/Sep) "Atencion 348 12" (VM)

10125 E10 Mossad No. Stn. 0445 (6 Oct) AM ID: VLB2 (JRU)

10125 Mossad E10 1554 sat 10 Oct USB YL/EE VLB2 (JD)

10129 unk 0001 AM (In tfc - female/SS - too weak to copy - sat) 26 Sep 98 (LBJ)

10177 Two Letter (G16) 1901 (29/Sep 98) USB id Whisky Lima ???? 522 84 gruppen (DR). Two Letter (G16) 1900 (6/Oct 98) USB id Whisky Lima ???? 522 84 gruppen (DR)

10223 // 13518 TCS E5 (9/23/98) 1212Z AM in progress (BR)

10223 909 TCS 1206 USB 909(x3) 1234567890 (sat) 26 Sep 98 (LBJ)

10223 240 TCS/E5 1203 USB 240(x3) 1234567890 (fem/EE -Sat - //13518) 3 Oct 98 (LBJ) //13518 TCS/E5 1200 Wednseday 10/14/98 YL/EE rptg 240 Count 215 into 3/2FG. (JM4)

10248 8BY Paris/France 2050 VVV(x3) 8BY(x3) 097/629/058/532 (Fri - Long zeros - //14931/12075/7668 - N/H on 18415) 16 Oct 98 (LBJ)

10260 English Man (E6) 1901 (5/Oct) AM sked 194 null message (DR)

10261.5 SPOOK CW 1034 "VVV CQ 747.456" repeated at 25 wpm, 1036 into 5FGs 2x, cut 0 = T, missed preamble. Weak, fluttery, Euro site

maybe. (15 OCT) (ANUS)

10263 // 12150 TCS E5 (Sept-27-98) 2100Z AM msg 154 count 105 (BR) 154 TCS/E5 2100 USB 154(x3) 1234567890 (Fem/EE - Sun - //12150) 4 Oct 98 (LBJ). //12150 Counting Station (E5) 2106 (7/Oct 98) USB id 154 count 109? (DR). 929 TCS/E3 2100 USB 929(x3) 123456 7890(Fem/EE - Sun - //12150) 18 Oct 98 (LBJ). 929 TCS/E5 2102 USB 929 1234567890 (Fem/EE - Sun - //12150) 11 Oct 98 (LBJ)

10327 English Man (E7) 2000 (28/Sep 98) AM sked 319 key 1409 gc 60 (DR). English Man (E7) 2000 (30/Sep 98) AM sked 319 key 1409 gc 60 (DR)

10328 BPA Fapsi stn M42 (9/26/98) 1524Z RTTY msg 1/190 (BR)

10363 Spanish Man (V7) 2005 (5/Oct) id 144 null message format (DR)

10365 Spanish Man (V7) 2001 (12/Oct) sked 144 null message format(DR)

10423 //12197 Counting Station (E5) 2001 (28/Sep 98) USB id 764 count 211 (DR). //12197 Counting Station (E5) 2008 (5/Oct 98) USB id 764? count 211 (DR). // 8125 TCS E5 (09-27-98) 2200Z AM msg 006 vy weak (BR). // 8125 TCS E5 (10-04-98) 2211Z AM in progress (BR). //12197 Counting Station (E5) 2004 (12/Oct 98) USB id 764(DR). 006 TCS/E5 2200 USB 006 1234567890 (Fem/EE - Sun - //8125) 11 Oct 98 (LBJ)

10426 HIGH PITCHED POLYTONE (XPH) 0620Z (05.08.98) AM (SD)

10426 HIGH PITCHED POLYTONE (XPH) 0610Z (19.08.98) AM null msg (SD)

10426 HIGH PITCHED POLYTONE (XPH) 0620Z (21.08.98) AM (SD)

10426 E3 LP 1604 (7 Oct) USB ID: 34836, // 7755, 6485 (JRU)

10426 91854 LP/E3 2204 USB 91854 (//6959 - Mon) 5 Oct 98 (LBJ)

10529 usb SINPO 35333 14739 usb very weak calling 964 1234567890 and then count 215 3/2 fgs 1300-1347 utc (Oct 20) also able to understand on AM. (CT)

10566 cut no's stn M8 (Sept-27-98) 1310Z CW in progress (BR)

10566 cut no's stn M8 (Oct-04-98) 1310Z CW in progress (BR)

10566 M8 1300 CW DIMMD WTUTN RTIDA (Sun) 11 Oct 98 (LBJ)

10566 M8 Cut-numbers 1307z (27-09-98 Sun) CW in progress (PFR)

10597 554 TCS/E5 USB 1500 554 1234567890 (Fem/EE - Fri - very weak - //12184(also weak)) 9 Oct 98 (LBJ)

10642 Czech Man (S19) 1300? (29/Sep 98) USB (DR)

10715 M?? (Ary - care to try this one?) 1300 Thursday 10/8/98 rapid CW 5FG w/long zeros used in text. Down at 1310 w/five long zeros. +60db. This was typical Russian Man family CW transmission, but the first I've encountered with long zeros in the message. (JM4) [sure like to try John, but I am at work at that time -Ary-]

10858 cut no's stn M8 (9/24/98) 1211Z CW in progress (BR)

10858 M8 1218 CW (In 5ltr/cutnrs - Sat) 26 Sep 98 (LBJ)

10858 cut no's stn M8 (09-29-98) 1204Z CW in progress (BR)

10858 cut no's stn M8 (10-01-98) 1205Z CW in progress (BR)

10929 RUSSIAN MAN (S7) 0540Z (04.08.98) AM call-up 549 549 549 1 id 248 72 (SD)

10929 RUSSIAN MAN (S7) 0550Z (11.08.98) AM in progress (SD)

10929 RUSSIAN MAN (S7) 0540Z (20.08.98) AM call-up 549 549 549 1 id 248 72 (SD)

11072 //13444 Counting Station (E5) 1802 (28/Sep 98) USB id 633 count 113 (DR). //13444 Counting Station (E5) 1809 (5/Oct 98) USB id 633 count 113 (DR). 633 TCS/E5 1800 USB 633(x3) 123456 7890 (Fem/EE - Sat - //13444) 17 Oct 98 (LBJ)

11166 SPANISH MAN (V7) 0600Z (11.08.98) AM null msg 103 103 103 000 (SD). SPANISH MAN (V7) 0600Z (20.08.98) AM null msg 103 103 103 000 (SD)

11317.5 has some sort of callup in cw at 1200 utc, ui333,ui333 then into 3 l/g. I dont know who this is either. (EW) [probably MFA Pyongyang -Ary-]

11350 M23 2008 (01/Oct) CW ID 735 No message (VM)

11430 New Star Broadcasting/V13 1300 Wednesday 10/14/98 YL/CC 4FGx2 in progress. (JM4). New Star Broadcasting/V13 1200 Wednesday 10/14/98 YL/CC 4FGx2 inprogress. (JM4)

11487 V7 SPANISH MAN 0600 (13 Oct Tue) AM 434 434 434 000 needle-bending signal strength (JRU)

11491 //13450 Counting Station (E5) 1604 (1/Oct 98) USB id 322 count 79(DR). TCS 1911 USB (In 5 fig tfc - female/EE 3/2 //

13450 - sat) 26 Sep 98 (LBJ)
11492 322 TCS/E5 1903 USB 322 1234567890 (Fem/EE - Sat - //13450) 10 Oct 98 (LBJ)
11545 //13375//15682 LP (E3) 1509 (28/Sep 98) USB id 20096 (DR). //12603//13375 LP (E3) 1609 (28/Sep 98) USB id 24448 (DR). //13375 LP/E3 1500 Saturday Oct/3/98 YL/EE rptg 34444 and into 5FGx2.(JM4). LP/E3 1510 USB (In tfc - very weak - N/H on 9251 - Fri) 9 Oct 98 (LBJ). LP/E3 1712 USB (In tfc - very weak - N/H on 9251 - Fri) 9 Oct 98 (LBJ). // 12603// 13375 LP E3 1505 sun 4 Oct USB YL/EE 92438 (JD). // 12603// 13375 LP E3 1600 sat 10 Oct USB YL/EE 58687 (JD). // 12603// 13375 LP E3 1703 sat 10 Oct USB YL/EE 89728 (JD). // 13357// 16084 LP E3 1906 sat 10 Oct USB YL/EE 91854 (JD). // 12603// 13375 LP E3 1502 sun 11 Oct USB YL/EE 92438 (JD). // 8464// 10426 LP E3 1607 sun 11 Oct USB YL/EE 61238 (JD). E3 LP 1404 (10 Oct) USB ID: 61238 // 10426, 144487 (JRU). E3 LP 1503 (10 Oct) USB ID: 34440 // 12603, 13375 (JRU). 09807 LP/E3 2100 USB (Music) 09807 (Fem/EE - Mon - //9251) 19 Oct 98 (LBJ). LP/E3 2035 USB (IN 5 FIG/TFC - Fem/EE - QSZ - Mon) 19 Oct 98 (LBJ). 22833 LP/E3 1800 USB (Music) 22833 (Cont't - Fem/EE - Sat - //16084) 17 Oct 98 (LBJ). //13375//15682 LP/E3 1500 Mon 10/19/98 YL/EE rptg 85866 into 5FGx2. Major audio problem - sounded like calliope was being played under water. (JM4). LP/E3 1504 USB (Music - too weak to copy - Sun) 11 Oct 98 (LBJ). LP/E3 1602 USB (Music - too weak to copy - Sun) 11 Oct 98 (LBJ). LP/E3 1900 USB (Music - too weak to copy - Sun) 11 Oct 98 (LBJ). LP/E3 2000 USB (Music - too weak to copy - Sun) 11 Oct 98 (LBJ). 19367 LP/E3 2000 USB (Music) 19367 (Fem/EE - Sat //10426 //6900) 10 Oct 98 (LBJ). 91854 LP/E3 1807 USB (Music) 91854 (Fem/EE - Sat - //16084) 10 Oct (LBJ)
11565 EZI Mossad/E10 0100 USB EZI (Sun) 27 Sep 98 (LBJ)
11565 // 13533 E10 MOSSAD 1531 (7 Oct) AM EZI2 (JRU)
11565 MOSSAD/E10 0100 Sunday 10/11/98 YL/EE rptg EZI into 5LG. (JM4)
11565 E10 MOSSAD 1432 (10 Oct) AM EZI, msg followed. //13533 (JRU)
11565 MOSSAD/E10 0100 Friday 10/23/98 YL/EE rptg EZI very weak. (JM4)
11565 MOSSAD/E10 0100 Thursday 10/21/98 YL/EE rptg EZI weak. (JM4)
11565 EZI Mossad/E10 2102 USB EZI (Fem/EE - Sun) 18 Oct 98 (LBJ)
11565 MOSSAD/E10 0100 Monday 10/19/98 YL/EE rptg EZI2 then down. (JM4)
11565 EZI Mossad/E10 2100 USB EZI (Tue) 13 Oct 98 (LBJ)
11565 EZI Mossad/E10 2106 USB (Sat) 10 Oct 98 (LBJ)
11565 MOSSAD/E10 0100 Wedn 10/14 YL/EE rptg EZI2 then down. (JM4)
11566 unk 2327 AM (In 5 fig tfc - female/SS - fri) 25 Sep 98 (LBJ)
11637 GMN Fapsi stn M42 (9/24) 0045Z RTTY sending 46's - no tfc (BR)
11637 GMN FAPSI stn M42 (10-01) 0045Z RTTY 46's no tfc (BR)
12066 SPANISH MAN (V7) 0611Z (11.08) AM null msg 103 103 103 000 (SD)
12066 SPANISH MAN (V7) 0609Z (20.08) AM null msg 103 103 103 000 (SD)
12126 HIGH PITCHED POLYTONE (XPH) 0640Z (05.08.98) AM (SD)
12137 Fapsi Moscow, RUS 14.35 (Oct 12) RTTY 75bd Many long msgs to RAD on link 70037 (AB). Fapsi Moscow, RUS 15.30 (Oct 13) RTTY 75bd Msgs to RAD on link 70037 (AB)
12178 Spanish Man (V7) 2005 (28/Sep) id 309?? null message format(DR)
12180 English Man, RUS 19.15 (Oct 18) AM 607 + 5FG ends with 00000(AB)
12194 Fapsi Moscow, RUS 14.10 (Oct 13) RTTY 75bd Msgs to KUL on link 00142 (AB)
12197 159 TCS/E5 2001 USB 159(x3) 1234567890 (Fem/EE - Sun - //10527) 4 Oct 98 (LBJ). E5 YL Counting 2043z 18Oct 98 [BC3]
12300.5 // 14421 TCS V5 (9/26/98) 0315Z AM in progress (BR)
12603 E3 LP 1500 (9 Oct) USB ID: 58687 // 11545, 13375 (JRU)
12950 E10 MOSSAD 1447 (10 Oct) AM VLB2, //8465, 10125, going on until at least 1505 when last checked (JRU)
13366 M12 0630Z (20.08.98) USB 957 957 957 000 (SD)
13375 LP E3 1500 (8 Oct) USB My initial intercept of a daily sched on this freq at 1500, 1600, 1700, and 1800. Tune and callup at hour, message, three beeps and tune at xx45,sine wave test tone at xx47, tune and broadcast again at next hour. (HS). LP/E3 1600 Friday 10/16/98 extremely weak - only tune audible. (JM4)
13387 V7 SPANISH MAN 0610 (13 Oct Tue) AM 434 434 434 000 also really

strong sig. (JRU). Spanish Man (V7) 0622 (8/Oct 98) sked 434 key 1842 gc 53 (DR)

13423 Fapsi Moscow, RUS 9.00 (Oct 13) RTTY 75bd Msgs to WQL on link 80061 (AB)

13444 Counting Station/E5 1800 Saturday 10/10/98 YL/EE rptg 633 extremely weak and not heard on //11072. (JM4)

13444 633 TCS/E5 1800 USB 633 1234567890 (Fem/EE - Sat - //11072) 10 Oct 98 (LBJ))

13450 //14448 Counting Station (E5) 1700 (28/Sep 98) USB id 136 count 40 (DR). //14448 Counting Station (E5) 1906 (28/Sep 98) USB id 071 count 192 (DR). // 14448 TCS E5 (09-28-98) 1915Z AM in progress (BR). 402 TCS/E5 1704 USB 402(x3) 1234567890 (Fem/EE - Sun) 4 Oct 98 (LBJ). 402 1700 TCS/E5 1700 USB 402 1234567890 - Fri) 9 Oct 98 (LBJ). //14448 Counting Station (E5) 1905 (12/ Oct 98) USB id 071 count 192 (DR). 136 TCS/E5 1700 USB 136 1234567890 (Fem/EE - Mon - weak) 12 Oct 98 (LBJ).

13452 JMS Fapsi stn M42 (9/24/98) 2241Z RTTY TIKAS msg (BR). JMS Fapsi stn M42 (9/25/98) 2238Z RTTY msg 1/190 (BR). JMS FAPSI stn M42 (09-28-98) 2237Z RTTY TIKAS msg (BR). JMS FAPSI stn M42 (09-29-98) 2238Z RTTY 1/3 msg & TIKAS (BR). CUBA SVR/FAPSI 2255 RTTY 75/500 5LG tfc on link 00127, to JMS supposedly. Xlnt.(12 OCT) (ANUS)

13452 //15478 TCS/V5 0100 Friday 10/23/98 YL/SS rptg 803 Grupo 127 3/2FG. (JM4)

13518 964 TCS/E5 1303 USB 964(x3) 1234567890 (fem/EE - Sat -//14739) 3 Oct 98 (LBJ)

13556 HZW Fapsi stn M42 (9/26/98) 2013Z RTTY msgs 3/455 & TIKAS (BR)

13556 HZW FAPSI stn M42 (10-05-98) 2008Z RTTY 1/91 msg (BR)

13556 Counting Station, ??? 14.39 (Oct 25) AM in progress (AB)

13750 New Star Broadcasting/V13 1300 Wednesday 10/14/98 YL/CC 4FGx2 in progress. (JM4)

13874 Counting Station (E5) 1700 (29/Sep) USB id 153 count 213 (DR)

13906 // 15732 TCS E5 (9/23/98) 1212Z AM in progress (BR)

13906 TCS/E5 1200 Wednesday 10/14/98 YL/EE rptg 513 Count 215 into 3/2FG. Not heard on //15732(JM4)

14000 Phonetic alphabet pre NATO E15 1411 sun 11 Oct USB OM/EE very weak. Callsign missed (JD)

14373 KAC Fapsi stn M42 (9/26/98) 2057Z RTTY TIKAS msg (BR)

14402 FAPSI stn M42 possibly MIG (id=00104) 1218Z hand sending 5LG in RTTY. Carrier on at 1130Z. Sent some Morse to other stn 1200-1218Z. other stn possibly WFO - didn't find them (BR)

14402 Fapsi Moscow, RUS 12.10 (Oct 13) RTTY 75bd. link 00104 (AB)

14421 // 12300.5 TCS V5 (10-06-98) 0300Z AM msg 196 (BR)

14487 //15682//16084 LP/E3 1300 Thursday 10/8/98 YL/EE rptg "92340" w/tune into 5FGx2. (JM4). //15682//16084 E3 LP 1407z (24-09-98 Thu) USB 59882. // 15682 were both obscured by other transmissions on nearby freqs; 16084 louder but still tough to hear #s - not sure of ID (PFR). E3 LP 1400z (27-09-98 Sun) USB barely audible voice; can hear tune reasonably well (PFR). // 15682// 16084 LP E3 1207 sun 4 Oct USB YL/EE 34440 (JD). // 15682// 16084 LP E3 1301 sun 4 Oct USB YL/EE 92340 (JD). // 15682// 11545 LP E3 1406 sun 4 Oct USB YL/EE 19367 (JD). // 11545// 15682 LP E3 1408 sun 11Oct USB YL/EE 19367 (JD). E3 LP 1317 (10 Oct) USB ongoing 5 fg*2 by YL, // 15682, 16084 (JRU)

14487 Spanish Man (V7) 0648 (8/Oct 98) In progress (DR)

14487 //15682//16084 LP/E3 1400 Thursday 10/21/98 YL/EE rptg 82160 into 5FGx2. (JM4). //15682//16084 LP/E3 1300 Wednesday 10/14/98 YL/EE rptg 92340 into 5FGx2. (JM4). LP/E3 1200 Wednesday 10/14 extremely weak. (JM4)

14731 BPA Fapsi stn M42 (9/26/98) 1515Z RTTY msg 1/190 (BR)

14731 BPA FAPSI stn M42 (10-05-98) 1515Z RTTY 46's no tfc (BR)

14784 M12 0652 (20/Sep) CW ID 134 Null message (VM)

14843 JMS Fapsi stn M42 (9/24/98) 2230Z RTTY TIKAS msg (BR)

14843 JMS Fapsi stn M42 (9/25/98) 2230Z RTTY msg 1/190 (BR)

14843 JMS FAPSI stn M42 (09-28-98) 2230Z RTTY TIKAS msg (BR)

14843 JMS FAPSI stn M42 (09-29-98) 2230Z RTTY 1/3 msg & TIKAS (BR)

14843 JMS FAPSI stn M42 (09-30-98) 2230Z RTTY 46's no tfc (BR)

14855 English Man (E6) 1204 (29/Sep) AM sked 794 key 560 gc 31 (DR)

14890 Russian man control S25 0801z mon 12 Oct USB OM/RR 615 615 615 65861 (JD)
14931 8BY (09-27-98) 2140Z CW "146/313/992/099" (BR)
15478 // 16050 TCS V5 (9/23/98) 0100Z AM (BR)
15478 // 16050 TCS V5 (9/25/98) 0100Z AM msg 078 count 224 (BR)
15478 Counting Station/V5 0100 Friday 10/9/98 YL/SS rptg 803 Grupo 1273/2FG. Not heard on usual //16050 and very weak. (JM4)
15478 Counting Station/V5 0100 Friday 10/16/98 YL/SS rptg 803 Grupo 127 into 3/2FG. Not heard on usual //16050. (JM4)
15478 //16050 TCS/V5 0100 Wednesday 10/14/98 YL/SS rptg 803 Grupo 127 into 3/2FG. (JM4)
15624 CHERRY RIPE (E4) 2205Z (25.08.98) USB id 13553 (SD)
15682 38085 LP/E3 1309 USB (Music) 38085 (Fem/EE - Sun -//14487) 25 Oct 98 (LBJ)
15833 TCS E5 (9/26/98) 1400Z AM msg 652 (BR)
15836 RUSSIA SVR/FAPSI/whoever 1148 6-tone mazielka calllup, into RTTY 75/500, too weak to copy other than to note some 5LGs. (13 OCT) (ANUS)
16084 LP E3 1334 (12 Oct) USB Weak, in progress (HS)
16216 Unid 7.50 (10 Oct) CW "TTT 149 149 149 TTT" (LAG)
16218 HZW Fapsi stn M42 (9/26/98) 2000Z RTTY msgs 3/455 & TIKAS (BR)
16218 HZW FAPSI stn M42 (10-05-98) 2000Z RTTY 1/91 msg (BR)
16316 NO C/S: Unid FAPSI sta. 1406 CW at 169 bpm. 5FG, 0 cut as T, unil 1427. Then came buzzer-like tones in a melody that sounded like a Russian folk tune until 1432. Back to CW w/"989" rptd until 1441, then into 5FG's until 1517. No s/off. 22/Oct (RM)
17499 CHERRY RIPE (E4) 2300Z (13.08.98) USB id 80715 //22108 (SD)
17499 CHERRY RIPE (E4) 0001Z (23.08.98) USB id 13553 //22108 (SD)
17499 CHERRY RIPE (E4) 2300Z (24.08.98) USB in progress //22108 (SD)
17499 CHERRY RIPE (E4) 0005Z (25.08.98) USB id 60939 //22108 (SD)
17499 CHERRY RIPE (E4) 0001Z (22.09.98) USB id 25453 //22108 (SD)
17499 CHERRY RIPE (E4) 2300Z (24.09.98) USB id 62405 //22108 (SD)
17499 Cherry Ripe/E4 2300 Wednesday 10/14/98 extremely weak. (JM4)
17499 Cherry Ripe/E4 0000 Thursday 10/15/98 extremely weak. (JM4)
18000 Phonetic alphabet pre NATO E15 1106z mon 12 Oct USB OM/EE BEC QRU (JD)
18401 KAC Fapsi stn M42 (9/26/98) 2050Z RTTY TIKAS msg (BR)
18415 8BY (9/26/98) 1540Z CW "146/395/973/893/860" (BR)
18415 8BY (10-05-98) 1540Z CW "146/476" (BR)
19884 CHERRY RIPE (E4) 0100Z (22.09.98) USB id 41061 //21866 (SD)
19884 //21866 Cherry Ripe/E4 0100 Monday 10/5/98 extremely weak - only tune was heard. (JM4)
19884 //21866 E4 Cherry Ripe 0100z (06-10-98 Tue) USB Tune audible; think header was 68294 but not sure - very faint (PFR)
19884 //21866 Cherry Ripe/E4 0100 Friday 10/9/98 YL/EE rptg 17229 w/ tune into 5FGx2. (JM4)
17499 //22108 Cherry Ripe/E4 0000 Monday 10/19/98 YL/EE rptg 87416 into 5FGx2. (JM4)
19923 PSN Fapsi stn M42 (9/24/98) 2252Z RTTY TIKAS msg (BR)
19923 PSN Fapsi stn M42 (9/25/98) 2250Z RTTY msgs 2/296 (BR)
19923 PSN Fapsi stn M42 (9/26/98) 2247Z RTTY TIKAS msg (BR)
19923 PSN FAPSI stn M42 (09-28-98) 2248Z RTTY 1/69 msg & TIKAS (BR)
19923 PSN FAPSI stn M42 (09-29-98) 2247Z RTTY 1/3 msg (BR)
19923 PSN FAPSI stn M42 (09-30-98) 2250Z RTTY 2/235 msgs (BR)
19923 PSN FAPSI stn M42 (10-01-98) 2252Z RTTY 4/362 msgs (BR)
19923 PSN FAPSI stn M42 (10-06-98) 2247Z RTTY 1/47 msg (BR)
19884 Cherry Ripe/E4 0100 Monday 10/19/98 YL/EE rptg 32819 into 5FGx2. (JM4)
20048 P 1520 CW (P-Marker) (Sun) 11 Oct 98 (LBJ) [navy Kaliningrad]
20048 C 1520 CW (C-Marker) (Sun) 11 Oct 98 (LBJ) Russian Navy, near Moscow -jru
20474 CHERRY RIPE (E4) 1037Z (21.09.98) USB in progress //23461 (SD)
20474 CHERRY RIPE (E4) 1100Z (21.09.98) USB id 54860 (SD)
20474 // 23461 Cherry ripe E4 1005z mon 12 Oct USB YL/EE 68294 (JD)
22108 Cherry Ripe/E4 1300 Thursday 10/8/98 extremely weak - only tune heard. (JM4). E4 Cherry Ripe 0008z (07-10 Wed) USB in progress (PFR). Cherry Ripe/E4 0000 Friday 10/23/98 YL/EE rptg 38234 and into 5FGx2.(JM4). Cherry Ripe/E4 2300 Thursday 10/22/98 YL/EE

rptg 37194 and into 5FGx2. (JM4). Cherry Ripe/E4 0000 Thursday 10/21/98 YL/EE rptg 37194 into 5FG. (JM4). Cherry Ripe/E4 1300 Wednesday 10/14/98 extremely weak. (JM4).
22865 PSN Fapsi stn M42 (9/24/98) 2240Z RTTY TIKAS & 1/48 msg (BR)
22865 PSN Fapsi stn M42 (9/25/98) 2240Z RTTY msgs 2/296 (BR)
22865 PSN Fapsi stn M42 (9/26/98) 2240Z RTTY TIKAS msg (BR)
22865 PSN FAPSI stn M42 (09-28-98) 2240Z RTTY 1/69 msg & TIKAS (BR)
22865 PSN FAPSI stn M42 (09-29-98) 2240Z RTTY 1/3 msg (BR)
22865 PSN FAPSI stn M42 (09-30-98) 2240Z RTTY 2/235 msgs (BR)
22865 PSN FAPSI stn M42 (10-01-98) 2240Z RTTY 4/362 msgs (BR)
22865 PSN FAPSI stn M42 (10-06-98) 2240Z RTTY 1/47 msg (BR)
23461 Cherry ripe E4 1104z mon 12 Oct USB YL/EE 54542 (JD)

##

Tnx to this month's contributors:
AB : Ary Boender, THE NETHERLANDS
AC : is located in THE NETHERLANDS
AD : Al Dudley, Washington DC, USA
ANUS : Anonymous, USA
BC3 : Bryan Curtis, AUSTRALIA
BR : Bob Roehrig, Illinois, USA
CT : Clarence Thopson, Texas, USA
DR : Darren Riley, UK
ED : Erik Dyce, Colorado, USA
EW : Eddy Waters, AUSTRALIA
GD2 : Guy Denman, UK
HS : Hugh Stegman, on vacation in New York, USA
JAMMO: Anonymous, Southern UK
JD : Johnathan Drakes, UK (I could not include all your logs due to the reformatting work this would require, sorry !)
JM4 : John Maky, Arkansas, USA
JRU : Jascha Ruesseler, GERMANY
KH : Karel Honzik, CZ.
LAG : Larsen, GERMANY
LBJ : JP LeBlanc, Ontario, CANADA
PFR : Paul F. Reah, Arizona, USA
RM : Robert Margolis, USA
RP : Rimantas Pleikys, LITUANIA
SD : Simon Deneen, AUSTRALIA
VM : Valeriano Martin, SPAIN

*** End Numbers and Oddities **

== END == FIN == ENDE == FINE == FIM == KONETS ==

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\\\\\ WORLDWIDE UTE NEWS Club ////
\\\ An Electronic Club Dealing Exclusively in Utility Stations ///
\\\\ WUNNEWS Vol. 4, No.11 Dec., 1998 /////
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Edited by David C. Wright
WUN Electronic Edition Editor
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If you have problems in this, or need further information contact Dave Wright at: dcwright@usa.net

If you are reading this newsletter from another source, such as a BBS, please let us know!

Check out the WUN web site at: http://www.gem.net/~berri/wun

==========

From your Electronic Editor:

* Welcome to another issue of the single largest source of utility station information and the most widely quoted utility station publication in the world...the WUN Newsletter.

* This is the last newsletter of 1998. With the end of the year comes the end of my time as Editor of this Newsletter. Since February, I have had the privlege of serving the WUN Club as the Electronic Editor for what I feel is the finest publication covering UTE monitoring available anywhere in the world. The WUN Newsletter is unique in its ability to cover such a wide variety of topics, while remaining up-to-date with changing events. Even as I have assembled this newsletter, there have been several last minute updates added to the columns herein. This is the KEY to the success and the world-wide respectablility that this newsletter has earned. Of course, none of this success is mine to take credit for. Without the hard work of each of the column editors, and without the support of all of the members of WUN, this newsletter would be but a small note in the world of UTE monitoring. So, as I end my time as Editor, I wish to thank the individual column editors for their support. Their hard work has made my job easy. In addition, my sincerest thanks go out to the members of WUN who make this club the success that it is. This is truly your newsletter, and without your postings and support, the column editors would have nothing to write about. So, as this year comes to a close my family and I wish you all the very best for this holiday season and the best possible DX for 1999!

* With next month's newsletter we will have a new (?) Electronic Editor. Actually, next month will mark the return of Rick "RD" Baker as Editor of the WUN Newsletter. While this may be a temporary return, I would like to thank RD for stepping up to help out WUN once again. As he has been busy with the WUN CDROM project, he has not been quite as involved with the group as he would've liked. But, as the CDROM project nears completion, RD has graciously agreed to come back as Editor, allowing me to step aside with the full knowledge that the newsletter is indeed in good hands. Welcome back, RD!

WHAT'S INSIDE:

o Reminiscing by Ary Boender, WUN President
o Membership News by Mike Wolfson
o Digital Review by Day Watson
o Military Channel Designator List by Graham Tanner
o Nautical News by Day Watson
o Numbers and Oddities by Ary Boender, Chris Smolinski, & Jascha Ruesseler
o The QSL Report by J.D. Stephens
o Utility Round-up by Ary Boender
o Products and Books Reviews by Bob Margolis
o The Military Newsreel by David C. Wright
o The WUN Logs Column by Donald E. Stidwell and TEAM LOGS

==========

I promised Rick Baker to send him (historic) recordings and sample messages of utility and numbers stations for the upcoming second edition of the WUN CD-ROM. Browsing through all this old stuff brought back lots of fond memories.

* REMINISCING *

It is three o'clock in the afternoon, it is cold and wet outside and it is already getting dark. Inside it's warm and dry; the Verve's fragile psychedelic music fills the room and the Czech Lady is reading her numbers. With a hot, strong cup of coffee in my hand I sink into my chair, reminiscing 'the old days', the days when I just discovered Shortwave radio.....

A long time ago, in the late 70's, I discovered SW radio, but not in the way you normally would. I was working on a project and needed sound effects. Spooky effects and the sound of guns. I didn't have fancy sound effects lp's or other gadgets, but I did have the Country Joe & the Fish single 'I-feel-like-I'm-fixing-to-die-rag'. That song has the sound of a machine gun at the end. That covered the first part of the effects, but I needed more. Then I remembered the weird sounds that I heard on the radio when I turned the knobs the other day. Someone had switched the radio from FM to SW. It was a normal radio without BFO, SSB, or something like that, so all ute stations sounded very odd. Especially the rtty stations, but also the aero and maritime stations sounded weird. Their voices sounded very distorted on AM. It sounded quite spooky actually. You already guessed it..... I found my sound effects that night on SW :-)

My first real experience on SW was in 1980. I tried to find Radio Nederland on SW. Much to my surprise I heard a wealth of stations there. I never knew that there were so many SW broadcasting stations. Stations like Radio RSA, HCJB, AIR, Radio Australia, Radio Canada, and Radio Japan were on the daily menu. There were many dx-programs in those days and I think I listened to most of them. The best by far was Radio Netherlands' Media Network. The Voice of Peace and Radio Caroline were still on SW, but much to my regret the 80's also were the declining years of offshore pirate radio. I have always been a big fan of these stations, so as far as that is concerned, this was a bad time for me. But there was always Pyongyang to listen to when times were grimm. Hmmm, when I come to think of it, I never managed to listen to this station for more than 15 minutes, except when they played oriental music. AFRTS became one of my favorites because of their good music programs. Except for Radio Budapest, I did not listen to the Eastern European stations, except for QSL reasons. They were far too serious and there was too much propaganda. The same goes for Beijing, but the worst one was of course: Pyongyang. The African and Asian stations however were really interesting. I remember the night of the coup d'etat in Chad. The rebels took over the radio station and I had the news of the coup more than a day earlier than most other people on Earth. The newspapers and tv news covered the coup some 30 hours after I had heard it. That's SW radio at its best. Besides that, it was great to hear the music and news from so many countries all over the world.

I logged the stations in a way many beginners do; just the name of the station and the language, but that was it. Unfortunately I did not write down essential info as date, time and frequency. After a few months, I started to see that a little more info could be handy, so I noted the frequency. In those days the Benelux DX-Club here in the Netherlands presented a monthly item in HCJB's DX-Partyline. So I jotted down their address and joined the club. That was a good move because I now got a club bulletin with lots of info about all those far away stations that I copied day after day. From that day on, I started to write down all relevant log info. Soon

after I joined the BDXC, I became a member of the German SW-listeners club ADDX (also via the DX-Partyline) and a now defunct club, KDKC which specialised in pirates and utility, an interesting combination. Other clubs followed: DX-Antwerp, Radio Budapest listeners club, BRT listeners club, Andex, Utility Newsletter (now European Utility Newsletter), SPEEDX and of course WUN, the Worldwide Ute News Club. When I moved from BC to Ute dx, I said goodbye to most of these clubs.

Two years after I discovered the world of SW radio, I bought my first 'real' receiver, and I was able to tune in to the wonders of maritime and aero radio. Wow... nights in a row I was glued to my new toy. I already collected QSL cards and found hundreds of new stations that I could QSL. The postman had a busy time when I started to write to all those utility stations. Sometimes the response was real nice, like that time that a female operator of one of the Algerian coastal stations sent me a parfumed and hot QSL letter and phoned me a couple of days later :-)

December reminds me of the first transmission on 963 kHz of the famous offshore station Radio Caroline; or my first encounter with the Roumanian numbers station 'the Skylark' with its typical gypsy music and 'Terminat' messages; or the first time that I heard a space shuttle. The Columbia circled the earth in 1983 and could be heard on VHF. Cool!!! Even cooler was the QSL from the shuttle. Another very nice QSL came from King Husain of Jordan, who is a radio amateur.

I entered a new era when I attached my first decoder to my Commodore 64. Later other, more sophisticated decoders followed and ute dx completely replaced my interest in the SW broadcasting stations. I was thrilled when the first morse stations from Poland and the Ukraine appeared on the printer and a couple of days later I even caught the US Navy in Thurso. When I browse through my old logs I see long gone stations like KUNA and ATA but also a print-out of the still active numbers station VDE, dated 17 February 1986. But hey, what's that? What's all that black paper? Ah, yes! I had a thermic printer attached to the Commodore 64. Unfortunately the paper is now either completely black or the text has faded and became unreadable. To save the rest of my 'early days collection' I quickly made a photocopy of all the other thermic print-outs that were still readable. So I guess I have to thank Rick for this. If he hadn't asked for the stuff, I wouldn't have noticed the bad condition of these print-outs yet. Recently other obligations forced me to reduce the time that I can spend on the hobby, and although digital stations still have my interest, I nowadays spend most time on 'cloak and dagger dx', or in other words: numbers stations and other mystic sounds on SW.

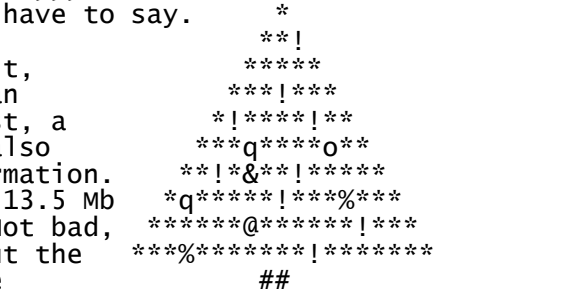
Nineteen years have passed since I first encountered the world of shortwave radio and I am still convinced that it is a great hobby, although many people think that I am insane :-) Shortwave radio still attracts many people that's for sure. Just look at the amount of radio clubs, and websites, use groups and mailing lists devoted to the hobby. When we started WUN in 1995, I never expected that it would be so successful. It's the greatest ute club in the world. Believe me!

Although many stations have disappeared during these nineteen years, there is still a lot to hear. 1999 will however be a dark year for the maritime dxers. Many coastal stations will cease their operations in 1999 and lots of maritime NDBs will vanish as well. All because of the arrival of GMDSS. The number of press stations shrinks every year. They all move to the Internet. Is this the beginning of the end, or will SW radio

survive? I sure hope it will. We'll wait and see.....

Ok, I had the floor long enough now :-)))
There is only one more thing that I have to say.

As you know, WUN is a is a non-profit, dues-free club for utility dxers, ran by volunteers. WUN has a mailing list, a website, a monthly newsletter, and also a CD-ROM, all crammed with ute information. Did you know that we published some 13.5 Mb of information since January 1995? Not bad, huh? We couldn't have done it without the contributions of our members. But we certainly couldn't have done it without the hard work of the terrific bunch of people who devote many hundreds of hours each year to make all this possible. I therefore would like to extend my gratitude to all the people at WUN's staff. * THANKS GUYS! *



::::: Dear members, on behalf of all of us at WUN, :::::
::::: I thank you for your support during the past :::::
::::: year and we hope that you will keep sending :::::
::::: us all your goodies in 1999 as well. :::::

We wish you and your families a

Merry Christmas and a healthy and peaceful new year!

or, in our language:

Merry DX-mas and lots of sunspots in the new year!

* Ary Boender, WUN President *

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MEMBERSHIP NEWS
Mike Wolfson, editor
mwolfson@bright.net

Welcome to the WUNNEWS membership column for December. I am happy to report that since October the club membership has continued to increase. That continues the trend of total membership staying in the range of 1000 to 1100 members. For those of you interested in the exact numbers, I'm including them as usual.

	12/98	10/98	12/97
WUN	847	827	757
WUN-DIGEST	242	239	202
Totals	1089	1066	959

I'm also happy to report a very strong international representation. This month we have members subscribing from 35 countries. The complete list (in no particular order) is: Lithuania, Pakistan, Iceland, Czech Republic, Sri Lanka, Mauritius, United States, United Kingdom, Germany, Netherlands, Canada, Japan, Australia, Ireland, Italy, New Zealand, France, Sweden, Brazil, Portugal, Greece, Switzerland, Indonesia, Suriname, Norway, Austria, Spain, South Africa, Croatia, Belgium, Denmark, Tonga, Honduras, Latvia and Finland.

Finally, I can report a real surge in members submitting information for the database. We now have 273 entries in the database. Thanks to everyone who submitted information to me over the last couple of months. If you would like to be added to the total please e-mail me at: mwolfson@bright.net

E-Mail Address
Name
Where you're located (State/Province, Country)
Main receiver(s)
Main decoding equipment (HOKA, JVFAX, etc)
Monitoring interests (aero, marine, etc)

The information will not be shared with anyone or used by anyone except club officers for club purposes. The database management program I'm using can accept ASCII text. I am requesting that you answer each question on a separate line followed by a carriage return. PLEASE DO NOT INCLUDE THE QUESTION ITSELF IN THE ANSWER; just the information requested. For example:

mwolfson@bright.net
Mike Wolfson
Ashland, Ohio USA
NRD535
None
milair, civilian aeronautical, USCG SAR

If you're sending me a revision please indicate that in your response.

In closing, I'd like to wish everyone a "Happy Holidays" and a good new year. Also, "Good Listening" to one and all. Best, Mike.

==========

DIGITAL REVIEW

- Editor: Day Watson E-mail: jdwatson@cableinet.co.uk

- Nickname on IRC channels #wun & #monitor DayW

Hi digi WUNners

Trust this finds you well. And this month at no extra cost to yourselves is an Index to cover the DR columns from the beginning. Hope you find it useful.

The menu

Commercial Bern Radio/HEC DTS-Mail service
dgps dgps stations - Part 3
More websites with dgps references
Diplo Diplo Twinplex users
Int Agency GTZ
Met Met list (rtty)
Pretoria frequency change
Military USCG G-Tor update
Nat.Gov Mozambique Communications
Press VNA Hanoi ceased
Techi Tips Receiving digital on SSB mode
Index of WUN Digital Review column Feb95 - Dec98

>>....Commercial.....>

::: Bern Radio/HEC DTS-Mail service.

Bern radio can handle emails (including binary attachments), FAX and telex messages between its client and any internet address, fax or telex subscriber. Pictures can also be handled, and simplex phone calls made on this fully automatic system. The phone calls are simplex and available H24 whereas normal duplex calls are required to have operator assistance which is only available 0600-2200 UTC.

The recommended client software is DTS-Mail which the prospective user

can download and evaluate at anytime. This will be unlocked fully by means of the license file received when agreements are reached.

DTS-Mail software currently supports a number of modems from SCS, Paccom, Hal and Codan permitting Pactor I (200bps), Pactor II (800bps) and Clover2000 (3000bps) as well as Sitor (arq) and Codan protocols. So a wide range of protocols may be heard when communication is taking place.

As far as I can tell their clients are landbased as well as maritime. This is probably why one sees some strange IDs in the tfc list. Typically "bern radio hec hec zxo zxo :251zak df0gtz myxs5 9sd42" Ship callsigns are obvious, a radioamateur style (DF0GTZ) has been noted, but those preceded by a colon (:) are currently puzzling as is the code "zxo" at the beginning of each list.

The following list of frequencies (suppressed carrier) was being tested by Bern earlier in the year. Using J2B mode the subcarrier offset is 1700hz. Bern and client appear to use the same frequency.

3010 4763 5440.5 8070 11172 13990 18230 20090

Traffic lists are sent on the even hour (using fec (Sitor/B) but one has been noted at 1500z. John Doe has kindly furnished the following frequencies against time chart.

0400	4764.7	5442.2				
0800		5442.2	8071.7	11173.7		
1000		5442.2	8071.7	11173.7	13991.7	
1200		5442.2		11173.7		
1400		5442.2		11173.7	13991.7	20091.7
1500		5442.2		11173.7	13991.7	20091.7
1600		5442.2		11173.7	13991.7	20091.7
1800		5442.2			13991.7	
2000		5442.2	8071.7			
2200		5442.2				
2400			8071.7			

He says "These are what I have heard; the fact that a particular freq is not shown for a particular time does NOT mean that it is not active, just that so far I have not heard it. It looks probable that four freqs (at least) will be used for every transmission. Transmissions are VERY short - usually less than two minutes - so unless you are ready and waiting, you won't hear them."

At the time JD compiled this list he had not heard the 3 or 18 mhz - 18231.7 khz has now been logged by myself at 1200z.

There is no marker or selcall arrangement. The onus is on the client to check in at regular intervals.

Within the software is a Antenna Direction facility. Bern in addition to omnidirectional antennae also has highly directional ones as well. The client, through the antenna direction screen, can convey to Bern their current position thereby allowing Bern to automatically optimise the antenna for that connection.

Little traffic if any has been logged. The size of the user base is not known. Even if one hears communication in progress the average ute monitor is
a. unlikely to be equipped for these modern protocols and
b. the DTS-Mail User Manual indicates that by using DES data encryption a high level of security is applied.

For further details suggest you have a look at www.bernradio.ch which includes some very nice pix under "Guided Tour".

>>....dgps.....>

::: dgps stations - Part 3

This is the final list of the three-part series.

ARGENTINA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
2570						Buenos Aires
2950						Rosario

Reported operational - no further details - anyWUN?

BAHRAIN

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
298	200	480 481	140	250	9	Bahrain

BERMUDA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
323	100		950	150	1	St Davids Head

BRAZIL

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
290	100	464		200	1	Rio Grande
290	100	461		200	1	Abrolhos Lt
300	100	465		200	1	Sao Tome Lt
300	100	460		200	1	Ponta dao Sao Marcos
305	100	462		200	1	Ilha da Moela
305	100	467		200	1	Cabo Calcanhar Lt
310	100	466		200	1	Cabo de St.Marta
310	100	463		200	1	Canivete
320	100	468		200	1	Sergipe
				On trial		Ilha Rasa Lt

CHINA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
287.5	100					Nanshan Tou Lt
301.5	100					Beitang
301.5	100					Dasanshan Dao Lt
310.5	100					Baohu Jiao Lt
313.5	100					Wangjiamaidao

EGYPT (Red Sea)

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
293.5		444 445	322	126	Planned	Ras umm Sid
298		446 447	323	150	Planned	Ras Gharib
314.5		450 451	325	260	Planned	El Quseir

HONG KONG

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
289	200			270	9	Kau Yi Chau

ICELAND

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
289	100	624 625	412		1	Bjargtangar lt
292.5	100	622 623	411		1	Reykjanes
295.5	100	630 631	415		1	Djupivogur
301.5	100	628 629	414		1	Raufarhofn
304.5	100	626 627	413		1	Skagata Lt
313	100	632 633	416		1	Skardhsfjara Lt

INDIA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location

No details inc frequency

On trial	Utan Pt Lt	Aguada Lt	Periyar River lt
	Minichoy Is Lt	Pondicherry Lt	Dolphins Nose Lt
	Sagar Is Lt		
Planned	Okha	Suratkal Pt Lt	

AnyWUN with more info?

JAPAN

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
288					9	Daio Saki
295			647	90	9	Muroto Saki
295			641	90	9	Inubo Saki Lt
295			651	90	9	Wakamiya Shima
302			644	90	9	Hachijo Shima
302			652	90	9	Ose Saki
305			635	90	9	Hamada Ko
309			653	90	9	Toi Misaki
309					9	Ken Saki
316			640	90	9	Kinkasan To
320			650	90	9	Seto
320.5			648	90	9	E Saki
321			649	90	9	Ohama

KOREA

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
287	100	724 725	662		9	Geomun Do Lt
290	100	730 731	665		9	Chuk To Lt
295	100	728 729	664		9	Eocheong Do Lt
295	100	726 727	663		9	Chumunjin Dan
300	100	720 721	660		9	Yong Do Lt
310	100	732 734	666		9	Changgi Gap Lt
313	100	722 723	661		9	Palmi Do Lt

KUWAIT

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
295	200	482 483	141	250	9	Kuwait

SINGAPORE

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
298	100		65	105	9	Pulau Satumu

SVALBARD

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
292.5	50				Planned	Kapp Martin Lt

UNITED ARAB EMIRATES

Freq	bps	Stn ref	Stn Tx	Range	Type	Location
292	200	484 485	142	250	9	Ras Al Khaymah
314	200	486 487	143	250	9	Abu Zaby

::: More websites with dgps references

Trinity House
www.trinityhouse.co.uk

The Commissioners for Irish Lights
www.cil.ie/home.html

IALA (International Association of Lighthouse Authorities)
AISM (Association Internationale de Signalisation Maritime)
www.iala-aism.org

>>....Diplo.....>

::: Diplo Twinplex users

This system is still used by the diplos of Denmark, Norway, Pakistan and Spain. The frequency list contains the most likely points for capture based on logs over the last year.

7467.9 Denmark

8080.5	Spain
9108.5	Spain
9327.9	Denmark
10891.7	Pakistan
11016.5	Spain
11051.7	Pakistan
11327.9	Denmark
11341.9	Denmark
11419.9	Denmark
11437.9	Denmark
12112.5	Spain
12122.5	Spain
13221.9	Denmark
13387.9	Norway?
13446.7	Pakistan
13457.9	Denmark
13486.9	Denmark
13495.9	Norway
14990.7	Pakistan
15946.5	Spain
16103.9	Norway
16209.9	Denmark
16284.9	Denmark
16386.7	Pakistan
18445.4	Norway
18487.9	Norway
18513.9	Denmark
18583.9	Denmark?
18597.5	Spain
19031.7	Pakistan
19108.9	Denmark
19230.9	Denmark
19621.9	Denmark
19826.9	Norway
22818.5	Spain

All these countries use single frequency operations.
Also common is the Twinplex mode: F7b-1 or YYBB YBYB.
The tone disposition relative to the assigned frequency is as follows:

Service	Tones
Denmark	-400/-200/200/400
Norway	-400/-200/200/400
Pakistan	-200/ -85/ 85/600 -300/-100/100/300
Spain	-200/ -85/ 85/200

If conditions are poor one may find them dropping back into basic Sitor/A (arq). To a lessor extent lately Denmark, Pakistan, Spain have been noted operating on a Saturday, Pakistan also likely on a Sunday as well.

>>....International Agencies.....>

::: GTZ

Daily posting provides a useful trigger to other snippets of information and DF0GTZ in an example of Bern/HEC tfc list was just one of these.

Thanks to Dietmar, Tom and Klaus for pitching in with the pieces.

"Gesellschaft fuer Technische Zusammenarbeit" GTZ. (Society for Technical Cooperation) a foreign aid agency or company sponsored by the German Government, and which is active in numerous "underdeveloped" countries.

DF0GTZ is their radio station apparently licensed as radioamateur but one would need to be familiar with the contents of their license to know the restrictions and permissions granted.

They are reported to be very often in the Medical Assistance Radio (MAR) Net on 14.332 khz at 07.30 UTC. Net control is DF9KN in Cologne

Tom poses the question as to whether they also use non amateur frequencies with this call. Refer the item on Bern/HEC. Their being in the traffic list seems to suggest they do.

>>....Met.....>

::: Met list (rtty)

Thanks to Klaus Betke, Murray Lehman, Danon, Bob Hall, and Bryan Curtis for recent lists/logs helping me with my own observations.

Freq.	Call	Station	Bd/Arr/Shft	Remarks
111.3	SOA211	Warsaw M.	50/R/170	00, 06, 12 & 18z
129.5	SOA212	Warsaw M.	50/N/170	
147.3	DDH47	Hamburg M. 2	50/N/85	
3172.5	IMB31	Rome M.	50/R/850	Note.2
3196	OLB7	Prague M.	50/R/500	
3230.3		Elkhorn, Neb	75/-/850	Note.7. Nights
3350.7	BAA2	Beijing M.	50/	
3393.7		Isabela, PR ?	75/-/850	Note.7. Nights
3398.7		Isabela, PR ?	75/-/850	Note.7. Night alternative
3549.3	YMA20	Ankara M.		
3745	HZN	Jeddah M.	100/R/400	Note.1
3959	SUU	Cairo M.	100/N/850	
4002	YRR4	Bucharest M.	50/N/500	
4100	BAA	Beijing M	50/R/800	
4271	CFH	CF Halifax	75/N/800	Note.6
4560	RKR74	Irkutsk M.	50/N/1000	Note.3
4570	HZN46	Jeddah M.	100/R/850	Note.1
4583	DDK2	Hamburg M. 1	50/N/440	
5315.3	BJZ27	Wuhan M.	75/-/400	
5400	YOG37	Bucharest M.	50/N/400	
5887.5	IMB32	Rome M.	50/R/850	Note.2
5905.3		Elkhorn, Neb.	75/-/850	Note.7 Nights
5915	NAR	Saddlebunch, Fla	75/N/850	Note.7 Nights
6397	NAR	Saddlebunch, Fla	75/N/850	Note.7 Nights
6496.4	CFH	CF Halifax	75/N/800	Note.6
7319	SUU3	Cairo M.	100/N/850	
7350	BAF44	Beijing M.	50/R/760	
7510	HZN	Jeddah Met	100/R/400	
7512	ZRO2	Pretoria M.	75/R/400	
7625	HZN47	Jeddah M.	100/R/850	Note.1
7646	DDH7	Hamburg M. 1	50/N/440	
7760	RGH77	Arkhangelsk M.	50/R/850	
7784	NAR	Saddlebunch, Fla	75/N/850	Note.7 Days
7946.5	DHJ51	Grengel M.	100/R/425	
8176.3	FZR81	St Denis M.	75/N/400	
9041	5YE	Nairobi M.	100/R/850	
9770		Bangkok M		Note.5
9830	NAR	Saddlebunch, Fla	75/N/850	Note.7 Days
10100.8	DDK9	Hamburg M. 1	50/N/440	
10215	HZN48	Jeddah M.	100/R/700	Note.1
10299	HSW62	Bangkok M.	50/R/170	
10385.0	BAA21	Beijing M.	50/-/850	
10423.3	YMA20	Ankara M.	50/N/900	
10536	CFH	CF Halifax	75/N/750	Note.6
10650		Wuhan M.		
10998.7		Isabela, PR ?	75/N/850	Note.7 Days
11039	DDH9	Hamburg M. 2	50/N/440	
11119.3		Elkhorn, Neb.	75/R/850	Note.7 Days

11125	HZN	Jeddah M.	100/R/400	Note.1
11453	IMB33	Rome M.	50/R/850	Note.2
11462	YRR	Bucharest M		
11638	DDK8	Hamburg M.		
13510	CFH	CF Halifax	75/N/750	Note.6
13542	ZRO3	Pretoria M.	75/R/400	
13665.3	6VU73	Dakar M.	50/N/750	
14340.0	BAA..	Beijing M.	50/R/850	
14467.3	DDH8	Hamburg M. 2	50/N/440	
14837.2	ATV65	New Delhi M.	50/R/400	Note.4
15318.2	BAA..	Beijing M.	50/R/1000	
17441.6	5YE	Nairobi M.	100/R/850	
17522	HSW61	Bangkok M.	50/R/170	
17590	HZN49	Jeddah M.	100/R/850	Note.1
18241.9	ZRO4	Pretoria M.	75/R/400	
18254	SUU	Cairo M.	100/R/850	
19325.2		Elkhorn, Neb	75/R/850	Note.7 Days
19747.5	6VU79	Dakar		Not logged since Jun98
23370	HZN50	Jeddah M.	100/R/600	Note.1

Note.1 KB reports hardly decodable - I've mentioned this before - it's no doubt due to Jeddah radiating four mark tones instead of one!
Note.2 Transmitter off between messages.
Note.3 Short messages with 15-30 min pauses in between. FAX 4562 kHz at 1930
Note.4 Mark tone sounding insane - KB. Virtually non-existant - DW
Note.5 May return to 10169 soon - ML
Note.6 FAX from H+00 thereafter rtty until next H+00
Note.7 KAWN content differs for all three sites.

Elkhorn, Nebraska	All of N America
Saddlebunch Key, Fla	SE US and Caribbean basin
Isabela, PR (presumed)	Limited wx for Antilles + commercial a/craft position reports.

Met stations no longer active in RTTY:

Europe (thanks Klaus)
Bracknell, Sofia (QRT early 1998), Moscow, Kiyev, ...

China (thanks Murray)
"altho I can get Beijing and Wuhan, no trace of Lanzhou or Urumqi as shown in JK's 16th; will keep trying but looks as tho they are QRT."

Let's know of any others active we haven't logged in the last few weeks.

What of Canadian Forces Esquimalt/CKN on 4266/6454/12751 ?
My current information is that the Fleet METOC broadcast
1. Will only be available when required during Canadian naval operations,
2. may not be broadcast at all times on all frequencies,
3. transmits both FAX and rtty, and may adjust the broadcast content without notification.

AnyWUN confirm/deny/comment on their current status ?

::: Pretoria frequency change

I received an email 16/Dec from Murray Lehman who had just observed Pretoria Met had changed his isb transmission from 18240 up to 18520. Rtty continued to be on the usb at 18521.85 75/Rev/850 with fax on the lower at 18512.2. First heard in the UK around 1000z better conditions appeared around 1200 and continued fairly reasonably until after 1730z. Posts show Peter Thompson also logged. But it looks like it was all down to finger trouble as they returned to 18240 on the following and subsequent days. Pity - reception appeared better on 18520 than on 18240 particularly the 1500z FAX.

>>....Military.....>

::: USCG G-Tor update.

Here, thanks to David Wright, is the latest summary on the USCG usage of G-Tor and stations involved.

Logged frequencies

6964.4	NMC	Night	Coast
7442.3	Various	Night	Vessel
8315.0	possible		
9302.7	NOJ	Eve	Coast - but last logged Sept.
13950.2	NMC1	Day	Coast (Simplex)
13953.3	NMC	Day	Coast (Simplex)
13953.8	NMC	Day	Coast (Simplex)

Callsigns Noted:

Coast:

NMC	CAMSPAC
NMC1	CAMSPAC
NOJ	COMSTA Kodiak

Vessels:

NAQD	USCGC Jarvis WHEC-725
NBTM	USCGC Polar Star WAGB-10
NDWA	USCGC Morgenthau WHEC-722
NLVS	USCGC Rush WHEC-723
NMAG	USCGC Hamilton WHEC-715
NMEL	USCGC Mellon WHEC-717
NRUC	USCGC Storis WMEC-38
NRUO	USCGC Polar Sea WAGB-11
NYCQ	USCGC Boutwell WHEC-719
NZVE	USCGC Alert WMEC-630

Traffic:

Plaintext chatter / link servicing notes
Uuencoded/Encrypted E-mail and *.zip files

AnyWUN have any indication whether this mode is being used on the E Coast of the US or if there are any plans to do so?

>>....National Governmental.....>

::: Mozambique Communications

From our man, Bob Hall, down the southern end of the African continent comes the following observations

"Almost every day between 1400 and 1600 UTC one can hear the Moz comms network working in ARQ on the single frequency 10455.0 khz. Messages are passed between the various Provincial Administrations and Police in Gaza, Inhambane, Manica, Tete, Nampula and Niassa Messages are usually in Portugese but there are frequent encryptions and I show a very recent example below.

There is a piece about Moz Comms in WUN Diplo dated Jan. 3rd, 1997, which gives much fuller details but I have not seen any subsequent loggings. So this is just an update and reminder that not much has changed since that 1997 Report.

XXXXXXXXXXXXXXXXXXXXX

nr:200 grs:141 muito urgente gdh: 09/12/98 16:56

```
 para: todas provincias
  de: maputo
 cripto nr-765
 ====
 lllll  weoos  laamx  fqkc4  xnmyc  bhhr4  hahpj  2rtcl  g2oc9  hdxqi
 dktwb  70lyy  eq4ov  79obm  4nsyk  4bfih  ttrkx  9zspq  o~~ne  epubl
 xe9wl  y7qz~  gmo9~3  062du  ociiw  ayiui  aalrj  opcrm  ayjc7  kbpaj
 xzgmi  nb4bm  s2biu  bxjuc  uevaf  sswkk  ve9r2  iihcm  qbkzu  zimek
 lmand  7evmn  obfck  dveru  mf7ak  22us7  2u2pg  yutca  gdrcd  gij~~~q
 oifjj  q4k4u  2kr9e  9bvqk  lcd4f  ~da~7  mnvto  yg7ia  knznz  z7ikr
 7ng42  cnefq  ypwbh  jmox7  zyn9n  ant7g  wxfhd  hnpkf  mx4wu  zy4jf
 trzcc  q9hnu  djoyq  ephct  jfzke  kmknb  ufznk  ajlht
 odl~u  wq7ev  umpht  nh4fb  wyadm  hqb2t  vht9u  zdy7a  4eajx  kgcxd
 lbtsm  zbpic  okpri  kthdr  x4hlo  eptrs  c7grk  vigm9  gh~mc  9uzif
 wnwqe  ukvyb  mjosf  jqfir  9j4cp  pxorh  depba  uuj7u  fmlxg  2rxmp
 usbjc  yewdo  eowbb  u9axi  rikzy  ttg4q  rbsh7  ~~~'52  (899o  cajui
 yumrz  w7ksq  bwget  cpszg  ue4qr  fxu2g  ywoio  xhpmv  y2rp9
 pvulo eeqyq  rmww  jygfx  jyp9c  hvmn4  lytfg  a9fxg  triio  7dzl4
 trans:-  guambe dcc-min~
 09-12-98 16h46 maputo"
```

Interesting/unusual encryption composition! Thanks Bob.

>>....Press.....>

::: VNA Hanoi ceased

The list of HF press stations grows ever smaller.

Murray Lehman writes in to say that despite daily monitoring over the last few months on VNA's last logged frequencies 10600, 15743 and 18264, no transmission of their broadcast, or a carrier, noted.

He continues "Have just found the web page for VNA
    http://vnagency.com.vn
Don't know how long it's been up, but may explain why I can't get their RTTY. Quite a good site - in EE FF & SS"

>>....Techi Tips.....>

::: Receiving digital on SSB mode

Last month we looked at interfacing the receiver to the decoder mainly when cw/fax/rtty modes are available on the receiver.

As noted it is possible to use an SSB mode. This will cover those who have entry level receivers without the cw/fax/rtty modes and at the other end of the spectrum (no pun intended) those more experienced monitors who are developing full use of their equipment's facilities.

The professional user is likely to be transmitting in J2b mode ie applying the two tones to an rt transmitter. The centre point of the two tones is the subcarrier. The receiver will invariably be on (but not always a whole (xxxxx.0) or half (xxxxx.5) kHz point. The receiver window or display will show the (suppressed) carrier. The transmitter on the same carrier in J2b mode will generate RF's about the assigned frequency which will be the suppressed carrier plus (assuming USB) the subcarrier. The receiver in SSB mode on this carrier will recover the two tones about the same subcarrier.

In the professional environment it is easier to keep the frequency selection of the transmitter/receiver to the simple dialing of the whole kHz value. For a given service the transmitting modem and the receiving modem will operate on a designated subcarrier eg 1700 hz. Example Egyptian diplos

Occasionally one hears some fec with a short message and a repeated

number eg mfmfmfmfmfmfmfmf wlgkwfs hokds jg cfuw ods 53081 53081 53081. First it is in ATU80 and the number is reversed to produce the left/right direction giving 18035. This is the display frequency Cairo is listening to. The subcarrier is 1700 hz (in the USB). The assigned frequency is therefore 18036.7 kHz; exactly where the embassy appeared. This is why all Egyptian diplos appear on xxxxx.7 (assigned).

By the same token diplos like those of Denmark and Norway are always on a xxxxx.9 kHz assigned frequency even although they use four tone Twinplex. The subcarrier is likely to be 1900 Hz.

Why likely? It could, of course, be on a half kHz point and making use of a 1400 kHz subcarrier. The radiated RF's would still appear on xxxxx.9 kHz but it is easier to have a system using whole kHz point displays than half ones.

Having recovered the tones one then "tunes" the decoder centre frequency to the subcarrier and off it goes hopefully decoding.

But life is not that easy. In SSB mode we have a bandwidth say from 300hz to 2400 hz on the general receiver and can be greater depending on the IF filter fitted. So in addition to the two basic tones one is likely to have to contend with other signals. In the professional modem this will be taken care of by extensive and sharp filtering of the specific tones employed by that organisation. For the ute monitor the amount of filtering, if any, on specific tones will depend on the decoder in use and its design.

One should therefore consider investing in an audio filter unit to place between receiver and decoder. Care should be taken to thoroughly read the specifications of various units before buying to ensure one finds a unit with fairly flexible characteristics. At minimum it should be capable of giving a passband with adjustable centre frequency and width, and with the provision of switching in/out a notch at the centre frequency.

Finally even although one is using this mode log the signal as the assigned frequency and not as the displayed value or suppressed carrier as one would do with SSB rt. The exception would be where one is describing a wideband modem or VFT as a whole - then one could log as the suppressed carrier but indicate in comments "8 chan vft in usb" or "wxyz modem in usb".

>>....Signoff.....>

When making up your New Year "revolutions" sorry resolutions add in "must send in snippets of info to editor(s) of my favourite column(s). If you don't supply the bricks we can't build the walls.
Peace and good health be with you.   Regards Day

::: Index of WUN Digital Review column Feb95 - Dec98

The headers have been annotated with date and volume of the applicable newsletter. These have then been subdivided into general sections but no further attempt has been made to order within each section. The articles are shown in chronological order. If any errors are found eg an article in a wrong section or incorrectly annotated please advise. Trust this eases your accessing a wealth of information.

Aero==========

ASECNA Antananarivo	Feb95	V1/1
Plaisance Air	Feb95	V1/1
Aero rtt circuits	May96	V2/5
Aero RTT update	Jul96	V2/7
ASCENA Brazzaville	Apr97	V3/4
Aerolist	May98	V4/04

Shannon Aeradio	Jun98	V4/05
Addis Ababa Air	Oct98	V4/09

Commercial==========

Gas Field dxing	Apr95	V1/4
Noble drilling (West Africa)	May96	V2/5
Persian Gulf and Indian Ocean Oil Survey.	Dec96	v2/12
Oil + Gas HF Utility Monitoring	May97	V3/5
Eritrean Banks	Jan98	V4/1
Nigerian Bank 8941.7	Feb98	v3/2
Zaire Bank 18032.8	Feb98	v3/2
Russian Civil Railway Authority	Jun97	V3/6
Bern Radio/HEC DTS-Mail service	Dec98	V4/11

dgps==========

DGPS	Jul96	V2/7
Netherlands CG DGPS corrections	Nov96	v2/11
Veripos DGPS	Jan97	v3/1
UK encrypted dgps ceases	Mar/Apr98	V4/03
intro	May98	V4/04
Differential gps - overview	Jun98	V4/05
SC104 format	Jun98	V4/05
Extracting basic dgps data	Jun98	V4/05
dgps messages	Jul98	V4/06
Some observations of DPGS beacons in the MF band	Aug98	V4/07
Canadian CG website	Sep98	V4/08
List of dgps stations (planned)	Sep98	V4/08
dgps receiver	Sep98	V4/08
dgps stations - Part 1	Oct98	V4/09
dgps stations - Part 2	Nov98	V4/10
dgps stations - Part 3	Dec98	V4/11
More websites with dgps references	Dec98	V4/11

Diplo==========

Swedish embassy Gabarone	Mar95	V1/2
Slovack emb Telaviv	Aug95	V1/8
UNID - SWED-arq with routing indicator RETXO SUBOPGUCI Madrid	Aug95	V1/8
Polish Emb Belgrade	Sep95	V1/9
Dutch diplo	Nov95	V1/11
Dutch diplo update	Dec95	V1/12
Bulgarian IRA/ARQ	Jan96	V2/1
Diplo corner - Norway	Feb96	V2/2
Norwegian diplo update	Mar96	V2/3
Diplo corner - Bulgaria	Mar96	V2/3
Diplo corner - Roumania	Mar96	V2/3
Diplo corner - Pakistan	Apr96	V2/4
Diplo corner - Australia	May96	V2/5
Diplo corner - Nigeria	May96	V2/5
Diplo corner - Belgium	May96	V2/5
Diplo corner - Egypt	Jun96	V2/6
Diplo corner - websites	Jul96	V2/7
Bulgarian diplo update	Aug96	V2/8
Diplo corner -Austria	Aug96	V2/8
Diplo Corner Slovakia	Sep96	V2/9
Diplo Corner extra - PIAB skeds	Sep96	V2/9
Diplo corner - Cuba	Oct96	V2/10
Diplo corner - Tunisia	Oct96	V2/10
Swedish diplo new system	Nov96	v2/11
Egyptian diplo - return frequency	Nov96	v2/11
Diplo corner - Denmark	Nov96	v2/11
Diplo Corner - India	Dec96	v2/12
Unid Polish arq	Jan97	v3/1
Diplo corner - Algeria	Jan97	v3/1
Diplo corner - Congo	Jan97	v3/1

Diplo corner - France	Jan97	v3/1
Angola update	Jan97	v3/1
India diplo update	Feb97	v3/2
Polish ARQ - missing 3sc.	Feb97	v3/2
Diplo Corner - Ethiopia	Feb97	v3/2
Diplo corner - China	Feb97	v3/2
Diplo Corner - Poland	Mar97	V3/3
Diplo corner - Iran	Mar97	V3/3
Diplo corner - Japan	Apr97	V3/4
Diplo Corner - Greece	Apr97	V3/4
Algerian diplo - update	Jun97	V3/6
Diplo Corner - Australia	Sep97	V3/7
Diplo corner - Guinea	Sep97	V3/7
Diplo Corner - Benin	Sep97	V3/7
Diplo Corner - Philippines	Sep97	V3/7
Diplo corner - Senegal	Sep97	V3/7
Diplo Corner - Albania	Sep97	V3/7
Diplo Corner - Bangla Desh	Sep97	V3/7
Diplo Corner - Finland	Sep97	V3/7
Diplo Corner - Mongolia	Sep97	V3/7
Japanese consulate Penang	Sep97	V3/7
Egyptian Emb Islamahbad	Sep97	V3/7
Netherlands moves to satellite - PCW1 now backup	Sep97	V3/7
MFA Athens on 8050 khz	Sep97	V3/7
Websites of MFAs.	Sep97	V3/7
Diplo corner - Yugoslavia (Serbia)	Oct97	V3/8
Diplo corner - Czech Rep	Oct97	V3/8
Diplo corner - Zaire	Nov97	V3/9
Diplo Corner - Thailand	Nov97	V3/9
Diplo Corner - Vietnam	Nov97	V3/9
Diplo Corner - Spain	Nov97	V3/9
Diplo Corner - Malaysia	Dec97	V3/10
Diplo Corner - Hungary	Dec97	V3/10
Diplo corner - Malaysian update	Jan98	V4/1
Morocco	Jan98	V4/1
Germany	Jan98	V4/1
Diplo Corner - France update	Feb98	V4/2
Indonesia	Feb98	V4/2
Ghana	Feb98	V4/2
Israel	Feb98	V4/2
Peru	Feb98	V4/2
Sudan	Feb98	V4/2
Diplo corner Turkey	Mar/Apr98	V4/03
N Korea	Mar/Apr98	V4/03
Portugual	Mar/Apr98	V4/03
Embassies in Canberra	Mar/Apr98	V4/03
MFA Havana-Managua link	Mar/Apr98	V4/03
North Korea	May98	V4/04
Belgrade	May98	V4/04
Bucharest	May98	V4/04
Sofia	May98	V4/04
Diplo corner -		
Sweden,	May98	V4/04
Italy,	May98	V4/04
Switzerland.	May98	V4/04
Danish selcalls	Aug98	V4/07
Egyptian HUXD	Aug98	V4/07
Bulgarian/Slovakian ARQ/IRA systems.	Aug98	V4/07
MFA Lisbon	Sep98	V4/08
French diplo - new crypto system	Oct98	V4/09
Bulgarian frequency confirmation	Oct98	V4/09
MFA Belgrade broadcasts	Oct98	V4/09
Germany	Nov98	V4/10
Romania	Nov98	V4/10
Diplo Twinplex users	Dec98	V4/11

International Agencies==========

Medecins sans Frontiers	Mar95	V1/2
United Nations	Sep95	V1/9
MINURSO	Oct95	V1/10
ICRC pactor freqs	Oct95	V1/10
MINURSO (UN Morocco)	Apr96	V2/4
Red Cross Stations	Apr96	V2/4
Mediciens sans Frontieres	Oct96	V2/10
UN - Geneva/Monrovia	Nov96	v2/11
IFRC Pactor selcalls.	Sep97	V3/7
14373.3 (G-TOR) mystery	Mar/Apr98	V4/03
Aid agency on 14373.3	Sep98	V4/08
INTERPOL on 14817.5	Oct98	V4/09
GTZ	Dec98	V4/11

Maritime==========

Unid German shipping net on 16694.	Aug95	V1/8
Dynacom Athens	Nov95	V1/11
Maritex	Nov95	V1/11
Globe at Awanui	Nov95	V1/11
Maritex update	Dec95	V1/12
Maritime College of Aaland Island	Dec95	V1/12
Global Maritime Distress and Safety System	Dec95	V1/12
Dynacom	Jan96	V2/1
Maritime College of Aaland Island	Dec95	V1/12
Global Maritime Distress and Safety System	Dec95	V1/12
Clover-2000 tests	Feb96	V2/2
Globe freq update	Apr96	V2/4
BT drops UK coastal telex channels	Apr96	V2/4
Digital Selective calling	May96	V2/5
New maritime networks/ Bert van Rij	May96	V2/5
Unid Greek net	May96	V2/5
Mobile/WLO TSB restrictions	May96	V2/5
Oostende NAVTEX	Jul96	V2/7
GMDSS revisited	Aug96	V2/8
Navtex - Cabo la Nao and MRCC Dublin	Nov96	v2/11
Navtex - Niton	Nov96	v2/11
Greek sitor networks update	Feb98	v3/2
Eastern Med Greek network	Feb98	v3/2
Voyager network	Feb98	v3/2

Met (FAX)==========

Fax on HAM bands	Mar95	V1/2
FAX - technical	Mar95	V1/2
DWD extends LF fax to 31/3/96	Aug95	V1/8
Honolulu Met	Sep95	V1/9
Canadian CG FAX for NW Territory	Nov95	V1/11
FAX news from Marius Rensen's homepage	Jan96	V2/1
Roosevelt Roads ?	May96	V2/5
Warsaw Met	Jun96	V2/6
Nikao radio/ZKRT	Jun96	V2/6
Offenbach now ceased on LF.	Jul96	V2/7
Warsaw Met fax	Aug96	V2/8
Fax list	Aug96	V2/8
Greek wx fax svc test	Sep96	V2/9
ROTA/AOK now also on 9044.5	Sep96	V2/9
Keflavik/NRK - satpics with 200hz shift	Sep96	V2/9
USCG New Orleans fax skeds	Jan97	v3/1
Moscow met Fax on 15950	Jan97	v3/1
Pt Reyes FAX	Feb98	v3/2
Boston Fax	Feb98	v3/2
New Orleans fax	Feb98	v3/2
RAN ceasing fax end 1999	Mar97	V3/3
VLM Casey schedule	Mar97	V3/3
Chuo Fisheries/JFA fax	Apr97	V3/4
Madrid Met to cease	Jun97	V3/6
USN HF Fax	Dec97	V3/10

Canadian CG FAX	May98	V4/04
Murmansk Met FAX	Aug98	V4/07
Moscow Met FAX withdrawn	Sep98	V4/08
Dakar Met FAX	Oct98	V4/09
The Marius Rensen website.	Nov98	V4/10
Dakar	Nov98	V4/10
Canadian CG Iqualuit/VFF	Nov98	V4/10
Casey/VLM	Nov98	V4/10

Met (rtty)==========

Bracknell 50>75bd	Feb95	V1/1
KAWN	Mar95	V1/2
AWS wx rtty/fax	Mar95	V1/2
US wx on 10998.5	Aug95	V1/8
US NWS fund reductions	Aug95	V1/8
Moscow/CIS11(TORG) 18490khz.	Apr96	V2/4
Moscow met rtty ceased	May96	V2/5
Short European met rtty list	May96	V2/5
Deutesche Wetterdienst sked	Sep96	V2/9
KAWN finally identified	Sep97	V3/7
Bracknell rtty closure.	Feb98	V4/2
global overview	Jul98	V4/06
Grengel Met/DHJ51	Nov98	V4/10
Met station list	Nov98	V4/10
Met list (rtty)	Dec98	V4/11
Pretoria frequency change	Dec98	V4/11

Military==========

Availability messages	Feb95	V1/1
Fleet broadcasts.	Feb95	V1/1
Irish military stations	Apr95	V1/4
Swedish military stations	Apr95	V1/4
UKMACCS	Apr95	V1/4
RN/RAF mixup (locations)	May95	V1/5
Swedish Military	May95	V1/5
Irish military	May95	V1/5
Irish Military	Jun95	V1/6
Wilhelmshaven/DHJ59 routing indicator	Jul95	V1/7
Tunisian Navy	Aug95	V1/8
IN La Spezia	Aug95	V1/8
Irish Navy	Aug95	V1/8
RN (MTO/GYA)	Aug95	V1/8
Spanish military	Aug95	V1/8
Brazilian Navy	Sep95	V1/9
Spanish Military	Sep95	V1/9
RN	Sep95	V1/9
Bulgarian military	Sep95	V1/9
Roumanian military	Sep95	V1/9
German Army	Sep95	V1/9
RUD in GXQ vft	Oct95	V1/10
NATO addressing indicators	Nov95	V1/11
Broadcast designators	Nov95	V1/11
British/French military digitals	Nov95	V1/11
London/GXQ - circuit ID LIN	Nov95	V1/11
Chan list for CARB	Dec95	V1/12
Route indicator revisited	Jan96	V2/1
French Forces 128.5bd ARQ-M	Jan96	V2/1
Comms in Bosnia	Feb96	V2/2
Turkish Navy on 6821	Feb96	V2/2
British military - RUD/LIN	Feb96	V2/2
Routing indicators	Feb96	V2/2
Irish Military stations	Feb96	V2/2
Major Irish military establishments	Feb96	V2/2
E European military stns	Feb96	V2/2
Spanish Army update	Apr96	V2/4
Spanish Air Force update	Apr96	V2/4

Royal Navy /MGJ/MTO	Apr96	V2/4
FN Reunion/FUX	Apr96	V2/4
Turkish Military /6395	Apr96	V2/4
UNID military on 16172.2 rtty/sitor-b	Apr96	V2/4
Multiple channel VFT	May96	V2/5
US armed forces day rtty message	Jun96	V2/6
Irish Military update	Jun96	V2/6
Routing indicators revisited	Jul96	V2/7
VFT update - DHJ59	Jul96	V2/7
Routing indicators	Jul96	V2/7
CARB	Jul96	V2/7
VFT revisited	Sep96	V2/9
Bad times in Bangui	Sep96	V2/9
Reunion Island communications Centre	Sep96	V2/9
Italian airforce packet activity	Oct96	V2/10
RAN/RAF piccolo link	Nov96	v2/11
USCG terminals	Nov96	v2/11
CISN Moscow/RDL on 18.1 khz.	Nov96	v2/11
French domestic	Jan97	v3/1
French Army : - 100/200 IDs	Jan97	v3/1
Swedish Military using PSK	Feb98	v3/2
Swedish Military using PSK	Feb98	v3/2
NMO being remoted to NMC	Apr97	V3/4
German Navy	Apr97	V3/4
IN Vishakhapatnam/VTP46	Sep97	V3/7
New PSK system for USAF?	Sep97	V3/7
Last Piccolo6 from GFH	Sep97	V3/7
CARBs	Oct97	V3/8
CARB update	Nov97	V3/9
Belgian AF	Dec97	V3/10
3828.4/RXFKE	Jan98	V4/1
Italian Military	Feb98	V4/2
RN broadcast changes	Mar/Apr98	V4/03
GSU on Piccolo	Mar/Apr98	V4/03
IDing circuits (FF model).	May98	V4/04
Greek (Hellenic) Navy callsigns	May98	V4/04
Combined Endeavor 98	Jun98	V4/05
French Forces circuit ID table	Jun98	V4/05
Routing indicators	Jul98	V4/06
French comcens	Jul98	V4/06
French domestic military exercise links	Aug98	V4/07
Spanish military callsigns	Aug98	V4/07
German Air Force ARQ/E links	Aug98	V4/07
FF Le Port/Dazaoudzi link update	Sep98	V4/08
FF Ft de France/Pt. a Pitre link withdrawal	Sep98	V4/08
French domestic mil exercises - Sept/Oct 98	Oct98	V4/09
Yugoslav Army	Nov98	V4/10
USCG G-Tor update	Dec98	V4/11

Miscellaneous==========

MARS digital stations	May95	V1/5
ACARS on HF	Oct95	V1/10
VOA in ASCII	Nov95	V1/11
ACARS	Nov95	V1/11
What did you hear in 1995	Jan96	V2/1
300bd packet on 14576.7/13576.7	Feb96	V2/2
WUN's sound page in place	Apr96	V2/4
Russian digitals	Jun96	V2/6
81-81 system	Jul96	V2/7
Troubles in Bahrain	Sep96	V2/9
FSK transmissions from Germany	Sep96	V2/9
Deutsche Telekom testing 32-APSK mode 5910 khz.	Oct96	V2/10
Who is PFRE	Nov96	v2/11
PFRE	Dec96	v2/12
Czech 50bd rtty on 2512	Dec96	v2/12
ACF	Jan97	v3/1
Coding	Jan97	v3/1

Czech stn moves 2512 to 2244	Jan97	v3/1
Environmental Resources Management	Feb97	v3/2
RAC-ARQ	Feb97	v3/2
Schweizerische Notkanal	Apr97	V3/4
DigiFaq 5.0 now available.	Sep97	V3/7
Volmet/Crowd36 mystery.	Sep97	V3/7
MARS Germany on 4015	Sep97	V3/7
Y4XZ rtty on 5108	Feb98	V4/2
Logging Pactor	Oct98	V4/09

National Governmental==========

German Govt + Police stations	Apr95	V1/4
Portuguese Police	May95	V1/5
Portuguese Police	Jun95	V1/6
German MOI revisited	Jun95	V1/6
Monitoring the Guardia Civil	Jul95	V1/7
German Coastguard	Aug95	V1/8
German MOI update	Aug95	V1/8
Portuguese State Police	Nov95	V1/11
Saudi National Guard	Dec95	V1/12
French prefectures on 5164.4	Feb96	V2/2
Guardia Civil update	Apr96	V2/4
Portuguese State Police update	Apr96	V2/4
Turkish Police in Bosnia.	May96	V2/5
Frequencies for other Australian Govt Depts.	Sep97	V3/7
New mode for Guardia Civil	Sep97	V3/7
German MOI stations	Jan98	V4/1
Mozambique Communications	Dec98	V4/11

Press==========

TANJUG	May96	V2/5
CNA Taipei rtty ceased	Jun96	V2/6
XINHUA leaves HF by 1-1-97	Sep96	V2/9
XINHUA skeds	Dec96	v2/12
MAP skeds	Dec96	v2/12
MTI Budapest ceases	Jan97	v3/1
KCNA press fax	Feb98	v3/2
AA Ankara	Mar97	V3/3
KCNA Pyongyang	Mar97	V3/3
Kyodo Singapore 16035khz	Apr97	V3/4
PIAB frequency changes	Jun97	V3/6
YONHAP News Agency	Sep97	V3/7
MAP skeds	Oct97	V3/8
SANA Damascus	Dec97	V3/10
PIAB final transmission	Jan98	V4/1
Info request	May98	V4/04
Who's IN, who's OUT	Jun98	V4/05
MAP Rabat	Jul98	V4/06
KCNA, Pyongyang	Jul98	V4/06
PETRA, Amman	Jul98	V4/06
VNA, Hanoi	Jul98	V4/06
SUNA, Khartoom	Jul98	V4/06
MAP Rabat	Jul98	V4/06
KCNA, Pyongyang	Jul98	V4/06
PETRA, Amman	Jul98	V4/06
VNA, Hanoi	Jul98	V4/06
SUNA, Khartoum	Jul98	V4/06
Feedback	Aug98	V4/07
AA Ankara + GNA Bahrain	Sep98	V4/08
INA Baghdad	Sep98	V4/08
JANA Tripoli	Sep98	V4/08
MAP Rabat	Sep98	V4/08
PETRA Amman	Sep98	V4/08
ROMPRES Bucharest	Sep98	V4/08
SANA Damascus	Sep98	V4/08

SUNA Khartoum	Sep98	V4/08
KCNA Pyongyang	Oct98	V4/09
KPL Vientiane, Laos	Oct98	V4/09
VNA Hanoi, Vietnam	Oct98	V4/09
YONHAP, Seoul.	Oct98	V4/09
VNA Hanoi ceased	Dec98	V4/11

SOUD/FAPSI==========

SOUD update	Oct95	V1/10
C37A/6XM8 sked changes	Oct95	V1/10
SOUD update	Dec95	V1/12
SOUD update	Jan96	V2/1
SOUD	Feb96	V2/2
SOUD update	Mar96	V2/3
SOUD update	Jun96	V2/6
MOSSAD update	Jun96	V2/6
Russian diplo/intelligence [SOUD update]	Jun97	V3/6
FAPSI 16217.5	Sep97	V3/7

Special==========

Digital modes synonym list	Apr95	V1/4
Signals analysis by Dave Gentile	Oct95	V1/10
Stan Scalsky's unknown Signal Identification Project	Oct96	V2/10
Kootwijk Radio - a visit	Nov96	v2/11
Islamic Revolution Guard Corps (IRGC)	Mar97	V3/3
Analysis of signals on 5317.1 by IE	Jun97	V3/6
Hellschreiber	Jun97	V3/6
Flashcomm FM/HF Radio Network	Sep97	V3/7
Flashcomm update	Nov97	V3/9
IRGC - update	Dec97	V3/10
Europaeische Funk-Rundsteuerung GmbH on 129.1 khz	Dec97	V3/10
DTS digital transmission system	Mar/Apr98	V4/03
Transworld Data Terminal (ALLPP msgs)	Mar/Apr98	V4/03
Racal SKYFAX	Mar/Apr98	V4/03
GWEN	May98	V4/04
Equipment problems	Aug98	V4/07
Timestamp station	Sep98	V4/08
Audio analysis tools	Oct98	V4/09
Equipment problems	Nov98	V4/10
Q codes	Nov98	V4/10
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Techi Tips==========

Input levels	May98	V4/04
Bandwidth setting.	May98	V4/04
Measuring shift	Jun98	V4/05
Arrangement	Jul98	V4/06
Asynchronous v synchronous	Aug98	V4/07
F1B, J2B, offsets and assignments.	Sep98	V4/08
Computer noise with active antennae	Sep98	V4/08
Receiver gain - AGC and manual	Oct98	V4/09
Considering the receiver/decoder interconnect	Nov98	V4/10
Receiving digital on SSB mode	Dec98	V4/11

Unid==========

UNID 7600/7613	Apr95	V1/4
Odd sitor/b signal monitored	May95	V1/5
UNID 18245.3	Aug95	V1/8
UNID Ukranian rtty	Oct95	V1/10
UNID on 5080.5	Oct95	V1/10
UNID 7639.2/13967.2/20996.2	Dec95	V1/12
UNIDS - who can help	Oct96	V2/10
UNID 50bd rtty on 4016	Nov97	V3/9

81-81 mode fm Cuba	Nov97	V3/9
UNID on 6221.7/6897.2	Jan98	V4/1
Amateur Radio Intruder Watch	Jan98	V4/1
Amateur Intruder Watch.	Feb98	V4/2
Beacon like with data bursts on 4672/5471	Feb98	V4/2
UNID on 111.8 khz	Mar/Apr98	V4/03
UNID ARQ_M2 144bd mark only	Mar/Apr98	V4/03
UNID RS-ARQs	Mar/Apr98	V4/03
UNID 4 tones 195.3bd	Mar/Apr98	V4/03
UNID 85.6bd ARQ/E encrypted	Mar/Apr98	V4/03
UNID ARQ/E 96/146 on 6691.5	Mar/Apr98	V4/03
UNID on 6909.9 144bd single tone	Mar/Apr98	V4/03
UNID 7850.9 Pactor	Mar/Apr98	V4/03
UNID 8071.7 Pactor	Mar/Apr98	V4/03
UNID twin 4psk with interleaved full carrier	Mar/Apr98	V4/03
UNID 7013 MFSK 121 channels 90 hz shift	Mar/Apr98	V4/03
Unid 75/850	May98	V4/04
36/50bd	Jun98	V4/05
4-tone MFSK/195.3bd	Jul98	V4/06
11482.22 kHz	Jul98	V4/06
Clover net in Europe	Oct98	V4/09
UNID on 3812	Oct98	V4/09
16984	Nov98	V4/10

Military Channel Designators List

**NOTES:
(5) Confirmed 1995
(6) Confirmed 1996
(7) Confirmed 1997
(8) Confirmed 1998
MF = Moved From (freq in MHz)

Revised Frequency Designator's (Last Revision 18th Dec 98)

USAF MYSTIC STAR:

F003 8036 (8)	F365 11059 (8)	F664 15 MHz?
F005 9120 (8)	F369 20397 (8)	F667 6817 (7)
F007 4850	F370 17177	F673 3064
F009 17972	F372 16123 (8)	F677 MF 6 MHz
F020 16117	F380 3144 (5)	F690 3032
F033 15962	F382 15094 (6)	F700 4490
F039 10881	F395 9057 (6)	F701 11058 (7)
F046 13823	F400 6728 (5)	F702 9323 (6)
F054 8058 (8)	F404 7690	F703 9991.5 (6)
F058 4742 (6)	F405 6972	F706 8057 (5)
F061 23265	F406 18393 (6)	F707 10589
F063 14870	F417 4992	F708 23377
F064 11214 (7)	F419 11407 (5)	F709 9317 (7)
F066 15036	F420 7933 (7)	F713 16246 (5)
F077 ?	F432 6731 (8)	F717 10883
F078 18532	F433 20972	F722 12270
F080 15677	F435 3821	F723 18323 (6)
F084 13205.5	F437 5684 (6)	F728 11236 (5)
F085 MF 6,8,11 MHz	F441 17440	F731 6683 (8)
F086 9461	F444 19267	F732 15011 (7)
F089 13204 (6)	F448 16-18 MHz	F734 4757 (7)
F090 6716	F451 13248 (7)	F736 11494 (8)
F094 9017 (6)	F452 5026	F741 7873
F098 14585	F453 19063	F748 6756 (5)
F099 13247 (7)	F461 13211 (8)	F749 15-16 MHz?
F101 12106 (6)	F463 4610 (7)	F752 8047 (8)
F102 11118 (6)	F464 16157	F754 11627
F103 11488 (6)	F465 8040 (6)	F758 4452 (8)
F107 ? (8)	F466 14864.5 (7)	F777 3113 (6)
F108 7316	F467 9023 (7)	F778 18023 (8)
F114 6986 (6)	F476 4-6 MHz?	F784 9043 (6)

F117 6993 (8)
F124 11217 (6)
F128 23242
F134 4942.5
F136 5429.5 (7)
F146 9027 (7)
F153 8063 (6)
F173 14420.5
F182 3078 (6)
F184 10648 (8)
F186 3046
F194 13825 (5)
F195 20631
F197 4982 (6)
F202 16014 (5)
F204 12057
F211 11056 (7)
F213 ?
F226 5435.5 (6)
F228 7735 (5)
F229 ? (8)
F236 15041 (7)
F240 ? (8)
F243 18590
F248 5398 (5)
F249 4731
F250 15091
F251 13217 (8)
F262 10717
F264 7693 (6)
F265 15733 (6)
F266 7997 (6)
F267 6730 (8)
F268 7325 (8)
F271 18320
F277 11153 (8)
F287 11226 (8)
F290 8026 (8)
F291 13960 (7)
F292 9414.5
F295 11460 (8)
F300 15707 (6)
F301 7500.5
F302 ?
F310 ?
F311 11220 (8)
F322 ?
F326 14864
F337 18761
F350 5043
F354 11053 (8)
F356 7827
F360 7919.5 (8)
F363 15018 (7)

F481 7605
F483 18626
F486 5152 (7)
F487 24483
F489 5437 (7)
F496 11059.5 (6)
F497 5411 (7)
F498 8032 (8)
F499 4442 (7)
F500 8989 (6)
F505 9006 (6)
F516 4645 (6)
F517 9270 (6)
F521 11484 (5)
F522 11232
F523 9215
F529 8077 (7)
F530 23325
F533 18675 (6)
F538 ?
F540 5404.5
F542 5431 (6)
F545 10580
F551 18331 (6)
F555 4894 (6)
F561 11052 (6)
F567 13565 (6)
F569 18387
F574 11413 (6)
F575 10427
F576 11153.5 (7)
F577 10544 (7)
F579 MF 11 MHz
F595 10877
F600 13878 (6)
F611 14863
F614 4488.8 (8)
F616 9320 (7)
F622 5817
F623 18317
F624 13241 (8)
F626 19343
F627 7910 (5)
F631 18755 (5)
F633 18290 (8)
F639 7469
F642 18218
F644 15821 (5)
F646 13440 (8)
F649 8053 (6)
F662 15048 (6)

F785 15687 (6)
F790 16323
F803 5078?
F807 12103?
F809 5700 (5)
F814 6989 (7)
F821 ?
F823 11229 (8)
F825 19047?
F832 18267
F843 MF 6 MHz
F845 6-7 MHz?
F846 13822 (5)
F853 12 MHz?
F864 16008
F867 6830 (7)
F868 9218 (6)
F869 16090
F873 13248 (7)
F874 13246?
F875 6717 (8)
F877 4721 (7)
F885 13207 (5)
F895 5710 (7)
F904 10202 (7)
F906 4524
F909 7687 (8)
F910 19671
F912 7330
F917 10205 (6)
F918 13482
F919 11159 (6)
F920 7927 (7)
F924 16317
F933 ?
F935 9 MHz?
F937 ?
F940 11445
F943 19002 (6)
F948 15038 (6)
F952 Night
F957 6761 (8)
F965 11466 (8)
F974 10586 (6)
F975 MF 11 MHz night
F980 15724
F982 9 or 13 MHz?
F987 10583 (6)
F988 4763
F997 15667

*USN SCW-1
CA 6691 (7)
CB 11187 (7)
CC 17982 (8)
CD ?
also check 11267 & 13240. References have been made to designators CF, CG, CK and CL.

*USAF STRATCOM 'Zulu':
Z100 3068 (8)
Z105 3116 (7)
Z110 3134?(8)
Z115 3143 (8)

Z120 3295 (8)
Z124 ?
Z125 4495 (8)
Z130 4472 (8)
Z135 4745 (8)
Z140 5026 (8)
Z145 5705 (8)
Z150 5800 (8)
Z155 5875 (8)
Z160 6715 (8)
Z165 6757 (8)
Z170 7831 (8)
Z174 ?
Z175 9016 (8)
Z180 9057 (8)
Z185 9809 (8)
Z190 10204 (8)
Z195 11104.0 (possibly?)
Z200 11181 (8)
Z205 11494 (8)
Z210 11229 (8)
Z211 12070 (8)
Z215 13242 (8)
Z220 13245 (7)
Z225 13907 (8)
Z230 15046 (7)
Z235 15094 (8)
Z240 15097 (7)
Z245 ?
Z250 15962 (8)
Z255 17973 (7)
Z260 ? (was mentioned in 8/98)
Z265 ?
Z270 18027
Z275 18046 (or possibly 18056?)
Z280 ?
Z285 ?
Z290 19665 (possibly?)
Z295 ?
Z300
Z305
Z310 ? (was mentioned by NW01 in 6.98)
Z315 23872
Z320 ?
Z325 ?
Z330 ?

We had no positive confirmation during 1997 that Z110 was 3134, but that frequency was active with 'Nightwatch' traffic during January 1998 so it is still one of 'their' frequencies.

*USAF AFSOC
==========
FOX 1 13207
FOX 2 5732
FOX 4 9017
FOX 8 23271
FOX 9 18027
?   9018

*US Customs/DEA/JTF
==========

3428	Yankee Alpha	5277	Alpha	(Night DEA Pri)
5571	Yankee Bravo	5841	Bravo	
8912	Yankee Charlie	7300	Charlie	
11288	Yankee Delta	9497	Delta	
13312	Yankee Echo	11076	Echo	(Day DEA ops)
17972	Yankee Foxtrot	7657	Foxtrot	
		14690	Golf	

27870	Victor Alpha	18666	Hotel (DEA Active)
20631	Victor Bravo	23675	India
18594	Victor Charlie	14350	Lima
15964	Victor Delta	14686	Papa (DEA day pri)
11494	Victor Foxtrot	23402.5	Romeo
3369	Victor Kilo	11073.5	Sierra Echo
		17171	Sierra Hotel
4500	Zulu Alpha	18171	Sierra India
7527	Zulu Bravo	19131	Sierra Juliet
9802	Zulu Charlie	?	Sierra Lima
12222	Zulu Delta	7527	COTHEN Scan 1
15867	Zulu Echo	8912	COTHEN Scan 2
		10242	COTHEN Scan 3
10242	Tango Alpha (also VE)	11494	COTHEN Scan 4
13907	Tango Bravo (also VG)	13907	COTHEN Scan 5
20890	Tango Charlie (also YG)	15867	COTHEN Scan 6
23214	Tango Delta (also YH)	18594	COTHEN Scan 7
25350	Tango Echo (also YI)	20890	COTHEN Scan 8
		23214	COTHEN Scan 9
2808.5	Xray Alpha	25350	COTHEN Scan 10
4991	Xray Bravo		
5058.5	Xray Charlie		
7778.5	Xray Delta		
9238.5	Xray Echo		
11073.5	Xray Foxtrot		
15953.5	Xray Golf		
17601	Xray Hotel		
19131	Xray India		
5912	Whiskey Charlie		
12138.5	Whiskey Delta		
13658.5	Whiskey Echo		
15964	Whiskey Foxtrot		

WUN member John Bohn offered some updated to 'Sierra' frequencies listed above, but is looking for the frequency assigned to the 'Sierra Lima' designator. John says that if you have access to an FCC database, try searching for the frequencies assigned to Rockwell International with the following callsigns::KA2XXA Richardson,TX; KC2XKG Cedar Rapids, IA; KC2XKJ Newport Beach,CA. John says that the unknown 'SL' freq may be one of the following: 26946.0, 20348.5, 17171.0, 16376.0, 16341.0. Rick Baker says that 18971.0 may also be another.

*USCG "SECURE"
==========

3A3	5422.5
3A4	4448
3A5	?
3A8	7773.5
3A9	7421
3A30	?
3E4	6234.5
3E5	10608.1?
3E6	5272
3E7	?
3E9	?
3E10	7626
3E11	7783
3E12	7845
3E13	7884
3E14	7909
3E19	10675
3E20	10759
3E21	10788
3E24	11157.5
3E25	13413

Another two frequencies may be 13809.0 and 13950.0.
For a full listing of USCG aircraft and helicopters, please 'surf' to 'http://www.gem.net/~berri/files/misc/uscg_air.html'.

*U.S. Army Corps of Engineers

CH-1	3345	
CH-2	5015	
CH-3	5327.5	
CH-4	5400	
CH-5	5437.5	
CH-6	6020	
CH-7	6785	
CH-8	9122.5	Pri
CH-9	11693.5	
CH-10	12070	Sec
CH-11	12122	
CH-12	16077	
CH-13	16326	Ter
CH-14	16358	
CH-15	20659	

The USACE hold a weekly Net each Friday on Ch.8 where many USACE stations 'check-in'.

*U.S. ARMY TRANS CORPS

CH.1	4146
CH 2	6224
CH 3	6227
CH 4	8294
CH 5	8297
CH 6	12353
CH 7	12359
CH 8	12365

*FEMA

FEMA uses "Foxtrot" designations for their frequencies.

FOXTROT #	FOXTROT #	FOXTROT #	FOXTROT #
01 2320	21 6809	41 14450	61 21919
02 2360	22 7348	42 14776	62 22983
03 2377	23 7428	43 14836	63 23028
04 2445	24 9462	44 14885	64 23390
05 2658	25 10194	45 14899	65 23451
06 3341	26 10493	46 14908	66 23550
07 3379	27 10194	47 15464	67 23814
08 3388	28 11721	48 15509	68 24008
09 4603	29 11801	49 15532	69 24282
10 4780	30 11957	50 15708	70 24526
11 5211	31 11994	51 16201	71 24819
12 5378	32 12009	52 16430	
13 5402	33 12129	53 17519	
14 5821	34 12216	54 17649	
15 5961	35 12219	55 18744	
16 6049	36 13446	56 19757	
17 6106	37 13633	57 19969	
18 6108	38 13744	58 20027	
19 6151	39 13780	59 20063	
20 6176	40 13783	60 21866	

*'Habitat' net

Jeff Jones reports that these frequencies and channel designators have changed, and are now as follows:

4704.4		(replaced 4721.0)
5700.4	WY02B	
6719.4	WY02A	(replaced 6736.0)
8978.4		
9005.4		
9011.4		
11212.4		(replaced 11214.0)
15095.4		

(the two designators listed above, WY02A and WY02B, are not yet confirmed.)

*SFOR BOSNIA

I2	6723
I8	6721.5 (5)
I9	2839.5 (5)
?	2841.5 (5)
PUSH	81 5788

PUSH 81A 6865
PUSH 81B 5346
PUSH 82 4450
PUSH 85 3178
PUSH 89 6932.5 (8)
PUSH 103 5110
PUSH 150 8046
PUSH 151 9118.5
PUSH 155 11161
PUSH 153 6717
PUSH 154 8083
PUSH 157 5312
The IFOR/SFOR operation in the Balkans seems to be winding down a bit now, and I have not seen any definite 'Bosnia' frequencies reported for quite some time. The above tie-ups are quite old now (2-3 years), and I believe that the 'tie-ups' have all changed now. I sometimes still hear 'Bookshelf' callsigns on 11173.0khz, and they still refer to other frequencies by 'Push' designators. The following frequencies have all carried 'Bookshelf' traffic in the past, and are worth checking from time to time: 4578, 4789, 4923, 5084, 5103.5, 5462, 4510, 5712, 11173.
*Update: 6865 was heard carrying 'Bookshelf' traffic in 6.98.

*Australian Navy
==========
>From the article on the Royal Australian Navy in the March newsletter:

Frequency	Channel Designator
2768	A1
4375	A2
6218	? - Exercise Related
6510	A3
8122	A4
9014	? - Exercise Related
13116	A5
17344	A6
22708?	A7?

*Belgian Air Force Designators
==========
4745.0 YD
8989.0 YG
11268.0 YJ
15010.0 ??
15015.0 YM
18006.0 YO
20620.0 YP
20050.0 YQ
23332.0 YS

*Canadian Forces
==========
      3047.0 CFH: Halifax Military
A6A   4560.0 CFH: Halifax Military; CJX: St Johns Military
              (Maritime Command)
      4700.0 CFH: Halifax Military
      4739.0 CFH: Halifax Military; CJX: St Johns Military
A2B   5198.5 CFH: Halifax Military (Maritime Command)
      5684.0 CJX: St Johns Military
      5694.0 CFH: Halifax Military; CJX: St Johns Military
      5702.0 CJU: Vancouver Military
      5717.0 CFH: Halifax Military; CJU: Vancouver Military;
             CJX: St Johns Military
D1B   5850.0 CZW: Halifax Maritime Air Group
D6G   6694.0 CFH: Halifax Military; CJU: Vancouver Military
      6706.0 CHR: Trenton Military (wkg NATO a/c)
D3H   6715.0 CHR: Trenton Military; CFH: Halifax Military;
             CJU: Vancouver Military
      6736.0 CFH: Halifax Military (OR Chg?)

```
      6745.0 CHR: Trenton Military
      6751.0 SIDECAR (NORAD) CFH: Halifax Military; CJU: Vancouver
      6754.0 CHR: Trenton Military; CJU: Vancouver Military;
             CJX: St Johns Military (VOLMET)
      8110.0 CFH: Halifax Military
D1H   8989.0 CHR: Trenton Military
      9007.0 CHR: Trenton Military; CFH: Halifax Military;
             VXA: Edmonton Military
C-5   9023.0 CHR: Trenton Military (NORAD)
      9027.0 CFH: Halifax Military
C-6  11214.0 CHR: Trenton Military (NORAD)
     11232.0 CHR: Trenton Military; CFH: Halifax Military;
             CJX: St Johns Military; VXA: Edmonton Military
     11249.0 CFH: Halifax Military
     11265.0 CHR: Trenton Military (wkg MAGIC a/c)
     13257.0 CHR: Trenton Military
     15031.0 CHR: Trenton Military
     15034.0 VXA: Edmonton Military (VOLMET)
     17994.0 CHR: Trenton Military
     18012.0 CHR: Trenton Military
C-8  18027.0 CFH: Halifax Military; VXA: Edmonton Military

CanForces 'Charlie' Designators (other than those listed above)
C-1 = 4721.0
C-2 = 6735.0
C-3 = 6750.0
C-4 = 8968.0 or 8967.0
C-7 = 13206.0 or 13207.0

CanForces CFARS
CFARS is the Canadian Forces Affiliate Radio System. CFARS stations
are located at various United Nations peace-keeping operations
around the world and operate amateur radio equipment that provides
phonepatches for service personnel to their families. They are also
to be found on Navy and Coast Guard ships.

Alpha     6978.5
Bravo    14386.0
Charlie  14460.0
Delta    14463.0
Echo     14446.5
Foxtrot  20971.5
Golf     20963.5
Hotel    29715.0
Juliet   14454.0
Kilo     14449.5
Lima     20977.5
Mike     13954.0
Whiskey   6982.5
X-ray     6962.5
Yankee    4052.5
Zulu      4023.5
Thanks to the Northern Alberta Radio Club (http://narc.net) for the
above information. There is a large amount of CFARS information at
http://www3.sympatico.ca/gunslinger/eng_index.htm .

*French Air Force 'Circus' Net
==============================
Marjolaine 2   6712
Racontar 1     8972 (not heard for years, is it still active?)
Vinaigrette 3  8992
Reconfort 3    13236
Citadelle 1   18012
Citadelle 3      ?
Verite 3      23254
Capitole/RS902  6688
143.8 AM Canasta in VHF, relayed all over France
(thanks to Jacques Pagnoux)
```

*German Navy
============

Frequency	c/s	Station	ITU	Mode
2625	DHJ59	GNy Wilhelmshaven	D	USB
3056	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
3122	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
4154.5	DHJ59	GNy Wilhelmshaven	D	USB
6727	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
6730	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75 (= ARCN 405)
6779	DHJ59	GNy Wilhelmshaven	D	USB
8335.5	DHJ59	GNy Wilhelmshaven	D	USB
10192.5	DHJ59	GNy Wilhelmshaven	D	USB
10197	DHJ59	GNy Wilhelmshaven	D	USB
10722	DHJ59	GNy Wilhelmshaven	D	USB
11256	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
12178	DHJ59	GNy Wilhelmshaven	D	USB
12415.5	DHJ59	GNy Wilhelmshaven	D	USB
15929	DHJ59	GNy Wilhelmshaven	D	USB
16129	DHJ59	GNy Wilhelmshaven	D	USB
17544	DHJ59	GNy Wilhelmshaven	D	USB
17994	DHJ59	GNy Wilhelmshaven	D	USB, RTTY 75
22238.5	DHJ59	GNy Wilhelmshaven	D	USB
23744	DHJ59	GNy Wilhelmshaven	D	USB

DHJ59 has also been heard on 3116KHz and 3939KHz.

*German Air Force
=================
>From a listener in Europe comes an extensive update to the German Air Force frequency list. This information comes from a very good source, and he wishes to remain anonymous.

3107 - Alpha
3143 - Bravo
3903 - Charlie
4721 - Delta
5687 - Echo
5717 - Foxtrot
6700 - Golf
6715 - Hotel
6730 - India
6751 - Juliet
8965 - Kilo
9025 - Lima
11217 - Mike
11265 - November
13203 - Oscar
13233 - Papa
15073 - Quebec
17973 - Romeo
17991 - Sierra
18012 - Tango
23201 - Uniform
23215 - Victor
23255 - Whisky
23318 - X-ray
23341 - Yankee
23345 - Zulu
29724 - Alpha-bravo

*Note: Freq 'Victor' *may* be 23231. Comments please?
These frequencies are used by DHM91, which is the HQ Station of the German Air Force Air Transport Command. The other ground stations in this net are DHO23 (61st Air Transport Wing at Landsberg AB, southern Germany), DHO32 (62nd ATW at Wunstorf AB, north-central Germany) and DHO60 (63rd ATW at Hohn AB in northern Germany).
  Other callsigns heard are DHO75 (a collective callsign for all the three ATW's) and DHM81. Callsigns 'O5IP' (Oscar-5-India-Papa) and 'NI81' (November-India-81) seem to be other 'regular/daily' callsigns. The Primary frequency appears to be 'E'/5687.
  Stations have been heard discussing frequencies 'AA', 'AC', 'AF' and 'AJ' - these are encrypted RTTY transmissions.
Update 11/97 - a new station has been heard - DHO24 - does anyone know where this is operating from.

*NATO E-3 AWACS
===============
Ch.AA 6700.0
Ch.AB 11228.0
Ch.AC 8971.0

Ch.A4   10315.0
Ch.A5   ?
Ch.KD   6760.0
Ch.KF   6695.0
Ch.NB   3081.0
Ch.NC   3225.0
Ch.ND   ?
Ch.NE   4542.0
Ch.NF   4720.0
Ch.NG   ?
Ch.NH   4758.0
Ch.NI   6762.5
Ch.NJ   8986.5
Ch.NK   11270.5
Ch.NL   15050.0
Ch.NM   17996.5
Ch.XC   6754.0
Ch.XD   8980.0
Ch.XE   10315.0
Ch.??   12165.0
Ch.??   5691.0
Ch.??   6728.0
Ch.??   23241.2
The X-net is replacing N-net altough the N-freqs are still sometimes
used.

*RAF Flight Watch Centres.
==========================
(from the RAF En-Route Supplement, the UK equivalent of the USDoD
IFR Supplement)
Strike Command Integrated Communications System (STCICS)
Callsign: 'Architect', CW: MLD or MLP
   Freqs: 4742, 5714, 6739, 9031, 11205, 18018 (group A - see below)
          4540, 8190, 13257, 15031 (group B - see below)
          2591, 11247
'Group A' has the QNH Broadcast at H+00 and Airfield colour-state
broadcast at H+30.
'Group B' has RAF Germany airfield flying states at H+15 and H+45.

Ascension
Callsign: Haven
   Freqs: 4742 (2000-0800 UTC), 9031 (0800-2000 UTC), 11247
All freqs carry a weather broadcast at H+45

Cyprus
Callsign: Cyprus
   Freqs: 4730, 9031 (1600-0500 UTC), 11247, 18018 (0500-1600 UTC)
4730 and 18018 carry a weather broadcast at H+15

Gibraltar
Callsign: Gibraltar
   Freqs: 4742 (2000-0700 UTC), 11247 (0700-2000 UTC)

Mount Pleasant, Falkland Islands
Callsign: Viper
   Freqs: any of the above.

*Royal Air Force Designator's
(actually 'UKADGE HF Line Designator List')
============================
How to find which frequencies are active.
Listen to the 'Architect' weather broadcast at H+00 and H+30 (see
above). If the UKADGE circuits are active, there will be an announcement
after the weather broadcast with the code-letters for the active
frequencies. For example: 'Additional information.. 2.. PK.. tack..
401C.. tack.. AG' (which is repeated twice).

The first number indicates which Air Defense radar station is active

1 - Buchan, Boulmer and Benbecula
2 - Buchan
3 - Boulmer
4 - Neatishead

The first 2-letter-group is the code for the active HF frequency from the list below. It is sometimes referred to a the 'Jorsk Frequency'. It carries most of the voice traffic, including target positions and Beaver details. This channel also carries frequency changes and position reports.

The third group is the 'Charlie squared' channel, where AWACS aircraft pass their radar data over a HF link. Known freqs are (in khz):

401A - 2250.5
401B - 33?? (exact freq unknown)
401C - 4478.5
401D - 6673.5
401E - 8500.5

The final group is known as 'chick co-ordination', where combat aircraft which are HF-capable can be passed target positions and other information.

Therefore, in the example above, Buchan is the ADR station, using 5095 khz for voice traffic, the AWACS are using 4478.5 khz, and the 'chicks' are on 4745 khz.

A	11205.0	EP	15040.0	MD	18850.0
AB	05693.0	EX	11184.0	ME	14460.0
AC	08156.0	EZ	11253.0	MS	03218.0
AD	09010.0	F	13257.0	NJ	05705.0
AE	03939.0	FA	03101.0	PA	03302.0
AF	09022.0	FG	11208.0	PE	06760.0
AG	04745.0	FS	04742.0	PF	10634.0
AH	03930.0	FT	13218.0	PH	08971.0
AK	03038.0	FV	15064.0	PK	05095.0
AP	11181.0	FW	03131.0	PO	06715.0
AQ	02396.0	G	03915.0	PR	03864.0
AW	04042.0	GA	15061.0	PZ	14724.0
AZ	23281.0	GD	02274.0	QB	03512.0
B	06739.0	GT	26385.0	QR	08972.0
BA	17970.0	H	15031.0	QV	03095.0
BE	18018.0	HE	03942.0	RA	08190.0
BF	03083.0	HJ	08983.0	RD	06691.0
BJ	17988.0	HK	09034.0	RE	05178.0
BK	03945.0	HM	06748.0	RM	03110.0
BL	11268.0	HO	13206.0	RZ	09459.0
BS	18000.0	HW	11247.0	SA	02762.0
BT	02350.0	HX	23257.0	SE	14812.0
BX	08989.0	HZ	13248.0	ST	02591.0
CA	06736.0	I	13236.0	TG	06724.0
CM	18009.0	IN	17982.0	TO	03391.0
CO	23245.0	IP	27000.0	TQ	03345.0
CY	03119.0	J	08980.0	TS	05684.0
CZ	29800.0	KA	03380.0	TW	04709.0
D	04706.0	KD	03867.0	UA	04724.0
DA	05436.0	KH	12057.0	UB	10919.0
DB	15091.0	KJ	04718.0	UR	17979.0
DH	15013.0	KP	02641.0	UT	04540.0
DM	08998.0	KR	04484.0	VE	11217.0
DQ	17995.0	KT	05420.0	W	05747.0
DS	04739.0	KW	02261.0	WG	03125.0
DT	18024.0	KX	02577.0	WM	03026.0
DW	09031.0	L	05447.0	X	03224.0
E	03924.0	LA	03036.0	XA	05403.0
EF	05720.0	LB	03092.0	YC	11241.0
EH	11259.0	LC	06701.0	YP	23250.0
EI	23270.0	LD	15046.0	YM	13211.0
EK	11235.0	LE	15072.0	YZ	20030.0
EM	15025.0	MB	02266.0	ZF	03763.0

EN 15076.0 MC 05270.0 ZZ 05714.0

*RAF/NATO 'K Series'
==========
The RAF (and other NATO forces) seem to be using a new set of codes
to identify some HF frequencies. I do not know what the proper name
for this new system is, so until I find out, I'll just call it
the 'K series'.

Golf 02	3235.00 Khz
Golf 08	4572.00 Khz
Hotel05	9010.00 Khz
Kilo 01	HF?
Kilo 04	HF?
Kilo 05	4520.00 Khz
Kilo 06	4020.00 Khz#
Kilo 09	4920.00 Khz
Kilo 10	5173.00 Khz#
Kilo 11	5277.50 Khz#
Kilo 12	5290.00 Khz
Kilo 14	(uhf)
Kilo 15	7860.00 Khz#
Kilo 17	3304.50 Khz?
Kilo 18	(uhf) or 4860.50 Khz
Kilo 19	(uhf)
Kilo 22	4785.00 Khz#
Kilo 24	4779.0 Khz
Kilo 25	unknown HF
Kilo 26	(uhf)
Kilo 27	(uhf)#
Kilo 28	Beaver HF?
Kilo 30	4477.00 Khz
Kilo 31	5045.00 Khz
Kilo 33	5385.00 Khz
Kilo 34	5463.50 Khz
Kilo 36	4012.00 Khz
Kilo 55	(uhf)
Kilo 56	(uhf)#
KJ 02	3357.0
KJ 04	3805.0
KJ 07	5280.0
KJ 11	?
KJ 28	(uhf)
KJ 29	(uhf)
KJ 37	5910.0 (poss.)
TL 04	6237.0 (poss.)

The KJ and TL designators were heard/used during the first JMC (Joint
Maritime Conference) exercise held in the north-east Atlantic during
early 1998.
= Confirmed 1997

United Kingdom Maritime Coastal Communications System (UKMACCS)
==========
(also known as 'Coastal Control')

Controlled from Whitehall ('GYA'), with standby location at Forest
Moor ('GXQ') adjacent to Menwith Hill in Yorkshire.
Transmitters:- Milltown (Sccotland) and St. Eval (Cornwall).
Receivers:- Kinloss (Scotland) and Penhale Sands

Initial calling frequencies

	Coastal	ship	Operating schedule
Alpha	1.780	1.875	20.00z - 06.00z
Bravo	2.702	2.754	20.00z - 06.00z
Charlie	3.710	3.158	
Delta	4.420	4.502	06.00z - 20.00z
Echo	6.509	6.221	16.00z - 20.00z
Foxtrot	8.716?	8.2353	06.00z - 16.00z

Golf   13.1349 12.3641

The 'Foxtrot' coastal frequency was 8.759 MHz, and the 'Echo' ship frequency was 6.203 MHz. Two channels are always being monitored - the calling tones (once every 5 seconds) are transmitted on the appropriate frequencies when they are free for use. When the service is unavailable, the tones do not sound.

Working frequencies: (frequencies are not strictly paired)

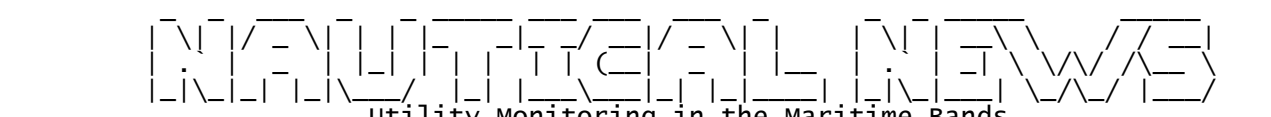
	Coastal/Ship			Coastal/Ship	
1	1.606	1.615	35	4.530	4.515
2	1.675	1.687	36	4.565	4.519
3	1.695	1.757	37	4.635	4.589
4	1.701	1.930	41	5.080	5.1135
5	1.713	1.875	42	5.426	5.295
6	1.890	1.955	43	5.8185	6.2062
7	1.940	1.981	44	5.870	6.228
11	2.216	2.085	45	5.878	6.237
12	2.441	2.093	46	6.3568	6.328
13	2.598	2.115	47	6.5126	6.4618
14	2.637	2.1975	51	8.185	8.176
15	?	2.203	52	8.4494	8.2198
16	2.7665	2.290	53	8.4535	8.2291
17	2.817	2.537	54	8.6155	8.2663
21	3.3265	3.1705	55	8.7437	8.2991
22	3.562	3.226	56	8.753	8.3123
23	3.626	3.278	57	8.7902	8.316
24	3.637	3.315	61	12.232	12.370
25	3.683	3.327	62	12.734	12.389
26	3.743	3.505	63	12.781	12.395
27	3.755	3.597	64	12.963	12.425
31	4.3085	4.113	65	13.141	12.442
32	4.4039	4.3445	66	13.159	12.458
33	4.4575	4.1126	67	13.165	12.476
34	4.510	?			

Old 13 MHz pairings were 13.159.7/12.388.9, 13.165.9/12.395.1, 13.141.1/12.370.3, 12.232/13.425.

Ships call-signs are in the ranges 'GA' - 'GZ' and 'KA' - 'KZ', but do regularly use their ships name.

CU next time.
Graham Tanner, graham.tanner1@Virgin.net

==========



Utility Monitoring in the Maritime Bands

Editor: Day Watson (jdwatson@cableinet.co.uk)
14, Gardens Road
CLEVEDON, North Somerset
BS21 7QG United Kingdom

Hi MariWUNners

David Wright wants a large newsletter for Christmas this year. I've done my best to provide a few bricks for the wall. Maybe I've cheated by adding an index to the year. Trust you find it useful. Mostly each section has been left in its chronological order. As such just looking over these one can see the reduction of services (500kHz in UK, Maritex from DZO, hours and 22Mhz at PCH, disappearance of old favourites like St Lys (and Scheveningen at the end of the monnth), WT at Athens (and from Lyngby at the end of the month), appearance of new contenders (Pin Oak

Digital, Sailmail), expansions (Globe Wireless), reorganisations (Canadian CoastGuard, Italian, and RSA coast stations, to name but a few which have occured over the year. So to this month

QTC list:
Prague Radio/OLP
Globe Wireless at Seoul
Sailmail update
Kholmsk/UDB2
Shipping Corp of India
Maritime Coast Station SELCALs
NN column index for 1998

++++++ Prague Radio/OLP

The Czech Republic, as we all know, is landlocked but still it seems to have a maritime radio service.

Thanks to the logs and emails from Pim Pipken, Geoff Halligey and Peter Thomson, together with my own monitoring, the following has been pieced together.

Prague		Ship
OLP44	8544	8349
OLP5	13007	12448
OLP6	16977	16632
OLP7	22486	22249

Recent monitoring shows sequential band operation (8-->). First cw is used with OLP calling OLGX (which I suspect is a collective callsign) followed by a brief weather comment, the traffic list and the QSX frequency (usually without the band ie 349 instead of 8349). This is repeated in fec (Sitor/B). The operation starts on 8 mhz moving up to the next band repeating the above until contact is made. Current times are 1030z, 1430z, and by request(?)

OLP is in the maritime coast cw band, ships are in the maritime ship cw working band.

The ships listed so far have been under the Maltese flag:
Eleftheria/9HHB2
Dunaj/9HHB5
Vitkovice/9HYQ3

Reverse tracking through the ITU MARS database shows the Accounting Agency to be:
Czech Ocean Shipping
Pocernicka 168
Strasnice
100 99 Praha 10
Czech Republic.

However the communication mode to date is being logged/monitored as "standard" Pactor I. This may also be decoded in English or (assumed) Czech.

Finally thanks to Karel Honzik for the final notes

Two words which you may see
Zatazeno (fon. zatazheno) = cloudy or 8 octas
Ahoj = greeting - formerly sailors greeting, now commonly used

The Czech cargo ship fleet (6 or 7 ships) is now being sold. Its owner was Viktor Kozeny, a Czech now living in the Bahamas. So it seems that Prague Radio is going to stop its existence in the course of the months to come.

May seem pointless considering the above but there's always hope; AnyWUN fill in anything in the 4 or 6 mhz bands, and alternate times?

++++++ Globe Wireless at Seoul

Globe Wireless is opening another node in their worldwide network. This will operate under the call HLF.

HLF	Ship	
4273.5	4188.5	
6344.0	6298.5	
8473.0	8371.5	
8497.0	8374.5	
12712.0	12469.0	
12727.0	12472.0	
17079.0	16678.5	
19910.0	18823.4	(not a misprint)

There will be no traffic lists (all ship calling uses selcalls or MMSIs), and no broadcasts. Note that the above frequencies are wideband and not part of the NBDP telex channelling system. Ships will call using selcall 1094 (XVSM) or MMSI 003660031.

The system was due to come on air circa 15 Dec but Peter Kierans (to whom many thanks for this info) says it may be slightly delayed. Let's see who gets the first log. It is now scheduled for the 18th. You may actually be able to hear one the TXs before that date. The first report to reach pkierans@globewireless.com will receive a free video tape and descriptive info. from Globe Wireless. Be sure to send your mailing address.

++++++ Sailmail update

Thanks to David Wright for some more frequencies used on this service.

The total list we have now is

2660.0	(2661.4)
5880.0	(5881.4)
7968.0	(7969.7)
10343.0	(10344.4)
13971.0	(13972.4)
13986.0	(13987.4)
18624.0	(18625.4)

The frequency given is the suppressed carrier (under J2B) and that in brackets the assigned one (for logging).

Jack Metcalfe had a weak signal on 7 MHz but managed a little decode on his AEA DSP-1232 (from a few years back - his words) with Pactor. This would suggest SailMail is using Pactor I.

Thanks guys.

++++++ Kholmsk/UDB2

Another new one (to me) in the log this month is Kholmsk on the island of Sakhalin just north of Japan. Operating on the duplex telex frequency of 12593.5 Khz (ships assumed on 12491) it was giving an unexpectantly strong signal into the UK. This, plus the fact that receipt times were apparently Moscow local had me doubting the ID for some time. However I suspect all Russian stations receipt with Moscow time and the station origin of Holmsk finally changed my thoughts.

As I have no info in ALRS against this station I'd be interested to know if it is using any other channels. The station number is 3718 giving a selcal of KYXF.

Late news in, thanks to our man in Perth, Murray Lehman, who logged UDB2 with sitor channel free marker on 4219 kHz.

++++++ Shipping Corp of India.

Bert van Rij has done it again and found another major shipping "net". He reports

"Active on 12525.7 mHz, sitor A 100/170. Operations seem to be simplex. The "coast" station (SCI) is hard to copy here in Europe, but the ships are mostly good to copy. The network is very active in the European afternoons 1000 - 1800z. A very nice thing is that all traffic that I have monitored was in English. Most of the time ships contact the "coaststation" by selcalling "KCBM" (translated from 23614 which is a ship's number). So there might be some illegality in this net.

After a selcall SCI answers with "23614 SCI BNT +? ". Sometimes when the messages have been sent you can monitor some operators chat; the coaststation is then called BNT, and the ship mostly uses its 4 letter answerback ID."

[The answerback for a ship consists of the selcal or MMSI number, followed by an ID which may be either the ship's international callsign or some letters, usually taken from the ship's name, and finally the letter X to indicate the answerback is maritime - Day]

"The following table summarises the ships heard. All belong to one company - Shipping Corporation of India Ltd. Names in the actual messages are often a shortened version of the full name -

c/sign	login	A/bckID	shipsname	Type	dwt
	23531	atms			
	23537	atjx	B.R. Ambedkar	Crude oil tnkr	90,886
	23555	atvx	CV Raman	Crude oil tnkr	41,780
	23557	at			
	23562	hmbb	Homi Bhabha	Tanker	41,126
	23564	atnb	Kanchenjunga	Crude oil tnkr	283,878
	23566	atka	Vivekananda	Crude oil tnkr	90,802
	23572	atjw			
	23575	atkd	Rafi Ahmed Kidwai	Products tnkr	24,440
	23576	gand	Gandhar	Crude oil tnkr	147,564
	23577	nsbs	Netaji Subhas Bose	Crude oil tnkr	90,823
vvgv	23650	mdkn	Mandakini	Bulk carrier	44,415
vwtl	23673	vwtl	Lance Naik Albert Ekka	Products tanker	45,472
	23676	ltrr	Lt Rama Raghoba Rane	Crude oil tnkr	67,137
	23677	nkjs			
	23680	cpgs	Captain G Singh	Crude oil tnkr	67,169
vtcn	23688	lkpm	Lok Pratima	Bulker	26,925
	23757	ggbs	Guru Gobin Singh	Crude oil tnkr	149,857
	23758	ankl	Ankleshwar	Crude oil tnkr	149,925
	23759	msen			
vtxt	23799	vtxt	Annapurna	LPG tanker	21,000
	23802	mtnp	Nanga Parbat	LPG tanker	17,601
	23806	motl	Motilal Nehru	Crude oil tnkr	85,200
vvpg	23807	vvpg	Jawaharlal Nehru	Crude oil tnkr	94,540
	23834	krnt	Lok Kranti	Bulker	33,663
			Devprayag	Bulk carrier	44,598
		atke	Chhatrapati Shivaji	Crude oil tnkr	90,923
			Bankimchandra Chatterje	Products tanker	45,134
			Major Dhan Singh Thapa	Products tnkr	67,227
		mtfm	Colonel A.B. Tarapore	Crude oil tnkr	67,124"

Examples of msg/opchat formats
Ex.1

```
KCBM KCBM KCBM KCBM KCBM                Selcal
23614 SCI BNT  +?                       SCI responds with answerback
23757 GGBS X                            Ship identifies itself to SCI BNT
```

```
                                        with its answerback and
TO SCI BNT MUMBAI                       continues with its tfc...
FROM MASTER MT GURU GOBIND SINGH    etc

Ex.2

 23537 atjx x                           Answerback of B.R.Ambedkar

 bnt de bra ge pl qsl? +?               bra - Abbrev name of same

Ex.3

23614 SCI BNT  +?                       BNT's answerback and over
BNT DE SHIVAJI HW COPY S PLS QSL QRU?   Ship using half its name to
                                        opchat to BNT

Ex.4

 23577 nsbs x                           Ship a/back - name abbrev
 date: 01-dec-1998  14:55
 $
 shipindia bnt mumbai                   Full address
 dgm/~552~ k/a capt d ~urga ~gm.
 fm ns bose                             Abbreviated ship name

 eta mangalore 0423~00lt.   etc

Ex.5

 ..... vvpg x                           Ship a/back - ID is callsign
 date: 02-dec-1998  16:31

 to shipindia bnt, dgmt(t1), k/a: capt.s.b.bhambhani
 fm master mt.jawaharlal nehru

 ~~~g: jln/719/2.12.98
 ---
 flwg maintc carried out during     etc

Ex.5

 to shipindia bnt
 fm master mt.jawaharlal nehru

 aa/bntpass/525/184/8                   Example of report in a
 bb/020700z/2300                        company format
 cc/2347n06334e/02
 dd/74/083.4/15.5/n/10.8                Form noted  bntpass
 ee/36.0/00.0/1.5                                  bntdep
 ff/00.0/00.0/01.5
 gg/031/030                             cc/ seems to be ship's position
 hh/zir/120408z
 jj/6.2
 kk/--
 ll/--
 mm/345/350/340/335/355/355/355
 nn/350
 pp/13.7/13.2
 qq/420/430
 rr/305/330
 ss/130/130
 tt/1.4/41
 uu/28
 vv/325/245

 regds

Ex.6    (example of traffic to ship)
```

```
 to     master homi bhabha
 for    master/ chief engineer
 ~tte (214)
 plse commence
 <snip>
 january 1999. regards = shipindia=
```

The "coast station" appears to be located BNT Mumbai. Mumbai (or Bombay) is where SCI head office is located. The current unknown being who or what is BNT? - B could be Bombay and T standing for terminal.

Bert mentioned, as possible, an illegality. 12525.7 kHz is not a legal ITU channel - it is midway between two adjacent ship channels in the NBDP duplex channel structure. They would have been legal by using one of the 12 mhz ship telex non-paired channels.

But what of Bombay Radio/VWB? It is reputed to have some telex facilities but no logs apparently reported in confirmation. Maybe this is the SCI way of overcoming deficiencies at VWB - who knows!

Thanks also to Michiel Schaay for the files via Bert and to Murray Lehman in Perth for reporting hearing "a SITOR-B msg beginning PLS DO NOT BREAK A STATION IN COMMUNICATION WITH BNT but no to/from was used.".

To try for QSL
```
    Shipping Corp of India Ltd.
    Shipping House,
    245, Madame Cama Road,
    Nariman Point,
    Mumbai  400 021
    India
```

++++++ Maritime Coast Station SELCALs

The following is the latest and updated alphabetic list of SELCALs pertaining to marine coast stations world-wide. The last one was produced 2 years ago (Sep96). This should help you determine which coaststation your monitored ship is currently calling. A station number column has been added, the selcal being a straight conversion by use of the following table.

```
         1 2 3 4 5 6 7 8 9 0
         X Q K M P C Y F S V


CQCC    6200    Aqaba/JYO
CVCX    6061    Riga/YLQ

KCPV    3650    Mariupol/USU
KCPX    3636    Odessa/UUI

KPCV    3560    Lisbon/CUL
KPVQ    3502    Bern/HEC

KQQV    3220    Portishead/GKE

KYVF    3708    Arkhangelsk/UCE
KYVX    3701    Moscow/UAT
KYVY    3707    Murmansk/UHS
KYXF    3718    Kholmsk/UDB2
KYXM    3714    Vladivostok/UFL
KYXX    3711    Novorossiysk/UFN

MCFV    4680    Djibouti/J2A
MCPV    4650    Bahrain/A9M
MCQV    4620    Singapore/9VG
MCSV    4690    Doha/A7D
```

MFKQ	4832	Jeddah/HZH
MFKV	4830	Damman/HZG
MFKX	4831	Damman/HZG
MFVV	4800	Banana/9PA
MKCV	4360	Istanbul/TAH
MVCV	4060	Karachi/ASK
MXPX	4151	Maritime Communications Office (Manila)/DZX
PCYV	5670	Tallinn/ESA
PFSV	5890	Colombo/4PB
PKVM	5304	Bandar Abbas/EQI
PKVQ	5302	Bushehr/EQM
PKVV	5300	Bandar Imam Khomeyni/EQN
PKVX	5301	Chah Bahar/EQJ
QFSV	2890	Panama Intelmar/HPP
QKCC	2366	Niigata/JNV
QKCP	2365	Yokohama/JGC
QKCS	2369	Kobe/JGD
QKCY	2367	Nagoya/JNT
QKVM	2304	Madras/VWM
QKVX	2301	Bombay/VWB
QKYC	2376	Kagoshima/JNJ
QKYK	2373	Kochi/JNO
QKYM	2374	Moji/JNR
QKYP	2375	Sasebo/JNK
QKYQ	2372	Hiroshima/JNE
QKYV	2370	Tanabe/JNH
QKYX	2371	Maizuru/JNC
QMVK	2403	Kushiro/JNX
QMVM	2404	Naha/JNB
QMVP	2405	Ishigaki/JNG
QMVQ	2402	Otaru/JNL
QMVV	2400	Tokyo/JNA
QPPV	2550	Rogaland/LGB
QPVV	2500	Monaco/3AC
QQVK	2203	Ujungpandang/PKF
QQVM	2204	Cilacap/PKR6
QQVP	2205	Jakarta/PKX2
QQVQ	2202	Belawan/PKB
QQVV	2200	Jakarta/PKX
QQVX	2201	Surabaya/PKD
QSKK	2933	Warsaw/SPW
QSKQ	2932	Witowo/SPS
QSKV	2930	Gdynia/SPA
QSKX	2931	Szczecin/SPB
QSPV	2950	MARITEX network stations Argentina/LSD836 Goeteborg/SAB Guangzhou/XSQ Palo Alto/KFS Panama Intelmar/HPP Slidell/WNU
QVXS	2019	Keelung/XSX

QVXV	2010	Shanghai/XSG
QVXY	2017	Guangzhou/XSQ
QVYV	2070	Rome/IAR
QYFV	2780	Rijeka/9AR
QYYV	2770	Scheveningen/PCH
VFKQ	0832	Lyngby/OXZ
VFXV	0810	Varna/LZW
VMFV	0480	Oostende/OST
VQQX	0221	S Vicente de Cabo Verde/D4A
VQYV	0270	Boufarik/7TK
VXVX	0101	General Pacheco/LPD
VXXX	0111	Argentina/LSD836
VYXV	0710	Rio/PPR
VYYX	0772	Buenaventura/HKC
XCVY	1607	Turku/OFK
XFCV	1860	Valparaiso/CBV
XMFV	1480	HongKong/VRX
XMFX	1481	HongKong Marine Rescue/VRC
XSQP	1925	Black Star/9GP24
XSQV	1920	Tema/9GX
XSSM	1994	Ho Chi Minh-Ville/XVS
XSSY	1997	Haiphong/XVG
XVSC	1096	USCG San Francisco/NMC, and via Guam/NRV
XVSM	1094	Globe Radio Network station Argentina/LSD836 Awanui/ZLA Bahrain/A9M Barbados/8PO Capetown/ZSC Chatham/WCC Guam/KHF Goteborg/SAB Hawaii/KEJ Palo Alto/KFS Perth/VIP Rogaland/LFI San Francisco/KPH Slidell/WNU Tors Cove/VCT
XVSP	1095	USCG Boston/NMF
XVSS	1099	USCG Honolulu/NMO
XVSV	1090	Mobile/WLO
XVSY	1097	USCG Portsmouth/NMN
XVYF	1078	Madrid/EAD
XXVC	1106	USCG Kodiak/NOJ
XXVF	1108	Tuckerton/WSC
XXXK	1113	Seattle/KLB
XYFV	1780	Athens/SVT

++++++ NN column index for 1998

This should be read in conjunction with the previous index published in the Dec97 Newsletter (v3n10). That index covered Feb95-Dec97.

Broadcasts==========

UK CG weather bulletins	Jan98	v4n01
2/3 Mhz maritime information broadcasts Pt.4	Jan98	v4n01
2/3 MHZ maritime information bulletins - Pt.5	Feb98	v4n02
NAVAREA II broadcast by Oostende	Feb98	v4n02
Scheduled HF CW MIBs - Far East	Mar/Apr98	v4n03
Scheduled HF CW MIBs - Pacific	May98	v4n04
Scheduled HF CW MIBs - Indian Ocean, Indonesia, Australia	Jun98	v4n05
USCG 2670 khz MIBs	Jul98	v4n06
Med weather from Portishead on telex	Sep98	v4n08

Coast stations==========

UK 500 kHz closedown	Jan98	v4n01
St Lys Radio closedown	Jan98	v4n01
MARITEX loses Bulacan/DZO	Feb98	v4n02
Hours reduction at Scheveningen/PCH	Feb98	v4n02
Major reoganisation expected in Athens	Feb98	v4n02
Double ID at Globe	Mar/Apr98	v4n03
Cullercoats/GCC	May98	v4n04
Riviere-du-Renard/VCG replaces Sept Iles/VCK	May98	v4n04
Summary of Canadian CG stations	May98	v4n04
Athens closes HF WT	Jul98	v4n06
Lyngby Radio/OXZ to cease WT	Jul98	v4n06
Monaco Radio implement telex	Jul98	v4n06
South African maritime radio services	Aug98	v4n07
Antique/DYA	Aug98	v4n07
Scheveningen/PCH withdraws 22 mhz	Sep98	v4n08
Pin Oak Digital	Sep98	v4n08
Italian coastal reorganisation	Sep98	v4n08
Sailmail	Oct98	v4n09
BT winding down UK coaststations	Oct98	v4n09
Scheveningen closedown party	Oct98	v4n09
Indonesian Internal Maritime network	Nov98	v4n10
Maritex channels	Nov98	v4n10
Scheveningen/PCH radioamateur farewell day	Nov98	v4n10
Prague Radio/OLP	Dec98	v4n11
Globe Wireless at Seoul	Dec98	v4n11
Sailmail update	Dec98	v4n11
Kholmsk/UDB2	Dec98	v4n11

Codes==========

Coast Station MMSIs	Oct98	v4n09
Maritime Coast Station SELCALs	Dec98	v4n11

GMDSS==========

GMDSS - Overview	Jan98	v4n01
GMDSS - Ship equipment requirements Pt.1	Feb98	v4n02
GMDSS - Ship equipment requirements Pt.2	Mar/Apr98	v4n03
GMDSS - Ship equipment requirement - Pt.3	May98	v4n04
GMDSS - Watchkeeping	May98	v4n04
Final deadline for GMDSS pushed back	Mar/Apr98	v4n03
GMDSS DSC misconception	Oct98	v4n09
USCG downgrades GMDSS 2187.5 khz DSC watch.	Nov98	v4n10

Miscellaneous==========

Service reduction at Auckland/ZKLF	Mar/Apr98	v4n03
SAR frequencies	May98	v4n04
Canadian SAR frequencies	Jun98	v4n05
Auckland/ZKLF hangs on	Jul98	v4n06
GlobeEmail and QRG Reports	Jul98	v4n06
1997 World registries	Jul98	v4n06
SHIPWATCH Directory for Enthusiasts	Aug98	v4n07

Bob Dixon's marine radio page Sep98 v4n08
RT testtapes Nov98 v4n10
NN column index for 1998 Dec98 v4n11

NAVTEX==========

NAVTEX May98 v4n04
Another look at NAVTEX Jul98 v4n06
NAVTEX updates Jul98 v4n06

Ship nets==========

Shipping Corp of India Dec98 v4n11

Ship press==========

PNA "broadcasts" Oct98 v4n09
News broadcasts via Philippine coaststations Oct98 v4n09

Ships==========

Russian hull numbers Feb98 v4n02
European pilot frequencies Jun98 v4n05
Spanish fishing stations Jun98 v4n05
Greek pilots: 2320, 2361, 2949 Aug98 v4n07

Station overviews==========

Acapulco Radio/XFA May98 v4n04
Ankara/TAH Jan98 v4n01
Habana/CLA Jan98 v4n01
Karachi/ASK Mar/Apr98 v4n03
Mahina/FJA Mar/Apr98 v4n03
Novorossiysk/UFN Jun98 v4n05
Oostende Radio/OST Feb98 v4n02
Rijeka Radio/9AR Nov98 v4n10
USCG Guam/NRV Feb98 v4n02
Varna Radio/LZW Sep98 v4n08
Valparaiso Playa Ancha Radio update Oct98 v4n09

Technical==========

7 letter selcalls Mar/Apr98 v4n03

++++++ Signoff

Well, here we are at the end of the column. And for me the end of my spell as its editor. The beginning was 2.5 years ago when I " agreed to at least temporarily take over" with a review after 3 months - what happened to the review Rick ??? Anyway fate has been kind and I've enjoyed the experience. Before I clear I would like to thank most heartily those who have helped along the way with input, large and small, especially those of you who are professionally "in the business" and cannot always be credited properly. You know to whom I refer; your support has been/is well appreciated.

Scott Havens will be taking over next month - please give him support and plenty of input from your part of the world to keep the column going.

Peace and good health be with you and your families, and the noise low at your receiver.
Regards Day

==========

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\\\\\\\\\\\\\\\\\\\\\\\\\\\\ ////////////////////////////

-::: N&O #09 :::-

Hi! Welcome to the last N&O of this year. I'd like to thank everyone who sent us their logs and info during the past nine months, and I hope you won't let us down in the coming year. I wish you and your families a

MERRY CHRISTMAS AND A PEACEFUL AND HEALTHY 1999!!!

This month I have a nice long N&O for you. Besides the usual monthly items, you will find Simon Mason's 'Memory Lane'. Simon takes us back to the early 90's for a station profile of the former '5-dashes' numbers station. This month the second Agency Profile, this time I focus on Iraqi intelligence. At the end of this edition, you will find the 1998 N&O index.

I have a great quiz for you created by Toby Andersson. If you don't know what to do during your Xmas vacation, Toby's quiz and cryptograms will certainly keep you busy for quite a while. And if you want more, you just have to check his website.... http://hem.passagen.se/tan01/

* * * * * * * * * *

The states of Pzilatia and Zurbia are in state of war with each other and the secret service intercepted a number of messages.

***** YOUR MISSION, DEAR SPOOKS, IS TO DECRYPT THESE MESSAGES *****

For info about the various encryption methods, please check earlier N&Os or Toby's website. Other lengthy Pzilatian messages can also be found on this website.

Good luck and take care! -Ary-

* ZURBIAN MILITARY CRYPTOGRAMS *
by Torbjorn Andersson <tan@telia.com>
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* Background information on Zurbia:
The People's Democratic Republic of Zurbia (Rat-respublikum Demokrftef Zerb-), located on the Dzeshret-plateau, has an area of 678.000 sq km and a population of 28.9 million. Capital: Hatan Bulag. Agriculture, forestry and mining are the principal industries. Timber, raw rubber, bauxite and industrial diamonds are exported. Language: Zurbian.

The English were in the 16th century the first Europeans to explore the Dzeshret-plateau. Traditional backwardness in industry and administration ill prepared Zurbia for the demands of 19th century Western expansionism which exposed it to military and political humiliations, and mandated a drastic revision of political practice in order to secure an accommodation with the modern world.

The Republic barley survived the stress of WWII Japanese occupation, and was subsequently all but shattered by the rise of nationalism and the emergence of the Zurbian Communist movement.
Moscow, which practiced a policy of cooperation between Communists and other parties in movements for national liberation, sought to establish an entente between the Zurbian Communist Party and the PartŒ Ratomo-movement ('People's Party') of General A. Klinkanai. The ensuing co-operation was based on little more than the hope each had of using the other.

An increasingly uneasy association between the PartŒ Ratomo and the Zurbian Communist Party developed and continued until July 31, 1965,

when General A. Klinkanai took over power through a coup-de-etat. He
has ruled the country with iron-hand ever since.

* The "Jungle" messages:
The Zurbian Ground Forces held their annual manoeuvres last week, and
here are a few intercepted messages. They are believed to have emanated
from low-level units, probably companies and a controlling batallion.
There are reason to believe they have used a turning grille to encrypt
their traffic. Traffic at this level usually consists of battle reports,
requests for reinforcements, supplies and the like.

Your mission - should you choose to accept it - is to break the messages
and reconstruct the grille used. Good luck!

* The messages:

0700Hrs:
"JUNGLE", "JUNGLE" this is "PUMA" do not answer, message follows:
Groups 4, text: SANO RITT RTEI OUXP. End of message. Out.

0705Hrs:
"PUMA" this is "TIGER". Message follows:
Groups 4, text: ASER ELXL TQHU IIXE. Over.
"TIGER" this is "PUMA". Message understood. Out.

0706Hrs:
"PUMA" this is "LION". Message follows:
Groups 4, text: EYIY LNOE VAIC TMWT. Over.
"LION" this is "PUMA". Message understood. Out.

0707Hrs:
"PUMA" this is "JAGUAR": Msg follows:
Gr 4, txt: NIOO ROTT RNEG THXP. Over.
"JAGUAR" this is "PUMA". OK. Out.

0708Hrs:
"PUMA" this is "LEOPARD": Msg follows:
Gr 4, txt: ASLE XLXL HWEE LIXR. Over.
"LEOPARD" this is "PUMA". Msg understood. Out.

0915Hrs:
Flash, flash "PUMA" this is "JAGUAR": Urgent msg:
Gr 4, txt: EYTK INNE TIAS AMGC. Over.
"JAGUAR" this is "PUMA". Msg understood. Out.

0917Hrs:
"JAGUAR" this is "PUMA": Msg follows:
Gr 8, txt: HYPT IOOL OOSU RDNI REOS WEAL NFII SIYT. Over.
"PUMA" this is "JAGUAR". OK. Out.

0925Hrs:
"PUMA" this is "JAGUAR": Msg follows:
Gr 4, txt: WERI NEGA ERAE TRXT. Over.
"JAGUAR" this is "PUMA". Msg understood. Out.

TOBY'S CRYPTO QUIZ
by Torbjorn Andersson <tan@telia.com>

Table of contents
  * Simple substitution with word-division
  * Simple substitution without word-division
  * Simple substitution using figures
  * Almost simple substitution (Easy, I think...)
  * Very easy "machine" encrypted text
  * Standard Vigenere
  * Polyalphabetic (Vigenere?) with a twist
  * Polyalphabetic, unordered alphabets (HARD!)

-o-o-o-o-o-o-o-o-o-

Simple substitution with word-division and preserved punctuation.

"Gb vwx, viiy mqii wcm t yhxzswg ifctp mw mqbvipd,
Gtriswxht qtv xwm ewwg dwe mqii."
Oqhpho wd Gtriswx

Simple substitution. Figures instead of letters...

99943 99972 84997 51930 47756 44282 51228 43672 55644 99964
43674 54367 30299 94399 97267 28228 42824 54997 25599 72825
12729 26943 26449 99439 64445 49994 39997 36751 20452 82454
64460 42829 99644 36745 43673 02999 43999 72672 82284 28245
49972 55997 25599 92829 99997 51928 24546 25997 99951 22825
19997 25462 52825 19602 72243 26449 99439 25536 77299 97267
30425 59996 44302 64451 92829 99644 36745 47229 99367 99943
99977 29644 25425 47759 97282 04599 72557 77000
78 GROUPS

-o-o-o-o-o-o-o-o-o-

Almost simple substitution. This one is suitable for the beginner (I hope...). Usually, a cryptogram like this one would have been in five-figure groups, but I have kept the real grouplengths, so as not to scare the absolute beginner away. It is slightly harder than the simple substitution ciphers usually found in magazines, but shouldn't cause to much problem. Look out at the beginning, though...

59.52.38.50.22.56.37.50.22.39.53.50.22.46.41.46.39.46.56.49.38.22.42.
51.22.39.53.50.22.59.46.37.07.58.39.46.42.41.22.52.07.41.07.37.56.49.
22.59.50.22.38.50.58.30.37.46.39.50.22.50.33.39.07.37.46.50.30.37.20.
22.39.53.50.22.51.37.50.41.58.53.22.50.36.30.46.31.56.49.50.41.39.22.
42.51.22.40.46.11.28.01.53.50.22.51.46.37.38.39.22.38.30.58.53.22.42.
37.52.56.41.46.38.56.01.46.09.41.22.08.41.22.51.37.56.41.58.50.22.32.
56.00.22.39.53.50.22.59.50.30.33.46.50.40.50.22.57.30.37.50.56.30.29.
56.22.41.56.40.50.22.32.53.46.58.53.22.38.43.56.01.39.07.37.50.59.22.
01.53.07.22.00.43.26.22.39.53.37.08.49.49.50.37.38.22.42.51.22.39.53.
50.22.17.23.21.46.50.38.22.56.41.59.22.18.23.21.46.50.38.28.32.46.39.
53.22.01.53.50.22.51.56.49.49.22.42.51.22.51.37.56.41.58.07.22.46.41.
22.16.06.19.23.29.39.53.50.22.59.07.30.33.46.07.40.07.22.57.30.37.07.
56.30.22.38.39.56.26.50.59.22.46.41.22.51.37.56.41.58.50.29.57.50.58.
42.40.40.46.41.52.22.39.53.50.22.46.41.39.50.49.49.08.52.50.41.58.50.
22.41.50.39.32.42.37.48.22.42.51.22.39.53.07.22.31.46.58.53.26.22.52.
42.31.07.37.41.40.50.41.39.22.09.51.22.43.46.07.37.37.50.22.49.56.31.
56.49.22.56.41.59.22.40.56.37.00.53.56.49.22.43.07.39.56.08.41.29.32.
53.46.58.53.22.58.42.49.49.56.57.42.37.56.39.50.59.22.32.46.01.53.22.
39.53.50.22.31.08.58.39.09.37.08.42.30.00.22.52.50.37.40.56.41.00.28.

-o-o-o-o-o-o-o-o-o-

Machine cipher? This is a cipher-output from one of the machines in my collection. I didn't use any key inside the machine, so this isn't encrypted, or is it?

JASGH RBSDP CSBHR BOQNX TZDXB WVBYB OGHKH ORBDM ZQVOS HNMVY
AXDUH ZDCII JANEB LHMDV LBAHS BDMZQ VOSRB SGDBS DPCSV MBAYM
XBNTS OTSRB HSBHM BEHUD VYIIJ IIJAK DSSDQ BFQNT ORBNM BYBOY
ODQRS QHOBB YBMBX BBYBO TMZGD XBSYO DVMII JARNB SGYSB VNTBZ
YMBOT SBSGD BRYLD BHMBY BSDKD SVODB SQYMR LHSSD QCIIJ IIJAY
MXBRD MXBHS BNEVL IIJJA OQHNQ BSNBY ZSTYK BDMZQ VOSHN MVMBA
SGDBS DPCSB HRBVR RAZNX DXVRR IIJAR NBSGY SBHSB NMKVB ZNMSY
HMRBS GDBKD SSDQR BYVYA PBVMB AWTSB SGDCI IJALY ZGHMD BHRBZ
YOYWK DBNEB DMZQV OSHMF BBYBK BKBBS GDBZG YQYZS DQRCI IJAYU
YHLYW KDBNM BYBRS YMXYQ XBSDK DSVOD PAQHS PADQC IIJAA PVPVP
100 GROUPS

-o-o-o-o-o-o-o-o-o-

Standard Vigenere. Deliberately kept short. Good luck!

QTC 4318 FOR IPG DE DNX =
SDVGX UQEDP DXYZS CWGQF IVSKW HYNEH OBNHZ MVDOF ZXFXS NJQQX
ILBLH TDXZL DXQTL IVEWX RCFXS CRGSP MMODA DCYRT PICMW ZMHSF
DXYJC PJJDI WTJCA ZSWWC BSGWQ OMSWT MSSKS VBKFX VKFQT HXJUO
MSWQT BMJXY NBRRH SEPZU WCUDA DVTTO DYQML WNNYL SYKKV OKPHM
AFBCP DVQRG KRQTM BPFZE ZXXFT DXGZB ZNPBV DMTDA KDFEH ZBIOT
HBKFF MUUCX DMMYI LOSKL =GR 54=

-o-o-o-o-o-o-o-o-o-

Polyalphabetic with a twist.

Look out! There's a twist, which might prove helpful in the end...
QTC 1537 FOR HBK DE GSZ =

BGJDA FOJUI YSFXY FTIOU TKFRO YFJOD JYMRT OBLJY TRXHJ UIYSF
XYFTI OUTKS VZBMX FRMRQ JODKC OEQJK AJTTS JITLL AIJMB SEBYL
JHYFV MMJFC BYJMB XJGRA TAYJE RBWAJ AJBKK KMURJ MBTTK JKKCZ
EQBGZ JTAJC PEJMQ PGFHA ZHQNS JRRVE TRNCQ OYLJI TMJLU BYVSQ
RJFGJ WGNFK QNJCO QBHJX QGSWM QAFQR JMHRJ QMRXO ZJYCK MEJAM
PCSEX GMAFS CEJPS YTGWE QJEMR KJFFK YFUAD ZLKJG UTNJM HRJYH
CVOTX JVXJR RCBRY SQJMH JMHRJ AMIOV JROYF JBRPV RQJUA BGZJT
UAVUS VJPNM MOYBE JSUAP XJCMJ HNNJI EQAJE ACHPR NEJBK JZVLN
TKRGJ DIEVJ AMBXR JRZBI AZRFN QXJUO JDADJ FAJBG LIECM NEJGU
TNJAI EJNMM MAQLJ UDEDC MDJEV RJVOL TAVZJ ORTVV CTLEG JDHZJ
AAMCY IRNJA HQJCA DCLHJ PSWHQ EJONL XAGGE JSUAP XJCMJ HNYWE
YSQJM HJUEJ NJBHT FEQTS JTFFO YNZBZ QJNAE JRVWL ZMRXM JLEZC
JVVQE JORJN AEJOD YEMHJ UTXJM IYOJA OJQXE TFBNR JCPEJ XOFMY
KJAFJ UMIDH DXRQJ TUOFJ OASZX XJMHR JLVXJ MAQJY HNNQJ CPAEJ
WFJVH FTNSU EPJOJ PBIAE DJVHC TWZXR QJTUO FJEVF NECFE QJCPE
JXOPA CFEJY SUUES XRRJM HRWJK ACSSN EDYJP UVSQR JFAYJ UOKJK
OAUAK = GR 161=

-o-o-o-o-o-o-o-o-o-

Polyalphabetic, unordered alphabets.

ACHTUNG! German cleartext in this one. May be hard to solve...
QTC 9912 FOR AJU DE LWV =

LNFCQ PSKMD NHWRG YQRAA WLPVQ VRFQP IFILJ VJMGL RCLKH QPKRL
XFQIR GMDXT WKXBD UYHQS QHLKT DQHEE WUORW JGDYU TAHKX VAYTH
ORGWC KXVAW CUDZM HOFYA RVDUQ ORGHL QHGHQ SQXVF GCQUT AZHOR
GFGYT UTAZH NVARG CPKAO FGEHW NZHTW OFXKH HCPXY TUGPF YQHEY
SFQTW RUQOR WPVDV UGFID QPWHZ DHZPO PVZSH VHFIC WHUDY KWAGK
HJKFF WRTMK UQZSH VHLPX WEHBM UTAHL FPNFH LPOQD IMQSJ JHLTH
VEJQY AWKSK HJKFA UFHSK HFORR VWDVL WOWLP TYFAU FHIPH QHUTA
HHVLW FCQMC LFXJD GMODH VXRWH UYXTA UDYTR DIKFI WOLWF NWKHM
QHRPK FQTYF XBDUW OMAZU GFGCT PTAWL NVRDI FOQGF FHYCW OSDYT
WKABY QCFXM HHVRG ZQHVF GTQPH MWEPV QHQSX KTAUT ZHGMG LQHOF
XZNVJ FGQHJ KFGJD JKJHC QHEBJ GEZWO SFQTW RUQOR WOMAU VRVHL
PVACZ DHJKF GEQRH FXMQX NCHMV KPDIC HVRFF LQOWO ABQRQ RGZDL
YVUDX UEYEV = GR 122=

-o-o-o-o-o-o-o-o-o-o-

* VOICE STATIONS *

::: 'NANCY ADAM SUSAN' [E15]
The 'Old Style Phonetic Alphabet Station', aka 'E15' is better known as 'Nancy Adam Susan', named after the first callsign that was ever heard.

The station was first copied in 1994 and is located in northern Egypt.

They use an alphabet that was used by radio amateurs in the late 40's.
It goes as follows:

    Adam, Baker, Charlie, David, Edward, Frank, George, Henry,
    Italy, John, King, Lewis, Mary, Nancy, Otto, Peter, Queen,
    Robert, Susan, Thomas, Union, Victor, William, X-ray, Young,
    Zebra.

Format:
    NAS (repeated for 1 minute)
    QTC QTC QTC
    NR 5 NR 5 NR 5
    GR 41 GR 41 GR 41
    followed by double 5-letter groups
    RA RA

    or, when there is no traffic:

    NAS (repeated for 1 minute)
    QRU QRU QRU

All the above is always spelled out:
NAS : Nancy Adam Susan
QTC : Queen Thomas Charlie (message for you)
QRU : Queen Robert Union   (nothing for you)
NR5 : Nancy Robert 5   (group number 5)
GR41 : George Robert 41   (number of groups). Note that the group
                            number is in Arab style = reversed. So,
                            GR 41 means 14 groups.
RA   : Robert Adam   (also reversed. End of transmission)

Schedules:

UTC	Frequency	Callsign
1100	18000	BEC [Baker Edward Charlie]
1200	17502	WSP [William Susan Peter]
1230	11170	MSA [Mary Susan Adam]
1300	11000	BEC [Baker Edward Charlie]
1400	14000	FYP [Frank Young Peter]
1630	6716	MSA [Mary Susan Adam]
1700	14000	FYP [Frank Young Peter]
1730	5834	MSA [Mary Susan Adam]
1800	5834	WSP [William Susan Peter]
1900	4130	SAR [Susan Adam Robert]
2000	5530	NAS [Nancy Adam Susan]
2100	4130	MSA [Mary Susan Adam]
or occasionally		OSS [Otto Susan Susan]

-o-o-o-o-o-o-o-o-o-

::: THREE-NOTE ODDITY [G04]
Both Guy Denman and Hans-Friedrich Dumrese sent some interesting notes.

G04 transmitted on 22 Nov. an entirely different message to the usual.
It was back to its normal self on 29 Nov. The message was...

03040 00030 59501 56743 44624 05295 33211 48066 72097 6169
15602 15205 28128 09248 53756 56143 52332 75244 84496 0882
52993 73344 99346 85050 31012 86287 43295 70821 50435 03040

As you can see the first and last group are the same. The second group
most probably indicates the number of groups (30). Very odd....

Hans-Friedrich analysed the 6 December transmissions.

Message : 62125 45215 32125 95458 32125 74521 78547 85452 02125 95456
          12545 62366 84547 84522 85455 12014 32155 84547 32558 42158

75488

Analysis: Frequent groups : 3x 32125
2x 84547
3x 95458

4x #2125 (02125, 32125, 62125)
2x #5458 (75458, 95458)

First two figures :	Last three figures:
02125	12014
12014	02125
545	32
32125	32
125	62
155	32155
558	42158
42158	45215
45215	62366
62125	85452
366	85455
74521	95456
75488	95458
78547	75488
84522	74521
547	84522
547	12545
85452	78547
455	84
95456	84
458	32558

History :

Summer 2005 2035 UTC			Winter 2105 2135 UTC		
01/96	3227	3127	02/96	3409	3309
03/96	3419	3319	04/96	4581	4481
05/96	4165	4065	06/96	4340	4240
07/96	3935	3835	08/96	4165	4065
09/96	3930	3830	10/96	3280	3180
11/96	3270	3170	12/96	3285	3185
01/97	3230	3130	02/97	3245	3145
03/97	3275	3175	04/97	3936	3836
05/97	4245	4145	06/97	4376	4276
07/97	3930	3830	08/97	3935	3835
09/97	3915	3815	10/97	3315	3215
11/97	3265	3165	12/97	3255	3155
01/98	3255	3155	02/98	3265	3165
03/98	4435	4335	04/98	4745	4645
05/98	5410	5310	06/98	5730	5630
07/98	5840	5740	08/98	5755	5655
09/98	5310	5210	10/98	4685	4585
11/98	3940	3840	12/98	3380	3280

Attention: If you had the opinion that G04 changes frequencies AND message only at the first Sunday of the month, that's not true. During the last months Guy Denman has already noticed two exceptions:

Date	Frequencies	Message	heard by	
Sep 6th	5310/5210	32587 05458 32125...	HFD	
Sep 13th				
Sep 20th				
Sep 27th	5310/5210	58545 65458 65454...	GD	(1)
Oct 4th	4685/4585	58545 65458 65454...	GD, HFD	
Oct 11th				
Oct 18th	4685/4585	58545 65458 65454...	GD	
Oct 25th	4685/4585	58545 65458 65454...	GD	

Nov 1th	3940/3840	21025 95458 32125...	HFD
Nov 8th			
Nov 15th			
Nov 22th	3940/3840	03040 00030 59501...	GD (2)
Nov 29th			
Dec 6th	3380/3280	62125 45215 32125...	HFD

(1) The October message was transmitted on the last Sunday of September on the September frequencies.
(2) Special 30 groups message. None of the usual G04 groups. First and last (30.) group (03040) were the same. See the 2nd "00030" group (GC?)

Has anybody G04 logs from 13.09, 20.09, 11.10, 08.11, 15.11, and 29.11? Please send them to Hans-Friedrich at <hfd@frosch.in-trier.de>

-o-o-o-o-o-o-o-o-o-

::: MEMORY LANE: 5-DASHES [G13/E13] by Simon Mason
This was a bi-lingual operation. Although the majority of the transmissions are in German, there was a small segment in English. Both languages have the same format and use the same female voice machine. The broadcast starts on the hour with the woman repeating a three figure number three times, followed by a five figure number and then a group count of the message to follow. At five past the hour slow dashes are sent, followed by the five figure groups of the actual message. Here are some headings that have been sent over the years:

948 948 948 71667 122
251 251 251 82385 109
901 901 901 29003 40
331 331 331 59900 72
211 211 211 26318 53
064 064 064 19250 94

The three figure group probably identifies the intended recipient and the five figure group was probably the key to decoding the message. The final numbers are the group count.

The woman used originally had a very sharp delivery; again, like someone barking out orders on a parade ground. This woman was practically shouting. Then, in March, 1991, the voice was changed. The new voice was the audio equivalent of those ransom notes you see on television cop shows where the letters have been cut from a newspaper. Some letters in the broadcast were sent slowly, some quickly, within the same five figure group. Also, the number nine is sent as "noyner". So, the number "12955" would be sent like:

Ems - zvo - noyner - funffunf

The spacing above gives some idea of the kind of delivery the woman uses. Also, each of the five tones sent before the message was preceded by a rush of white noise, as though an ancient tape recorder with automatic gain control was being used. The whole thing has a very amateurish sound. Around March, 1991 an English version of this station turned up using the same voice.

-o-o-o-o-o-o-o-o-o-

* MORSE & RTTY STATIONS *

::: M76
Guy Denman sends us the first reports of M76 that seems to be on every night at 1750 UTC on 3819 kHz. The transmission starts at 1750 and is repeated at 1800 UTC. There are possibly two transmissions a day.

Sample message 1:
IKX1 DE WTDP (or W0DP) QTC 66 17 = (13x5f)

3607X RRRRR 201XX NNNNN =
330 20 = 20x5f Last group 7XXXX =
263 10 = 10x5f Last group 437XX =
328 25 = 25x5f Last group 437XX =
327 9 = 9x5f Last group 37XXX =
314 21 = 21x5f Last group 37XXX AR

Sample message 2:
SLAK DE CXBL QTC 68 28 = 20x5f
RRRRR 206XX WWWWW 74153 77425 42742 562XX NNNNN =
Then repeated same messages as the day before.

-o-o-o-o-o-o-o-o-o-

::: M51
This very active station has been logged on numerous frequencies during the past few years. The first logs appeared in July 1996. The station transmits from a location just north of Paris and is believed to be DGSE related. Info and comments are most welcome!

o Frequencies logged during 1998

2553	2565	3710	3745	3822	3881	4018.5	4021
4024	4030	4035	4038	4060	4065	4622	4874
5221	5224	5245	5297.5	5329	5334.5	5407	5420
5425	5520	5746	5787	5791	5870	5898	5905
5922	6839	6888.5	6925	6940	6946	6954	6963
6974.5	6983	7390	7803	7830	7846	8043	8057
8180	9202	10566	10688	14878	18444.5		

o Characteristics
The duration of each message is 6 mins, 18 secs.
Each message consists of 100 5-letter groups in the following format:

NR 19 A 28 21:24:21 1997 BT + 5-letter groups

NR 19   = message number
A   = month
28   = day
21:24:21 = CET
1997   = year

The month is/was probably 'free format' as the following formats have been copied. As the non-standard abbreviations only appeared in the first three months, it looks like they changed to a fixed format now.

January	: 1 and J	July	: J
February	: 2 and FEB	August	: A
March	: MAR	September	: S
April	: A	October	: O
May	: M	November	: N
June	: J	December	: D

The system is automated but the 'header' is sometimes handkeyed. This is probably the reason why in August also other 'months' were logged, like 'U' and 'S' which were heard several times. These must be typo's.

So far only message nrs 01-90 have been noted, while you should expect a message range from 01-99.

o Remarks:
Apparently M51's computer did have some difficulties when it had to switch from summer to winter time on 25 October. The following time stamps were noted during the last week of October:

Before 25 Oct.	: UTC+2
Period 25-29 Oct.	: UTC+3
29 Oct.	: UTC+0
After 29 Oct.	: UTC+1, finally back to normal

A few other interesting discoveries were made during October. On various occasions M51 was found on two parallel frequencies. And the most interesting one was the transmission of FAV22 on two parallel frequencies 6940//6963 kHz, right after M51's transmissions on the same two frequencies. This was at the same date that M51's time indicated UTC+3. The result of a computer hiccup? I think so, but I also think that there definitely is a link between the two stations. Do they belong to the same organization or do they share the same transmitting facilties? I think the latter can be true. Technical problems resulted in unreadable messages when FAV22 transmitted on both frequencies. M51 suffered from the same problem on 5787 kHz at 0730 UTC on 20 November. So I guess that they are using the same facilities. FAV22 btw, is the callsign of the French Forces in Mons-Valerien.

Here is a dump of FAV22's message:

LECON 11-2/4 VITESSE 420 CLAIR

CE SER_IT UN TRAVAIL BIEN INTERESSANT, QUI TENTERA PEUT-ETRE UN JOUR QUELQUE _ _E UNE ASPIRANT AU DOCTORAT ES LETTRES, DE RELE_ER DANS L'OEUVRE DE VALERY L'EMPLOI DES TERMES SCIENTIFIQUES. IL EST PROBABLE QU'ON LE TROVERAIT DE PLUS EN PLUS FREQUENT AU FUR ET Á MESURE QU'AL AVANCAIT DANS SA CARRIERE, CAR LE GOUT DES SCIENCES NE FIT QUE CRO_T R_EN LUI.

CQ DE FAV22 AR

-o-o-o-o-o-o-o-o-o-o-

::: UNID MORSE STATION
John Doe copied the following transmissions. Does anyone know who or what this is?

6861037295315
6862037 [missed]
6863037287515
6864037381415
6865037392915511800
6866037391415
and so on

a few minutes later
6861037267317
6862037294417
6863037287117
6864037381817510900
and so on (all on CW, quite fast).

John sez ''This was on 7804.5 kHz, starting some time before 1600 UTC and ending with a string of "ar"s at about 1620. Not a "spy" station, presumably; more like these Russian stations sending "BT99 ... ", but "my" station has nothing resembling a time check. Hand sending with numerous errors, erasures and repeats, but very good sending nevertheless. I left the Rx on freq for an hour or so after sign-off, but heard no more. At 1730, a similar station on 7689 kHz, with "2861037..." etc groups, but he went off almost immediately. I have heard something like this before, but can't remember any details.''

-o-o-o-o-o-o-o-o-o-o-

::: RK2 / M4W
The RTTY link between Russia (RK2) and Israel (M4W) is still alive and kicking. Seven days a week on 16129 kHz (M4W) and 16247 kHz (RK2). The Israeli station shows up at ca. 0820 UTC on 16129 kHz, Moscow starts a few minutes later. Messages are rarely seen, only RY's and ops chat.

See for a full description of the Israeli/Italian/Russia links WUN newsletter vol.1 #9 (Sept. 1995)

-o-o-o-o-o-o-o-o-o-

* FAPSI - logged in October/November *

freq.	UTC	link	to
7788	1435	70004	NOB
12134	1640	70037	RAD
12182.9	1615	20043	
13410	1250	20076	
14352	2052	00128	KAC
14934	1010	30088	
16060	1230	20076	
16070	1240	20076,	tx ended w/QSY 13450
16223	0940	40034	UXW
16251	0900	70037	RAD
16254	0810	20076	
16302	0940	00079	
16330	1000	00079	
18210	1010	00149	RVV/DZR
18223	0820	20076	
18316	1150	50080	(! not reported before)
18332	0750	10042	
18410	0910	40078	
18541	0940	70037	RAD
19415	1020	50002	CAZ
19923	2245	00126	PSN
20130	1220	00149	RVV/DZR
20332	0940	40078	
22865	2240	00126	PSN
23130	0720	60069	

-o-o-o-o-o-o-o-o-o-

* VARIOUS MODES *

::: POLYTONE STATION [XPH]
Last month I asked if anyone could tell me when the first polytone station appeared. Costas replied and told me that spy Professor Hugh Hambleton was arrested by the Canadian RCMP in 1979 and that they found out that he had a decoder for the Polytone transmissions and a Satellit 2000 radio. So the XPH transmissions started at least in the mid '70s.

::: THE PIP [XT]
This station is one of the oddities that is around for many years. It transmits from a site very near to Krasnodar.

The station uses two frequencies, 3757 kHz (night time) and 5448 kHz (day time). They change frequency at 1400 UTC (1700 Moscow time).

Most of the times only the 'pip' is transmitted, but sometimes the pip suddenly stops and a male voice makes announces like this:

Tol'ko dl'a 963 648 451 861

Translated into English, this means: ''Only for 963 648 451 861'' (numbers were different each time), and then pips appear again.

I recently received a very interesting anecdote about this station.
> ''Several years ago I entered the duty officer's room in the Army recruiting office ('voenkomat' in Russian). I noticed the radio receiving equipment there, and the same pips were coming out of the loudspeaker. Leaving the office, I saw the antenna intended for 3-5

MHz band on its roof. So, obviously the signal belongs to the army framework.'' <thanks for the info OM, it is much appreciated!>

Any additional info is most welcome.

-o-o-o-o-o-o-o-o-o-

* AGENCY PROFILE: IRAQI INTELLIGENCE *

Iraq's state security consists of six main organizations and a couple smaller units. I start with a run down of the agencies, followed by a more detailed description.

- Maktab al-Amn al-Qawmi
  National Security Council (NSC)

- Jihaz al-Mukhabarat al-Amma (Mukhabarat)
  Iraqi Intelligence Service (IIS)
  or General Intelligence Directorate (GID)

- Jihaz al-Himaya al-Khas (Al Amn al-Khas)
  Special Security Service (SSS)

- Republican Guard (RG)

- Al Hadi Project 858

- Al Amn al-Askariyya
  Military Security Service (MSS)

- Al-Istikhbarat al-Askariyya
  Military Intelligence

- Mudiriyat al-Amn al-Amma
  General Security Service (GSS)

- Special Republican Guard (SRG)

- Fedayeen Saddam
  Martyrs of Saddam

* * * * * * * * * *

::: Maktab al-Amn al-Qawmi / National Security Council

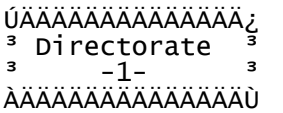
NSC's HQ is in Saddam Hussein's presidential palace. The members of the council are representatives of the Army, the GID, GSS, Military Intelligence, and the Presidential Staff. The NSC operates a number of rapid intervention units.

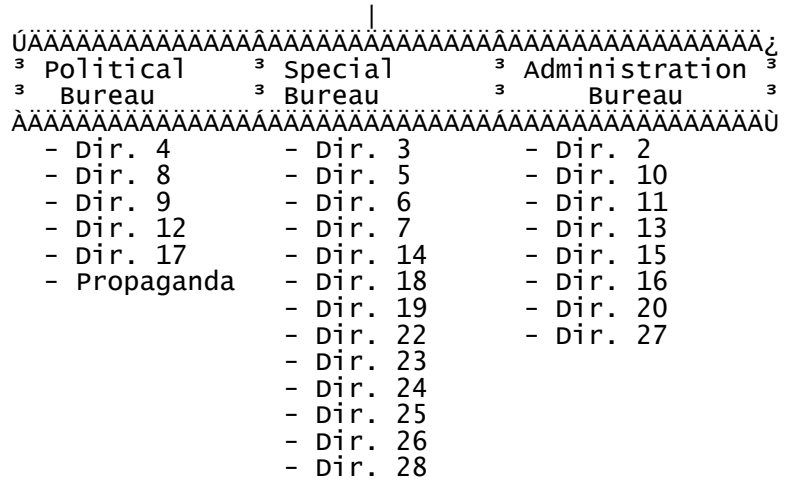
* * * * * * * * * *

::: Jihaz al-Mukhabarat al-Amma (Mukhabarat)
    Iraqi Intelligence Service (IIS)
    General Intelligence Directorate (GID)

Before the Baath Party took power in 1968, Saddam was in charge of an intelligence organization called Jihaz al-Khas. Later, in 1973, the Jihaz al-Khas became the GID -General Intelligence Directorate- or Da'irat al-Mukhabarat al-Amah, better known as 'Mukhabarat' or IIS. Mukhabarat is the most important intelligence agency of Iraq and consists of 3 bureau's and sub-divided in 28 directorates, each with its own specific tasks.

Structure:





Directorate 1:
The Private Office; which is the director's office.

Directorate 2:
Administration; responsible for the administration of the Mukhabarat.

Directorate 3:
Surveillance; both mobile and stationary.

Directorate 4:
Secret Service; active both in Iraq and abroad.

Directorate 5:
Counter Intelligence; responsible for the uncovering and countering of foreign agents.

Directorate 6:
Mukhabarat Security; internal security of the Mukhabarat.

Directorate 7:
Al Haakimiya; the prison located on 52nd Street, which is the main interrogation centre of the Mukhabarat.

Directorate 8:
Technical and Forensics department; is responsible for the development of special equipment for cover operations. They own a number of advanced laboratories and test facilities for weapons etc.

Directorate 9:
Secret Operations; the 'wet' department. Most operations are outside Iraq. These operations include sabotage and assassination.

Directorate 10:
Legal department; charged with all Mukhabarat's legal matters.

Directorate 11:
Accounts; responsible for financial affairs for all directorates, except D1.

Directorate 12:
Electronic Surveillance; responsible for the internal electronic surveillance (audio and video bugging devices) of the Mukhabarat.

Directorate 13:
Medical directorate; this directorate is charged with medical examinations of Mukhabarat personnel.

Directorate 14:
Special Operations; the most important and largest directorate.

This directorate is charged with the most sensitive and secret operations abroad. They have joint operations with the Mujahideen Khalq organization. This directorate was also behind the attempted assasination against president Bush.

Directorate 15:
Vehicles; responsible for the vehicles of the Mukhabarat.

Directorate 16:
Physical Plant; cleaning and maintenance of the buildings.

Directorate 17:
National Security Institute; Mukhabarat officers training institute.

Directorate 18:
Iran; responsible for the Mujahideen Khalq organization (MKO). MKO's orders come from this directorate.

Directorate 19:
Personnel Supervison; responsible for surveillance of Mukhabarat employees.

Directorate 20:
Printing; responsible for printing forged documents and passports, plus all other printed matters.

Directorate 21:
Residency; responsible for monitoring the residence permits of all foreigners in Iraq.

Directorate 22:
Protection; this directorate is responsible for protection of senior Mukhabarat officials and visitors.

Directorate 23:
Southern District; responsible for Mukhabarat operations in southern Iraq and infiltrating neighbouring countries in the south.

Directorate 24:
Northern District; responsible for Mukhabarat operations in northern Iraq and Iraqi Kurdistan, and infiltrating the opposition in Iraqi Kurdistan.

Directorate 25:
Western District; charged with operations and recruitment of agents in Syria and Jordan.

Directorate 26:
Eastern District; responsible for operations in Karbala Governorate.

Directorate 27:
Engineering and Construction; responsible for construction of Mukhabarat buildings and houses for senior officers.

Directorate 28:
Security of Military Industrialisation organization; responsible for the security of MIO facilities.

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::: Al Amn al-Khas / Special Security Service (SSS)

Al Amn al-Khas, also known as Special Security Service or the Presidential Affairs Department, is the most feared Ba'thist organ of repression. The SSS was formed to lead the rapidly growing Republican Guard in the eighties. Nowadays they are charged with the protection of the Baath leadership in Iraq.

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::: Republican Guard

Iraq's elite shock troops. They played an important role in both the Iran-Iraq war and the invasion of Kuwait.

* * * * * * * * * * *

::: Al Hadi Project 858

The Al Hadi Project 858 is Iraq's main SIGINT, COMINT and ELINT organ. The intelligence collected by Project 858 is passed on to the other agencies for their utilization.

They not only monitor direct-link satellite phone calls but they also monitor the operators who assist in terrestrial international phone connections.

Their monitoring stations are able to locate clandestine radio transmitters within 30 seconds after transmissions commence.

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::: Al Amn al-Askariyya / Military Security Service (MSS)

Amn Al-Askariyya is responsible for detecting dissidents and corruption within the armed forces.

* * * * * * * * * * *

::: Al-Istikhbarat al-Askariyya / Military Intelligence

This organization consists of six branches;

- Administration branch
  Handles all administration for the MI.

- Political branch
  Responsible for intelligence collection abroad.

- Military brigade
  They mainly protect the Baghdad region.

- Special branch
  Responsible for clandestine operations.

- Security unit
  Internal security organization for countering dissent in the armed forces.

- Unit 999
  Responsible for domestic and international clandestine operations, sabotage and countering opposition groups.

  There are six battalions to counter opposition groups. Each battalion is responsible for a specific area.

    1st Battalion -> Iran
    2nd Battalion -> Saudi Arabia
    3rd Battalion -> Israel
    4th Battalion -> Turkey
    5th Battalion -> Sea-borne operations
    6th Battalion -> Kurdish and Shias opposition

* * * * * * * * * * *

::: Mudiriyat al-Amn al-Amma / General Security Service (GSS)

The Mudiriyat al-Amn al-Amma reports directly to the Presdidential Office and is charged with the detection of dissent, opposition, smuggling, gun-running, etc.

* * * * * * * * * *

::: Special Republican Guard (SRG)

This elite para-military group was founded by Saddam to act as his personal guards.

* * * * * * * * * *

::: Fedayeen Saddam / Martyrs of Saddam ('Men of Sacrifice')

Founded by Saddam's son Uday, the para-military Fedayeen Saddam, is responsible for patrol and anti-smuggling duties. The Martyrs report directly to the Presidential Office. The mainly young Martyrs are recuted from regions loyal to Saddam.

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M20	N&O-04
M21	N&O-06
M21 update	N&O-07
M23	N&O-05
M24	N&O-05
M26	N&O-05

M26 update	N&O-08
M29	N&O-05
M34	N&O-05
M51	N&O-09
M63	N&O-07
M76	N&O-09
P7X	N&O-05

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THE WUN QSL CENTER
Deadlines: 15th of each month

John (J.D.) Stephens
P.O. Box 11522
Huntsville, AL 35814-1522, U.S.A.

E-Mail: jdstephens@geocities.com

With this column, we have the most reporters ever for a column in 1998 - a fitting way to close out the year! Thanks to all who contributed to this issue, and to everyone who helped make the WUN QSL Center a success in 1998. I'd like to extend a hearty "Happy Holidays" to everyone, and may the New Year bring a wealth of happiness, prosperity, and health to all.

Here's what we have for you this month:

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AZORES: CSY - Santa Maria Aeradio. 5598 f/d ltr. for report left on their website. V/s: Mr. Emilio Pereira - Station Chief. (JR)
6628 same f/d QSL form in 71 ds. after 2 f/ups, the latest left on the website. (JDS) . Same in 18 ds. for report posted on their webpage.(EG)
6628 same QSL form in 18 ds. for report posted on the website. (RB).

ESTONIA: Kuresaare Rescue. 5680 Email + cd. in 14 ds. V/s: Mati Terve
Address: Kuressaare MRSC, Saarema Piirivalve Piirkond, Tallinna 19, 93811 Kuressare, Estonia. (JS) Same QSL cd. in an unspecified length of time. Thanx to John Svendsen for the address and verie signer tip! (RV)

ITALY: IAR8 - Roma Radio. 8670 f/d letter, map and PFC in 57 ds. V/s: FCC-IACONO Giovanni Michele - Senior Radio Operator Assistant, Old Merchant Navy Radio Officer. Address: Telecom Italia SPA, Centro Operativo di Romaradio, Via dell Cesarina 282, 00139 Rome, Italy. (JC)

UNITED STATES: AAR5CF - Army MARS, Newton, Illinois.
13993 (100 watts) f/d QSL cd and PFC in 9 ds. V/s: Robert H. Dhom. (JC)

UNITED STATES: AAV5QS - Army MARS, Garyling, Michigan.
6913 (100 watts) PFC in 23 ds. V/s: Marshall D. Damouth. (JC)

UNITED STATES: AFA4WI - Air Force MARS, Lawton, Oklahoma.
7302 PFC and ltr. in 12 ds. V/s: Terry L Oates. (JC)

UNITED STATES: AFA5BK - Air Force MARS, Emmett, Idaho.
13993 (100 watts) PFC in 10 ds. V/s: William M. Borup. (JC)

UNITED STATES: AFF2M - Air Force MARS, Memphis, Tennessee.
4500 PFC in 10 ds. V/s: Gary A. Blinckmann. (JC)

UNITED STATES: AGA5MC - Air Force MARS, McChord AFB, Washington.
13993 (100 w) PFC in 9 ds. V/s: Robert E. Fricks. (JC)

UNITED STATES: NNN0BMV - Navy MARS, Dell Rapids, South Dakota.
14383 f/d QSL cd. in 12 ds. V/s: William P. Huntimer. (JC)

UNITED STATES: NNN0RPM - Navy MARS, Littleton, Colorado.
4041 (50 watts) PFC in 12 ds. V/s: Michael R. Manes. (JC)

UNITED STATES: WOO - Ocean Gate Radio. 8749 f/d QSL cd. and "Fingertip Guide" in 90 ds. V/s: Appears to be: Joe R. May.
Address: AT&T Station WOO, P.O. Box 550, End of Beach Avenue, Manahawkin, NJ 08050. (JC)

UNITED STATES: Otis Air Force Base. QSL cd. in 6 wks. (JB)

NON-DIRECTIONAL BEACONS

GNI - Grand Isle, Louisiana: 236 f/d PFC in 16 ds. V/s: Kevin Alleman
Address: Federal Aviation Administration, Orleans SSC, Moisant Airmail Facility, International Airport, New Orleans, LA 70141 U.S.A. (JDS)

AIRCRAFT

Continental Flight 37: 11345 QSL in 18 ds. Aircraft is a DC-10-30 on flight from Dusseldorf to Newark. V/s: Capt. Andrew E. Jost, Jr.
Address: Continental Airlines Inc., Chief Pilot's Office, Terminal C2, Gate 105, Newark International Airport, Newark, NJ 07114, U.S.A. (JS)

SHIPS

USS DeWert (FFG-45). 10780 n/d ltr. in 88 ds. after 4 f/ups.
V/s: ENS. Joseph E. Huggins - Communications Officer. (JDS)

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OTHERNESS

John Barnett adds that Otis Air Force Base also has a web site at http://www.falara.org

Ruud Vos passes along the address for Riga Rescue. It's;
Riga Rescue, SAR, Andrejsala 4,
LV-1045 Riga, Latvia.

Jim Cumbie writes about his success in obtaining Ute QSLs. Jim says "I am amazed at how many utes (at least coast stations) have their own QSL cards and letters now. Back in the 50s and 60s, even though an operator would occasionally send a personal letter, I counted my self fortunate to receive a just a PFC. Perhaps less than 1% of the utes I verified then had their own card. My formula for sending reception reports to utes (and probably no great revelation) is 1) Put an assortment of commemorative stamps on the envelope, 2) Include a f/d PFC even if I suspect the station has its own QSL card or letter, 3) Include 2 IRCs, and 4) Include a picture postcard of Dallas "as a gesture of friendship. The only drawback is the extra postage required, but it seems to pay dividends."

In a separate message, Jim talked about his WOO QSL; "WOO is not a great DX catch, but in the 50s and 60s, persons sending reports to AT&T stations got a non-specific QSL letter back. At that time, I didn't think it was worth my while to send WOO a report. In a manner of speaking, you can say I have been waiting 40 years for that QSL!"

Great tips, Jim! Thanx for sharing your experiences. How about others sending in their QSL stories to share with other WUNers? Thanx to Ruud and John, too!

Abbreviations used:

f/d = Full data p/d = partial data n/d = no data
cd.= QSL card ltr = letter PFC = Prepared Form Card
V/s = Verification Signer ds = ds wks = weeks
SASE = self addressed stamped envelope ms = mint stamps

This month's illustrious eight:

Enzio Gehrig - Denia, Spain (EG)
Rick Baker - Youngstown, Ohio, U.S.A. (RB)
John Barnett - York, England (JB)
Ruud Voss - Utrecht, The Netherlands (RV)
John Raynes - Immingham, U.K. (JR)
John Svendsen - Oslo, Norway (JS)
Jim Cumbie - Dallas, Texas, U.S.A. (JC)
Your Editor - Madison, Alabama, U.S.A. (JDS)

See you in 1999!

73 de JDS.

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UTILITY ROUND-UP

- Editor: Ary Boender ***** E-mail: ary@luna.nl -
- -
- Nickname on IRC channels #wun #monitor #numbers: Ary-B -

Steve Johnston of the Australian National 4WD Radio Network Inc. informs us about the new developments of the Network. Thanks Steve!

****

Hi fellow WUNners

The Australian National 4WD Radio Network Inc. is just about to expand its Network of Base stations around Australia.

A licence application was submitted to the Australian Communications Authority on Monday the 7th of December 1998 for the new base station at Darwin in the Northern Territory.

The base will consist of a fully automated / remote controlled transceiver and telephone interconnect unit similar to those presently installed at Adelaide (South Australia), Alice Springs (Northern Territory), Perth (Western Australia) and St Marys (Tasmania). The transceiver will be under the joint control of the Northern Territory Dept of Correctional Services, and CREST (NT), the base controller will be Ian Birbeck the Director of CREST in the Northern Territory.

The service will provide automatic incoming connections to services such as the NT Police, St John Ambulance, Royal Flying Doctor Service, Australian Customs Service etc. The base can also be remotely controlled from any of the existing VKS-737 bases around Australia as well as by any of the Emergency Service organisations (i.e. Police, RFDS etc) that are affiliated with the Australian National 4WD Radio Network.

The base will monitor all VKS-737 frequencies i.e.
Ch.1 5455 kHz
Ch.2 8022 kHz
Ch.3 11612 kHz
Ch.4 14977 kHz
Ch.5 3995 kHz

As soon as we get the licence from ACA we will let you all know so that you can start monitoring the site.

Plans are also under way for a new base at Derby in Western Australia,

it is hoped that a licence application will be lodged with ACA early in 1998.

Bushfire & Cyclone Reports:
It is that time of year when Australia suffers from Bushfires and Cyclones so once again our bases are now regularly transmitting warnings to members, other travellers, fishermen etc.

The bushfire warnings are transmitted on our regular daily voice call schedules (see our Web Site at http://4wdclubs.sofcom.com/au/an4wdrn/ for schedule times).

The Australian National 4WD Radio Network has also recently been contracted by the Northern Territory Bushfire Council to provide their bushfire warning information service out of the Alice Springs Base. This has involved the installation of additional transmitters both on HF and also VHF at the base station.

Cyclone warnings are transmitted as they are received from the Bureau of Meteorology - this is usually at around 3 or 4 hour intervals, however the frequency of warnings may increase in cases of extreme danger.

For further details on the operation of the Australian National 4WD Radio Network please check our website at

http://4wdclubs.sofcom.com/au/an4wdrn/

73,

Steve Johnston
VKS-737 mobile Sierra 1
Chairman

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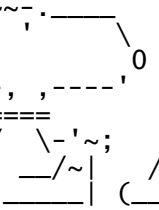
||||| PRODUCTS and BOOKS Review ||||||



Editor.....Bob Margolis
136 East Woodland Road
Lake Forest, IL 60045-1729

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Buying a Used Shortwave Receiver: A Market Guide to Modern Shortwave Radios (Fourth Edition)

Many of you may have walked into a store to buy a used shortwave radio receiver and stood there perplexed as you gazed upon several shelves with a wide assortment of radios, leaving you wondering which model was best for your purpose. Fred Osterman's fourth edition of Buying a Used Shortwave Receiver: A Market Guide to Modern Shortwave Radios will enable you to determine what suits your needs best before entering the store.

Why would one want to buy a used model? Answer: The savings in cost of up to 40 percent off the price of a current model to around 50 percent for a discontinued one.

This book is a guide to solid-state shortwave receivers produced in the past 20 years. It covers the 100 most popular portable and tabletop receivers sought by shortwave DXers from these manufacturers: Allied, AOR, Drake, Grundig, Icom, Japan Radio Co., Kenwood, Lowe, Magnavox, McKay Dymek, Panasonic, Realistic, Sangean, Sony, Yaesu, Galaxy, Racal, TEN-TEC and W-J.

The specs on each model include 1) Manufacturer name and model

number, 2) Receiver type, 3) Country of manufacture and years marketed, 4) Voltage requirements, 5) Frequency coverage in kilohertz, 6) Type of frequency readout or display, 7) Modes of Reception, 8) Selectivity, 9) Circuit type, 10) Size and weight, 11) Radio features, 12) Optional accessories, 13) Selling price range when new, 14) Used value price at time of the book's publication, 15) Value ratings of the model on the used market, and 16) Comments. Each model is shown with its photograph.

The 78-page paperbound book sells for U.S. $5.95 plus $2.00 for shipping, and is available from Universal Radio, 6830 Americana Parkway, Reynoldsburg, Ohio 43068. Order #0444.

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THE MILITARY NEWSREEL
---- Military Information of use to the UTE monitor ----

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Hello, everyWUN, and welcome to the last Military Newsreel column of 1998! I hope you and your families have a wonderful holiday season! My family and I wish you all the best in 1999!

In addition to this being the last Military Newsreel of 1998, it is also my last one as Editor of the column. Since no one has stepped forward to take over the column, it will no longer be a regular item in the future WUN Newsletters. Ary Boender will be taking it over on a time (and information) available basis. Perhaps one of you would like to take on this column on a full-time basis? If so, it it not too late! Send me an email and I'll fill you in on all of the details and sources for gathering the information.

This month we have a large column with a lot of interesting material. Previously we have taken close looks at the USCG Air Assets, the Royal Australian Navy, and the vessels of the US Army's Transportation Command. This month we'll be focusing on the Royal New Zealand Navy. In addition to this focus article, we have a lot of news from around the world and the final portion of Gary Tester's Names and Nicknames listing.

So onto the column...and onto the new year!

- Military News -

As reported in the June 98 Military Newsreel...

WASHINGTON, Dec 1 (AFP) - The Pentagon announced Tuesday a proposed lease or sale of four Kidd-class guided missile destroyers to Greece in a deal estimated to be worth 720 million dollars.

The proposal is the latest in a series of proposed US arms sales to Greece and Turkey that critics say is fueling an arms race at a time of tension between the two NATO members.

"Greece needs these frigates to continue its naval modernization program and enhance its air defense capability," the Pentagon said.

"This sale will not adversely affect either the military balance in the region or US efforts to encourage a negotiated settlement of the Cyprus question," the Pentagon said.

Tensions between Greece and Turkey have been fueled in part in recent months by plans by Cyprus to acquire Russian-made S-300 surface to air missiles. Athens has encouraged their deployment, which Turkey and Washington both oppose.

But the Pentagon has sought to keep the issue of US arms sales separate from the rivalry between Greece and Turkey, both of which plan to buy billions of dollars in weaponry over the next decade to upgrade their militaries.

Three of the destroyers proposed for sale to Greece are now in mothballs, while the fourth would come directly from the US fleet, the Pentagon said.

First deployed in 1981, the four Kidd class destroyers originally were built for Iran under the shah, but were acquired by the navy after the Iranian revolution.

Besides the destroyers, the proposal includes 32 harpoon anti-ship missiles, 48 MK 46 torpedoes, 64 anti submarine rockets and other munitions.

Less than two weeks ago, the Pentagon announced a possible sale to Turkey of three Perry class frigates to Greece and eight Knox class frigates that are currently leased.

WASHINGTON (NNS) -- Guided Missile Destroyer Donald Cook (DDG 75) will be commissioned Dec. 4 at Penn's Landing in Philadelphia.

Army Gen. Henry H. Shelton, Chairman of the Joint Chiefs of Staff, is scheduled to be the ceremony's principal speaker. Laurette Cook, widow of the ship's namesake, is the ship's sponsor. In the time-honored Navy tradition, Mrs. Cook will give the order, "Man our ship and bring her to life!"

The ship honors Marine Corps Col. Donald G. Cook (1934-1967), who was posthumously awarded the Medal of Honor for Gallantry as a prisoner of war in Vietnam. Reports indicate that Cook died in captivity after he succumbed to Malaria on Dec. 8, 1967.

The destroyer carries Tomahawk cruise missiles, as well as Standard missiles to intercept hostile aircraft and missiles at extended ranges. Both Tomahawk and Standard missiles are launched from forward and aft vertical launching systems. Donald Cook is also equipped with the Phalanx Close-In Weapons System and Harpoon anti-ship cruise missiles, which are fired from stand-alone launchers.

Its undersea warfare suite is the most advanced system in the world. The tactical towed-array sonar provides long-range passive detection of enemy submarines. The hull-mounted sonar can detect and track submarines actively and passively.

After commissioning, USS Donald Cook will be homeported in Norfolk as a member of the U.S. Atlantic Fleet with a crew of 25 officers and 350 enlisted personnel. The ship was built at Bath Iron Works in Bath, Maine.

RAMSTEIN AIR BASE, Germany (AFPN) -- The Air Force plans to reassign several aircraft belonging to U.S. Air Forces in Europe in fiscal 1999.

The moves comply with a 1996 Combat Air Forces decision to return fighter squadrons to a standard size of 24 primary assigned aircraft, and will allow USAFE fighter units to better-support normal operations during partial squadron deployments.

Command fighter units are currently made up of 18 assigned aircraft.

The reorganization affects Spangdahlem Air Base, Germany, and Royal Air Force Lakenheath, England.

Spangdahlem's 23rd Fighter Squadron will gain six F-16 aircraft from the Combat Air Force's attrition reserve fleet. The air base's 53rd Fighter Squadron, currently comprised of 18 F-15C aircraft, will be deactivated. Six of the aircraft will move to Lakenheath's 493rd Fighter Squadron, and the remaining aircraft will be transferred to Air Combat Command.

WASHINGTON (NNS) -- The Navy will commission its newest nuclear-powered attack submarine Connecticut (SSN 22), at Submarine Base New London, Conn., in a ceremony Dec. 11.

Senator (Conn.) Joseph I. Lieberman will deliver the principal address. Mrs. Patricia Rowland, wife of Connecticut Governor John G. Rowland is the ship's sponsor. In a time-honored Navy tradition, Mrs. Rowland will give the order to "Man our ship and bring her to life!"

Connecticut is the second ship of the Seawolf-class, the most capable attack submarine ever built. With mission and growth capability far beyond previous submarines, the robust design uniquely supports missions such as surveillance, intelligence collection, special warfare, covert

cruise missile strike, mine warfare, anti-submarine and anti-surface ship warfare.
  In addition to its formidable open ocean presence, the Seawolf-class is also a highly capable shallow water warfare platform, setting the standard for submarine technology into the next century. Its inherent stealth coupled with state-of-the-art sensors and advanced combat systems make it one of the world's most advanced weapons systems and the benchmark for undersea excellence. Connecticut's flexibility and impressive capabilities provide the Navy with an undersea weapons platform to operate in any scenario against any threat - from under Arctic ice to shallow water.
  Armed with the battle-proven Tomahawk cruise missiles, Connecticut can safely conduct deep strike missions while submerged far off an enemy's coast. Connecticut also carries the Mark 48 advanced capability torpedo, the most reliable torpedo in the world for use against surface ships and submarines. Connecticut has twice as many torpedo tubes and 30 percent greater weapons capacity than a Los Angeles-class submarine.
  Four previous U.S. Navy ships have been named Connecticut. The first, a gunboat (1776), participated in the battle of Valcour Island; the second, a sloop-of-war (1799-1801), protected American shipping in the West Indies during the Quasi-War with France; the third, a steamer (1861-1865), contributed to the success of the Union blockade of the Confederacy during the Civil War; and the fourth, a battleship (BB 18), took part in the famous world cruise of the "Great White Fleet."
  Following its commissioning, Connecticut will join the U.S. Atlantic Fleet with Capt. Larry Davis as Commanding Officer. Connecticut will be homeported in Groton, Conn., with a crew of 14 officers and 120 enlisted personnel.

  WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFPN) - An unmanned aerial vehicle being developed by the Aeronautical Systems Center here soared to 50,000 feet and checked wideband communication links during the program's eighth successful test flight.
  Global Hawk No. 2 met all test objectives during its second flight Dec. 4 at the Air Force Flight Test Center, Edwards Air Force Base, Calif.
  "The most significant accomplishment on this mission was the demonstration of wideband communications between the air vehicle and the ground station," said Col. Pat Bolibrzuch, Air Force program manager. "We confirmed the system's ability to send imagery data to the warfighter on the ground. This is another first step, and will help pave the way as we enter sensor flight testing in a couple of weeks."
  Global Hawk No. 2 flew for the first time Nov. 20, remained airborne for 3.1 hours and reached 50,000 feet in altitude. It and Global Hawk No. 1 -- which has made six flights in 1998 - are each designed to demonstrate the airworthiness of the UAV.
  "For Global Hawk No. 1, we've accomplished many milestones during this flight test program," Bolibrzuch said. "We've gone from contract award to first flight in only 32 months and demonstrated safe, controllable, autonomous operations, including automated takeoff, climb, cruise, descent and landing.
  "Global Hawk No. 1 has flown in limited civilian and expanded military airspace, and shown that its command and control functions can be handed off from the launch and recovery element at Edwards to the mission control element at the Teledyne Ryan Aeronautical prime contractor facility in San Diego.
  "During 30 hours of accumulated test flights, we've also demonstrated that we can override Global Hawk's airspeed, altitude and heading, and flight-control spoilers," Bolibrzuch said. "We've shown that Global Hawk can return to home base automatically if its command link is severed, manage a 'go-around' from missed landing approach, and take off -- fully loaded with 14,000 pounds of JP-8 fuel -- only 3,500 feet down the runway."
  Future test goals for the second Global Hawk include two flights now scheduled for late December and mid-January, to check operation of an integrated-sensor suite. Both vehicles will be used to characterize ISS electro-optical and synthetic aperture radar functions and

survivability, beginning with three flights -- two for vehicle No. 1, and one for vehicle No. 2, in late January and February.
  Manufactured by Teledyne Ryan Aeronautical, Global Hawk -- with a wingspan of 116 feet -- will provide battlespace commanders near-real-time intelligence imagery from high altitudes for long periods of time, using SAR, moving target indicator, EO and infrared sensor systems.
  The data gathered by Global Hawk will be relayed to decision-makers via world-wide satellite communication links to its ground segment.
  A typical reconnaissance mission for Global Hawk might involve operating at a range of 12,500 nautical miles, at altitudes up to 65,000 feet for 38 to 42 hours. Capable of flying 3,000 miles to an area of reconnaissance interest, Global Hawk could then survey an area the size of Illinois (40,000 square nautical miles) for 24 hours, relaying intelligence data via ground and airborne links -- and return 3,000 miles to its operating base.
  Following the end of Global Hawk's flight testing program in April, U.S. Atlantic Command and Air Combat Command will conduct a military utility assessment to determine how they might use UAVs in future operations.

    At the end of November, the South African government announced their proposed $5.9 billion (USD) procurement program for the beginning of the next century. Among the items to be purchased for the South African Air Force (SAAF) are:

    28 - BAe/Saab JAS-39 Gripen multi-role fighters.
            These planes will be used to replace the current generation Atlas Cheetah C aircraft which are reaching the end of their effective lifespan. Of the 28 aircraft to be purchased, a still uncertain number will be of the two-seat JAS-39B model.

    24 - BAe Hawk 100
            These planes will replace the obsolete Impala trainers currently used by the SAAF. In addition, these jets will be assembled and flight-tested in South Africa, providing a much needed boost for South African defense industry.

    40 - Agusta A109 utility helicopters
            These helos will serve as much-needed replacements for the Alouette IIIs currently in service with the SAAF.

    Not to be left out, the South African Navy (SAN) is also slated to receive some new equipment. The goal of the procurements for the SAN is to facilitate the blue-water missions of the SAN. This capability is currently hampered by the age and capabilities of current equipment and vessels. The major items to be purchased include:

    4 - MEKO A200 Patrol Corvettes
            Each of the Corvettes will be capable of embarking and supporting a light helicopter. These vessels are similar in design to those operated by several other nations. No word on final weapons fit or sensors is available.

    3 - Type 209-class Patrol Submarines
            These submarines will be used to replace the three aging Daphne-class submarines currently in service.

    4 - Westland Lynx Series 300 Helicopters
            These helicopters will be supplied for use on the new A200 patrol corvettes. Reportedly, these helicopters will be delivered with no weapons capability.

    These purchases are expected to provide an effective boost to the troubled South African defense industry through the use of joint venture agreements. With much of the work on these purchases to be conducted by

South African firms, an expected 60,000+ new jobs will be created.

The Russian military has traditionally been a very secretive, closed organization. However, the Russian Ministry of Defense has started to open up, a bit at a time. Recently, the Russian MOD has finally taken its first steps into cyberspace. Check out the following official web sites of the Russian military, and look for more sites to open in the near future.

The Russian MOD is at:	www.rian.ru/mo/index.htm (in Russian)
The Russian Navy is at:	www.navy.ru (in Russian) www.navy.ru/eindex.htm (in English)
The Russian Military/ Industrial Complex	http://www.vpk.ru:8082/index.htm (in Russian)

----------Focus on Royal New Zealand Navy----------

The Royal New Zealand Navy is a small, but active Navy. Working in close coordination with the Royal Australian Navy, the RNZN is a vital part of the ANZAC alliance.
We'll take a look at both the shore and fleet components of the RNZN, along with the aviation assets available to the RNZN. Finally, we'll look at the communications profile of the RNZN.

Major Shore Establishments
HMNZS Wakefield - HQ Wellington
HMNZS Philomel - Fleet Support, Auckland
HMNZS Tamaki - Fleet Training, Auckland
HMNZ Dockyard - Repair/Service Auckland

Navy Reserve Divisions
HMNZS Toroa - Navy Reserve Division Dunedin
HMNZS Pegasus - Navy Reserve Division Lyttelton
HMNZS Olphert - Navy Reserve Division Wellington
HMNZS Ngapona - Navy Reserve Division Auckland

The Fleet of the Royal New Zealand Navy

ANZAC (Meko 200) Class Frigates (FF)

F77	Te Kaha	
F111	Te Mana	To be commissioned, April 1999

Leander-class Frigates (FF)

F69	Wellington	
F421	Canterbury	

Moa-class Patrol Craft (PC)

P3553	Moa	Operated by RNZN Reserve Division Dunedin
P3554	Kiwi	Operated by RNZN Reserve Division Lyttelton
P3555	Wakakura	Operated by RNZN Reserve Division Wellington
P3556	Hinau	Operated by RNZN Reserve Division Auckland

Replenishment Tanker (AOR)

A11	Endeavour	

Sealift Ship (AK)

A02	Charles Upham	

Training Ship (AXL)

A04	Kahu	Same design as MOA-class Patrol Craft

Diving Tender (YDT)

A09	Manawanui	Former Star Perseus North Sea Oil Rig Tender

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    Stalwart-class Survey Ship (AGS)
        A14     Resolution      Former USNS Tenacious (T-AGOS-17)

    Inshore Survey Craft (AGSC)
        A07     Takapu      Same design as MOA-class Patrol Craft
        A08     Tarapunga   Same design as MOA-class Patrol Craft

    Coastal Tugs (TYB)
        A10     Arataki
                Tamaki - Chartered for civilian use


The Naval Aviation Element - Hobsonville Airbase, Auckland

    4 Kaman SH-2F SEASPRITE Helicopters

        These helicopters were delivered by the US Navy for operation
        from the ANZAC and LEANDER-class frigates.  New-build Kaman
        SH-2G SEASPRITEs to be delivered in 2000. Operated by 3 Squadron
        RNZAF at Hobsonville Airbase when not deployed.

Communications Information

    Frequencies
        2733
        3023    Search and Rescue (as needed)
        3032    RNZAF General Purpose Net (aircraft)
        3192    Secondary Ship-to-Shore
        5680    Search and Rescue (as needed)
        5687    RNZAF General Purpose Net (aircraft)
        6337
        8316    Primary Ship-to-Shore
        8974    RNZAF General Purpose Net (aircraft)
       11235    RNZAF General Purpose Net (aircraft)
       12717
       13206    RNZAF General Purpose Net (aircraft)
       17224

       Note: VHF Ch 72/UHF/Cellular used when in range of coast.

    Callsigns
        Shore COMSTAs
            ZLO - Navy Waiouru
            ZLP - Navy Auckland

        Vessels
            Use "WARSHIP"+vessel name during routine operations
            Use tactical callsign during tactical operations

        Helicopters
            NZ34xx

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thanks to Ian and Annonymous, whose information was heavily relied upon
for this article.

Andrew Brill, Auckland, NZ
Annonymous, Wellington, NZ
Ian Julian, Hamilton, NZ
Noel Jones, Auckland, NZ
Jane's All The World's Fighting Ships 1998-99 Edition
Royal New Zealand Navy's Official Website (www.navy.mil.nz)

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Gary Tester has compiled an extensive list of aircraft nicknames.  This
listing includes most historic and modern aircraft, along with their
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manufacturers and notes. As this listing is rather lengthy it has been broken up over the last three months. Parts I and II were in October's and November's newsletters. Here is Part III...

N A M E S & N I C K N A M E S

H-1	Iroquois	Mfgr: Bell
NICKNAME(S):		
NOTES:		
AH-1G	HueyCobra	Mfgr: Bell
NICKNAME(S):		
NOTES:		
AH-1J	SeaCobra	Mfgr: Bell
NICKNAME(S):		
NOTES: USMC		
UH-1	Huey	Mfgr: Bell
NICKNAME(S):		
NOTES:		
SH-2	Sea Sprite	Mfgr: Kaman
NICKNAME(S):		
NOTES:		
H-3	Sea King	Mfgr: Sikorsky
NICKNAME(S): Jolly Green Giant		
NOTES:		
OH-4		Mfgr: Bell
NICKNAME(S):		
NOTES:		
H-5	Dragonfly	Mfgr:
NICKNAME(S):		
NOTES:		
OH-5A		Mfgr: Hiller
NICKNAME(S):		
NOTES:		
H-6	Hoverfly	Mfgr:
NICKNAME(S):		
NOTES: Post WWII		
H-6	Cayuse	Mfgr: Hughes
NICKNAME(S): Loach		
NOTES: Recent		
H-13	Sioux	Mfgr: Bell
NICKNAME(S):		
NOTES:		
H-16	Transporter	Mfgr:
NICKNAME(S):		
NOTES:		
H-19	Chickasaw	Mfgr: Sikorsky
NICKNAME(S):		
NOTES:		
H-21	Shawnee	Mfgr:
NICKNAME(S):		
NOTES:		
H-23	Raven	Mfgr:
NICKNAME(S):		
NOTES:		
H-30		Mfgr:
NICKNAME(S):		
NOTES:		
H-34	Choctaw	Mfgr: Sikorsky
NICKNAME(S):		
NOTES:		
H-37	Mojave	Mfgr:
NICKNAME(S):		
NOTES:		
H-43	Husky	Mfgr: Kaman
NICKNAME(S):		
NOTES:		
H-46	Sea Knight	Mfgr:
NICKNAME(S):		

NOTES:

H-47 Chinook Mfgr: Boeing Vertol
NICKNAME(S):
NOTES:

H-50 Gyrodyne Mfgr:
NICKNAME(S):
NOTES: Unmanned

H-51 Aerogyro Mfgr:
NICKNAME(S):
NOTES: 2 off

H-53 Sea Stallion Mfgr: Sikorsky
NICKNAME(S):
NOTES:

MH-53 Pave Low III Mfgr:
NICKNAME(S):
NOTES:

H-54 Skycrane; Tarhe Mfgr: Sikorsky
NICKNAME(S):
NOTES:

H-56 Cheyenne Mfgr: Lockheed
NICKNAME(S):
NOTES: 10 off

AH-56 Cheyenne Mfgr: Lockheed
NICKNAME(S):
NOTES:

H-58 Kiowa Mfgr: Bell
NICKNAME(S):
NOTES:

OH-58 Kiowa Mfgr: Bell
NICKNAME(S):
NOTES:

H-60 Blackhawk Mfgr: Sikorsky
NICKNAME(S):
NOTES:

UH-60 Blackhawk Mfgr: Sikorsky
NICKNAME(S): Catfish
NOTES:

AH-64 Apache Mfgr: Hughes
NICKNAME(S):
NOTES:

H-65 Dauphin Mfgr: Aerospatiale
NICKNAME(S):
NOTES:

H-66 Comanche Mfgr:
NICKNAME(S):
NOTES:

HH-52 Sea Guardian Mfgr:
NICKNAME(S):
NOTES:

HH-65 Dolphin Mfgr:
NICKNAME(S):
NOTES:

HU-52 Guardian Mfgr:
NICKNAME(S):
NOTES:

Il-12 Mfgr: Ilyushin
NICKNAME(S): Coach (NATO)
NOTES:

Il-14P Passazhirskii Mfgr: Ilyushin
NICKNAME(S): Crate (NATO)
NOTES: Passenger Version

Il-14T Transportny Mfgr: Ilyushin
NICKNAME(S): Crate (NATO)
NOTES: Cargo/Transport Version

Il-18 Moskva Mfgr: Ilyushin
NICKNAME(S): Coot (NATO)
NOTES:

Il-20 Mfgr: Ilyushin

NICKNAME(S): Coot (NATO)
NOTES:

Il-22 Mfgr: Ilyushin
NICKNAME(S): Coot (NATO)
NOTES:

Il-28 Mfgr: Ilyushin
NICKNAME(S): Beagle (NATO)
NOTES:

Il-28U Mfgr: Ilyushin
NICKNAME(S): Mascot (NATO)
NOTES:

Il-36 Mfgr: Ilyushin
NICKNAME(S):
NOTES:

Il-38 Mfgr: Ilyushin
NICKNAME(S): May (NATO)
NOTES:

Il-40 Mfgr: Ilyushin
NICKNAME(S): Brawny (NATO)
NOTES:

Il-62 Mfgr: Ilyushin
NICKNAME(S): Classic (NATO)
NOTES:

Il-76 Mfgr: Ilyushin
NICKNAME(S): Mainstay (NATO)
NOTES:

Il-76 Mfgr: Ilyushin
NICKNAME(S): Adnan (NATO)
NOTES:

Il-76T Mfgr: Ilyushin
NICKNAME(S): Candid (NATO)
NOTES:

Il-78 Mfgr: Ilyushin
NICKNAME(S): Midas (NATO)
NOTES:

JU87 Mfgr: Junkers
NICKNAME(S):
NOTES:

JU88 Stuka Mfgr: Junkers
NICKNAME(S):
NOTES:

Ka-10 Mfgr: Kamov
NICKNAME(S): Hat (NATO)
NOTES:

Ka-15 Mfgr: Kamov
NICKNAME(S): Hen (NATO)
NOTES:

Ka-20 Mfgr: Kamov
NICKNAME(S): Harp (NATO)
NOTES:

Ka-25 Mfgr: Kamov
NICKNAME(S): Hormone (NATO)
NOTES: Many versions

Ka-26 Mfgr: Kamov
NICKNAME(S): Hoodlum (NATO)
NOTES:

Ka-27 Mfgr: Kamov
NICKNAME(S): Helix (NATO)
NOTES: Many versions

Ka-28 Mfgr: Kamov
NICKNAME(S): Helix (NATO)
NOTES: Many versions

Ka-29 Mfgr: Kamov
NICKNAME(S): Helix (NATO)
NOTES: Many versions

Ka-30 Mfgr: Kamov
NICKNAME(S): Helix (NATO)
NOTES: Many versions

Ka-41 Mfgr: Kamov
NICKNAME(S): Hokum (NATO)
NOTES:

Ka-50 Mfgr: Kamov
NICKNAME(S): Hokum (NATO)
NOTES:

Ka-50 Mfgr: Kamov
NICKNAME(S): Hocum (NATO)
NOTES:

M-4 Molot Mfgr: Myasishchev
NICKNAME(S): Bison (NATO)
NOTES:

M-17 Chayka Mfgr: Myasishchev
NICKNAME(S): Mystic (NATO)
NOTES:

M-55 Chayka Gefizika Mfgr: Myasishchev
NICKNAME(S):
NOTES: Geophysical Research

ME.109 Mfgr: Messerschmitt
NICKNAME(S):
NOTES: Also known as Bf.109

ME.110 Zerstorer Mfgr: Messerschmitt
NICKNAME(S): [Destroyer]
NOTES:

ME.163 Komet Mfgr: Messerschmitt
NICKNAME(S): [Comet]
NOTES: Rocket powered Interceptor

ME.262 Shawlbe Mfgr: Messerschmitt
NICKNAME(S): [Swallow]
NOTES: First operational Jet Fighter/Bomber

ME.410 Mfgr: Messerschmitt
NICKNAME(S):
NOTES:

Mi-2 Mfgr: Mil
NICKNAME(S): Hoplite (NATO)
NOTES:

Mi-4 Mfgr: Mil
NICKNAME(S): Hound (NATO)
NOTES:

Mi-6 Mfgr: Mil
NICKNAME(S): Hook (NATO)
NOTES:

Mi-8 Mfgr: Mil
NICKNAME(S): Hip-C (NATO)
NOTES:

Mi-10 Mfgr: Mil
NICKNAME(S): Harke (NATO)
NOTES:

Mi-14 Mfgr: Mil
NICKNAME(S): Haze-A (MATO)
NOTES:

Mi-24 Mfgr: Mil
NICKNAME(S): Hind (NATO)
NOTES:

Mi-26 Mfgr: Mil
NICKNAME(S): Halo (NATO)
NOTES:

Mi-28 Mfgr: Mil
NICKNAME(S): Havoc (NATO)
NOTES:

MiG-15 Mfgr: Mikoyan-Gurevich
NICKNAME(S): Fagot (NATO)
NOTES:

MiG-15UTI Mfgr: Mikoyan-Gurevich
NICKNAME(S): Midget (NATO)
NOTES:

MiG-17 Mfgr: Mikoyan-Gurevich
NICKNAME(S): Fresco (NATO)

NOTES:

MiG-19 Mfgr: Mikoyan
NICKNAME(S): Farmer (NATO)
NOTES:

MiG-21 Mfgr: Mikoyan
NICKNAME(S): Fishbed (NATO)
NOTES:

MiG-21UM Mfgr: Mikoyan
NICKNAME(S): Mongol (NATO)
NOTES:

MiG-23 Mfgr: Mikoyan
NICKNAME(S): Flogger (NATO)
NOTES:

MiG-25 Mfgr: Mikoyan
NICKNAME(S): Foxbat (NATO)
NOTES:

MiG-27 Mfgr: Mikoyan
NICKNAME(S): Flogger-D (NATO)
NOTES:

MiG-29 Mfgr: Mikoyan
NICKNAME(S): Fulcrum (NATO)
NOTES:

MiG-31 Mfgr: Mikoyan
NICKNAME(S): Foxhound (NATO)
NOTES:

O-1 Bird Dog Mfgr: Cessna
NICKNAME(S):
NOTES:

O-2 Super Skymaster Mfgr: Cessna
NICKNAME(S): Mixmaster
NOTES:

EO-2 Aries II Mfgr:
NICKNAME(S):
NOTES:

OV-1 Mowhawk Mfgr: Grummman
NICKNAME(S):
NOTES:

OV-10 Bronco Mfgr: North American
NICKNAME(S):
NOTES:

P-2 Neptune Mfgr: Lockheed
NICKNAME(S):
NOTES:

P-3 Orion Mfgr: Lockheed
NICKNAME(S):
NOTES:

P-3AEW&C Blue Sentinel Mfgr: Lockheed
NICKNAME(S):
NOTES:

XP-31 Swift Mfgr: Curtis
NICKNAME(S):
NOTES:

P-36 Tomahawk Mfgr:
NICKNAME(S):
NOTES:

P-38 Lightning Mfgr: Lockheed
Buzz: FA
NICKNAME(S):
NOTES:

P-39 Airacobra Mfgr: Bell
Buzz: FB
NICKNAME(S):
NOTES:

P-40 Warhawk Mfgr:
Buzz: FC
NICKNAME(S):
NOTES:

P-42 Mfgr:

Buzz: FD
NICKNAME(S):
NOTES:

P-43 Lancer Mfgr: Republic
NICKNAME(S):
NOTES:

P-44 Rocket Mfgr: Republic
NICKNAME(S):
NOTES:

P-47 Thunderbolt Mfgr: Republic
Buzz: FE
NICKNAME(S): Jug
NOTES:

XP-50 Skyrocket Mfgr: Grumman
NICKNAME(S):
NOTES:

XP-54 Swoose Goose Mfgr: Vultee
NICKNAME(S):
NOTES:

XP-55 Ascender Mfgr: Curtis
NICKNAME(S):
NOTES:

XP-56 Black Bullet Mfgr: Northrop
NICKNAME(S):
NOTES:

XP-58 Chain Lightning Mfgr: Lockheed
NICKNAME(S):
NOTES:

P-59 Airacomet Mfgr: Bell
Buzz: FJ
NICKNAME(S):
NOTES:

P-61 Black Widow Mfgr: Lockheed
Buzz: FK
NICKNAME(S):
NOTES:

P-63 King Cobra Mfgr:
Buzz: FL
NICKNAME(S):
NOTES:

P-66 Vangard Mfgr: Vultee
NICKNAME(S):
NOTES:

XP-68 Tornado Mfgr: Vultee
NICKNAME(S):
NOTES:

P-75 Eagle Mfgr: Fisher
NICKNAME(S):
NOTES:

P-82 Mfgr:
Buzz: FQ
NICKNAME(S):
NOTES:

S2F Tracker Mfgr: Grumman
NICKNAME(S): Stoof
NOTES: Became S-2D

S-2D Tracker Mfgr: Grumman
NICKNAME(S):
NOTES:

S-3 Viking Mfgr: Lockheed
NICKNAME(S): Hoover
NOTES:

S-35 Draken Mfgr: Saab
NICKNAME(S): [Dragon]
NOTES:

S-67 Blackhawk Mfgr: Sikorsky
NICKNAME(S):
NOTES:

SAAB32 Lansen Mfgr: Saab
NICKNAME(S): [Lance]
NOTES:

SAAB91 Safir Mfgr: Saab
NICKNAME(S): [Saphire]
NOTES:

SR-71 Blackbird Mfgr: Lockheed
NICKNAME(S): Habu
NOTES:

Su-7 Mfgr: Sukhoi
NICKNAME(S): Fitter (NATO)
NOTES:

Su-11 Mfgr: Sukhoi
NICKNAME(S): Fishpot (NATO)
NOTES:

Su-11U Mfgr: Sukhoi
NICKNAME(S): Maiden (NATO)
NOTES:

Su-15 Mfgr: Sukhoi
NICKNAME(S): Flagon (NATO)
NOTES:

Su-15 Mfgr: Sukhoi
NICKNAME(S): Flagon (NATO)
NOTES:

Su-17 Mfgr: Sukhoi
NICKNAME(S): Fitter (NATO)
NOTES:

Su-20 Mfgr: Sukhoi
NICKNAME(S): Fitter (NATO)
NOTES:

Su-22 Mfgr: Sukhoi
NICKNAME(S): Fitter (NATO)
NOTES:

Su-24 Mfgr: Sukhoi
NICKNAME(S): Fencer (NATO)
NOTES:

Su-25 Mfgr: Sukhoi
NICKNAME(S): Frogfoot (NATO)
NOTES:

Su-27 Mfgr: Sukhoi
NICKNAME(S): Flanker (NATO)
NOTES:

T-1A Jayhawk Mfgr: Beech
NICKNAME(S):
NOTES:

T-1A Sea Star Mfgr: Lockheed
NICKNAME(S):
NOTES:

T-2 Buckeye Mfgr: North American
NICKNAME(S):
NOTES:

T-3 Firefly Mfgr: Slingsby
NICKNAME(S):
NOTES:

T-6 Texan Mfgr: North American
Buzz: TA
NICKNAME(S):
NOTES: U.S.A. Name

T-6 Harvard Mfgr: North American
NICKNAME(S):
NOTES: Commonwealth Name

AT-6 Texan Mfgr: North American
NICKNAME(S): Awful Terrible Six
NOTES:

T-11 Kansan Mfgr: Beech
Buzz: TC
NICKNAME(S):
NOTES:

T-28 Trojan Mfgr: North American
Buzz: TL
NICKNAME(S):
NOTES:

T-33 Shooting Star Mfgr: Lockheed
Buzz: TR
NICKNAME(S): T-Bird
NOTES:

T-34 Mentor Mfgr: Beach
NICKNAME(S):
NOTES:

T-37 Mfgr: Cessna
NICKNAME(S): Tweety Bird
NOTES:

T-38 Talon Mfgr: North American
NICKNAME(S): (White) Rat; White Mosquito
NOTES:

T-39 Sabreliner Mfgr: North American
NICKNAME(S):
NOTES:

T-41 Mecsalero Mfgr: Cessna
NICKNAME(S): Chickenhawk
NOTES: Basic Training

T-42 Cochise Mfgr: Beech
NICKNAME(S):
NOTES:

T-43 Mfgr: Boeing
NICKNAME(S):
NOTES:

T-44 King Air Mfgr: Beech
NICKNAME(S):
NOTES:

T-45 Goshawk Mfgr: British Areospace
McDonnell Douglas
NICKNAME(S):
NOTES:

T-46 Mfgr: Fairchild
NICKNAME(S):
NOTES:

T-47 Citation II Mfgr: Cessna
NICKNAME(S):
NOTES:

TF Trader Mfgr: Grumman
NICKNAME(S):
NOTES: Became C-1A

Tu-16 Mfgr: Tupolev
NICKNAME(S): Badger (NATO)
NOTES:

Tu-20 Mfgr: Tupolev
NICKNAME(S): Bear (NATO)
NOTES:

Tu-22 Mfgr: Tupolev
NICKNAME(S): Blinder (NATO)
NOTES:

Tu-22M Mfgr: Tupolev
NICKNAME(S): Backfire (NATO)
NOTES:

Tu-28 Mfgr: Tupolev
NICKNAME(S): Fiddler (NATO)
NOTES:

Tu-95 Mfgr: Tupolev
NICKNAME(S): Blackjack (NATO)
NOTES:

Tu-104 Mfgr: Tupolev
NICKNAME(S): Camel (NATO)
NOTES:

Tu-114 Mfgr: Tupolev
NICKNAME(S): Cleat (NATO)

NOTES: Civilian Airliner

Tu-114 Mfgr: Tupolev
NICKNAME(S): Moss (NATO)
NOTES:

Tu-126 Mfgr: Tupolev
NICKNAME(S): Moss (NATO)
NOTES:

Tu-134 Mfgr: Tupolev
NICKNAME(S): Crusty (NATO)
NOTES:

Tu-144 Mfgr: Tupolev
NICKNAME(S):
NOTES: SST

Tu-160 Mfgr: Tupolev
NICKNAME(S): Blackjack (NATO)
NOTES:

U-1 Otter Mfgr: DeHaviland
NICKNAME(S):
NOTES:

U-2 Mfgr: Lockheed
NICKNAME(S): Dragon Lady
NOTES:

U-6 Beaver Mfgr: DeHaviland
NICKNAME(S):
NOTES:

U-8 Seminole Mfgr: Beech
NICKNAME(S):
NOTES:

U-10 Super Courier Mfgr:
NICKNAME(S):
NOTES:

U-21 King Air Mfgr: Beech
NICKNAME(S):
NOTES:

V-22 Osprey Mfgr: Bell/Boeing
NICKNAME(S):
NOTES:

WF Tracer Mfgr: Grumman
NICKNAME(S):
NOTES: Became E-1

X-1 Mfgr: Bell
NICKNAME(S):
NOTES:

X-3 Stilleto Mfgr: Douglas
NICKNAME(S):
NOTES:

X-4 Bantam Mfgr: Northrop
NICKNAME(S):
NOTES:

X-13 VertiJet Mfgr: Ryan
NICKNAME(S):
NOTES:

X-15 Mfgr: Bell
NICKNAME(S):
NOTES:

X-20 Dyna-Soar Mfgr: Boeing
NICKNAME(S):
NOTES:

X-29 Mfgr: Grumman
NICKNAME(S):
NOTES: Swept Forward Wings

X-31 Mfgr: Rockwell/MBB
NICKNAME(S):
NOTES:

XCH-62A Mfgr: Boeing-Vertol
NICKNAME(S):
NOTES:

Yak- Mfgr: Yakovlev

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    NICKNAME(S): Freehand (NATO)
    NOTES: VTOL Fighter
Yak-9                                                       Mfgr: Yakovlev
    NICKNAME(S):
    NOTES:
Yak-18                                                      Mfgr: Yakovlev
    NICKNAME(S): Max (NATO)
    NOTES:
Yak-24                              Letayuschy Vagon        Mfgr: Yakovlev
    NICKNAME(S):
    NOTES: Flying Boxcar
Yak-25                                                      Mfgr: Yakovlev
    NICKNAME(S): Flashlight (NATO)
    NOTES:
Yak-27                                                      Mfgr: Yakovlev
    NICKNAME(S): Mangrove (NATO)
    NOTES:
Yak-28                                                      Mfgr: Yakovlev
    NICKNAME(S): Brewer (NATO)
    NOTES:
Yak-28P                                                     Mfgr: Yakovlev
    NICKNAME(S): Firebar (NATO)
    NOTES:
Yak-28U                                                     Mfgr: Yakovlev
    NICKNAME(S): Maestro (NATO)
    NOTES:
Yak-36                                                      Mfgr: Yakovlev
    NICKNAME(S): Forger (NATO)
    NOTES:
Yak-38                                                      Mfgr: Yakovlev
    NICKNAME(S): Forger (NATO)
    NOTES:
Yak-40                                                      Mfgr: Yakovlev
    NICKNAME(S): Codling (NATO)
    NOTES:
Yak-42                                                      Mfgr: Yakovlev
    NICKNAME(S): Clobber (NATO)
    NOTES:
Yak-52                                                      Mfgr: Yakovlev
    NICKNAME(S):
    NOTES:
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        WUN Loggings Column                            December, 1998
          Editor: Donald E. Stidwell     (dstidwe@pilot.infi.net)
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Merry Christmas and Happy New Year to all members! Thank you all for your contributions and support throughout the year. Let's look foward to an even better year in 1999.

I have included at the end of the logs some loggings sent by a new member in Brasil: Fábio Fonseca. These logs are included separately because they are not in proper WUN format, but were interesting enough that I felt they warranted inclusion. However, this is an exception and not something I'll do as a rule.

Here's a reminder of what the proper format is:

Our format is fairly simple. The 1st 8 positions on a line are used for the frequency with spaces to fill in gaps as necessary. For example:

```
<SPACE><SPACE><SPACE>18.7<SPACE>
<SPACE><SPACE>118.0<SPACE>
<SPACE>5696.0<SPACE>
```

18345.6<SPACE>

Frequencies are always in kHz. The 9th position will begin the Call Sign or station ID followed by a colon. Example:

11300 ABC:

Next is the UTC time in 24 hour format:

11300 ABC: 1816

All the rest is free text with the date and your "user ID" ending the log:

11300 ABC: 1816 Radio Stange making a lot of noise. 11/12 (BD)

Pretty simple, huh? If you follow this format then you will save myself and the Team Logs members LOTS of work. Team Logs members are not required to collect logs that are not in this format, and I normally do not include logs in the column that aren't close to this format due to the amount of editing required to put them in the proper format.

Please avoid any direct quotes of anything you hear.

Finally, FYI - I do not collect the logs. This is done by our esteemed Team Logs members. Just remember that your chances of having your logs included and collected by Team Logs are much better the closer your logs are to our format.

Here's hoping that everyone finds that special toy under the tree! Santa came early to my house and I have a Dymek DA100E in the shack now. Works much better than the 20' of wire I had strung in the attic!

37.5 ??? ???, ??? 2054 22/Nov 200bps MSK UNID System (MC)
Tent. TFK: USNy Keflavik 0800 RTTY 200 undecodable. 28/Nov (KB)
45.9 Tent. NSY: USNy Niscemi, I 0800 RTTY 200 undecodable. Formerly on 39.9 kHz. 28/Nov (KB)
111.3 SOA211: WARSAW MET 0020 rtty 50/R/170 Met tfc. (12/Dec) (DW)
123.7 DCF42: Mainflingen DGPS 1900 SSB-2-PSK with pilot/carrier on 122.5. Who can decode this exotic mode? 29/Nov (KB)
129.5 SOA212: WARSAW MET 1610 rtty 50/170 Met tfc. (11/Dec) (DW)
129.5 SOA212: WARSAW MET 1610 rtty 50/170 Met tfc. (11/Dec) (DW)
147.3 DDH147: HAMBURG MET 1537 rtty 50/85 Wx in GG. Marker "cq de DDH47 DDH9 DDH8 frequencies 147.3 khz 11039 khz 14467.3 khz" (10/Dec) (DW)
275 HK: Athens Airport outer marker NDB, GRC 0901. 14/Nov (CK)
285 KRS: Karistos NDB, GRC 0903. 14/Nov (CK)
294 HN: Athens Airport middle marker NDB, GRC 0902. 14/Nov (CK)
294.5 Unid DGPS, RUS (Shepelevskiy?) 2330 DGPS-MSK 200. Id=1000(!) and Health=6 indicates test transmission; location derived from type 3 msg: 60-16'N 29-23'E, near St Petersburg. 17/Nov (KB)
307 Ristna DGPS, EST 1720 DGPS-MSK 200; Id=530. 2/Nov (KB)
Utsira DGPS, NOR 1830 DGPS-MSK 100; Id=785. 29/Nov (KB)
319 SUN: Cape Sounion NDB, GRC 0906. 14/Nov (CK)
338 RUD: Ruedesheim NDB, D 2100. 4/Nov (VF)
355 KNG: Konig NDB, D 2101. 4/Nov (VF)
357 KVR: Kavouri NDB, GRC 0904. 14/Nov (CK)
370 PSA: Spessart NDB, D 2104. 4/Nov (VF)
380 FW: Frankfurt NDB, D 2102. 4/Nov (VF)
382 EGN: Aigina NDB, GRC 0900. 14/Nov (CK)
392 KOR: Korinthos NDB, GRC 0905. 14/Nov (CK)
399 WBD: Wiesbaden NDB, D 2103. 4/Nov (VF)
422 MAR: Marathon Airport locator NDB, GRC 0910. 14/Nov (CK)
1617.5 Unid 75.0bd/161hz no acf 17.37 75 (BVR)
1619.5 PCH: Scheveningen radio cw/arq marker 17.40 ARQ 100 (BVR)
1659 Jersey Radio, Channel Islands 2034 USB nav wng 12/Oct (HOOD).
1692 LGQ: Rogaland radio gale wrng 17.43 USB (BVR)

1704 OXZ: Lyngby Radio 1755 USB nav wngs (in EE) 25/Oct (HOOD).
OXZ: Lyngby radio wx 17.47 USB (BVR)
1930 LFI: ROGALAND RADIO 1600 arq Chan free marker (Globe) "LFI". Equipment problem. Marker radiates as assigned but selcal sequence radiating some 650 or 1140hz low and with 85 hz shift. (9/Dec) (DW)
1930 LGQ: Globe Rogaland cw/fec marker 18.11 FEC 100 (BVR)
2064 FUB: Navy Paris/Houilles online encryp 10.06 BAUD 50 (BVR)
Unid: 50bd/850hz no acf 18.14 50 (BVR)
ASCOT 2269: RAF VC-10 0708 USB wkg Sydney CG Radio, is on-scene at F/V Atlantic Pride, has lights in the water, also has distress signal on 121.5 Mhz, but only has fuel for 1 more orbit. (RB)
LAFP4: Sternberg 0702 USB Norwegian-flagged bulk carrier, wkg Sydney CG Radio, is diverting for F/V Atlantic Pride, ETA 4 hours. (RB)
LGS Svalbard R: 2036 clg M/V Polar Is 10/11 (JS3)
LYCG: ML Kapitonias Mesleriakov 0712 USB bulk carrier, wkg Sydney CG Radio, also diverting for F/V Atlantic Pride. (RB)
Stornoway Coastguard 1810 USB Mayday relay "spoken word Mayday heard at 1755, nothing further heard" 14/Oct (HOOD)
Stornoway Coastguard: 1810 USB Mayday relay "spoken word Mayday heard at 1755, nothing further heard" 14/Oct (HOOD)
VCO: CCG, Sydney CG Radio, NS,CAN 0626 USB wkg unid VCIQ who is diverting to location SAR location for F/V Atlantic Pride, ETA 6 hours. (RB)
VCO: CCG, Sydney CG Radio, NS,CAN 0718 USB w/alert tone followed by MAYDAY relay for F/V Atlantic Pride. (RB)
VTFF: Maratha Mission 0628 USB bulk carrier, wkg VCP, Canadian CG, St Lawrence CG Radio, is diverting to location SAR location for F/V Atlantic Pride, ETA 17 hours. (RB)
Cross Corsen FF ann 07.16 USB (BVR)
LFO: Oerlandet radio ann gale wrng 17.34 USB (BVR)
LGL: Floroe rdo ann gale wrng on 1680 khz 17.37 USB (BVR)
LGN: Bergen radio ann gale wrng on 2670 17.34 USB (BVR)
Liveboat Christine: clg PBK "patient on board, pls clg waterpolice that we are back in the harbour at 17.00/17.15lt" 14.25 USB (BVR)
Liveboat Christine: clg PBK 9 miles from position, trie to contact the Highlander (Dutch CG airplane???) on vhf 16 (nothing heard on this freq) 13.45 USB (BVR)
PBK: Ned CG clg liveboat Christine, they wanted to know the ETA, (for what?) 42mijl/1hrs 13.03 USB (BVR)
PDBD: Unid clg PCH for test no reply, PCH is not active on 2182 PBK usually reply's 13.19 USB (BVR)
Theems UKCG: ww GFVM for radiocheck 14.23 USB (BVR)
2204 PBB: Navy Den Helder ww HRMS Blommendal telephone calls 08.24 USB (BVR)
PBB: Navy Den Helder ww HRMS Willemstad 10.08 USB (BVR)
PBB: Navy Den Helder ww hrms Buyskens pp to Noordwijk radio 09.30 USB (BVR)
2429.9 MKL: RAF Edinburgh 0625 CW & RTTY 75/851 unid mode; msgs start/end w/RY's. 7/Nov (WJL)
2504.7 DBIF: BG22 "Neustrelitz" 0503 sitor-a Positionsreport to kuewaz o (WP3)
DBIF: CG vsl BG22 Neustrelitz 0503 ARQ posn rpt. 30/Nov (WP3)
DLGW: BG17 "Bayreuth" 2330 sitor-a tfc to kuewaz o (WP3)
DLGW: CG vsl BG17 Bayreuth 2330 ARQ tfc to kuewaz. 29/Nov (WP3)
2599.3 Unid 0418 RTTY 75/851 unid mode. 10/Nov (WJL)
2600 PCG: Scheveningen radio telephone call 12.49 USB (BVR)
2608.3 FUO: Ny Toulon 0428 RTTY 75/836 RY. 10/Nov (WJL)
2642 Genoa Radio 2039 nav wng (in EE and Italian) 12/Oct (HOOD).
2643.5 SPS: Witowo Radio 1647 CW/ARQ marker. 29/Nov (WP3)
2656 MIKE: USN Link-11 Coordination Net 0246 USB wkg MIKE, LIMA other SLC's w/track info. (RB)
NMA21: USCG Group St Petersburg, Fl 0320 USB w/MIB. (RB)
NMF2: USCG Group Woods Hole 0406 USB w/MIB. (RB)
NMG: USCG Group New Orleans 1035 USB w/MIB. (2/Nov) (DW2)
NMG: USCG Group New Orleans 1235 USB w/MIB. (14/Nov) (DW2)
NOQ: USCG Group Mobile 1024 USB w/MIB. (2/Nov) (DW2)

NOY26: USCG Group Corpus Christi 1044 USB w/MIB. (13/Nov) (DW2)
NOY26: USCG Group Corpus Christi 1245 USB w/MIB. (29/Nov) (DW2)
NROS: USCGC Spencer (WMEC-905) 0250 USB wkg distressed F/V Hungry Dog w/info & status, vsl on 15 min comms sked. (RB)
2697 RFFXCFC: Oberlausitz, ?? 00.40 ARQ-E 72/383 Tfc to RFGXXBF and Favieres via UFC cct (16 Nov0. (PT)
2698.5 Unid 0436 RTTY 150/806 unid mode. 10/Nov (WJL)
2724.9 Unid 0445 RTTY 100/899 unid mode. 10/Nov (WJL)
2762 KINLOSS RESCUE: 2058 USB clg Rescue 137 for r/check (05/Dec) (AG)
2788.9 FUE: Ny Brest 0457 RTTY 75/829 RYs, testing. 10/Nov (WJL)
2806 IGJ41: Ny Augusta 2238 RTTY 100/850 availability. 29/Nov (WP3)
2814.9 IDR3: Ny Augusta 0510 RTTY 75/851 RY's. 10/Nov (WJL)
2840.7 DBIG: CG vsl BG23 Bad Dueben 0900 ARQ tfc to kuewaz. 29/Nov (WP3)
DBJM: Sea Police vsl Neuwerk 1930 ARQ position report, selcall TQFR. 29/Nov (WP3)
DLVD: Experimental vsl Kalkgrund 1759 ARQ posn rpt. 29/Nov (WP3)
2971 Gander ATC: CAN (NAT-D MWARA) 0542 USB wkg Speedbird 107 w/posn, 52N50W 0542 FL330, est 56N40W 0618, 56N30W next; then Speedbird 208 w/selcal ck CJ-DM; KLM 602 w/selcal ck BM-CG. (RB)
Shanwick, IRE: CAN (NAT-D MWARA) 0544 USB wkg unid flt w/posn. (RB)
3084.9 Unid 0530 RTTY 75/851 unid mode. 10/Nov (WJL)
Unid 0530 RTTY 75/851 unid mode. 10/Nov (WJL)
3102.9 Unid 0551 RTTY 75/851 encrypted? Msg start/end w/RY's, pause btwn msgs. 10/Nov (WJL)
3116 PC 408: 1651 USB clg Glucksburg Rescue (13/Dec) (AG)
3126.9 Unid 0559 RTTY 75/851 encrypted? Msg start/end w/RY's, pause btwn msgs. 10/Nov (WJL)
3156.1 Unid 0606 RTTY 75/851 encrypted? Msg start/end w/RY's, pause btwn msgs. 10/Nov (WJL)
3172.5 IMB31: ROME MET 2024 rtty 50/R/850 Met tfc. Offair when no msgs. (10/Dec) (DW)
3196 OLB6: PRAGUE MET 2012 rtty 50/R/500 Met tfc. (10/Dec) (DW)
3278.8 PORTUGUESE STATE POLICE NET 1857 fec 100/I/170 Tfc in PP. Tfc fm COMGERPSP rptd x3. (13/Dec) (DW)
3333 CHU: Time Station Ottawa, Canada 1200 AM w/time tics and EE/FF announcement (24/Nov) (DW2)
3349 NNN0SSF: Navy MARS 0055 USB as NCS stn for Navy MARS net. (RB)
3615.7 GKY1: Portishead Radio 0629 CW/ARQ marker. 10/Nov (WJL)
3624.6 W1AW: RTTY 50 BD ARRL election results 11/23 (BG3)
3673 PBK: Ijmuiden Coastguard 1934 USB 1 nav wng. 17/Nov (KB)
3745 HZN: JEDDAH MET 2001 rtty 100/R/400 90hz high. Met tfc just discernable. (10/Dec) (DW)
3763 Unknown: France(??) 16.55 ARQ-E 184/295 Idling all night, no tfc (30 Nov). (PT)4877.5 FDG Bordeaux, France 16.22 RTTY 50/410 RY's, Le Brick and TEST DE FDG (30 Nov). (PT)
3782 CTP: Ny Oeiras, POR 0627 CW marker. 13/Nov (WJL)
3942 RESCUE 177: 2032 USB in r/check with Kinloss Rescue (19/Nov) (AG)
3959 SUU: CAIRO MET 0049 rtty 100/850 Met tfc. qrm fm short burst of psk at random intervals. (12/Dec) (DW)
4002 YRR2: Bucharest, Roumania 00.25 RTTY 50/435 Bucharest Meteo with WX tfc (16 Nov). (PT)
YRR4: BUCHAREST MET 1917 rtty 50/500 Met tfc. (10/Dec) (DW)
4004.9 Unid 0638 RTTY 50/784 unid mode. 13/Nov (WJL)
4015 Unid 0646 RTTY 50/844 unid mode. 13/Nov (WJL)
4023.7 ??? US Army MARS ??? 0014 15/Nov 200bd/200 PacTOR, Broadcast bulletin regarding MARS traffic procedure (MC)
4029 Unid V2 1100 AM ATTENTION ...(unable to copy call-up - f/SS). 2/Nov (LBJ)
4035 RFGXXBF: Mulheim, Germany 00.15 ARQ-E 72/398 5-lg tfc to RFFXCFC, Oberlausitz via UCF cct (16 Nov). (PT)
4038.5 NNN0SYS: Navy MARS 2303 USB as NCS stn for Navy MARS net polling S. Carolina stns. (RB)
4041 AFA6DJ: Fair Oaks, California, Clng NNN0EGY 04:37 22/Nov (JC7)
AFA6SE: Phoenix, Arizona, QSO NNN0RPM 04:34 22/Nov (JC7)
NNN0HPB: Idaho, QSO NNN0RPM 04:40 22/Nov (JC7)
NNN0RPM: Littleton, Colorado, QSO AFA6SE 04:34 22/Nov (JC7)
4100 BAA: BEIJING MET 2240 rtty 50/R/800 Weak, in noise. Just discernable as Met. 140hz high. Marker "...de BAA2/4/9/21/23..." (10/Dec) (DW)

4154.5 DRAI: FGS Schleswig-Holstein (F-216) 0525 USB German Navy frigate, wkg DHJ59, German Navy Wilhelmshaven w/QSL of digital tfc sent. (RB)
4202.5 SHIP UNID 2117 arq 100/170 Selcals PVEP. No subsequent qso. (26/Nov) (DW)
UIMQ: SHIP BATM A BABAEW 2040 rtty 50/R/170 kld/wrf Tfc in 3sc via Kaliningrad (?). (26/Nov) (DW)
4203.5 YQGN: SHIP HISTRIA STAR 2120 arq 100/170 Tfc in EE via Goeteborg/SAB. Hvy qrm at one point. (26/Nov) (DW)
4207.5 GMDSS ALERT CHANNEL 0001 DSC 100/170 16 packets in 9 hrs. 4 tests, 1 announcement (fm Varna/LZW for fec bdcast, pkt partially corrupt, no frequency obtained). 11 illegals, (intership calling). (9/Nov) (DW)
4210.5 A9M: BAHRAIN RADIO 2216 CW. Chan free marker "de A9M tlx" (6/Dec) (DW)
4218.5 LZW24: VARNA RADIO 2206 CW. Chan free marker "de LZW LZW" (6/Dec) (DW)
4219 A9M: BAHRAIN RADIO 2204 CW. Chan free marker (Globe) "A9M" (6/Dec) (DW)
4228.5 VIM/VIT: Combined Melbourne R/Townsville R call CW CQ QSX 1936z Nov 24 (PvdE)
4231 A7D: Doha R CW DE 1935z Nov 24 (PvdE)
4232.5 FUF: French Navy, Ft de France 0457 RTTY 75/850 w/RYRY, SGSG, ten count, "testing". (RB)
4254.4 unid: 0359 RTTY 75 bd The quick brown fox jumps over a lazy dog 11/31 (BG3)
4255.6 unid: 0402 SITOR-B email tfc M/v Courier, Heart of Gold 11/31 (BG3)
4271 CFH: CF HALIFAX 2251 rtty 75/800 Met tfc. (10/Dec) (DW)
4283 XSV: TIANJIN RADIO 1619 CW. Nav wngs. Just audible. (8/Nov) (DW)
4307 RN NORTHWOOD 0940 FAX fax running -but black tone missing.(16/Nov) (DW)
4308 HLG: Soul R CW CQ QSX 2239z nov 7 (PvdE)
4313 9VG33: Singapore R CW CQ QSX 4 MHZ 2228z nov 7 (PvdE)
4318 VIM/VIT: Combined Melbourne R/Townsville R call CW CQ QSX 1925z Nov 24 (PvdE)
4322 MGJ: British Military 0610 RTTY 75/850 w/availiblity tape, MGJ ID. (RB)
4328 JOS: Nagasaki R CW CQ QSX 4 MHZ 2225z nov 7 (PvdE)
4336.4 WNU: SLIDELL RADIO 0653 CW. Chan free marker (Globe) "WNU" (14/Dec) (DW)
4338 XSW: Kaohsiung R CW CQ 1928z Nov 24 (PvdE)
4343.5 RLK7: Arkhangelsk R(?) 2241z CW calling 4LY QSX nov 28 (PvdE)
4402 KMI: AT&T High Seas Radio Point Reyes 0257 USB announcements and tfc list (25/Nov) (DW2)
4447 RFFEDFA loc. unknown 17.10 ARQ-E 72/380 EUROCORPS DIREX with tfc via UFA cct to RFFAAC (GUERRE DIRTEL PARIS), RFFHCC (CENTRANS MARSEILLES), RFFEDC (CENTRANS SOUGE) and RFFHAC (CENTRANS MONTPELIER) (19 Nov).(PT)
4466 WHITE PEAK 4: NY Civil Air Patrol 2355 USB wkg WHITE PEAK 43. (RB)
4474 ICT: Italian Navy, Taranto, I 2041 USB wkg "DI" (not hrd), probably IGDI, Italian Navy auxiliary vsl Capri (A-5353). (RB)
4482 DFZG: MFA BELGRADE 0657 rtty 75/R/400 ry's changing to "DFZG DFZG DFZG qtc ry's" at 0702z. (14/Dec) (DW)
DFZG: MFA BELGRADE 2126 rtty 75/R/400 In // 9057. Diplo bdcst rpt msg in online encrypt. (30/Nov) (DW)
4500 AFA2CS: Louisville, KY, 00:10 3/Dec (JC7)
AFA2CV: Atlanta, GA, 00:08 3/Dec (JC7)
AFA2DC: Marion, NC, 00:13 3/Dec (JC7)
AFA2EM: West Point, Georgia QSO NNN0KEB 00:51 24/Nov (JC7)
AFA2EX: Washington, DC, 00:18 3/Dec (JC7)
AFA2FG: Bedford, VA, Long Count, 00:02 3/Dec (JC7)
AFA2FQ: Ft Meyers, FL, 00:07 3/Dec (JC7)
AFA2GT: Montgomery, AL, 00:02 3/Dec (JC7)
AFA2GY: Lakeland, FL, 00:06 3/Dec (JC7)
AFA2HG: Yorktown, Virginia, QSO NNN0KEB 00:45 24/Nov (JC7)
AFA2IK: Morgantown, WV, 00:19 3/Dec (JC7)
AFA2KQ: Suwanee, GA, 00:21 3/Dec (JC7)
AFA2LY: Pulaski, TN, Net check in, 00:15 3/Dec (JC7)
AFA2LZ: Delbarton, WV, 00:21 3/Dec (JC7)
AFA2MP: Cleveland, TN, 00:23 3/Dec (JC7)
AFA2NH: Jefferson, NC, 00:11 3/Dec (JC7)
AFA2OR: Tennessee, 00:14 3/Dec (JC7)

AFA2PI: Atlanta, GA, 00:21 3/Dec (JC7)
AFA2PQ: Atlanta, GA, 00:21 3/Dec (JC7)
AFA2PV: Columbiana, AL, 00:04 3/Dec (JC7)
AFA2PV: Columbus, Alabama QSO unid 00:25 24/Nov (JC7)
AFA2QA: Atlanta, GA, 00:21 3/Dec (JC7)
AFA2SQ: Radcliff, KY, 00:09 3/Dec (JC7)
AFA2UE: Memphis, TN, 00:14 3/Dec (JC7)
AFA2UF: Birmingham, AL, Net Control 2S1, 00:00 3/Dec (JC7)
AFA2UX: Moscow, TN, 00:15 3/Dec (JC7)
AFA2VJ: Mobile, AL, 00:05 3/Dec (JC7)
AFA2WJ: Melbourne, FL, 00:20 3/Dec (JC7)
AFA2WJ: Satellite Beach, Floriad QSO unID 00:36 24/Nov (JC7)
AFA2WK: U.S. Air Force MARS 0042 USB wkg AFA2FZ. (RB)
AFA2XD: Satellite Beach,FL, 00:07 3/Dec (JC7)
AFA2YK: Rocky Mount, NC, 00:11 3/Dec (JC7)
AFA2YL: Memphis, TN, 00:16 3/Dec (JC7)
AFA2YU: Memphis, TN, 00:16 3/Dec (JC7)
AFA2ZV: Holiday, FL, 00:06 3/Dec (JC7)
AFA2ZZ: Radcliff, Kentucky, QSO unid 00:43 24/Nov (JC7)
AFF2F: North Carolina, Working AFF2T, 00:24 3/Dec (JC7)
AFF2KY: Louisville, KY, 00:09 3/Dec (JC7)
AFF2M: Memphis, TN, 00:27 3/Dec (JC7)
AFF2T: Morgantown, NC, Traffic, 00:28 3/Dec (JC7)
AFF2ZZ: Radcliff, KY, 00:27 3/Dec (JC7)
NNN0KEB: Citra, FL, w/MARS Grams to AFA2HG, 00:44 24/Nov (JC7)

4518 Unid commercial stn, NZL 0530 USB 2 OMs signing off (27/Nov) (IJ)

4525 Unid 0712 RTTY 50/848 undecodable mode. 13/Nov (WJL)

4533.7 Tunesian Naval stn (tent) 0550 ARQ with RYRY, AAA DE INT QSA, AMI LA LIAISON BONNE PASS AVEC CAD POUR ESTABLIR LES TOS OK KK"?3" & Selcalling XKTQ (2/Nov) (IJ)

4547 4XZ: Haifa Naval, ISR, 2034, CW V-marker and off-lien encrypted tfc 23/Nov/98 (ANE)

4560 RKR74: IRKUTSK MET 1532 rtty 50/1000 Met tfc. Originator IRKT. Running 3sc? (13/Dec) (DW)

4562 RKR74(?): Irkutsk Meteo 1935 FAX 120/576 synoptic chart. QRM by Mossad/E10. 29/Nov (KB)

4570 DHJ51: GRENGEL MET 0936 FAX 120/288/R/800 (lsb of 4571.9). Burst psk causing qrm. Charts N Europe sfc analysis, and obs. (14/Dec) (DW)
HZN46: JEDDAH MET 1912 rtty 100/R/850 100hz high. Mark faulty as ever. Tfc just discernable as Met. (10/Dec) (DW)
HZN46: Jeddah Meteo 0208 rtty 100/850 Wx codes (18/Nov) (RH2)

4583 DDK2: Hamburg Meteo, Germany 0717 RTTY 50/425 w/AAXX meteo reports. (RB)
DDK2: HAMBURG MET 1541 rtty 50/440 Met tfc. Marker "cq de DDK2 DDH7 DDK9 freq 4583 khz 7646 khz 10100.8 khz" (10/Dec) (DW)

4585 JEFFERSON 8: NCS, Virginia CAP Wing net 2330 USB opening net. (RB)

4585 MIDDLE EAST 31: Civil Air Patrol 0208 USB as NCS Middle East Wing CAP Net. (RB)

4588.6 Unid 0723 RTTY 100/848 unid mode. 13/Nov (WJL)

4604 RED ROBIN 78: Mich. Civil Air Patrol 0205 USB as NCS Mi. CAP Wing Net, closing the net. (RB)

4627 TEXAS CAP 4: 0003 USB wkg TEXAS CAP 1612 w/check-in for Texas CAP Net. (2/Nov) (DW2)

4642.9 Unid 0731 RTTY 100/844 unid mode. 13/Nov (WJL)

4666 Fishing Boats, NZL 0535 USB 2 OMs pirating on the freq, swearing & mentioned they had caught some dogfish (27/Nov) (IJ)

4670 THE COUNTING STATION 0206 AM w/msg id 062 //5238// Not in USB. (16/Nov) (DW2)

4701.2 RFLIGE: FF, French Guiana 0750 ARQ-E 192/238 (assumed C.I. GEG) idling. (RB)

4739 WAFER 753: NAS Brunswick P-3 0630 USB clg GOLDENHAWK (TCSC Brunswick), R6C answers, req they go green & into ANDVT. (RB)

4742 ARCHITECT: 0030 USB additional info about active radar site and channels: 4 - MC -tac- HM -tac- MD. 3/Nov (JAU)
ASCOT 3200: 0029 USB clg ARCHITECT for wx. 3/Nov (JAU)
LIFTER FORMATION: 0214 USB clg ARCHITECT for wx. 3/Nov (JAU)
RAPIER 7370: 0020 USB clg ARCHITECT for wx. 3/Nov (JAU)
REACH 30T1: 1000 USB wkg CROUGHTON req pp to Ramstein cp. 3/Nov

(JAU)
RESCUE 13: 1818 USB clg ARCITECT for wx. 2/Nov (JAU)
4777.5 IMB51: Rome Meteo 1820 FAX 120/576 freezing level. 22/Nov (KB)
4810 Unid 0639 RTTY 150/806 undecodable. 14/Nov (WJL)
4954 FDI22: FAF NARBONNE 2056 CW. Marker "vvv de FDI22". (28/Nov) (DW)
4954 FDI22: FAF NARBONNE 2056 CW. Marker "vvv de FDI22". (28/Nov)(DW)
4970.7 UNID 1400 ARQ/E 48/150 8rc. Betas. Nil tfc in 7 hrs. (27/Nov) (DW)
Unknown: 16.40 ARQ-E 48/158 Idling continuously (21 Nov). (PT)
4972.4 Unknown: (Germany??) 16.30 ARQ-E 96/85 Idling continuously (21 Nov). (PT)
4975 Unknown: 15.45 ARQ-E 48/170 Continuous idling (28 Nov). (PT)
5028 FDI22: FAF NARBONNE 2233 CW. Marker "vvv de FDI22". (28/Nov) (DW)
5077.7 Unid: 0220 arq-M2 144/0 Single tone station (18/Nov) (RH2)
5088 Unid: E Eur counting? for one minute then s/off nothing more 09.01 USB (BVR)
5091 E10: AM, 1830, "JSR" marker and 67x5 letter groups, 29/Nov/98 (ANE)
5100 UNID 2240 FAX Weak hazy chart under qrm - insufficient detail to establish whether Melbourne or Shanghai. (6/Dec) (DW)
5102 GXQ: RN LONDON 0730 8 chan DCN interleaved vft on usb. (29/Nov) (DW)
5102.5 GXQ: RN LONDON 0752 rtty 50/340 5102.595. Chan 1 (eng) in vft. Idle on mark. (29/Nov) (DW)
5103.9 GXQ: RN LONDON 0732 ARQ/342 96/340 5103.955. Chan 5 in vft. 2 ch tdm. Chan A: idling LF/Figshift, and Ch B: on betas/hash. (29/Nov) (DW)
GXQ: RN LONDON 0732 ARQ/342 96/340 5103.955. Chan 5 in vft. 2 ch tdm. Chan A: idling LF/Figshift,and Ch B: on betas/hash. (29/Nov) (DW)
5104.6 GXQ: RN LONDON 0738 ARQ/342 96/340 5104.635. Chan 7 in vft. 2 chan tdm. Chan A Betas. Chan B: alphas. (29/Nov) (DW)
5141 Unid: 75bd/250hz no acf 15.30 75 (BVR)
5145 VJN: RFDS Cairns QLD 0830 USB voice tape "This is RFDS frequency for Cairns base VJN. For calls to the RFDS operator please use your emergency alarm call button" (31/Oct) (IJ)
5150 RVO73: Moscow Meteo 1735 FAX 90/576 severe QRM. 22/Nov (KB)
5160 5UA: ASECNA Niamey 0230 arq-M2 96/400 Aero Wx (18/Nov) (RH2)
5173.4 Fishing Boats, NZL 0645 UTC 2 OMs pirating on the freq with a chit-chat (13/Nov) (IJ)
5184 FDY: FAF ORLEANS 1015 rtty 50/400 Marker "test de FDY voyez le brick figs ry's FDY's". (29/Nov) (DW)
5206.5 AAR3AU: US Army MARS, ??? 0130 08/Nov 300bd/200 Packet Radio, Attempting connect to AT3TDE (MC)
AT3TDE: US Army MARS, ??? 0131 08/Nov 300bd/200 Packet Radio, tfc (MC)
5215.6 Unid 0651 RTTY 150/821 undecodable. 14/Nov (WJL)
5220 TYE: ASECNA Cotonou 0234 arq-M2 96/400 Idling (18/Nov) (RH2)
5221.5 TYE: COTONOU AIR 2227 ARQ/342 96/I/400 4rc. 2 chan tdm. Weak sync. 2233z Air tfc cct [UNA] in Ch:A.Chan B: met tfc. (24/Nov) (DW)
5229 GYU: RN GIBRALTAR 2237 8 chan DCN interleaved vft on USB (24/Nov) (DW)
5230 KPA2: Mossad 0219 USB YL/EE w/KPA2 ann. (RB)
5231.1 GYU: RN GIBRALTAR 2242 ARQ/342 96/340 5231.125. Chan 6 in vft. 4rc. 2 chan tdm. Ch A: and B: betas but most of the time in RQ. (24/Nov) (DW)
5236 KJN950: VA Martinsburg, WV 1601 USB SHARES weekly net. 25/Nov (JM)
5238 The Counting Stn E5 0200 USB 979(x3) 1234567890 (Cont'd - f/EE //4670). 2/Nov (LBJ)
5277 19 CHARLIE: USCG HH-60J #6019 (OPBAT) 2259 USB clg PANTHER no joy. (RB)
SHARK 04: USCG Cutter on drug interdiction mission 0005 USB probably WMEC-904 USCGC Northland, clg PANTHER, no joy. (RB)
5285 TASHKENT MET 2308 FAX Weak noisy chart, vague outlines. (24/Nov) (DW)
5312 DFZG: MFA BELGRADE 2127 rtty 75/R/400 In // 9057. Diplo bdcst rpt msg in online encrypt. (30/Nov) (DW)
5315.5 M21: CW, 1855, 14-digit pseudo-time signal from Russian Air Defence network, 29/Nov/98 (ANE)
5320 NMG2: USCG Group New orleans, La 0241 USB clg X4S no joy. (RB)
5337.5 FDG: Bordeaux Air, F, CW, 1820, VVV marker, 29/Nov/98 (ANE)
5339.9 Unid 0658 RTTY 75/844 undecodable. 14/Nov (WJL)
5342 FDY: Orleans Air, F, CW, 1825, VVV marker, 29/Nov/98 (ANE)
FDY: FAF ORLEANS 1029 CW. Marker "vvv de FDY" (29/Nov) (DW)
5342.6 Unid Russian station 0915 LSB YL in RR (5/Nov) (IJ)

5385 C4U, 5EY, 1HY, L5A, L1F & R1H: Italian Military net 0605 USB, tracking co-ord comms (24/Nov) (IJ)
A2V: A2V tracks to OQH Sounded Italian 16.40 USB (BVR)
5400 YOG37: Bucharest Meteo 1750 RTTY 50/425 wx synopsis (5/Nov) (IJ)
YOG37: BUCHAREST MET 1548 rtty 50/400 Met tfc. (10/Dec) (DW)
5407 Unid: 5 fgs 500hz, also cw comms s/off at 17.22 in cw with 25111722k nil sk sk Fr mil net logged here before in cw 17.18 BAUD 50 (BVR)
5412.4 Unid 0707 RTTY 50/844 undecodable. 14/Nov (WJL)
5415 GM: unk. British warship 13.02 RTTY 50/233 Calling GXQ with RY's and foxes (09 Nov). (PT)
5430 CDG206: Alma Radio, PQ, CAN 0351 USB FF radiotelephone tfc ending. (RB)
5436 Army net Fiji 0805 USB OM with logistical msgs & a precautionary measure (4/Nov) (IJ)
5437 Unid: 0701 POL-ARQ encrypted. (RB)
5442.2 HEC: BERN RADIO 1800 fec 100/170 Tfc list for DTS-Mail svc. (23/Nov) (DW)
HEC: Berne Radio, SUI, 2000, SITOR-B 100/170, "HEC BERNRADIO HEC HEC ZXO ZXO :251ZAK :251ZAK DF0GTZ DF0GTZ MYXS5 MYXS5 HBF70C HBF70C", 23/Nov/98 (ANE)
5450 MVU: RAF W. Drayton, G, USB, 1847, UK VOLMET bcast, 29/Nov/98 (ANE)
5460 KINLOSS RESCUE: 1909 USB wkg Rescue 137 (24/Nov) (AG)
SHF 001: 1726 USB in r/check w/Kinloss Rescue (25/Nov) (AG)
5478.5 HGX21?: MFA Budapest (tent) 0240 Dup-Arq 125/170 Pulsed for 30+ mins without sending anything ! (18/Nov) (RH2)
5484.7 Fishing Boats, NZL 0650 USB 2 OMs with chit-chat (13/Nov) (IJ)
5505 EIP: Shannon R., IRL, USB, 1850, NAT-A VOLMET bcast, 29/Nov/98 (ANE)
EIP: Shannon VOLMET 0541 USB w/aviation wx (25/Nov) (DW2)
Shannon Volnet: Ireland 0607 USB w/aviation wx, including Paris 0600 wx. (RB)
5517 5R-MFC: Madagascar-052. 2230 USB Wkg Mogadishu. (IB)
9Q-CDF: Virunga Air Charter. 1802 USB Wkg Khartoum. (IB)
HSA-6408: CHS Aviation. 2220 USB Wkg Khartoum. Destn HTZA (IB)
HZ-AFA2: VIP a/c. 2214 USB Wkg Addis Ababa. (IB)
NGL-9143: Nizhegorodskie Avialinii. 1751 USB Wkg Khartoum. (IB)
TFS-615: UNID 2041 USB Wkg Addis Ababa. (a/c heard often). (IB)
Tunis Air-814: 2015 USB Clg Tripoli. (IB)
5535 Speedbird: London, England (BAW LDOC) 0609 USB wkg unid Speedbird flt (not hrd). (RB)
5550 New York ATC: (CAR-A MWARA) 0751 USB wkg Iberria 1868. (RB)
5554.5 BAF: Beijing Meteo 2110 FAX 120/576 // listed freq 5527, but stronger. Spurious emission? 6/Nov (KB)
5602 Unid 0448 USB 2 OM in FF, sounds like casual QSO. 25/Nov (RM2)
5629 E10: AM, 1850, "VLB2" marker - no msg, 29/Nov/98 (ANE)
5639.5 SAB: Goeteborg radio ererer sc msux (heard it on my Icom and NRD is it really there and if so what is it doing here?) 14.34 ARQ 100 (BVR)
5658 9M-ABC. UNID: 2020 USB Wkg Bombay. SELCAL-BJDP FL410 (IB)
IRH-4145. Atlas Air Iran. 2212 USB Clg Delhi Aero. REGN: EP-ILA. (IB)
NVR-953: Novair. 2235 USB Wkg Bombay. FL290. (IB)
NVR-954: Novair. 2320 USB Wkg Bombay. (IB)
Oman Air-141. 2304 USB Wkg Bombay. (IB)
5680 BELGIAN AIR FORCE 91: 1309 USB in r/check w/Koksidje Rescue (14/Dec) (AG)
BELGIAN AIR FORCE 95: 1613z in r/check with Koksidje Rescue.
CHARLIE 253: 1306 wkg Valentia Radio - "Presently in search area 5147N 1335W" (24/Nov) (AG)
DRAH(FGS Brandenburg): 1444 USB in r/check w/Glucksburg Rescue (17/Nov) (AG)
DRAN (FGS Augsburg): 1710 USB wkg Glucksburg Rescue (10/Dec) (AG)
DRCC (FGS Habicht): 1236 USB clg Glucksburg Rescue (10/Dec) (AG)
DRCC (FGS Habicht): 1811 USB clg Glucksburg Rescue for r/check (10/Dec) (AG)
DREQ(FGS Cuxhavn): 1808 USB clg Glucksburg Rescue for r/check (17/Nov) (AG)
DRFB (FGS Homburg) 1310 USB clg Glucksburg Rescue (09/Dec) (AG)
DRFB(FGS Homburg): 1240 USB in r/check w/Glucksburg Rescue (24/Nov) (AG)
DRFB(FGS Homburg): 1351 USB in r/check w/Glucksburg Rescue

(17/Nov) (AG)
DRFL(FGS Siegburg): 1302 USB clg Glucksburg Rescue for r/check (17/Nov) (AG)
DRLF (FGS Fehmarn): 1949 USB clg Glucksburg Rescue (06/Dec) (AG)
FOUR ZERO MIKE: 1526 USB (RAF Nimrod) in r/check w/Kinloss Rescue 23/Nov) (AG)
HOTEL 89: 1429 USB in r/check w/Sweden Air Rescue (30/Nov) (AG)
HOTEL 90: 1702 wkg Kinloss Rescue - "Could you notify Sweden Air Rescue that Hotel 90 is still airborne east of Stockholm!" (17/Nov) (AG)
HOTEL 91 1430 USB wkg Sweden Air Rescue (30/Nov) (AG)
HOTEL 92: 1616 USB in r/check with Sweden Air Rescue (18/Nov) (AG)
HOTEL 96: 1606 USB wkg Sweden Air Rescue - "Departing Ronneby for the shoreline!" (18/Nov) (AG)
IAOA: 1558 USB wkg RCC Malta (06/Dec) (AG)
ICI: 1630 USB wkg IAOE (06/Dec) (AG)
KILO 475: 1420 USB wkg Kinloss Rescue (02/Dec) (AG)
Kuressaare Rescue: 1304 r/c Gotland Rescue 9/11 (JS3)
MISSION 4873: 1310 USB in r/check with Glucksburg Rescue (19/Nov) (AG)
NAVY 700: 1324 USB in r/check w/Kinloss (25/Nov) (AG)
NAVY 707: 1300 USB in r/check w/Kinloss Rescue (25/Nov) (AG)
P3V (RAF Nimrod): 1220 USB wkg Kinloss Rescue (01/Dec) (AG)
RAFAIR 7495: 1129 USB in r/check with Kinloss Rescue (24/Nov) (AG)
RCC Malta: 1559 USB wkg IAOE (06/Dec) (AG)
RESCUE 125 1635 USB wkg Kinloss Rescue "landing at Regent's Park" (London ???) 5/Nov (HOOD).
RESCUE 125: 1635 USB wkg Kinloss Rescue "landing at Regent's Park" (London ???) 5/Nov (HOOD).
Rescue 137: 2012 wkg Kinloss Rescue 10/11 (JS3)
SABRE 33: 1358 USB wkg Bodo Radio (14/Dec) (AG)
SABRE 51 (Norwegian helo): 1202 USB in r/check w/Kinloss Rescue (03/Dec) (AG)
SAREX 33: 0950 USB wkg Kinloss Rescue (15/Dec) (AG)
SHF 001: 1133 USB in r/check w/Kinloss Rescue - (Puma helo) (24/Nov) (AG)
SHF 005: 1241 USB in r/check w/Kinloss - (Wessex helo) (10/Dec) (AG)
SHF 016: 1249 USB wkg Kinloss - "Puma helo requesting r/watch from Aldergrove to Liverpool!" (17/Nov) (AG).
SRD 040: 1259 USB in r/check with Kinloss Rescue (17/Nov) (AG)
SRG 08: 1229 USB wkg Kinloss Rescue (09/Dec) (AG)
SRG 32: 1516 in r/check w/Kinloss Rescue - told to adopt call Rescue 32 and join in a search (24/Nov) (AG)
SRG 33: 1241 USB in r/check w/Kinloss Rescue (14/Dec) (AG)
SRG 34: 1330 USB in r/check w/Kinloss Rescue (09/Dec) (AG)
STAVANGER RESCUE: 1201 USB in r/check w/Kinloss Rescue (03/Dec) (AG)
STAVANGER RESCUE: 1756 USB in r/check w/Bodo Radio (29/Nov) (AG)
SWALLOW 20: 1229 USB in r/check w/Kinloss Rescue (Wessex helo) (09/Dec) (AG)
SWANSEA COASTGUARD: 1056 USB in r/check w/Kinloss Rescue (10/Dec) (AG)
SWEDISH COAST GUARD 587: 1049 USB in r/check w/Kinloss Rescue - "Just wanted to say hello to you!" (10/Dec) (AG)
VALENTIA RADIO: 1241 USB clg Charlie 253 (24/Nov) (AG)
WESTLAND 10: 1453 USB in r/check w/Kinloss Rescue (02/Dec) (AG)
Wellington RCC 0750 USB wkg RNZAF KIWI RESCUE 02 (P3) co-ordinating rescue of the American 11M sloop Salacia (28/Nov) (IJ)
YARMOUTH COASTGUARD: 1619 USB clg 'THC Patricia'! (22/Nov) (AG)
ZEPHYR 90: 1248 USB wkg Kinloss Rescue (Chinook helo) (23/Nov) (AG)
CG MU: Coastguard Mike Uniform clg Kinloss endurance 2 hrs 09.30 USB (BVR)
Kinloss resque radio check with Resque standby 09.25 USB (BVR)
Kinloss resque ww Sierra 137 12.48 USB (BVR)

RESQUE 32: Resque 32 ww Kinloss resque they requested pos off search area, 9 miles nnw off ??? 15.33 USB (BVR)
SIERRA 125: Sierra 125 clg Kinloss for radiocheck, 2.5hrs local area training 10.06 USB (BVR)
SRG: 126 Sierra 126 ww Kinloss ops normal endurance 4hrs 09.30 USB (BVR)
SRG: 126 Sierra 126 ww Kinloss ops normal pos 52.27n 000.24w endurance 4hrs 30mins 09.00 USB (BVR)
5696 (WPB-1318) & the HH-65 6517 is also enrt. (RB)
1504: USCG HC-130H 2359 USB wkg CAMSLANT w/flight ops and position: 2442N 07739W. (1/Nov) (DW2)
1601: USCG HC-130H 0232 USB wkg CAMSPAC (25/Nov) (DW2)
2129: HU-25C 1059 USB wkg CAMSLANT. Request you assume my radio guard. (3/Nov) (DW2)
2141: USCG HU-25C 0113 USB clg USCG GROUP MIAMI. (6/Nov) (DW2)
38 CHARLIE: CG HH-60J #6038 (OPBAT) 0016 USB wkg CAMSLANT being diverted to 26N/79W, assist USCGC Maui (WPB-1304) chasing 2 vsls, 1 vsl harassing the cutter to draw them off the 2nd vsl, a go-fast. USCGC Baranof
38 CHARLIE: CG HH-60J #6038 (OPBAT) 0134 USB wkg CAMSLANT req PANTHER be advised they have located the go-fast & are following, req also they notify Freeport (Bahamma's) Police, PANTHER comes up here & same info is given to
38C: HH-60J #6038 0357 USB wkg CAMSLANT w/flight ops and position (25/Nov) (DW2)
6016: USCG HH-60J 0426 USB wkg GROUP SAN DIEGO. Request you accept my radio guard (26/Nov) (DW2)
CAMSPAC: 0402 USB wkg 1790: USCG HC-130H7. (4/Nov) (DW2)
CG1503: rep they are airborne & escorting for CG6009 0115 12\2 025 req Guard w\CAMSLANT for ops in the Gulf, parent CMD ATC MOBILE 0118 12\2 (MF2)
CG1716: rep flt ops to CAMSLANT 2129 3\DEC (MF2)
CG1716: req CAMSLANT secure guard,inbound Clearwater 0143 4\DEC (MF2)
CG6025: rep flt ops to CAMSLANT 2128 3\DEC (MF2)
Culdrose Op's: Royal Navy AS Culdrose 0247 USB wkg unid a/c w/wx info. (RB)
D5O: req CAMSLANT assume guard 0108 7\DEC CG6009 inbound Elizabeth,City req CAMSLANT release guard 0140 7\DEC (MF2)
GRAYHAWK 01: USN E-2C, VAW-120, Norfolk 1928 USB wkg NMN, CAMSLANT Cheasepeake req pass NAS Norfolk 01's ETA of 1 hour to 'on deck'. Had been up assisting w/air control for SAR. (RB)
GRP Hampton Rds: diverting CG6009 for SAR of 10ft John Boat w\17 old POB, searching West Branch of Elizabeth River to Craney Island area. 0005 7\DEC (MF2)
HERC (HERK) 20: USCG HC-130 #1720 2303 USB clg SHARK 20 no joy. (RB)
I5N: 0221 USB wkg CAMSLANT. "Airborne from homeplate E4U, 7POB on a Law Enforcement mission." (13/Nov) (DW2)
KING 53: USAF HC-130 #64-14853 1639 USB 71st RQS, Moody AFB, wkg CAMSLANT re assuming his radio guard. (RB)
KING 78: rep to CAMSLANT they are leaving Moody for Patrick 0015 7\DEC (MF2)
L0Z: 0229 USB wkg CAMSLANT w/flight ops normal (25/Nov) (DW2)
L2H: req CAMSLANT switch 3E12 0158 4\DEC (MF2)
M3Q: req CAMSLANT secure guard 2129 3\DEC (MF2)
NCF: USCG Group Miami, Fl, USA 0421 USB clg 3EC no joy. (RB)
NJOR: USCGC Gallitin (WHEC-721) 0608 ARQ wkg RESCUE 23 (poss the HH-60J 6023) who is off radar, reports is landing Gitmo w/patient. (RB)
NLPM: USCGC Chase (WHEC-718) 0717 USB wkg NMC, CAMSPAC Point Reyes, Calif, att to contact NOJ, CommSta Kodiak, rare HF appearance by a WHEC. (RB)
NMF44: USCG Group Southwest Harbor 0537 USB Maine, wkg NMN for radio ck. (RB)
NMN: CAMSLANT Cheaspeake, Va 0618 USB wkg VICTOR 1 SIERRA re Dist.1 diverting them to SAR at 44-00N/052-31W re distressed F/V Atlantic Pride, 6 POB are abandoning ship. V1S becomes RESCUE 1500, HC-

130, passes ETA of
NOF: USCG AirSta Clearwater, Fl 0247 USB "Clearwater Air", clg RESCUE 6024. (RB)
NOJ: USCG CommSta Kodiak, Ak, USA 0718 USB clg Coast Guard cutter Chase. (RB)
RESCUE 1500: USCG HC-130H 0713 USB wkg NMN, CAMSLANT Cheasepeake for update, is advised ASCOT 2269 on-scene, also passes ETA of ships. RESCUE 314, a Labradore helo is enrt from CFB Greenwood. RESCUE 1503 will be launching shortly to releive 1500. (RB)
RESCUE 1501: USCG HC-130H 1836 USB wkg NMN, CAMSLANT Cheasepeake for radio guard, enrt (unid) SAR at 33-15N/73-35W. (RB)
RESCUE 1501: USCG HC-130H 1949 USB wkg NMN, is flying cover for the HH-60J RESCUE 6031 on scene at SAR for the S/V Papa (Papaw), the 6031 is conducting hoisting operations. (RB)
RESCUE 1503: USCG HC-130H 0825 USB wkg NMN, is on-scene at SAR for F/V Atlantic Pride, has located a raft in the water. (RB)
RESCUE 1717: USCG HC-130H7 1031 USB wkg CAMSLANT. "Please advise D7 (District 7) that we are on scene now." (5/Nov) (DW2)
RESCUE 2103: HU-25B 1317 USB wkg CAMSLANT. (27/Nov) (DW2)
RESCUE 6026: USCG HH-60J 1953 USB wkg NMN, is being diverted to unid SAR, reported PIW (Person In Water). (RB)
RESCUE 6031: USCG HH-60J 0431 USB wkg CAMSLANT for radio guard, enrt Cheasepeake Bay on reported flare sighting. (RB)
STINGRAY 39: w\PANTHER,switched OPBAT 3 2206 3\DEC (MF2)
STRAIGHT 801: USN C-130T? 0539 USB a frequent vistor wkg w/USCG, wkg CAMSPAC Point Reyes, after CAMSPAC called PAPA 6332, 801 enrt North Isle fm Corpus w/10 POB, 801 req (interogitive) if NMC has had comms w/EVER GOLD? (neg). (RB)

5711 JOLLY 19: 0038 USB wkg Moffett Rescue re: fuel requirements. 24/Nov (JJ)
KING 61: 0517 USB wkg Moffett Rescue re: on the ground. 20/Nov (JJ)

5714 ARCHITECT: RAF Strike Command, London 0230 USB w/H+30 color coded airfield conditions. (RB)

5717 unid: Trenton military USB Rescue 114 8 ft boat with 4 people off Leonardville (BG3)

5730.8 FDI: FAF NARBONNE 1430 CW Marker "vvv de FDI22 ar" (13/Dec) (DW)

5779 LTN: Army NZL 0400 USB wkg CRT, duplex comms (6792) co-ordinating a datalink on 5781/6794 was 300 Bd then switched to 75 Bd CRATT (2/Nov) (IJ)

5807 DFZG: MFA BELGRADE 2128 rtty 75/R/400 In // 9057. Diplo bdcst online encrypt tfc. (30/Nov) (DW)

5841 20 CHARLIE: rep flt ops to PANTHER 2200 3\DEC (MF2)
SHARK 16: USCGC Dilligence (WMEC-616) 0400 USB att to 38 CHARLIE re pursuit of a go-fast through the Bahammas. (RB)
SHARK 621: USCGC Valiant (WMEC-621) 0416 USB att to 38 CHARLIE, wkg SHARK 16. (RB)
WOLF 01: coord w\PANTHER 2203 3\DEC (MF2)

5860 FAA 1444 USB ALE. 24/Nov (JM)

5860.5 FDE14: FAF CONTREXEVILLE 1050 CW Marker "vvv FDE14 ar" (29/Nov) (DW)

5872 LONGBOW: Mil stn, NZL 2200 USB wkg ROCKY 02 passing METARs & mentioned sortie was heading for DISNEY. Probably RNZAF tactical comms as Aeromacchi MB339s have been deployed in Christchurch to take part in exercise Operation Widen Scope (26/Nov) (IJ)

5887.5 IMB32: ROME MET 1553 rtty 50/R/850 Met tfc. Offair after run of msgs. (10/Dec) (DW)

5905.2 Unid 0728 RTTY 75/896 undecodable. 14/Nov (WJL)

5914.7 KAWN: USCG Saddlebunch Key 0312 rtty 75/850 Wx \\ 6396.8 khz (24/Nov) (RH2)

5914.9 NAR: USN Saddlebunch Key, FL 0733 RTTY, KAWN wx msgs. 14/Nov (WJL)

5915 USAF AWS ? LOC 0705 rtty 75/850 Met tfc. KAWN originated. (14/Dec) (DW)

6226.6 Unid 0754 USB two OM in EE, using all the "F" expletives to express their viewpoints. 14/Nov (WJL)

6237.5 M2E: Unid 75/850 "fal de m2e qtc 1 bt d25 d21 f61 h35 a31 a26 c43 stop j14 c44 f43 c38 c44 g35 c56 bt qsl imi k" this was repeated til 10.18 then s/off 10.06 BAUD 75 (BVR)

6285 UYHH: TKH VOLGA 0840 RTTY 50/170 admin to USO5 5/Nov (HOOD).

6286.5 UAOD: TKH BALTIYSKIY 102 1000 CW msg to UCW4 3/Nov (HOOD).

6301 SHIP UNID 2130 CW. Fast Russian. Possibly via Murmansk. (26/Nov) (DW) (26/Nov) (DW)
6303 SHIP SMB MIKULA 2052 50/R/170 MRM199. Tfc in 3sc via Murmansk. (26/Nov) (DW)
6314.5 SAB301: GOETEBORG RADIO 1125 arq 100/170 Scals XSPB. Chan free marker (Maritex) "ererer" (29/Nov) (DW)
6318 LGB: ROGALAND RADIO 1127 CW Chan free marker "LGB tlx". (29/Nov) (DW)
6318.5 OXZ: LYNGBY RADIO 1130 fec 100/170 Tfc lists for Lyngby and Mobile/WLO. Returns to chan free ,marker"OXZ". (29/Nov) (DW)
OXZ: LYNGBY RADIO 1130 fec 100/170 Tfc lists for Lyngby and Mobile/WLO. Returns to chan free ,marker"OXZ". (29/Nov) (DW)
6319.5 UCE: Arkhangelsk Radio 0835 ARQ msg to UBSO: TKH IVAN RYABOV (6083dwt gen cargo vsl) 5/Nov (HOOD).
6322 OST: OOSTENDE RADIO 1135 CW Chan free marker "OST" (29/Nov) (DW)
6326.5 SAB326: GOETEBORG RADIO 1136 CW. Chan free marker (Globe) "SAB" (29/Nov) (DW)
6329.4 VCT: Tors Cove Radio NFLD, CAN 0415 CW/ARQ. Xmtd CW: VCT; ARQ: dusy (C/S or SELCAL?). 17/Nov (WJL)
6341.8 WLO/WSC/KLB: 0036 SITOR-B WX 11/20 (BG3)
6369 UFJ: Rostov R CW CQ QSW Tfc List QTC for 1543 nov 22 (PvdE)
6371.5 RLK/7: Arkhangelsk R (?) 2009z CW calling 4LY QSX nov 26 (PvdE)
6380 UCW4: St Petersburg Radio 0830 CW msgs to UBMO: TKH LADOGA 2 and UAOR: TKH LADOGA 16 17/Oct (HOOD).
6382 UNID: at 1557 VVV PAQ, any Idea? (RV)
6382.2 EAD2: Madrid Radio 0429 CW marker. 17/Nov (WJL)
6384.5 WCV3166: Austin G. 0314 ARQ tug, w/Globe QRG msg. (RB)
6388 EBA: Madrid Naval Radio 0908 CW drilling rigs summary notice 13/Nov (HOOD).
6393.5 UDK2: Murmansk R CW calling 4LS QSX 1742z nov 21 (PvdE)
6395 UDK2: Murmansk R CW calling 4LS QSX 6295 2002z nov 10 (PvdE)
6400 UON: Baku R CW VVV calling 4KK QSO QSS Tfc List 1903z nov 20 (PvdE)
UON: Baku R CW calling VJEB with traffic 2012z nov 10(PvdE)
6438.6 UNID: Sitor-A 0952z 19 Nov98 [BC3]
6442 Unid 0455 USB 2 OM in EE talking about chasing bouys down and hauling things around. 25/Nov (RM2)
6445.9 MURMANSK MET 1949 FAX 120/576/R/1000 lsb of 6447.8. Chart of N/Atlantic, Artic, N/Europe and W Russia.New chart 2005z N/Norway, Finland, Russia, Artic Ocean. (16/Nov) (DW)
6452.5 RN NORTHWOOD 0938 FAX Fax running - but missing the black tone. (16/Nov) (DW)
GYA: RN LONDON 1545 FAX 1200z N/Atlantic s/analysis. (28/Nov)(DW)
6459.5 UVA: Gelendzhik R 1704z CW CQ QSW nov 27 (PvdE)
6465 UWS: KIEV RADIO 1550 CW. Blind tfc brdcst in weak, fast cw. Msgs originating in "Kiew". (13/Nov) (DW)
6470 UCE: Arkhangel'sk R RTTY 50/425 CQ QSW rdo net 1534z nov 22 (PvdE)
6475 UBA/UBA: (???????) 1633z CW VVV CQ Traffic for ships UHYG UFPX UGRF UHUF nov 27 (PvdE)
UNID 0739 Pactor I soundalike, in maritime band. Unable sync before offair. (12/Nov) (DW)
UNID 0739 Pactor I soundalike, in maritime band. Unable sync before offair. (12/Nov) (DW)
6482 CLA: Havana Radio 0800 CW cq (31/Oct) (IJ)
6496.4 CFH: CF HALIFAX 2257 rtty 75/800 Met tfc. qrm from F1b straddling the SPACE. Removed with cunning filtering. (10/Dec) (DW)
6501.8 TBB6: Ny Ankara 0152 CW "V-S TBDJ DE TBB6 QAP". 9/Nov (WJL)
6516 Auckland Cruising Club or Association, NZL 0640 USB check-ins from various boats passing positions & wx (2/Nov) (IJ)
6535 Dakar, SEN: (SAT-1 MWARA) 0717 USB wkg unid flt w/posn. (RB)
6586 AMS New York NY 0450 USB, Exchngd flight data w/enroute acft and asgnd secondary HF freqs to acft (5520, 5598, etc.) 9/Nov (WJL)
6604 New York VOLMET 1208 USB w/aviation wx. //3485/10051// (6/Nov) (DW2)
6628 CSY: Santa Maria, Azores 0243 USB (NAT-E MWARA) wkg Iberria 6620 w/selcal check. (RB)
6628 New York: (NAT-E MWARA) 0244 USB wkg Air France 3441 w/posn 32N/50W 0244, FL 310, est. 43N40W 0310, 43N40W next, req FL 330. (RB)
6637 Miami Radio: LDOC 0644 USB wkg American 870 out of Santa Domingo 0630, est Miami 0830. (RB)
6673 San Francisco: (CEP-5 MWARA) 0314 USB wkg Continental flt w/posn

report. (RB)
6673 San Francisco: (CEP-5 MWARA) 0648 USB wkg Northwest 920 w/ATC advisory. (RB)
6676 Bangkok Volmet R: reports for Hongkong and Bankok and ID 1644z nov 8 (PvdE)
Karachi VOLMET 1848 USB wx for Lahore and Karachi and ID at sign-off.
Singapore VOLMET 1850 ID and significant wx wrng 7/Nov (HOOD).
Karachi Volmet R: report for Lahore and ID 1449z nov 7 (PvdE)
Singapore Volmet: R ID and reports for Kuala Lumpur, Soekarno Hatta, Kuching, Brunei, Kota Kinabalu, Denpasar 1451z nov 7 (PvdE)
Sydney VOLMET 1203 USB w/aviation wx. (6/Nov) (DW2)
6679 Auckland VOLMET 1220 USB w/aviation wx. //8828// (6/Nov) (DW2)
6679 Hong Kong VOLMET 1215 USB w/aviation wx. Very weak. (6/Nov) (DW2)
6679 Tokyo VOLMET 1210 USB w/aviation wx. //8828// (6/Nov) (DW2)
6683 SAM 202: 0213 USB wkg Andrews VIP re: tomorrow's departure time. 5/Nov (JJ)
6688 Unid Jap. Mil stn 0845 USB, CRATT link coord. (30/Oct) (IJ)
6691 AUTOMATIC: 0330 USB msg "K-T-3" repeated and then gone. 2/Nov (JJ)
6692 PETROPAVLOVSK ATCC 0453 USB wkg YUZHNYJ ATCC (Sakhalinsk). Both YL/RR (25/Nov) (DW2)
6693 K7V: US Military 0658 USB wkg poss (?) BLUESTAR w/ANDVT troubleshooting. At 0708, BLUESTAR QSLs receipt of ANDVT tfc from K7V (25/Nov) (DW2)
MINIATURE: 0630 USB wkg XRAY-O-KILO re deck time and altitude, plus ANDVT. 16/Nov (JJ)
6719 HABITAT: 0115 USB wkg unid in ANDVT. 2/Nov (JJ)
6719.4 USN HABITAT & HOTEL 9 LIMA 0905 USB with X-RAY 5 BRAVO is trying to pass traffic (30/Oct) (IJ)
6724 RESCUE 193: 1122 USB in r/check w/Kinloss Rescue (15/Dec) (AG)
6727 Unid Jap. Mil stn 0835 USB wx to unid a/c (30/Oct) (IJ)
6730 EXECUTIVE-1-FOXTROT: (SAM 682 w/Hillary Clinton) 0148 USB inbound Andrews, wkg Andrews VIP for Andrews wx. 2/Nov (JJ)
NIGHTWATCH 01: 0201 USB wkg Andrews with data comms. Also found on 8026, 11220 and 13440. 9/Nov (JJ)
6731.5 Unid 0503 USB(?) 2 OM in unk language. 25/Nov (RM2)
6739 ARCHITECT 1705 USB wx, followed by instruction to unid aircraft to change to UHF. 25/Nov (TR2)
ARCHITECT: 1705, with wx report, followed by instruction to unid aircraft to change to UHF. Very strong of course. After ARCHITECT was out I caught the tailend of an EAM by female voice. Signal fair to unreadable. (TR)
ARCHITECT: RAF 0332 USB w/H+30 announcements. (25/Nov) (DW2)
ARCHITECT: RAF Strike Command, London 2130 USB w/H+30 color coded airfield conditions. (RB)
RAYMOND 33 (sounded like): 1559 USB clg for a signal ck 24/Nov (JM)
6745 KPA2: Mossad 0419 USB YL/EE w/KPA2 ann; at 0425 up w/ULX x 2 & off; at 0515 back up w/KPA2 ann. (RB)
6752.9 Unid 0617 RTTY 75/844 msg start/end w/RY's, pause btwn msgs. 22/Nov (WJL)
6754 CJX: AF St. Johns Volmet 0620 USB wx CAN airports. 4/Nov (KB)
TRENTON MILITARY 0623 USB w/aviation wx. QRT at 0632(25/Nov) (DW2)
6759 Unid 0539 RTTY 75/851 msg start/end w/RY's, pause btwn msgs. 9/Nov (WJL)
6761 NAVY 496: 0206 USB, inbound Norfolk, wkg Andrews VIP. Also on 7693. 26/Nov (JJ)
SHADO 58: 0328 USB clg Altus CP. 18/Nov (JJ)
6766 Cut Numbers stn 0100 5FGS 3 X 5 callup. 17/Nov (RK2)
6771.7 RFLI: FF, Ft de France, Martinique 0211 ARQ-E3 192/425 (assumed) idling. (RB)
6779 DRAF: FGS Molders (D-186) 0632 USB German Navy guided missile destroyer, wkg DHJ59, German Navy Wilhelmshaven for digital mode tfc. (RB)
DRDO: FGS U-21 (S-170) 0714 USB German Navy (Bundesmarine) attack sub, wkg DHJ59 (Wilhelmshaven Naval) w/digital coordination in EE/GG. (RB)
DRDT: FGS U-26 (S-175) 2236 USB German Navy 'unterseeboot' (diesel attack sub) wkg DHJ59, Wilhelmshaven Naval w/digital mode coordination. (RB)
6782 Unid: Numbers Station, Cuba 0702 CW w/5LG in progress, off w/526 x2,

191 x2 , T x 5. (RB)
6787 RFFHCFH: Loc. Unknown 15.45 ARQ-E 72/383 Controle de Voie to self with RY's, Foxes and Le Brick via "W?H" circuit (16 Nov). (PT)
RFFHCFH: is EUROCORPS AVANT and uses UFH circuit to RFFEDFA.
6792 DFZG: MFA BELGRADE 2129 rtty 75/R/400 In // 9057. Diplo bdcast online encrypt tfc. Same msg number 1140 XY keeps getting rptd - very important msg ??? - especially after long startup period. Clsd down 2148z "73 sk @@@" (30/Nov) (DW)
DFZG: MFA BELGRADE 2129 rtty 75/R/400 In // 9057. Diplo bdcast online encrypt tfc. Same msg number 1140XY keeps getting rptd - very important msg ??? - especially after long startup period. Clsd down 2148z "73 sk @@@" (30/Nov) (DW)
6795 Unid:rus navy bee 50bd/500hz 09.20 36-50 50 (BVR)
6813 Unid: 0554 81-81 unable to decode. (RB)
6830 NAVY 50515: 2335 USB enrt Roosevelt Roads, wkg Andrews VIP. 29/Nov (JJ)
Petra: Amman 1714 rtty 50/400 Nx\EE (17/Nov) (RH2)
6840 Unid: unreadable traffic for 30seconds then s/off 09.20 RSARQ 240 (BVR)
6842.5 Unid 0625 RTTY 100/844 undecodable mode. 22/Nov (WJL)
6850.2 Unid: Rou diplo online encrypted mgs bitmask 24 s/off at 14.14 with aaaaaaaaaaaaaaaaa 14.07 ROU-FEC 218 (BVR)
6865 Unid, RUS 0720 USB YL in RR (25/Nov) (IJ)
6866 Cut Numbers stn 0200 5FGs 3 X 5 callup - faded out to nothing and then appeared mid message S9. Replaced batteries? 17/Nov (RK2)
6869 Unid Russian stn 0850 USB YL in RR (2/Nov) (IJ)
6880 TAVOLA: Italian Navy, unid 2114 USB wkg DORIA. (RB)
6881 NNN0MUA: NAVMARCORMARS HF Mailbox 2119 ARQ wkg NNN0TNS w/"no traffic" msg. (RB)
NNN0MUA: NAVMARCORMARS HF Mailbox 2131 PACTOR 200/200 wkg unid w/file msg from NNN0ASA. (RB)
6891 CIA Counting station 1925 USB YL with numbers. (26/Nov) (IJ)
6899 LIMA TANGO NovEMBER: Army net New Zealand 2250 USB with "He's still got to come up from Waiouru (main army base) to Taupo Tomorrow" (8/Nov) (IJ)
6913 AAV5QS: Grayling, Minnesota QSO unid 04:48 22/Nov (JC7)
AFA1EY: Phillipsburg, Ohio QSO AFA6DJ 13:57 21/Nov (JC7)
AFA6DJ: Fair Oaks, California QSO AFA1EK 13:57 21/Nov (JC7)
6915.5 Unid Telecom Pacific Islands 0840 USB OM in a Pacific Island language (3/Nov) (IJ)
6932.5 BOOKSHELF: 1059 USB wkg TRACKER "going to tactical frequency". 3/Nov (JAU)
6939.9 Unid 0632 RTTY 75/848 undecodable mode. 22/Nov (WJL)
6950 KIEV MET 0828 FAX 90/576/N/800 Temperature chart for Ukraine. (27/Nov) (DW)
KIEV MET: 1543 FAX 90/576/N/800 End of chart Ukraine assumed. (13/Dec) (DW)
6964.4 NMC: USCG CAMSPAC 1221 GTOR 300/100 wkg NDWA: USCGC Morgenthau WHEC-722 w/uuencoded files. "E-mail pending - 73...rdy to send". Also wkg NMAG: USCGC Hamilton WHEC-715, NRUO:USCGC Polar Sea WAGB-11. (29/Nov) (DW2)
NMC: USCG CAMSPAC Point Reyes 0502 GTOR 100/170 w/ascii tfc (25/Nov) (DW2)
NMC: USCG CAMSPAC Point Reyes 1249 GTOR 100/170 wkg NRUO: USCGC Polar Star (WAGB-11), NDWA: USCGC Morgenthau (WHEC-722), NLVS: USCGC Rush (WHEC-723). (24/Nov) (DW2)
6978.3 Unid Telecom Pacific Islands 0625 USB OM in a Pacific Language, then OM in EE passing phone numbers (2/Nov) (IJ)
6980 BRAVO: Army net, NZL 0535 USB clg 63 and others for radio cks, switched to ANDVT in between (30/Oct) (IJ)
6981 Unid FF stn 0630 ARQ-E 72/400 idling (2/Nov) (IJ)
6982 Unid M8 1200 CW TGTRD MWGUA AIIDD. 2/Nov (LBJ)
6986.9 MOSCOW MET 1441 FAX To start very distorted, weak copy. 20sec bk during chart. Two further charts, reception improving. (22/Nov) (DW)
6990 FDG: FAF Bordeaux 0545 RTTY 50/425 RYRY & VOYEZ LE BRICK tests (30/Oct) (IJ)
6993 Andrews VIP 2200 USB clg SAM 203 for signal check. 14/Nov (JJ)
7302 AFA4FY: North Richland Hills, TX, 15:08 5/Dec (JC7)

AFA4GU: Durant, OK, 14:19 2/DEC (JC7)
AFA4KR: Abilene, TX, 14:11 2/DEC (JC7)
AFA4MG: Weslaco, TX, Net check in-4S1, 14:01 7/Dec (JC7)
AFA4ND: Humble, TX, 14:02 7/Dec (JC7)
AFA4OY: Corpus Christi,TX, Net check in-4S1, 14:02 2/DEC (JC7)
AFA4UB: Slidell, LA, 14:17 2/DEC (JC7)
AFA4ZV: Mobile near Ruidoso, NM, 15:21 5/Dec (JC7)
AFA4ZV: WUNer Ric Sohl--Nogal, NM, 14:05 2/DEC (JC7)
AFF4F: Ozona, TX, Traffic, 14:05 7/Dec (JC7)
AFF4LA: Baton Rouge, LA 15:03 5/Dec (JC7)

7305 JMH2: Tokyo Meteo 0803 FAX 120/576 w/chart (25/Nov) (DW2)

7319 SUU: CAIRO MET 1904 rtty 100/850 Met tfc. 240hz low. Periodicallly garbles - doesn't seem to be due to lack of strength or qrm (10/Dec) (DW)

7350 BAF44: BEIJING MET 1410 rtty 50/R/760 Met tfc. (13/Dec) (DW)

7372.5 NNN0AOH: El Paso, TX, 15:05 2/Dec (JC7)
NNN0JQC: Albany, GA, Working NNN0XOP, 23:05 4/Dec (JC7)
NNN0LHR: Georgia, 22:57 4/Dec (JC7)
NNN0LUK: Louisville, KY, Net Control, 14:08 4/Dec (JC7)
NNN0OBB: Alabama, Taking over net cntl, 14:11 4/Dec (JC7)
NNN0PSX: Nashville, GA, Working NNN0LUK, 14:13 4/Dec (JC7)
NNN0XOP: Georgia, Working NNN0JQC, 23:05 4/Dec (JC7)
NNN0XSA: Location Unknown, Net Control, 15:05 2/Dec (JC7)
NNN0PRQ: NAVMARCORMARS 1813 USB wkg NNN0TBV w/voice MARSGRAM traffic. (RB)

7381 AAA7IA: Oelwein, Iowa QSO NNN0OOR 13:17 21/Nov (JC7)
AAR3IK: Virginia QSO AAA7IA 13:20 21/Nov (JC7)
AAR4EQ: Quitman, Georgia QSO NNN0FVM 14:50 21/Nov Only YL heard (JC7)
AAR5CF: Newton, Illinois Clng any MARS station 14:04 21/Nov (JC7)
AAR5DD: Michigan QSO AFA3EA 14:22 21/Nov (JC7)
AAR9EV/T: Ventura, California QSO AAV6LY 14:57 21/Nov (JC7)
AAT4LM: Crossville, Tennessee QSO AFA1SQ 14:25 21/Nov (JC7)
AFA2JE: Memphis, Tennessee QSO NNN0FAB 13:48 21/Nov (JC7)
AFA2JQ: Richburg, So Carolina Clng Calif. station 13:38 21/Nov (JC7)
AFA3EA: Scotts Bluff, Nebraska QSO AAR5DD 14:24 21/Nov (JC7)
AFA6DJ: Fair Oaks, Calif. Calling NNN0OOR 13:24 21/Nov (JC7)
AFA6SE: Phoenix, Arizona QSO AFA3DK 14:00 21/Nov (JC7)
NNN0ANH: Denver, Colorado Radio Check 14:54 21/Nov (JC7)
NNN0FAB: South Carolina QSO NNN0OOR 13:10 21/Nov (JC7)
NNN0FVM: Chula Vista, California QSO AAR4EQ 14:50 21/Nov (JC7)
NNN0FVM: Chula Vista, California QSO AAR5CF 14:09 21/Nov (JC7)
NNN0HAQ: Detroit, Michigan QSO NNN0OOR 13:43 21/Nov (JC7)
NNN0KRQ: Cincinnati, Ohio QSO Unid In Florida 13:30 21/Nov (JC7)
NNN0OOR: Baltimore, Maryland QSO NNN0FAB 13:10 21/Nov (JC7)

7439 NNAS: USCGC Escanaba (WMEC-907) 0439 USB wkg H3K after they were adv by CAMSLANT to contact Escanaba here, refered to as "HF night primary", into ANDVT. (RB)

7442.3 NRUO: USCGC Polar Star (WAGB-11) 0803 GTOR 100/170 wkg NMC: USCG CAMSPAC Point Reyes (on 6964.4) w/end of transmission. QRT with callsigns and disconnect (25/Nov) (DW2)

7454.9 Unid 0644 RTTY 50/851 undecodable mode. 22/Nov (WJL)

7467.9 OZU25: MFA COPENHAGEN 0903 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc (Nx) in Danish followed by online encrypt starting ":::::ssswww" (4/Dec) (DW)
OZU25: MFA COPENHAGEN 1020 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc (Nx) in Danish. Hvy qrm. (4/Dec) (DW)

7467.9 Unid: DNK diplo online encryted heavy BC qrm at 10.25 s/off no id 10.18 F7B1 100 (BVR)

7501.5 93 DELTA: 2236 USB wkg 9378 re KY-99 comms (ANDVT). 21/Nov (JJ)

7508 ZRO2: Pretoria Meteo 0516 fax 120/576 Nice chart (19/Nov) (RH2)

7510 HZN: JEDDAH MET 1700 rtty 50/R/400 80hz high. Met tfc. Just started new daily serials for messages (13/Dec) (DW)

7510.1 HZN: Jeddah, Saudi Arabia 16.20 RTTY 100/410 Storm warning for Chittagong and area (21 Nov). (PT)

7512 ZRO2: PRETORIA MET 1847 rtty 75/R/850 Met tfc. 70hz low. (10/Dec) (DW)

ZRO2: Pretoria Meteo 0520 rtty 75/430 Aero Wx (19/Nov) (RH2)

7524 TYE: ASECNA, Cotonou, BEN 0527 ARQ-M2 96/425 weak, idling. (RB)
TYE: COTONOU AIR 2244 ARQ/342 96/400 4RC. 2ch tdm. Ch A: and B: betas till 2301z. "CH de TYE svc's in both chans (ch:A cct [UNA]). Met tfc in both, originated in DBBB (Cotonou). (22/Nov) (DW)

7535 NNKP: USS Kearsarge (LHD-3) 1530 USB wkg SESEF w/plain & ANDVT cks up to transmitter #10. (RB)

7554 Unid 1421 CW 5LGs. 25/Nov (JM)

7585.7 FF UNID 1935 ARQ/E3 192/400 8rc. Betas. Noisy, weak sync. (21/Nov) (DW)

7591.5 FDY: Orleans, France 15.20 RTTY 50/440 RY's, Le Brick and "TEST DE FDY" (25 Nov). (PT)

7595.2 AOK: USN ROTA 2038 FAX 1000mb height 36 hr fcast. Due hvy qrm noisy chart, of Europe,Med and N/Africa. (21/Nov) (DW)

7625 HZN47: JEDDAH MET 1843 rtty 100/R/850 Met tfc. Mark faulty. (10/Dec) (DW)

7634 RFGW: Paris, France 16.44 FEC-A 192/394 Variable length letter groups to unknown (02 Dec). (PT)

7646 DDH7: Hamburg Meteo, Germany 0714 RTTY 50/425 w/AAXX meteo reports. (RB)
DDH7: HAMBURG MET 1122 rtty 50/440 Met tfc. Wx/sea bulletin for N/Atlantic, in EE. (11/Dec) (DW)

7670 RCC76: Moscow Meteo 1142 FAX 120/576 prognostic chart, after QSY from 10980 at 1115. 1/Nov (KB)

7671.5 FDG: Bordeaux, France 17.00 RTTY 50/400 RY's, Le Brick and TEST DE FDG (02 Dec). (PT)

7681 ATENCION NUMBERS STATION 0205 USB YL/SS w/5FGs (25/Nov) (DW2)

7692 Telecom Russia 0550 USB 2 OMs in RR (25/Nov) (IJ)

7700 ETD3: Addis Ababa Air 1800 RTTY 50/850 ry (5/Nov) (IJ)

7770 Telecom Suva Fiji 1905 USB YL in Fijian (24/Nov) (IJ)

7772.5 Unid: 0522 arq-M2 144/0 Single tone station -on Mark only (19/Nov) (RH2)

7784 USAF AWS ? LOC 2023 rtty 75/850 Met tfc. KAWN originated msgs. (11/Dec) (DW)

7803 RFFEDFA: location unknown 13.35 ARQ-E 72/371 EUROCORPS DIREX with exercise tfc in FF to RFFWAC, CENTRANS PARIS, via UFA cct (18 Nov). (PT)

7810 MOSSAD E10 0245 USB "CHARLIE INDIA OSCAR THREE", stopped at 0250. No other activity noted. 17/Nov (RK2)

7811 CIO2: Mossad 0514 USB YL/EE w/CIO2 ann. (RB)

7822.2 RFFAB: Paris, France 20.52 ARQ-E3 200/380 5-lg tfc to RFFVAE, Dahran via FDX cct (18 Nov). (PT)

7845 Khabarovsk Meteo 0650 FAX 120/576 analysis chart. 26/Nov (KB)

7850 FDI8: FAF Nice 2110 RTTY 50/400 testing w/bricks 0-9 RYs & c/sign (24/Nov) (ML2)

7850.5 Unid: (Still) 0401 PACTOR-1 200/200 nightly but weak 0000/0500 e-mail ref, Venezuella ref, whoizit?

7907 Murmansk Meteo 1415 FAX 120/576 chart Norwegian Sea. 1/Nov (KB)
MURMANSK MET 1455 FAX 90/576/R/1000 End of chart. Noisy. lsb of 7908.8 (8/Nov) (DW)

7909 NMN: CAMSLANT Cheaspeake, Va 2017 USB wkg CG 2103 w/pp to D-8 re oil slick after pp failed on 8980 due to wide-band CRATT near-by, has been blasting 8980/8983 for weeks. (RB)

7918 Mossad E10 0200 USB YHF (Cont'd - f/EE). 2/Nov (LBJ)

7941.5 UNID 1845 CW. Tfc in mix of ltrs, figs and acctd ltrs. QSL fm second stn on net. Signoff 1856. (8/Nov) (DW)

7946.5 DHJ51: GRENGEL MET 1505 rtty 100/R/425 Met tfc. Occ "cq de DHJ51 frequencies 000 ry's". Tfc originated by EDZW and KAWN etc. (10/Dec) (DW)

7964.5 ING: Unid prob Inga CGO 2100 FEC msgs, FF re maintenance of electric tx lines, to KIN (? Kinshasa) & KOL (? Kolwezi) (24/Nov) (ML2)

7971.3 WRD719: Seamail Association, Palo Alto, CA 0125 PACTOR wkg CY5356. Listed on 2661.4, 5880 and 7970. 22/Nov (JM)

7983.6 RFTJ: Dakar, Senegal 21.15 ARQ-E3 48/398 Controle de voie to self via TJF cct and relaying tfc from Paris to RFTJF, Port Bouet (27 Nov). (PT)

8000 FDG: FAF BORDEAUX 1857 CW. Marker "vvv de FDG ar" (8/Nov) (DW)

8002 Unid commercial stations, AUS 0800 USB 2 OMs w/chat (16/Nov) (IJ)

8020.2 HMF85: Pyongyang, N. Korea 12.16 RTTY 50/200 KCNA press agency with "RYRY..DE HMF49/HMF85" (25 Nov).(PT)
8025 Unid Pacific Island stn 0850 USB OM in a Pacific Island language (30/Oct) (IJ)
8026 Air Force 2: 2323 USB ETA Andrews 2350z, wkg Andrews VIP for pp to SAM Command. 22/Nov (JJ)
Andrews VIP 0322 USB clg SAM 201. 20/Nov (JJ)
SAM 201: 2348 USB wkg Andrews VIP for signal ck. 9/Nov (JJ)
8028 V5G: MFA BUCHAREST 1110 FEC/ROU 164.5/R/400 Online encrypted diplo bdcst. BInv=24. 40 hz low. (20/Nov) (DW)
8031.7 Egyptian Emb Baghdad (JG YVMKM) 2150 FEC clg Cairo (KDS KDFESPSR) no tfc (11/Nov) (ML2)
8040 Andrews AFB, MD 1616 LSB pp for "375". 23/Nov (JM)
GFA: BRACKNELL MET 1905 FAX Fuzzy, upper air charts. (8/Nov) (DW)
8043 RFFWAC: Paris, France 13.40 ARQ-E 72/390 CENTRANS PARIS re-transmitting message, received on 7803 KHz, back to RFFEDFA via UAF circuit (18 Nov). (PT)
8047.1 YYD3: Unid 0004 PACTOR uuencoded files. 20/Nov (JM)
8051 COPPER STATE 93, 93 ALPHA, 93 BRAVO, DUGOUT, and others 1753 USB wkg net comms re crypto and circuit connectivity. ALE pulses present as well. 21/Nov (JJ)
8051.9 FDI8: Nice, France 16.17 RTTY 50/400 RY's, Le Brick and "TEST DE FDI8" (25 Nov). (PT)
8058 UNID 1928 PICCOLO On standby. No tfc. (8/Nov)(DW)
8063.3 RFFA: MoD Paris, F 0335 ARQ-M2 200/342 (assumed) both channels idling. (RB)
8064.4 N/A: CW numbers stn, Cuba 0532 CW w/5FG's in progress. (RB)
8066 Unid M8 1100 CW GAATN DIADD AIRIN. 30/Oct (LBJ)
8067 Unid M8 1100 CW UMNNN TNMWN GAUGA. 2/Nov (LBJ)
8071.7 HEC: BERN RADIO 2000 fec 100/170 "de HEC" in cw immediately before fec. Tfc list for DTS-Mail svc. (23/Nov) (DW)
8080.5 EAE220: MFA MADRID 0902 TWINPLEX 100bd -200/-85/85/200. F7b-1 . Tfc in offline encrypt (10ltr grps) signed Ministerio Asuntos Exteriores. (9/Dec) (DW)
8108.2 RFQP: Djibouti 22.45 ARQ-E3 200/401 Controle de Voie to self via QRG circuit (19 Nov). (PT)
RFQP: FF DJIBOUTI 2220 ARQ/342 200/400 4rc. 2 chan tdm. Ch:A cct [QRG] controle de voie svc RFQP de RFQP. Ch:B at 2227z cct [QPF] c de v RFQP de RFQP. (23/Nov) (DW)
8122 CANBERRA CONTROL 1035 USB clg XKE. No joy. (10/Nov) (DW2)
CANBERRA CONTROL 1102 USB clg SHEPPARTON: HMAS Shepparton Survey Vessel A03. No joy. (9/Nov) (DW2)
DARWIN CONTROL 0841 USB wkg RAC: Unid RAN w/msg servicing (25/Nov) (DW2)
DARWIN CONTROL: 0922 USB wkg BALIKPAPAN: HMAS Balikpapan L126 (25/Nov) (DW2)
EXMOUTH CONTROL: RAN NAVCOMSTA Harold E. Holt 1033 USB wkg WVN: Unid RAN. (4/Nov) (DW2)
L8R: Unid RAN 1303 USB wkg EXMOUTH CONTROL: RAN NAVCOMSTA Harold E. Holt, "Request you shift to 6Mhz". (6/Nov) (DW2)
L8R: Unid RAN 1312 USB wkg CANBERRA CONTROL. (6/Nov) (DW2)
LABUAN: HMAS Labuan L128 1232 USB wkg DARWIN CONTROL. QSY to 4375khz (24/Nov) (DW2)
MERMAID: HMAS Mermaid survey vessel A02 1206 USB wkg DARWIN CONTROL for rdo chk. At 1215 w/msg servicing. (17/Nov) (DW2)
MIN: Unid RAN 0913 USB clg CANBERRA CONTROL (25/Nov) (DW2)
N4J: 0844 USB wkg CANBERRA CONTROL for radio check (25/Nov) (DW2)
ONSLOW: HMAS Onslow Oberon-class SSK 60 1205 USB wkg DARWIN CONTROL w/msg servicing. (17/Nov) (DW2)
RAC: Unid RAN 0912 USB wkg DARWIN CONTROL in the red and green (ANDVT) (25/Nov) (DW2)
RXH: Unid RNZN ? 0839 USB wkg DARWIN CONTROL w/msg relay to Auckland Navy (25/Nov) (DW2)
WARRNAMBOOL: HMAS Warrnambool Fremantle-class Patrol Boat 204 1053 USB wkg DARWIN CONTROL. (4/Nov) (DW2)
8135 Unid, RUS 0805 USB OM in RR (10/Nov) (IJ)
8165 FAPSI 1707 rtty 75/500 5LG. No Link seen (17/Nov) (RH2)
8176 VIM: Melbourne Radio 0759 USB w/end of marine information broadcast

(25/Nov) (DW2)
VIP: Perth Radio 1121 USB w/MIB. (9/Nov) (DW2)
VIS: Sydney Radio 1106 USB w/MIB. (9/Nov) (DW2)
Unid: sounded like autoalarm on 2182khz tones +750hz and +1250hz at 09.58s/off pause for 30seconds then rtty 75bd/850hz in usb +950hz/+1800hz 09.56 (BVR)

8176.4 FZR81: ST DENIS MET 1827 rtty 75/400 Weak sigs. Just discernable as met tfc. (10/Dec) (DW)

8192 9MR: Malay Navrad 1631 rtty 50/850 FM PC13 to TM VQ COMNAV. Tfc\Malay (18/Nov) (RH2)

8210 SXVJ: (M/V Akmi,Greek flagged 26874 DWT bulker) Clg what sounds like Athena radio,could this be Athens radio? (MAS)

8264 C6IA8: (M/V shamrock rio,rep of Bahamas) clg____ w/ no joy (MAS)

8294 WCW4127: Tug C.D. White 0105 USB wkg unid stn after answrering a "ringer". (RB)

8297 LYL: Klaipeda Radio 0633 USB wkg various mv w/simplex pp's (25/Nov) (DW2)
WYH6584: Tug Gulf Ruler 0634 USB clg unid (25/Nov) (DW2)

8303 LOR: Argentine Navy, Puerto Belgrano 0009 RTTY 75/200 w/SS plaintext tfc. (2/Nov) (DW2)

8340 MT Ruby tlx abt eta Thessaloniki 25th0300 lt on Dynacom freq. 15.21 ARQ 100 (BVR)

8345 SSEC: M/V SENIOR M 0832 CW msg via IAR (3910dwt gen cargo vsl) 2/Nov (HOOD).

8349 9HHB5: SHIP DUNAJ 1035 PACTOR I 200/200 Working Prague/OLP44. Tfc in EE. (7/Dec) (DW)

8361 UUYS: TKH VOLGO-BALT 236 1620 CW msg to Orimi, St Petersburg from Km Opokin 11/Nov (HOOD).

8366.5 URRY: TKH NIKOLAY LIMONOV 1802 CW clg USU 20/)ct (HOOD).

8372 UCNA: TKH VASILIY MUSINSKIY 0810 FEC relaying crew TGs for UCE to unid vsl then USB to confirm receipt. UCOQ: TKH MEKHANIK YATRSEV 0814 CW clg 9HIA5: TKH IZHENER PLAVINSKIY for QTC 1 - looks like a net freq for Northern River Shipping Co vsls 10/Nov (HOOD).

8380.5 CBAH: M/N Ancud 0202 ARQ Chilian-flagged 6,234 DWT tanker, w/wx obs via CBV, Valparaiso Radio, Chile, login 81221 ANCD. (RB)
CBCN: M/N Condor 0020 ARQ Chilean-flagged freighter w/CHILRP formatted msg to DIRSOMAR. (RB)

8381.5 C6KL4: M/V UCKA 0923 ARQ using "HELP" with op at 9AR (this guy almost fooled me - thought name was c/s) login 61360 UCKA 6/Nov (HOOD).

8382.5 URMA: TKH SKVORTSOV-STEPANOV 1758 ARQ psn rpt to USU 20/Oct (HOOD).

8386.5 WO6152: Pete McCall 0522 ARQ w/Globe QRG msg, login 366743130 WO6152. (RB)

8387 MSGS4: Cheshire 0349 ARQ UK-flagged 29,171 DWT tanker w/AMVER/PR msg. (RB)

8388 9HGV4: M/T AVON V 0740 ARQ msg to Athens via SAB (59003dwt tanker) 12/Oct (HOOD).

8389 EGVK: M/V TOLUENO 0840 ARQ msg to Marbella via EAD (3950dwt chem tanker) 2/Nov (HOOD).

8390.5 WXWL: M/T Delaware Trader 0305 ARQ U.S-flagged 51,735 DWT tanker w/login for msg ck, login WXWL 11172. (RB)

8391 TCUV: M/V UND PRENSES 0751 ARQ msg via TAH 26/Oct (HOOD).

8397 UCMQ: SHIP TH M 4EREMNYH 1651 arq Selcals KYVF (Arkhangelsk). Answerback UCMQ. Tfc in 3sc (6/Dec) (DW)
UCPE: SHIP TH PIONER LITWY 1658 arq Selcals KYVF answerback UCPE. ARH/MF. Tfc in 3sc. DISP/1. (6/Dec) (DW)

8398.5 SHIP UNID 2143 arq 100/170 Wkng Goeteborg/SAB in EE "ok pls adv the nearest medical hospitl u hv". Short delay then offair. (26/Nov) (DW)

8399 SHIP UNID 1634 fec Relay of PNA press. Ends "edited and resend by Whiskey Mike Mike(Silver Boy) cf sharp". (6/Dec) (DW)

8399.5 ESHX: ELVA (RS-7570) 0754 RTTY 50/170 crew TG to Tallinn via UIW 26/Oct (HOOD).

8400 SHIP UNID 2059 arq 100/170 Intership qso in Scandanavian(?) lang. Ends with "tu baraa um tad liggur firdi aaaal thhe best farin". (26/Nov) (DW)

8400 Unid: (intership?) opr chat Scandinavian language 11.47 ARQ 100 (BVR)

8401.5 UFBH: TR Bereg Nadezhdy 0251 RTTY 50/170 Russian-flagged 9,606 DWT refridgerated fish carrier/reefer w/crew TG's to Vladivostok. (RB)
UHEX: RTMS ALEKSEY GRACHEV 0854 RTTY 50/170 catch rpt from Km

Lazarenko to UIW 17/Oct (HOOD).
8402.6 ELZQ5: SHIP TR FOST-1 2136 rtty 50/R/170 Calling Kaliningrad (ry's UIW de ELQZ5) but no qso. Second calling session the 3sc tfc. (26/Nov) (DW)
8402.7 SHIP FROST-4 2106 rtty 50/R/170 Tfc in 3sc via Kaliningrad (?). (26/Nov) (DW)
8404 SHIP UNID 1705 rtty 50/R/170 End of tfc in 3sc. Sign off in cw. (6/Dec) (DW)
8405 UVOF: TKH ENAKIEVO 1623 RTTY 50/170 crew TG to USU 23/Oct (HOOD).
8407 SHIP UNID 1641 rtty 50/R/170 Tfc in 3sc. No subsequent signoff. (6/Dec) (DW)
8408 UZUY: TK Tamanskiy 0617 RTTY 50/170 Ukrainian-flagged tanker w/crew TG's. (RB)
8420 EAD: MADRID RADIO 1900 fec NAVAREA 2. Msgs in English and Spanish. (6/Dec) (DW)
8432.5 UFN: Novorossiysk Radio 1823 ARQ msg (in EE) from Spain to UICJ: TK POBEDA 20/Oct (HOOD).
8440 UAT: Moscow R CW CQ Tfc List QTC for 1303z nov 22 (PvdE)
8442 TCR: Istanbul R CW CQ TFC LIST 1402z nov 7 (PvdE)
8445 A4M: Muscat R CW DE 1446z nov 7 (PvdE)
8448 A9M: Hamala Radio, BHR 2000 CW marker (23/Oct) (IJ)
8451 UBF2: St Petersburg R CW calling 4LT3 Tfc List QTC for 1407z nov 21 (PvdE)
8452 UHP: ST PETERSBURG RADIO 1538 CW. Tfc in Russian to TH Lidia (30/Nov) (DW)
8453 FUG: FN LA REGINE 1540 rtty 75/850 Marker "FAAA de FUG ry's sg's figs" (30/Nov) (DW)
8463 CKN: Canadian Forces Lazo 0423 RTTY 75/850 w/calltape (25/Nov) (DW2)
8469.5 ZRH: SA Navy Silvermine 0427 CW w/calltape (25/Nov) (DW2)
8472.2 WLO: SITOR-B WX 11/24 (BG3)
8473 HLG: Seoul Radio 1716 CW Marker QSX. 11/Nov (TR2)
8474 JYO: Aqaba R CW CQ QSX 1358z nov 7 (PvdE)
8475 UHY/UHS: (?) CW CQ QSW 442.5/4307/8475/12661.5 1503z nov 8 (PvdE) (anywun for id?)
8475.5 FUX: FN LE PORT 1550 rtty 75/850 Marker "FAAA de FUX testing sg's ry's nnnn" (30/Nov) (DW)
8475.5 FUX: FN LE PORT 2114 rtty 75/N/850 Marker "FAAA de FUX testing ry's sg's". (27/Nov) (DW)
8478.5 FUF: FN FT DE FRANCE 2118 rtty 75/R/850 Marker "de FUF testing ry's sg's figs testing". (27/Nov) (DW)
8482 SPH: Gdynia R CW CQ QSX 1910z nov 13 (PvdE)
8491 AQP5: PN KARACHI 1601 CW Marker "vvv AQP2/4/5/6" (30/Nov) (DW)
8494.8 P: CISN KALININGRAD 1606 CW Single letter [P] HF beacon (30/Nov) (DW)
8495 C: CISN MOSCOW 1607 CW. Single letter [C] HF beacon (30/Nov) (DW)
8497 HLJ: Seoul Radio 1722 CW Marker QSX. 11/Nov (TR2)
8497 HLJ: SEOUL RADIO 1611 CW. Marker "cq de HLJ qsx 8 mhz k" (30/Nov) (DW)
8500 VTH: IN MUMBAI 2128 rtty 50/R/850 Tfc fm Sierra Victor Foxtrot to Yankee India Foxtrot. Then marker "VTH1/4/5/7 rsbl bnr ry's" (27/Nov) (DW)
8501 UNID 1615 arq 100/170 Betas/irs swapping evnt tfc in EE and unid lang. To:323 Fm:tec refers ship not having sustained any damage to hull since divers inspected in Abidjan on 12/June. (30/Nov) (DW)
8510 J2A8: Djibouti Radio cw cq 1542. (RV)
UBB4: KALININGRAD RADIO 1430 CW. High spd Russian weather? 32wpm. 1450z busy working ships. (6/Dec) (DW)
8511 XSW2: TAICHUNG RADIO 0850 CW. Marker "cq de XSW2 qsx 500 khz and 8 mhz". (Nov/6) (DW)
8522 CBV: Valparaiso Radio 0435 CW w/calltape (25/Nov) (DW2)
8530 9VG28: SINGAPORE RADIO 1735 CW. Nav wngs (freq unscheduled) msgs inc DDV serials (Wngs of Deep Draft Vessels? vicinity Kechil, Raffles, Horsburgh lts - transit pts for Singapore Straits. 1830z svc bulletin, qtc list. (30/Nov) (DW)
8530 9VG28: SINGAPORERADIO 1735 CW. Nav wngs (freq unscheduled) msgs inc DDV serials (Wngs of Deep Draft Vessels? vicinity Kechil, Raffles, Horsburgh lts - transit pts for Singapore Straits. 1830z svc bulletin, qtc list. (30/Nov) (DW)
8530 IAR28: ROME RADIO 2000 CW. Marker "cq de IAR list on 521.5 4292 8530

13011 17160.8 as". Still running at 2028z, tfc list scheduled for 2000z. (30/Nov) (DW)
8532 LZW49: VARNA RADIO 2031 CW. Marker "de LZW49 LZW49" (30/Nov) (DW)
8533 ESP: Parnu R CW CQ QRU? QSW 1942z nov 5 (PvdE) (caught them just ending transmission, anywun for the correct freq. and an address)
8535 ESP: Parbu R CW QTC for ESPT5 1933z nov 10 (PvdE)
8538 6WW: French Navy Dakar 0440 RTTY 75/800 w/"le brick" calltape (25/Nov) (DW2)
6WW: FN Dakar 0527 rtty 75/850 RY/ID/Le Brick-/QWERTY (19/Nov) (RH2)
8544 OLP44: PRAGUE RADIO 1030 fec Tfc list, addressed OLGX, in cw. Tfc list in fec, qsx 8(349). (7/Dec) (DW)
OLP44: PRAGUE RADIO 1035 PACTOR I 200/200 Working ship callsign 9HHB5 in "standard" mode. (7/Dec) (DW)
OLP44: PRAGUE RADIO 1430 fec Tfc list. In cw qsx 351 but in fec says qsx 349 but works ship in Pactor on 8349. (7/Dec) (DW)
8549 UCE: ARKHANGELSK RADIO 2036 arq 100/170 System info to ship. 3sc. Receiving tfc fm various ships - but no period time given. (30/Nov) (DW)
8554 3BM: Mauritius R CW VVV PSE AS FOR WX 1626z nov 8 (PvdE)
8564.9 FUB: Navy Paris/Houilles online encrypt 10.07 BAUD 50 (BVR)
FUB: Navy Paris/Houilles testing "faaz de fbu testing ryry voyez le brick geant que j'examine pres du grand wharf sgsgsg 0.1.2.3.4.5.6.7.8.9." // 2064 12729.9 15969.4 08.50 BAUD 50 (BVR)
8565 D3E51: LUANDA RADIO 2153 CW. Marker "cq de D3E51/61 qsx 8 12 mhz c.3/4 on rtf ch421 413 and 802 ar" (27/Nov) (DW)
8570 XVT: Danang R CW CQ NIL QRU? QSX 1403z nov 15 (PvdE)
8570.5 USW3: (?) CW CQ QSW 6465/8570.5/12695.5 1534z nov 8 (PvdE) (anywun for id?)
8571 JNA: Tokyo Coast Guard 1728 CW nav warning. 11/Nov (TR2)
8574 LGW: Rogaland Radio 0808 CW marker & tfc list. 22/Nov (WJL)
8577 HLO: Seoul Radio 1741 CW Marker QSX. 11/Nov (TR2)
HLO: Seoul Radio, 1945z, just fair level (s3) in Holland (AB5)
PWZ33: Navy Rio de Janerio, Brazil CW V & CQ marker, weak, choppy note. 04:55 14/Nov. (JC7)
8582 XSN: Ningbo Radio 0932 CW ID marker 12/Nov (HOOD).
8585 UFL: Vladivostok Radio 0925 CW msg to UDOU: TKH SURGUT 12/Nov (HOOD).
8586 USO5: Izmail Radio 0923 CW crew TG to URJJ: TKH MOLDAVIYA 24/Oct (HOOD).
8589 HPP: Intelmar Radio 0445 CW w/calltape (25/Nov) (DW2)
8601.3 ZLO4: Navy Irirangi 1750 CW wkg unid. 11/Nov (TR2)
8602 ZLO: RNZN Waiouru 0448 CW with ch mkr (DW2)
8604 UIW: Kaliningrad R CW CQ ans 1515z nov 21 (PvdE)
8605 UIW: Kaliningrad Radio 1920 RTTY 50/170 crew TGs to UIMQ: BATM ARMENAK BABAYEV 30/Oct (HOOD).
8606 CNP: CASABLANCA RADIO 1705 CW. Marker "cq de CNP qsx 8 mhz ar k" (8/Dec) (DW)
8614 URL: Sevastopol R 1947z CW CQ ANS nov 26 (PvdE)
8616.5 URK9: Kerch R 1802z CW CQ QSS Traffic list nov 27 (PvdE)
8624 XSQ: Guangzhou Radio 1759 CW QSX tfc list. 11/Nov (TR2)
8625 FUM: French Navy Papeete 0450 RTTY 75/810 w/calltape (25/Nov) (DW2)
8634 PPR: Rio de Janeiro Radio 0905 CW marker (31/Oct) (IJ)
8636 HLW: Seoul Radio 1812 CW Marker QSX. 11/Nov (TR2)
8674 VWM: Chennai R CW CQ QRU? QSX 1404z nov 7 (PvdE) (bad tape)
8674.4 VWM: CHENNAI RADIO 1648 CW. Marker "cq de VWM qsa? qsx v" (8/Nov) (DW)
8677 CBV: Valparaiso Radio cw cq 0155. (RV)
8682 J2A8: Djibouti R CW CQ QRU QSX (broken/bad tape) 1513z nov 15 (PvdE)
8706 JOS: Nagasaki Radio 1820 CW nav warning. 11/Nov (TR2)
JOS: Nagasaki Radio cw cq 1550. (RV)
8710 HEB: Berne Radio 0745 USB wkg YKHK: M/V WAHIB M (2445dwt gen cargo vsl) 23/Oct (HOOD).
8722 WOM: AT&T High Seas Radio Miami 0303 USB w/connection announcements (25/Nov) (DW2)
8725 HLS: Seoul Radio 0644 USB w/Ode to Joy marker (25/Nov) (DW2)
8728 3AC8: Monaco Radio 1530 USB voice mirror + short tune. 5/Nov (KB)
3AC: Monaco R Voice mirror in french, english and italian like language 1507z (PvdE)
EHY: Madrid Radio, Spain 0719 USB w/traffic to unid vessel in SS.

(RB)
UNID: W/_____ for simplex R/T traffic..anywun know who operates here?(MAS)
8734 SVN42: Athens Radio, Greece 2218 USB wkg vessel w/c/s P3??? w/R/T tfc. (RB)
8737 5BA42: Cyprus Radio, CYP 2227 USB w/voice mirror/marker in EE/Greek, "this is Cyprus Radio radiotelephone maritime service..." repeated. (RB)
5BA: Cyprus Radio 2228 USB YL/EE w/voice mkr (24/Nov) (DW2)
8743 SVN44: Athens Radio, Greece 2138 USB YL/Greek w/voice frequency marker, ann of Helelnic Telecommincations Organization (OTE) services seperated by door-bell like chime. (RB)
8749 WOO: AT&T Coastal Stn New Jersey 0400 USB w/traffic list. (RB)
8761 UFN: Novorossijsk Radio 0641 USB wkg unid mv w/pp (25/Nov) (DW2)
8764 G1R: coord GSV comm problem w\CAMSLANT,switched 8322 2021 7\DEC (MF2)
G1R: w\CAMSLANT 2245 7\DEC (MF2)
GKU46: Portishead Radio, G 2320 USB wkg 9VMG, M/V Singa Ace, for R/T tfc. (RB)
8776 5BA: Cyprus Radio 0135 USB YL w/voice marker. (28/Nov) (DW2)
CAMEL RUG: 0015 USB with 30 char. EAM: JLWFGB... 14/Nov (JJ)
DOORPLATE: 2116 USB w/EAM 5X64YS... 29/Nov (JJ)
NEW GUARD: 0344 USB w/EAM broadcast. (RB)
NEW GUARD: 1723 USB with EAM 7CVND4... 1/Nov (JJ)
SVN48: Athens Radio, Greece 0154 USB YL/Greek w/news items, seperated by door-bell like chime, //8743//8734, sked broadcast?
SVN48: Athens Radio, Greece 2212 USB YL/Greek w/voice frequency marker, ann of Helelnic Telecommincations Organization (OTE) services seperated by door-bell like chime. (RB)
8780 RKLM: Arkhangelsk R CW clg 4LY QSX 2540/4183.5/6278.5/8367.5 1349z nov 7 (PvdE)
8797 HLS: Seoul Radio 0737 USB w/Ode to Joy marker (25/Nov) (DW2)
8806 3AC: Monaco Radio 1530 USB voice mirror //8728. 5/Nov (KB)
8828 Honolulu VOLMET 1202 USB w/aviation wx. //6679// (6/Nov) (DW2)
8828 Tokyo VOLMET 1112 USB w/aviation wx //6679// (4/Nov) (DW2)
8843 San Francisco: (CEP-1/2 MWARA) 0303 USB wkg Air France 6353 for posn. (RB)
8846 Brisbane: AUS 0735 USB wkg unid flt w/selcal ck. (RB)
8861 LUFTHANSA 502: 0318 USB wkg DAKAR ATCC w/FL350 and sc chk: DR-HP. (25/Nov) (DW2)
LUFTHANSA 526: 0319 USB wkg DAKAR ATCC w/FL350, Mach .85 and sc chk (25/Nov) (DW2)
8867 Auckland: NZ (SP 6/7) 0722 USB wkg Argentina 1880 (not hrd). (RB)
Brisbane: AUS (SP 6/7) 0724 USB wkg Kiwi 837 w/posn rep. (RB)
8867 Nandi Aeradio Fiji 0050 USB wkg KIWI 613 (RNZAF A/C). 613 was apologizing to Nandi control for completely stuffing up his flight plan (25/Oct) (IJ)
Nandi: Fiji (SP-6/7) 0724 USB wkg Brisbane w/flt info. (RB)
8883 North Korean Diplo 0300 RTTY Korean tfc and 5FGs and CW - correts figs with au34567dnt cut - callup is vvh vvh versus vvv vvv. 17/Nov (RK2)
8903 BLV-220 Bellview Air. 2349 USB Clg Bangui. (IB)
NIG: Maiduguri Aero (NIG) 2335 USB Wkg N`djamena. (IB)
8906 SANTA MARIA: Santa Maria, Azores ATC centre, 1851, USB wkg IBERIA-6125, 23/Nov/98 (ANE)
8968 ONE PUNCH: 2205 USB w/"message of 30 characters". (RB)
8971 BLUESTAR: w\NOVEMBER 05 2130 7\DEC (MF2)
GREMLIN 05: 0210 USB wkg OSCAR re has permission to overfly Haiti if in pursuit. (RB)
USN MIKE: 0335 USB wkg GREMLIN 07 with datalink ck (1/Nov) (IJ)
8980 RESCUE 1502: USCG HC-130H 1532 USB wkg NMN, CAMSLANT Cheasepeake w/pp update for SAR of S/V Kampesra w/10 injured persons aboard, AMVER vsl Northern Progress is enrt to assist, took 2 drops to get them a radio
STINGRAY 33: USCG HU-25 #2133 1600 USB wkg CAMSLANT w/pp D-7 re vessel being covertly followed, 2 surface playmates in area, will try & get assist from OPBAT asset. (RB)
8982 SEJGA: US Mil stn 0710 USB clg 1MM for radio ck (2/Nov) (IJ)
8983 1718: USCG HC-130H7 1600 USB wkg CAMSLANT. QTH: 2750N 8232W (24/Nov) (DW2)

CAMSLANT 2219 USB wkg STRAIGHT 801. (11/Nov) (DW2)
CAMSLANT: 1601 USB wkg 1720: USCG HC-130H7 w/flight ops and position (24/Nov) (DW2)
CAMSLANT: 1602 USB wkg 2141: USCG HU-25C w/position: Daytona Airport, Florida (24/Nov) (DW2)
H7PP: req secure freq w\CAMSLANT switched 3E11 2211 3\DEC (MF2)
KING 86: USAF HC-130 #65-0986 1856 USB 71st RQS, Moody AFB, wkg CAMSLANT for flight op's status. (RB)
NMB9: USCG AirSta Savannah, Ga. 1247 USB wkg CAMSLANT for radio ck. (RB)
NMR1: GANTSEC, USCG Greater Antiles Section, "CG San Juan", PR 2333 USB clg HERC/HERK 20. (RB)
RESCUE 1502: USCG HC-130H 2004 USB wkg NMN, att pp re SAR of S/V Kampesra, CAMSLANT advises them to divert to location for distressed Russian vsl w/holes in salt-water outlet, they are holding their own at this
RESCUE 1715: USCG HC130H7 1505 USB wkg CAMSLANT re 6 persons had abondoned their vsl & are aboard the AMVER vessel M/V Starman, unid SAR during now Tropical Storm Mitch. (RB)
RESCUE 1715: USCG HC130H7 1542 USB wkg CAMSLANT re S/V Seeker/Cheeker w/4 POB has decided to abandon ship as they have lost all steerage & can only travel north towards Tropical Storm Mitch. M/V Starman is diverting to assist the sailing vessel. (RB)
RESCUE 1718: USCG HC130H7 1520 USB wkg CAMSLANT re debris sited, beleived to be from S/V Fantome. SAR involved at least 4 C-130's & Royal Navy vsl HMS Sheffield. (RB)
STRAIGHT 801: USN C-130T? 1743 USB wkg CAMSLANT re ETA will be out of Mexican airspace. (RB)

8986 Unid Jap Mil stn 0930 USB very weak comms (28/Oct) (IJ)

8992 Andrews: wkrg PP for AEGIS 12 to AMCC 2216 4\DEC (MF2)
BLUE 17: 0214 USB wkg Elmendorf for pp to HILDA WEST re: departed Laredo TX 0048z, ETA Pago Pago Midway 0430z. Pretty quick, wonder what kind of aircraft? 6/Nov (JJ)
CSE: Portuguese AF, Lisbon 0126 USB "Lisboa", wkg unid a/c re wx PGAK. (RB)
NAVY NH1W: Prob either E-2C VAW-117 or EA-6B of VAQ-135 2103 USB wkg Thule GHFS w/pp 7HW, passes Spare Group Bravo #42. (RB)
NIGHTHAWK 6: USMC Executive Flt Detach 1, (HMX-1), MCB Quantico, Va/Det.1 Anacostia, DC helo 1844 USB (VH-52/VH-60?) wkg Andrews w/HF rdo ck. (RB)
NYRW: USNS Prevail (T-AGOS-8) 0126 USB Stalwart-class ocean surveillance vsl wkg Andrews w/pp to "NOPF Dam Neck", Naval Ocean Processing Facility, Dam Neck, Va, re monthly HF connectivity test. (RB)
PACOM 01: a/c transporting CinCPAC 1533 USB wkg Andrews w/pp NAS North Island re landing wx. (RB)
REACH#### (unreadable) 1705 USB calling any station for radio check, no reply. 25/Nov (TR2)
RELIEF 93: 2242 USB clg mainsail, no joy. (RB)
ZAGGI 15: 9th SOS MC-130? 2335 USB wkg Andrews w/pp 872-4580, normally GASER Op's, but answered as ZOUTO?, 15 passes ETA has Flt Doc & Med Tech on board. (RB)
REACH####: (unreadable) 1715, calling any station for radio check, no reply, very weak. (TR)

8997 USN UNCLOUDED, CLOVERLEAF, STORMHOG, 861, 862, 863 & NAVY 587 0910 USB radio checks, various comms & ANDVT Bursts (31/Oct) (IJ)

8998 Auckland Aeradio, NZL 2310 USB wkg PIRATE 03 (LC-130) with MacMurdo suggests you turn back re wx. PIRATE 03 decided to continue, then after 20 mins they RTB back to Christchurch (8/Nov) (IJ)

9007 CHR: Trenton Military, Ont, CAN 0309 USB wkg CanForce 2823 w/wx for Ottawa. (RB)

9016 FISHNET 2015 USB clg NIGHTWATCH 01 for radio check. (7/Nov) (DW2)
WAR46: Nat'l Military Communication/Command Center, Alt site "R", Raven Rock Mountain, Pa 0100 USB clg NIGHTWATCH 01 no joy. (RB)

9023 SIDECAR: 1503 USB wkg 6AS. 25/Nov (JM)

9024 ATENCION NUMBERS STATION 0206 AM YL/SS w/5FGs (25/Nov)

9031 RAAF Sydney 0025 USB wkg STRIKER 584 (P3) with wx for RAAF Edinburgh (2/Nov) (IJ)

9041 5YE: NAIROBI MET 1732 rtty 100/R/850 Met tfc. (10/Dec) (DW)
9043 FISHER: 1825 USB clg NIYJ. Keeps saying Indigo instead of India in NIYJ callsign. FISHER is NASA, I think. 19/Nov (JM)
NIYJ: USNS Invincible (T-AGOS-10) 1825 USB Stalwart-class ocean surveillance ship wkg Cape Operations re are they radiating, neg; at 2200 w/permission to bring up their system; at 2241 w/msg range is go/vehicle is go,
NIYJ: USNS Invincible (T-AGOS-10) 2012 USB wkg Cape Operations re support of Delta II launch KSC, attempt #2, passes new launch time of 2329z. (RB)
9046 DFZG: MFA Belgrade 0659 RTTY 75/400 ry. At 0702 tfc to various loc. 29/Nov (WP3)
9057 DFZG: MFA BELGRADE 2108 rtty 75/R/400 Evening diplo bdcast? Marking with ry's. Yugoslav parallel freq of 4482 5312 5807 6792 7808 8122 10332(?) 10802 11149 12202 14912 running 2120z qtc list with "pse qsp qsl qrg via tlf...tlx" (30/Nov) (DW)
9075 Unid: 100.11bd/500hz no acf 07.31 100 (BVR)
9106 HEADCAP 22: CAP Montgomery, AL 2131 USB testing ALE with HEADCAP 33. SHARES ALE frequency. 24/Nov (JM)
9108 POLISH EMB THE HAGUE 1407 ARQ/POL 100/I/250 Tfc in Polish then long period of betas. (4/Dec) (DW)
9114 Unid 1600 USB strong ALE pulses. 25/Nov (JM)
9115 Unid Telecom, RUS 0855 USB 2 YLs in RR (4/Nov) (IJ)
9119.1 8WB1: Belgrade, Serbia 15.07 RTTY 50/400 Indian Emb. calling 8WD4,New Delhi, with RY's (25 Nov). (PT)
9120 TRUCK 88: 0229 USB wkg LOBO Rescue with an ops report and RTB at this time. 14/Nov (JJ)
9122.5 WUG: USA COE, Vicksburg, MS 1500 USB voice/ALE checks with other COE stations. Test terminated when WUG's Harris radio gave out. 23/Nov (JM)
9185 WWJ85: FHWA Ames, IA 1555 USB wkg WWJ98 (FHWA Shoshone ID), WWJ71 (FHWA Madison, WI) and KWB406 (OET Ames, IA) on FHWA F-31. 25/Nov (JM)
9206.6 Unknown: 16.50 Unknown mode 108.8/170 Sounds like ARQ-E idling but no mode on Code-3G will lock on to it (30 Nov). (PT)
9212 RFFEDFA loc. unknown 15.48 ARQ-E 72/379 EUROCORPS DIREX with tfc via UFA circuit to RFFWAC, CENTRANS POITIERS and RFFHCFH, EUROCORPS AVANT(19 Nov). (PT)
9240 DELTA JULIET: Defence Force, PNG 0840 USB patrol boat comms (28/OCT) (IJ)
9327.9 OZU25: MFA COPENHAGEN 1200 TWINPLEX 100bd -400/-200/200/400. F7B-1. Tfc in Danish, Nx. 1211z, into irs mode. Some opchat, signoff. (9/Dec) (DW)
9337.4 MKK: RAF LONDON 2159 rtty 50/340 9337.405 Chan A (in lsb) of vft "ryi's qbf figs test de MKK". Marker virtually unreadable. (8/Dec) (DW)
9338 MKK: RAF LONDON 2153 16 chan DCN interleaved vft on isb. Very disturbed, and qrm on lsb (8/Dec) (DW)
9340.6 MKK: RAF LONDON 2155 rtty 50/340 9340.635. Chan7 in vft "ryi's qbf figs test de MKK". (8/Dec) (DW)
9360 OXT: Copenhagen Meteo 1012 FAX 120/576 "Cape Farewell Chart"; ice condx. Same again at 1202. 1/Nov (KB)
9462.5 ETD3: ADDIS ABABA AIR 2212 rtty 50/400 Marker "zczc qjh ry's nnnn". 40hz high. (8/Dec) (DW)
9830 NAR: USN KEYWEST 2218 rtty 75/850 Met tfc. Poor copy, qrm. (8/Dec) (DW)
10057 AIRWAYS 621: 0228 USB wkg SAN FRANCISCO ATCC (25/Nov) (DW2)
NORTHWEST 924: 0235 USB wkg SAN FRANCISCO ATCC (25/Nov) (DW2)
SAN FRANCISCO ATCC 0235 USB w/sc and voice call for ROY 621. (25/Nov) (DW2)
10083.9 Moscow, Russia(??) 14.25 FAX 120/576 Wx fax "PYUA97 RUMS 211200" (21 Nov). (PT)
10100.8 DDK9: HAMBURG MET 0933 rtty 50/440 Met tfc. (11/Dec) (DW)
10113 RFGXXBF Mulheim, Germany 16.35 ARQ-E 72/394 "Brigfrancal Mulheim" with non protege tfc to RFFXCFC, "DFBFA, Oberlausitz" via "UCF" cct. I wonder if some of the other French stations heard this week are based in Germany too? (06 Nov). (PT)
10126.7 Unid: Egy? diplo irs mode at 08.14 s/off with yks yks no id monitored 08.00 ARQ 100 (BVR)

10130 Unid 0747 RTTY 50/851 undecodable mode. 22/Nov (WJL)
RBK73: Tashkent Meteo (tent) 0343 rtty 50/850 Difficult follow Russky Met chat; tried Cyrillic on M7000 but still no joy!! (18/Nov) (RH2)
10132 TNL: ASECNA Brazzaville 0346 rtty 50/300 Aero Wx (24/Nov) (RH2)
10134 TNL: Brazzavile, Congo 18.37 RTTY 50/304 Metars etc. in FF and EE via FSA cct. "Royal Aircraft" mentioned; poor rx (26 Nov). (PT)
10160.6 MFA Sofia 1737 rtty 50/400 Nx\Bulgar (24/Nov) (RH2)
10162.4 DOR: MFA Sofia 1646 rtty 75/400 Nx\Bulgar (1/Dec) (RH2)
10192 Unid: 0351 arq-M2 144/0 Single tone station (18/Nov) (RH2)
10192.5 DRAF: GNy vsl 1118 USB clg DHJ59 for radio ck. 3/Nov (JAU)
10200 MKK: RAF LONDON 0613 DCN 16 chan interleaved vft on isb (8 chan per s/band) (27/Nov) (DW)
10200.7 MKK: RAF LONDON 0616 rtty 50/340 10200.765. Chan 2 in vft. "ryi's qvf figs test de MKK" (27/Nov) (DW)
10204 NIGHTWATCH 01 0016 USB wkg AUTOMATIC on ZULU 190 w/QRM from RTP78: Irkutsk Meteo. QSY to ZULU 185. (2/Nov) (DW2)
10205 RTP78: Irkutsk Meteo, RUS 0008 RTTY 50/850 w/AAXX meteo info. (RB)
10206 AIR EUROPE 9901 1834 USB wkg Stockholm LDOC for p/p to Milan 31/Oct (HOOD).
10215 HZN48: JEDDAH MET 0622 rtty 100/R/850 140hz low. Still has "multitone" MARK problem. Met tfc. (27/Nov) (DW)
HZN48: JEDDAH MET 1354 rtty 100/R/700 Met tfc. Poor copy, faulty mark (11/Dec) (DW)
10225 Unid, INS 0755 USB 2 OMs in Indonesian (4/Nov) (IJ)
10248 8BY: Unid 0649 CW, xmtd V-S 8BY 097/626/992/788/912/706/506 OTA at 0701 with AR. 22/Nov (WJL)
10261.4 Unid: 0359 rtty 75/840 V. good tune but only crypto on screens ! (18/Nov) (RH2)
10261.5 MKK: RAF LONDON 0630 PICCOLO// 10261.51. Standby. ID by previous logging. (27/Nov) (DW)
10261.5 Unid: online encrypted 09.09 BAUD 75 (BVR)
10264 Unid 0706 RTTY 100/851 undecodable mode. 22/Nov (WJL)
10299 HSW62: BANGKOK MET 1400 rtty 50/R/170 Met tfc. (11/Dec) (DW)
10310.5 Unid 0711 RTTY 150/851 undecodable mode. 22/Nov (WJL)
10314 FAPSI 1640 81-81 81/500 Unable decode. This is a Pol-Arq freq. ! (07/Dec) (RH2)
MFA Warsaw 1640 Pol-Arq 100/240 Nx\Pol (07/Dec) (RH2)
SNN299: MFA WARSAW 0800 ARQ/POL 100/I/250 Tfc in Polish. Mentions PAP website www.pap.com.pl. Working Tripoli. Ends in F1a "de SNN299". (27/Nov) (DW)
10315 AJE: Croughton GHFS, UK 2026 LSB wkg Incirlik coordinating PSK send on 10316.7, both faint here. (RB)
10366 RFTJDA?: FF Libreville (tent) 0406 arq-E 48/850 Libreville was on arq-E3/48 at 10364 khz ??? (18/Nov) (RH2)
10375 Unid 0724 RTTY 75/851 undecodable mode. 22/Nov (WJL)
10375 Unid: 0410 CIS-14? 75/850 Klingenfuss sez this is CIS-14 ? (18/Nov) (RH2)
10411.5 PPR: Rio de Janiero, Brazil 22.04 ARQ Idling with morse ID (8 Nov). (PT)
10413.3 Unid 0733 USB 2 OM in SS; the word CAMEO(?) was obsvd approx 4x during the conversation. 13/Nov (WJL)
10423.3 YMA20: ANKARA MET 1400 rtty 50/900 Met tfc. (6/Dec) (DW)
YMA20: ANKARA MET 2006 rtty 50/900 Periodic met traffic. 2057z marker ry's and "YMA20 3550 kc/s 1600-0500 10424 kc/s 0500-1600". - at 2359z still operating on thisfrequency. (11/Dec) (DW)
10445 Mozambigue Diplo 1220 arq From Dip-Estado Maior Comando Prov. da PRM Niassa, with tfc\PP to Dip-Estado Maior Comando Geral da PRO Maputo (03/Dec) (RH2)
Unid: 0356 arq Msgs/Portugese - no call or sig! (24/Nov) (RH2)
10493 APPALOOSA FARM: 1725 USB wkg ARMY RULER w/"H" msg. At 1732 the same operator at APPALOOSA FARM id'ed as WGY914, FEMA Thomasville for signal ck. 19/Nov (JM)
10493 TRANSLATE: 1655 USB wkg WGY912, FEMA Berryville. 23/Nov (JM)
10493 WGY912: FEMA Berryville, VA 1902 USB requesting any Urban Search and Rescue Team to check in the National?--something or other test. 24/Nov (JM)
10493 V5G: MFA BUCHAREST 1115 FEC/ROU 164.5/R/400 Online encrypted diplo bdcast. BTinv=24. 70hz low. (20/Nov) (DW)

10536 CFH: CF HALIFAX 1455 rtty 75/700 Met tfc. (7/Nov) (DW)
10536 CFH: CF HALIFAX 1130 rtty 75/750 Met tfc. Forecast for Newfounland. (11/Dec) (DW)
10584.3 GYU: RN GIBRALTAR 1516 Fleet broadcast vft on usb with CARB at +1000 and encrypted channel +1500hz. (7/Nov) (DW)
10585.3 GYU: RN GIBRALTAR 1520 rtty 75/R/200 CARB. Chan in vft. (7/Nov)(DW)
GYU: Gibraltar 12.00 VFT RTTY 75/340 Two narrow shift cannels of encryption plus this one with channel availability and ID (06 Nov). (PT)
10617.5 ZLO: RNZN Irirangi 0900 UTC RTTY 75bd VFT 6028 all channels encrypted (18/Nov) (IJ)
10626 RFFXL: FF NAQOURA ? 1541 ARQ/E 84.6/I/400 8rc. Betas. No tfc in 3.5 hrs. (7/Nov) (DW)
10646.9 Unid 2200 ARQ-M2 129/mark only idling both ch's, bd rate prob just under 129 (22/Nov) (ML2)
10650 BJZ23: Beijing Meteo, CHN 0121 RTTY 75/425 w/synop wx. (RB)
10692.5 P7X: 2203 CW 5LGs. 24/Nov (JM)
10712.5 FDY: Orleans, France 13.20 RTTY 50/400 RY's, Le Brick and TEST DE FDY (30 Nov). (PT)
10718.8 Unid: 100bd/229hz 1 up, 2 down, 3 up, 4 down and so on Code 30 says CCCIR 242/FEC S sync on both but only "sssssssssssss" on the screen 07.35 100 (BVR)
10779 SDJ: Stockholm LDOC (EU-LDOC) 2014 USB YL in Dutch wkg "593" w/pp. (RB)
10780 NAVY LUOO1: P-3C VP-64, Willowgrove, Pa 1638 USB wkg Cape Radio w/pp VP-64 Duty Office, line busy, will try later. (RB)
RED RIVER TANKER: 1543 USB wkg Cape Radio for rdo ck. (RB)
10790 Unid: 0423 ?? 75/161 Same bd/spd as 11436.0 khz logged below; surely someWUN knows this mode ?? (18/Nov) (RH2)
10798.2 RFLI: FF Fort de France, MRT 2239 ARQ-E3 192/329 wx. 3/Nov (WJL)
10798.3 RFLI: FF FT DE FRANCE 2328 ARQ/E3 192/I/400 8rc. Betas. 2346z cct [IRT] Controle de voie svc RFLI de RFLI. (7/Nov) (DW)
10798.7 RFLI: FF, Ft de France, Martinique 0150 ARQ-E3 192/425 (assumed) idling. (RB)
10825 Unid 0728 RTTY 75/851 undecodable mode. 22/Nov (WJL)
10873.7 RFVI: FF, Le Port, Reunion Island 0144 ARQ-E3 100/425 w/control de voie on circuit "REI". (RB)
10905 Unid 1602 RTTY 50/848 unid mode. 9/Nov (WJL)
10917.7 RFJE: FF Dakar idle 400hz 07.40 ARQ E3 48 (BVR)
10953 HBD: 20 MFA Berne 5 fgs s/of with hbd 20/3 12.12 ARQ 100 (BVR)
10960.7 "rfftb ?" MOD Paris 1142 arq-m2/200 zczcfdxb101 pp rffvay de rfftb #0236 3361157 znr uuuuu ff lqsazmfp 021156 lfpyzmfp .... nnnn (WP3)
10998.7 USAF AWS ? LOC 1620 rtty 75/850 Met tfc. Offair between msg block. (11/Dec) (DW)
11034.7 kdbfclj EGY Emb., Khartoum 1733 arq Tfc\AA + 5LG to kdfelg (24/Nov) (RH2)
11035.1 D2Z: Budapest, Hungary 16.59 FEC-A 192/791 French emb. with tfc in FF to P6Z, Paris (27 Nov). (PT)
11036 H6L: Algiers, Algeria 16.30 FEC-A 192/398 French emb. with tfc in variable length letter groups (usually 5 or 6),with occasional 12 or more letter group always containing the sequence BAG (30 Nov). (PT)
11039 DDH9: HAMBURG MET 1138 rtty 50/440 Met tfc. Forecast in GG. (11/Dec) (DW)
11043 J5W: Rabat, Morrocco 15.45 FEC-A 192/390 French emb. with FF and 5-lg tfc to RFGW (19 Nov). (PT)
11051.7 PAKISTAN EMB ?LOC 1610 TWINPLEX 100bd -200/-85/85/600. F7b-1. Good signal but failing to sync. (Nov/6) (DW)
11051.7 PAKISTAN EMB LONDON 1600 arq Tfc fm PAHIC (Pakistan High Commission) London to Foreign Islamahbad. Poor sig,weak sync. Tfc in EE. Lost contact. Selcals KMEU (Islamahbad. (8/Dec) (DW)
11053 NAVY 50515: 0140 USB DV-2 + 10, outbound Roosevelt Roads, wkg Andrews VIP re departure report. 30/Nov (JJ)
NIGHTWATCH 01: 2033 USB wkg Andrews, also on 6683. 28/Nov (JJ)
11053.5 SAM 201: 2138 USB wkg Andrews VIP for preflight freqs for the 30th; gave: F-891 (this one) and F-965. 29/Nov (JJ)
11054 Unids 1635 USB wkg ANDVT comms. Heard on most Thursdays. 19/Nov (JJ)
11057.1 H6L: Algiers, Algeria 15.16 FEC-A 192/405 French emb with FF tfc (26 Nov). (PT)

11061.5 RETWBB: Barcelona, Spain 16.35 ARQ 100/400 Tfc in SS to RETXX Madrid (30 Nov).
11080 Damascus, Syria 14.59 RTTY 50/400 SANA press agency with YR's and Arabic ID (XBNB = SANA) (25 Nov).(PT)
11085 P6Z: MFA Paris 1730 fec-a 192/400 Calling S5F/Brasilia (19/Nov) (RH2)
11089.5 Unknown: Spain? 16.40 ARQ 100/400 Tfc in SS then sends selcal TWBB before shutdown (30 Nov). (PT)
11110.5 prob RFLI: FF Fort de France 0340 ARQ-E3 192/400 monitored for 10 minutes. No tfc noted (25/Nov) (DW2)
11111.9 KAWN: USCG Saddlebunch Key 0312 rtty 75/850 Wx (18/Nov) (RH2)
11119.3 USAF AWS ? LOC 1149 rtty 75/R/850 Met tfc. Poor copy, but identified as originated KAWN. (11/Dec) (DW)
11125 HZN: JEDDAH MET 1210 rtty 100/R/400 100hz high/ Met tfc. Fair copy, shift should be 850 hz not 400. (11/Dec) (DW)
11148 Unid: 75.0bd 199hz no acf 12.21 75 (BVR)
11149 LOCYF: loc. unknown 12.20 FEC-A 144/400 Sending "VVV DE LOCYF" (I think that's it, my CW is *not* good) in CW then YR's, "OK QZF3" and shut down (26 Nov). (PT)
11173.9 HEC: BERN RADIO 1500 fec 100/170 Tfc list for DTS-Mail svc. (23/Nov) (DW)
11175 AIRVAC 10T3: 1025 USB clg Croughton for pp, report overfly LGSA, alternate LTBL. 14/Nov (JAU)
ANDREWS: wkrg PP for AIRGUN to private #,crew sang happy birthday to the other party 2148 4\DEC (MF2)
ANDREWS: wkrg PP for OTIS 76 to DSN#582-3800-OTIS BASE OPS 2150 (MF2)
ANDREWS: wkrg PP for REACH 4068(C-17) to Dover meteo 0030 7\DEC wkrg PP for REACH 4060 to Travis CP 0033 (MF2)
ANDREWS: wkrg PP for REACH 5226 to ROSY Rds CP & meteo 1930 (MF2)
ANDREWS: wkrg PP for SAM 40 to RAYMOND 21 2115 7\DEC (MF2)
ANDREWS: wkrg PP for SPOOKY 49 to DNS#491-2912\2624, 1933 7\DEC (MF2)
ASCENSION: wkrg PP for KING 46 to DNS#456-7362 Base Ops 2108 7\DEC (MF2)
ASCENSION: wkrg PP for REACH Z3 to Rota Ops 2310 4\DEC (MF2)
CODY 1: C-141 4950th TW Wright Patterson AFB 1750 USB clg ANDREWS GLOBAL. No joy. Then calling "Any radio." Again, no joy. (7/Nov) (DW2)
FISHNET: 2009 USB wkg HICKAM for radio check. "Request working frequency for station NIGHTWATCH." (7/Nov) (DW2)
LOCKHEED 5544: req transmitter check w\ANDREWS 1923 (MF2)
MACARONI: 0059 USB w/radio test. Distinctive GHFS "echo" with tuning count. (16/Nov) (DW2)
McCLELAND: wkrg PP for RED CEDAR to DSN#887-1740 2221 4\DEC (MF2)
McClellan 0120 USB all frequency request for Coast Guard 1711. 16/Nov (JJ)
NAVY 50515: 2017 USB wkg ANDREWS for radio checks. (22/Nov) (DW2)
NAVY LU131: P-3C VP-64 'CONDORS" NAS Willow Grove 1414 USB wkg OFFUTT for radio check (24/Nov) (DW2)
NAVY QE935: P-3C VP-40 "FIGHTING MARLINS" 2049 USB wkg ANDREWS w/pp to Duty Office at DSN: 942-xxxx: Jacksonville NAS. (3/Nov) (DW2)
OFFUT 1701 USB with call for MAINSAIL and 30 char EAM, simulcasting on 8992kHz. 25/Nov (TR2)
OFFUT: 1701z, with call for MAINSAIL and 30 character EAM, simulcasting on 8992kHz. Fairly strong signals here in North Germany. (TR)
OFFUT: wkrg PP for ASTRA 15 to DNS#XXX-5514-Fairchild meteo 2106 7\DEC (MF2)
OFFUT: wkrg PP for KING 61 to DNS#359-9356 2121 7\DEC (MF2)
OFFUT: wkrg PP for RELIEF 430 to KEESLER meteo 2346 7\DEC (MF2)
OFFUTT: 2006 USB w/SKYKING msg: O3Q time 05, authentication RB". To be echoed by "DECENT". Echoed by McClellan (authentication RE) and Andrews. (7/Nov) (DW2)
Offut: wkrg PP for REACH 6021 to Travis CP 2333 3\DEC (MF2)
PACAF 01: 1546 USB clg MAINSAIL. (21 Nov) (DW2)
RANGER 308: radio chk w\THULE 2344 7\DEC (MF2)
RAZOR 38: 2112 USB clg MAINSAIL. (22/Nov) (DW2)
REACH 5269: USAF C-141B tail #50269 2020 USB clg MAINSAIL.

ANDREWS answers. Phonepatchs to HILDA EAST and HOWARD METEO. (28/Nov) (DW2)
REACH 9434 HEAVY: 2039 USB wkg OFFUTT w/pp to "any metro". (28/Nov) (DW2)
ROCKO 42: 1013 USB clg Croughton for pp. 14/Nov (JAU)
ROLLER 04: Nevada ANG C-130E 152nd AW Reno 2011 USB clg MAINSAIL. No joy. (7/Nov) (DW2)
S4JG: USN P-3C 2148 USB wkg unid w/radio check. (28/Nov) (DW2)
SLAM 1: poss B-1B, Ellsworth AFB 2018 USB clg "any radio." No joy. At 2036 clg ANDREWS and OFFUTT. Again no joy.(28/Nov) (DW2)
SLAM 2: poss B-1B, Ellsworth AFB 2019 USB clg "any global." No joy. (28/Nov) (DW2)
TEAL 46: w\MIAMI,discussing Satcom 0216 3\DEC (MF2)
THULE: passing NIGHTWATCH freqs to RED CEDAR 2133 4\DEC
THULE: wkrg PP for REACH 22H3 to 313-284-4204-Howard meteo 2353 7\DEC (MF2)
THULE: wkrg PP for REACH 8F8 to HILDA WEST,switch 11244 2102 7\DEC (MF2)
THULE: wkrg PP for REACH G7 to Dover meteo & CP,switched 8992 2204 4\DEC 9 (MF2)
Thule wkrg PP for JAMBO 24 to DNS#781-3136\3840 0220 3\DEC (MF2)
Thule: wkrg PP for JAMBO 24 to DNS#781-3136\3840 0220 3\DEC (MF2)
Thule: wkrg PP for KING 02 to ACCLIMATE 0235 3\DEC (MF2)
Thule: wkrg PP for REACH 22H5 (C-130) to HILDA WEST 2141 3\DEC (MF2)
Thule: wkrg PP for REACH 5403 to meteo 2120 12\3 (MF2)
Thule: wkrg PP for RELIEF 514 to HILDA WEST 0221 3\DEC (MF2)
UNID: 0026 USB wkg THULE w/pp to WHITEMAN CONTROL. "Request HF frequency to reach you directly? Copy will try 13204" (20/Nov) (DW2)

11178 FALCON 01: Dutch Navy P-3C, Valkenburg 2124 USB clg PJK, Suffisant Dorp, Curacao, no joy. (RB)

11181 Hickam AFB 0635 USB wkg SAM 505 w/pp to Andrews CP (24/Nov) (IJ)

11184 Unid Jap. Mil stn 0830 USB wkg JAPAN NAVY 11, passing wx forecasts (30/Oct) (IJ)

11187 Unids 0510 USB wkg ANDVT comms. 1/Nov (JJ)

11202 STRAIGHT 801: 0035 USB wkg CAMSLANT re radio guard, gives entry/exit times for Mexican airspace, homeplate is Corpus Christi. (RB)

11205 Unid Japanese Mil 0515 USB wx forecasts (18/Nov) (IJ)

11214 SHADO 93: 2341 USB wkg Trenton for pp to "OPS". 2/Nov (JJ)

11217 GAF206: 1029 USB wkg DHM91 req wx. 3/Nov (JAU)

11220 SAM 375: 1446 USB, inbound Andrews, wkg Andrews VIP. 19/Nov (JJ)
SPAR 06: 1539 USB wkg Andrews VIP with signal checks. 23/Nov (JJ)

11226 Aircraft 185: 2057 USB for MacDill AFB after ALE. No response. 24/Nov (JM)
REACH 40185: 2105 USB wkg Offutt for pp to Norfolk NAS. 11/Nov (JJ)
SAM 204: 0030 USB DV-2 + 7, outbound Denver for Andrews, wkg Andrews VIP for pps. 1/Nov (JJ)

11232 CANFORCE 1661: 2020 USB wkg Trenton Military w/pp Greenwood base op's; latest actuals Greenwood, Halifax, St. Johns. (RB)
CanForce 81: CC-130H Serial 130332 1928 USB 435 Transport & Rescue Sqn, Winnipeg, wkg Trenton Military re ops normal, selcal GJ-BH, ETA Winnipeg. (RB)
GONZO 03: De Havilland CT-142 Dash-8 1944 USB CFANS, 17 Wing CFB Winnipeg, wkg Trenton Military for radio check. (RB)
OILER 05: 2018 USB probably on of the 435 Transport & Rescue Sqn CC-130H's converted as tankers, wkg Trenton Military w/pp Wing Ops at CFB Winnipeg, bound Cold Lake to Winnipeg. (RB)
TRENTON MILITARY 2057 USB wkg CANFORCE 1649: Unid CANFORCE a/c w/pp (28/Nov) (DW2)
Trenton Military 0635 USB wkg CANFORCE 2825 with wx (13/Nov) (IJ)

11255 KINGFISH BRAVO (Christchurch) NZL 2350 clg ICE 17 (C5) (8/Nov) (IJ)

11267 HURST (sounded like): 0205 USB 30 char.EAM "JLMUWD...". 19/Nov (JJ)
PRESS CAR: 0407 USB 30 char. EAM 7CVCLH... 2/Nov (JJ)
Unid 0408 USB w/EAM: 5XQ7P3... again at 0439. 29/Nov (JJ)

11268 YU8: RAAF(?) 1616 USB w/YL/EE w/broadcast to LT2. Ends with "authentication EU, over." Again at 1646 (24/Nov) (DW2)

11285 Kuala Lumpur R: with Malaysian 6140, FL 280, requesting 310, over to Chennai. 1427z nov 8 (PvdE)

11288 Rockwell Flight Test 1933 USB wkg Lockheed 5442, "Silent Mode ALE" tests. Finished up on 13312 USB at 1954. 19/Nov (JM)
11297 Kiev VOLMET 1552 USB YL giving wx for Odessa 2/Nov (HOOD).
11300 J2-KBC. Djibouti Air. 1618 USB Clg Addis Ababa. (IB)
Majan-441. Omani Airforce. 1554 USB Wkg Khartoum. 10 pax. (IB)
SLIP-81. UNID USAF? 0807 USB Wkg Cairo. FL210. (IB)
SLIP-91. UNID USAF? 0809 USB Wkg Cairo. (IB)
11327.9 MFA COPENHAGEN 0817 TWINPLEX 100bd -400/-200/200/400 F7b-1. Tfc in offline encrypt (4/Dec) (DW)
OZU25: MFA COPENHAGEN 0920 TWINPLEX 100bd -400/-200/200/400. F1b-1. Tfc (Nx) in Danish. (4/Dec) (DW)
OZU25: MFA COPENHAGEN 1022 TWINPLEX 100bd -400/-200/200/400 F7b-1. Tfc in offline encrypt. Sign off. Selcals TPIX (Kiev). No qso. (4/Dec) (DW)
OZU25: MFA COPENHAGEN 1356 TWINPLEX 100bd -400/-200/200/400 F7b-1. Tfc in offline encrpt ends "endumtxt". New msgs in offline encrypt start "topretel946 kckcssswwwssswwwssswww. Svc. Rpt prev tfc. Svc opchat bracketed "topservice/endser (8/Dec) (DW)
11341.9 OZU25: MFA COPENHAGEN 0908 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc in off lin encrypt (5ltr grps) Ends"endumtxt". Further msgs "retel050 kckcsss wwwss swwws sswww" etc. Last grp does not necessarily have full 5 letters. (9/Dec) (DW)
OZU25: MFA COPENHAGEN 1054 TWINPLEX 100bd -400/-200/200/400. F7b-1. Selcals TPRC (unid). Online encrypted tfc after "::::::sswww". Ends with opchat "saa haaber jeg den erok see uh u~ ++" (4/Dec) (DW)
OZU25: MFA COPENHAGEN 1120 TWINPLEX 100bd Selcals TPIM (no qso), then TPIX (Kiev). Lockin and online encrypteds tfc. (9/Dec) (DW)
Unid: DNK/NOR? diplo online encrypted mgs at 13.42 s/off no id monitored 13.40 F7B1 100 (BVR)
11345 Austrian 501: 1023 wkg Stockholm 11/11 (JS3)
Avalance 607: 1018 wkg Stockholm 11/11 (JS3)
11345 Northwest 48: 1021 wkg Stockholm 11/11 (JS3)
11384 San Francisco Aerradio 0850 USB wkg OGRE 61 requesting uniform for Guam center. San Francisco passed on 279.5 (31/Oct) (IJ)
11416.7 "rffvay" FF Sarajewo 1100 arq-m2/200 zczcfkwa009 pp rffvy de rffva~e rffvay ~h~fvay znr u~uuu ff ldspymyx ldzaymyx lowmyb lowmyby~021100 (WP3)
11421.7 FJY5: DISCRO Crozet I. 1025 arq-e3 96/400 Personal Msgs to DTRE Paris (07/Dec) (RH2)
11422 FJY5: DISCRO (Crozet I) 0545 arq-E3 96/400 Admin Tfc\FF to DIKER (DTRE Paris) re supplies (19/Nov) (RH2)
11423.5 SPW: Warsaw radio pol mgs 13.50 FEC 100 (BVR)
11435.9 Unid 1541 RTTY 75/161 unid mode. 13/Nov (WJL)
11436 Unid: 0319 ??? 75/161 Unable decode. Logged before at exactly 75/161 bd/spd; see 10790.0 khz above. (18/Nov) (RH2)
11437.9 MFA OSLO ? 0910 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc in offline encrypt. Ends without opchat or ID. (14/Nov) (DW)
11437.9 MFA OSLO: 1045 TWINPLEX 100bd -400/-200/200/400. F1b-1. Tfc in online encrypt. End qso, no opchat. (4/Dec) (DW)
OZU25: MFA COPENHAGEN 0950 TWINPLEX 100bd -400/-200/200/400. F7b-1. End of Nx. 1000 saelcals TPIY (unid). Short qso, no tfc. (8/Dec) (DW)
11453 IMB33: ROME MET 1216 rtty 50/R/850 Met tfc. (11/Dec) (DW)
11460 SAM 050: 0120 USB inbound Travis for refuel during a "long-haul Pacific mission" and then on to Andrews, wkg Andrews VIP for pps. 25/Nov (JJ)
SPAR 67: 0053 USB, onground Kelly AFB, wkg Andrews VIP prior to departure for Gander. Also found on 8047. 8/Nov (JJ)
11461.6 HGX26: Bucharest, Roumania (?) 14.35 DUP-ARQ 125/200 Tfc in HH to HGX21, Budapest. Book says HGX26 is Bucharest but tfc is from Tirana, (02 Dec). (PT)
11468 Russian Navy: 0256 36-50 50/240 Unable decode (24/Nov) (RH2)
11476 HMF52: KCNA Pyongyang, N. Korea 0030 FAX 60/288 w/wirephoto of lady standing in courtyard, Korean text down side. (RB)
11483 RFGW: MFA PARIS 1410 FEC/A 192/400 Calling Prague [9FS]. Signal deteriorated. No qso in 15 mins. (13/Nov) (DW)
11486 Unid Pacific Island stns 0535 USB 3 OMs in a Pacific Island Language (7/Nov) (IJ)
11494 RUBY RED: 2326 USB clg HELI GAS on Z205. (RB)

SKYLIGHT: 2335 USB wkg SHEPPARD re following a/c w/poss bad tail number. (RB)
UNID 2201 USB w/PARKHILL scrambled speech (25/Nov) (DW2)
11545 Lincolnshire poacher numbers 15.36 USB (BVR)
11678.5 Unid 1917 RTTY 50/851 undecodable. 17/Nov (WJL)
11687.4 Unid 2119 RTTY 50/851 undecodable. 16/Nov (WJL)
12059.5 UNID: 2157 unid multitone 22.8/400 (24/Nov) (DW2)
12112.5 EAE220: MFA MADRID 1137 TWINPLEX 100bd -200/-85/85/200. F7b-1. Working weaker unid embassies. Op chat in SS. Tfc in 10ltr offline encrypt being received. (Nov/6) (DW)
EAE220: MFA MADRID 1425 TWINPLEX 100bd -200/-85/85/200. F7b-1. Tfc fm unid embassy in offline (10 ltr grps) encrypt. Enbds "qsl qsl aki nil crto". (4/Dec) (DW)
12120 Unid 0552 RTTY 75/851 msg start/end w/RY's Pause btwn msgs. 9/Nov (WJL)
12122.5 EAE220: MFA MADRID 1437 TWINPLEX 100bd -200/-85/85/200. F7B-1. Single freq ops. Tfc to Moscow, in 10ltr blocks offline encrypt. (24/Nov) (DW)
12134 UNID FAPSI 1457 rtty 75/R/500 "11177 70037 80083 24347 02519" and 5ltr grp offline encrypt. (24/Nov) (DW)
12137 Unid FAPSI 0900 RTTY 75/500 5LGs link 70037 (3/Nov) (ML2)
12139.9 HWN: Ny Paris 1545 RTTY 140/761 RY's FAAA DE HWN TESTING. 9/Nov (WJL)
12143 Unid: 1740 Unknown mode 100.2/220 Unable decode.C3G sez Arq625… ..which it ain't ! (01/Dec) (RH2)
12155 GXQ?: RN London (tent) 1740 VFT Unable determine mode - might be ARQ-M2 ? (01/Dec) (RH2)
12174.5 FAPSI 1646 rtty 75/500 5LG. No Link seen (19/Nov) (RH2)
12182.9 FAPSI 1615 rtty 75/500 5LG to Link 20043 (07/Dec) (RH2)
12225 Unid 1520 USB ALE. AT&T frequency. 24/Nov (JM)
12260 Unid: rus 40.5bd 500hz online encrypted 08.19 81-81 40 (BVR)
12369.8 ROMEO TANGO: Unid 1442 USB wkg CHARLIE MIKE; comms two OM in SS relative to maritime operations. 9/Nov (WJL)
12415.5 Unid: MV tfc abt: "pleas advise company new installation is complete and vessel is ready to receive traffic via globewireless" seems vessel has new tx/rx for globe 14.14 ARQ 100 (BVR)
12477.5 PJOX: M/V TINEKE 0838 ARQ msg to Zodiac, London via GKE (10510dwt reefer) 14/Oct (HOOD).
12478 UCBN: TKH PIONER ESTONII 0906 ARQ admin Km Sarapunin to UCE login 66196 UCBN 7/Nov (HOOD).
UCPQ: TKH KAPITAN GLOTOV 1132 ARQ msg to UCE using this c/s and Selcal 54626 (ITU now 9HNL5) 4/Nov (HOOD).
12479 V2EB: M/V Canouan 2232 ARQ Antigua & Barbuda-flagged 3,065 DWT dry cargo vsl, w/ETa St Martin, ex-Angeka?
12479.5 5BKX: M/V TOMAHAWK 1341 ARQ eta for Yuzhny via SAB login 26255 LENDOD 7/Nov (HOOD). VRVH2: M/V ST CLOUD 1346 ARQ msg via SAB login 03110 VRVH2 7/Nov (HOOD).
12484.5 LZDI: NIKOLA VAPTZAROV 0909 ARQ admin to LZW (5525dwt training and cargo vsl) 4/Nov)HOOD).
12490.5 P3FG4: M/V Aghia Markella 2257 ARQ 24,427 DWT bulker w/tlx, login 26964 POMARK. (RB)
12495 UBGR: TKH Andrey Lavrov 0228 ARQ Russian-flagged 13,738 DWT dry cargo vsl, w/admin msg from master KM Volkodavov. (RB)
UDEN: TKH Sergo Zakariadze 0049 ARQ Russian-flagged 23,940 DWT bulker (Novorossiysk Shpg) w/admin tlx from master KM Pobovenskiy. (RB)
9HLN3: M/V ODIN 0857 ARQ msgs (incl renaming from M/V DINARA) via HEC login still 56924 DNRA 25/Oct (HOOD).
9HIB5: TK MARSHAL KONEV 1209 ARQ msg via OXZ 26/Oct (HOOD).
CNGX: M/V AL MOUNIR 0922 ARQ msg to Casablanca via OXZ (a 4499 dwt gen cargo vsl) 13/Nov (HOOD).
12505.5 UCRE: TKH GRIGORIY MIKHEYEV 0731 ARQ eta for Istanbul from Km Ramanauskas via UAT (Russian hydro research vsl) 27/Oct (HOOD). UHPO: TKH PAVLIK LARISHKIN 1158 ARQ BBXX to UAT 4/Nov (HOOD).
12510 P3MY5: M/V Solon of Athens 1919 ARQ 82,248 DWT bulker w/relay of agents msg, login 29348 SOLON. (RB)
12513 SHIP UNID 1856 arq 100/I/170 Permanent betas. Synched with Barbados/8PO. Finally closed down with no exchange of msg/cmds. (13/Nov) (DW)
12522 J8QE3: MV Gulf champion tlx tfc via Globe wireless to Sunsail 14.36

ARQ 100 (BVR)
12525 Unid: simplex unid language, pirates? 07.08 USB (BVR)
12525.7 ATJX: MV B.R Ambedkar login 23537 atjx x sc kcbm s/off with "bnt de bra ge pl qsl? +?" 15.35 ARQ 100 (BVR)
ATJX: m/t B.R. Ambedkar 15:53 SITOR-A, =RUSH=RUSH=RUSH= TO:SCI BNT MUMBAI 03-12-98 (MS)
ATKA: Vivekananda, Arabian Sea 14:15 SITOR-A, ETA KHARG IS 09_600LT, (TAKING IN TO ACCOUNT 10 HRS. _TAY FUJAIRAH _KML 04-12-98 (MS)
ATKD: R.A.Kidwai, Gulf of Kutch, Territorial waters of India 14:56 SITOR-A, FRM: MASTER _R M.T.R.A.KIDWAI, DEP 042000 VADINAR ETA/KANDLA 042400 LT 04-12-98 (MS)
ATKE: vessel Shivaji 14:23 SITOR-A, SAILED FM _UJAIRAH _30012 HRS. 03-12-98 (MS)
ATNB: Kanchenjunga 14:43 SITOR-A, TO:SHIPINDIA BNT MUMBAI FM:MASTERMT.KANCHEN_UNGA 04-12-98 (MS)
ATVY: m/t Homi Bhabha 15:46 SITOR-A, TO: SHIPINDIA BNT __RLI MUMBAI 03-12-98 (MS)
Atterjee: presumed at Mumbai harbor, India 14:27 SITOR-A, AWAITING BRGS AT MUMBAI FOR MAIN SW P/P FRD,FIRE N G.S PUMP, 04-12-98 (MS)
D.S.Thapa: 14:52 SITOR-A, 23681 MDST X _GD EVG THIS IS DS THAPA QR? 04-12-98 (MS)
MT Ankleshwar login 23758 ankl x sc kcbm tlx to bnt shipindia mumbai 16.06 ARQ 100 (BVR)
MT B.R. Ambedkar tlx tfc to shipindia bnt mumbai login 23537 atjx s/off with some opr/chat "bnt de bra ge qsl? qru? +?" 15.56 ARQ 100 (BVR)
MT: Motilal Nehru? login 23802 mtnp tlx to shipindia Mumbai 14.46 ARQ 100 (BVR)
MTNP: LPG/C Nanga Parbat, position reported in subsequent msg as 1945N 06627E 04 Arabian Sea, 03-12-98 (MS)
MTNP: Unid mv login 23802 mtnp x tlx to shipindia Mumbai 15.44 ARQ 100 (BVR)
MV Guru Gobin Singh: login 23757 ggbs x tlx abt eta minal ahmad plt stn 09.12.98 at 1000lt 16.24 ARQ 100 (BVR)
MV Gurugobind?: pos 1232n 08559e 15.29 ARQ 100 (BVR)
MV Jawaharlal Nehru: unloading report to shipindia bnt departed vadinar eta zirku island 04/12/98 1200lt 14.25 ARQ 100 (BVR)
NSBS: Unid mv login 23577 nsbs x sc kcbm tlx to shipindia bnt mumbai eta mangalore 042300lt 14.55 ARQ 100 (BVR)
Unid: 14:58 SITOR-A, 2361_ SCI BNT GE. DE BNT HAVIN_T___FOR____C A ___ TAGORE , N S BOSE____, GANDHAR , KANCHENJUNGA 9____4-.__8, ,R R RA_E___ K_M_NDE_ SI_G_ _N_H B___HA ____N R PRA_AD (_____ML_ T_S PLSE BRK AFTER YR TFC (.) 04-12-98 (MS)
Unid: 15:10 SITOR-A, ships name was Deep Rayage or something similar (ravage ?), working unid shore station, presumably Indian, with telex messages carrying many references to Calcutta and other Indian cities 02-12-98 (MS)
Unid: login 23576 gand x tlx to shipindia mumbai 14.28 ARQ 100 (BVR)
Unid: mv login 23759 msen x tlx tfc awaiting berthing Chennai 15.19 ARQ 100 (BVR)
Unid: mv sc kcbm login 23688 (lkpm?) tlx to shipindia mumbai 16.04 ARQ 100 (BVR)
Unid: mv sc kcbm login 23572 atjw 16.57 ARQ 100 (BVR)
VTCN: vessel Lok Pratima 16:29 SITOR-A, TO: SHIPINDIA BNT MUMBAI 03-12-98 (MS)
VTXT: MV lpg/c Anna Purna tlx to mumbai eta rastanuar 03/1700lt 16.52 ARQ 100 (BVR)
VVGV: Mandakini, 16:26 SITOR-A, TO:SHIPINDIA BNT BOMBAY, 02-12-98 (MS)
VWTL: Mt L.N. ALBERT EKKA PVC tlx to shipindia bnt mumbai login 23673 vwtl x opr chat like this is albert ekka pvc hw copied? qru? 16.20 ARQ 100 (BVR)
VWTL: m/v Albert Ekka, 15:58 SITOR-A, TO: SHIPINDIA BNT MUMBAI FM: MASTER MT. L.N.ALBERT EKKA PVC 02-12-98 (MS)
c/v Raman: 14:40 SITOR-A 03-12-98 (MS)

m/t Ankleshwar: 16:05 SITOR-A, TO BNT SHIPINDIA MU_BAI, position given as 07.51N 076.48E, Indian Ocean 03-12-98 (MS)
m/t Capt.G.S.Salaria: 15:53 SITOR-A, TO:SHIPINDIA MUMBAI BNT 02-12-98 (MS)
m/t Ghandar: 14:24 SITOR-A 03-12-98 (MS)
m/v Lok Kranti: Indian Ocean, 15:27 SITOR-A, position 0548N 89.05E 02-12-98 (MS)
vessel Guru Gobind Singh: 16:24 SITOR-A, TO SCI BNT MUMBAI 03-12-98 (MS)

12535 UVKJ: TKH VASILIY SHUKSHIN 0832 RTTY 50/170 crew TGs to USO5 (5550dwt gen cargo vsl) 4/Nov (HOOD).

12554 UOJL: KAPITAN BEKLEMISHEV 0834 CW msg to UAT (salvage tug giving QTP Novorossiysk) 24/Oct (HOOD).

12556 TCGB: M/V EBER 1215 CW msg to managers (SOHTORIK, Istanbul) via TAH 26/Oct (HOOD).

12557 TCEO: M/V ASLAN 1 1126 ARQ msg via TAH login 65725 ASLAN (8284 dwt gen cargo vsl) 4/Nov (HOOD).
MF Ankara: from Izmir to Venezia passenger list qsx Istanbul radio 158 passengers 94 vehicles at 14.10 s/off 13.42 ARQ 100 (BVR)

12562.5 UGXK: NIS GEO ARKTIK 0853 RTTY 50/170 admin to Murmansk from Km Dubenko via UIW (is ex Akademik Namyotkin) 4/Nov (HOOD).
UYDV: RKTS More Sodruzhestva 2105 RTTY 50/170 Ukraian-flagged trawler w/RYRY/DE to URL, & w/admin TG from master KM Faskheev, also sends same for UUUO, RKTS Marshal Sudets fm KM Rakov; UWRY, RTMS Znamya Truda fm KMD Agarkvov

12563.5 9ANF?: M/V Kupari 2059 ARQ w/tlx for ETA Huelvac, login 27823 KUPAR. (RB)
P3XH6: M/V STRANGE ATTRACTOR 1527 ARQ msg via SAB login 29722 STRAN 22/Oct (HOOD). 3FSO6: M/V COMMANDER 1146 ARQ msg via SAB (123715dwt bulker) 4/Nov (HOOD).

12565 UUUQ: PB Pribalktika 2320 RTTY 50/170 Ukrianian-flagged trawler, w/crew TG's to Kholmsk. (RB)

12566.5 UHDO: MTR GRANATOVYY 0734 RTTY 50/170 admin from Km Teran to UIW (ITU gives P3AA7 but used UHDO) 14/Oct (HOOD).

12567.5 J8TX9: BMRT LABRADOR 0840 RTTY admin from Km Zhmurin to UIW (is ex UEWW/UHUS) 24/Oct (HOOD).
UGZJ: SRTMK TAVA 0802 RTTY 50/170 admin from Km Kovalev to UIW 24/Oct (HOOD).
UUZB: T/N VOSTOCHNYY 0740 RTTY 50/170 psn rpt to URL 14/Oct (HOOD).
UUZB: T/N VOSTOCHNYY 0740 RTTY 50/170 psn rpt to URL 14/Oct (HOOD).
UGZJ: SRTMK TAVA 0802 RTTY 50/170 admin from Km Kovalev to UIW 24/Oct (HOOD).

12568 UAYO: BMRT DMITRIY POKRAMOVICH (MB-0019) 0804 RTTY 50/170 admin from Km Mokhov to UDK2 (transfer of fish to TR PLUTONAS) 24/Oct (HOOD).

12570 SHIPS UNID 2207 arq 100/170 Intership working. End of qso with strong stn always in irs. (30/Nov) (DW)

12574.5 UDUY: TKH VUOKSA 1201 RTTY 50/170 msg via UHP5 (is ex Omskiy 11) 4/Nov (HOOD).

12581 LSD836: Buenos Aires Radio 0543 CW marker. 13/Nov (WJL)

12583.5 UUI: Odessa R 1413z CW id 3651 nov 29 (PvdE)
UUI: Odessa Radio 1609 ARQ idler (CW was "UUI 3651") 17/Oct (HOOD).

12587 LZW: Varna Radio 1424 ARQ msg to LZDT: M/V ADALBERT ANTONOV 24/Oct (HOOD).

12587 LZW54: Varna, Bulgaria 15.50 FEC Tfc list then "CQ DE LZW VARNA RADIO BLIND" (25 Nov). (PT)

12589.5 WCC: CHATHAM RADIO 1918 arq 100/170 "Globe Wireless $ no traffic". Selcals MOZYVVV (4/Dec) (DW)
WCC: CHATHAM RADIO 2213 CW. Chan free marker (Globe) "WCC". Selcal SDIXYKU (30/Nov) (DW)

12593.5 UDB2: KHOLMSK RADIO 2219 arq 100/170 Chan free marker "UBD2". ansback "UDB2 auto". Gives "zb bad command". Ends qso with "UDB2 auto bye". Working UCCR, qsls, 3sc. Is this Kholmsk as listed in two books? - times UTC+3 Kholmsk +10. Sig strength/freq not conducive location near Japan at this time (30/Nov)(DW)
UDB2: KHOLMSK RADIO (UDB2) 0913 arq 100/E/170 QTC list in fec. Workings ship, signs off "3718 UDB2 auto bye" -3718 gives selcal KYXF. Third list now points to Kholmsk -good signals considering W Pacific. (1/Dec) (DW)

UDB2: Kholmsk Radio cw DE 1030. (RV)
12595.7 unid: 2110 SWED-ARQ WX, e-mail 11/27 (BG3)
12596 WLO: MOBILE RADIO 1922 CW. Channel free marker "WLO" (4/Dec) (DW)
12601 ZSC: CAPETOWN RADIO 1738 arq Wx forecasts for S African inshore and ocean areas inc for Governors Cup Yacht Race (today/tomorrow). Also bulletin from Meteo-France/La Reunion for Amsterdam/Crozet/Kerguelen not seen before. (11/Dec) (DW)
12615 USU: Mariupol Radio 1700 ARQ msg to UVSE : TKH ZLATOUST for Km Pakhnits 27/Oct (HOOD).
12629 KHF: Global Wireless Guam CW channel marker 05:45z (AB5)
12629 KHF: GUAM RADIO 1140 CW. Chan free marker (Globe) "KHF". cw ID just readable (3/Dec)(DW)
12682.5 PKF: Makassar R CW CQ QRU? 1240z nov 15 (PvdE)
12691 FUX: French Navy Le Port 0215 RTTY 75/810 w/test tape (25/Nov) (DW2)
12727.5 LGW: Rogaland radio cq de lgw lgb lgj lgx = tfc list = 9hkd5 9hpm5 = qsx 4185.0 8368.5 12552.5 16376.5 and lgq/lgt 500 khz 12.42 CW (BVR)
12729.9 FUB: Navy Paris/Houilles online encrypt 10.08 BAUD 50 (BVR)
12732 UTW/USU: Mariupol R 1403z CW CQ QSS TFC LIST nov 30 (PvdE)
12735 URL: Sevastopol R 0905z CW CQ QSW TFC LIST nov 27 (PvdE)
12738.5 PPR: Rio de Janeiro Radio 0920 CW marker (31/Oct) (IJ)
12756.5 A9M: Bahrein (presumed ID) 13.02 FEC Test message to various vessels from Globe Wireless Singapore (27 Nov). (PT)
12780 D3E51: Luanda Radio 0158 CW w/calltape (25/Nov) (DW2)
D3E61: Luanda Radio 1817 CW ID marker (with D3E51) 18/Oct (HOOD).
12783.6 9MR: Malaysian Ny Johor Baharu 0500 RTTY 50/850 w/9MR 5/11/13 RMMJ MRB RYs SGs JULL (24/Nov) (ML2)
12808.5 VTG: IN Mumbai cw vvv 1350. (RV)
12815.8 UNID: Sitor-A 0853z Test Pattern 30Nov98 [BC3]
12830 RKLM: Arkhangel'sk R CW calling 4LY QSX 1222z nov 22 (PvdE)
12831 3BM: Mauritius R CW VVV PSE AS FOR WX 1625z nov 8 (PvdE)
12840 VTP7: IN Vishakhapatnam cw vvv 1127. (RV)
12856 XSG: Shangai Radio 0915 CW marker (31/Oct) (IJ)
12857 6WW: French Navy, Dakar 0153 RTTY 75/833 w/"le brick" calltape (25/Nov) (DW2)
12867.7 MFA: Cairo 1611 arq Tfc\AA to unk. Strong sigs !!(07/Dec) (RH2)
12871.5 XSG: Shangai Radio 0910 CW marker (31/Oct) (IJ)
12903 VTH: IN Bombay 1643 rtty 48/615 Test tapeVTH1/4/9& VTH4/5/7 BNR RBSL etc (1/Dec) (RH2)
12925 RFA: Astrakhan Radio 1553 CW msg to UHZV: TK VOLGONEFT 125 (is ex UNFE) 26/Oct (HOOD).
12952.5 VIP: Perth Radio 0143 CW w/calltape (25/Nov) (DW2)
12961 Moscow Meteo 0545 FAX 120/288, 500/700/850 hPa data, //13947 Tashkent. 7/Nov (KB)
12967 A7D: Doha, Qatar 12.47 CW Doha Radio with marker tape (27 Nov). (PT)
12970 SUH: Alexandria, Egypt 12.46 CW Alexandria Radio with marker tape (27 Nov). (PT)
12970.5 SUH: Alexandria R CW CQ QRU? 1248z nov 15 (PvdE)
12973 UIW: Kaliningrad R 1320z CW CQ nov 29 (PvdE)
13005.5 OLP5: PRAGUE RADIO 1038 Tfc list in cw. rptd in fec. "OLGX de OLP gd wx zatazeno temp 5c qtc P3FB7 9HHB5" rtn cw "de OLP5 qsx 448". then "qsy OLP6". 448 could be 12448 (ship cw wkng freq). OLGX - collective csign? (16/Nov) (DW)
13007 OLP5: PRAGUE RADIO 1045 fec Tfc list in cw (OLGX de OLP5) and wx. Repeated in fec. Then"qsy OLP6" in cw. (7/Dec) (DW)
13023 D3E: 62 Luanda Radio cw DE 1530. (RV)
13031 VRX62: HONG KONG RADIO 1320 CW. Weather forecast. Just audible. (7/Nov) (DW)
13044 VRX: Hong Kong 12.45 CW Victoria Harbour Radio with marker tape. I thought they would have changed to PRC callsigns (27 Nov). (PT)
13055 UTQ7: Kiev R 0929z CW CQ QSX TFC LIST nov 27 (PvdE)
13059 EBA: SN MADRID 1705 rtty 75/170 Nav wngs in SS. (8/Nov) (DW)
13060 UFJ: Rostov Radio 0718 CW ID and answering UDPP: TKH VOLGO-BALT 248 19/Oct (HOOD).
13062 CLA: Havana R CW CQ QSX QSW 1259z nov 15 (PvdE)
13065 ESP: PARNU RADIO 1658 CW. Tfc to ship. Then cq announcement or tfc list at hispd. (8/Nov) (DW)
13065.8 EBA: SN MADRID 1702 rtty 75/170 Marker "cq de EBA Navarea three Navarea tres". Nav wngs in EE then SS. This is a spurious emission fm

13059. (8/Nov) (DW)
13069.5 JOS: Nagasaki Radio 0130 CW w/calltape (25/Nov) (DW2)
13076.5 JNA: Tokyo safety R CW CQ 1325 nov 22 (PvdE)
13076.7 JNA: Tokyo Radio 0130 CW w/calltape (25/Nov) (DW2)
13080 KMI: AT&T Coastal Station Calif. 2234 USB (Point Reyes) wkg vsl WSX6804 for R/T tfc. (RB)
13089 ICB: Genoa Radio, Italy 2359 USB (beleived) wkg unid vsl in Italian for R/T tfc. (RB)
13089 NMN: USCG Chesapeake 1730 USB synth voice "Perfect Paul". NWS wx broadcast schedule & highseas forecast. 2/Nov (KB)
13158 UTQ: Kiev Radio 1535 USB ID (by YL) 26/Oct (HOOD).
13170 SVN59: Athens Radio 0752 USB wkg SWPP: M/V AMORGOS (65105dwt bulker) 28/Oct (HOOD).
13200 ROLLER 07: C-130, 192AS/152AW, Nevada 2004 USB ANG, May ANGB, Reno-Caonnon IAP, Nv, wkg Andrews w/pp FURIOUS (TACC S.America, Albrook AB, Panama), passes ETA of 0000z, no cargo, no pax, Alpha 1. (RB)
UPSET 51: KC-135R 128th ARG, Mitchell 2036 ARQ Field, WI, wkg Andrews w/pp MADISON Op's re ETA. (RB)
WILD EAGLE 01: 2051 USB clg McClellan, no joy. Have seen logs of Wild Eagles/Eagle Control also on 6770, 9120, 18308. (RB)
13206 SHADO 92: 0000 USB, inbound Edwards, wkg Trenton for pps re: a 0130z ETA. 4/Nov (JJ)
13217 SAM 201: 1924 USB, DV-2 + 10, on the ground at Colorado Springs, terminating comms with Andrews VIP. Heard later blocking in Andrews AFB at 2307. 10/Nov (JJ)
13218 Hickam 1912 USB with test counts. 10/Nov (JJ)
13242 NIGHTWATCH 01: 2112 USB wkg CORN STOCK re: Z-211. 10/Nov (JJ)
13242 USAF Hickam AFB 0400 USB clg PACOM 01 (1/Nov) (IJ)
13244.2 SHARES BBS 1539 PACTOR. 23/Nov (JM)
13257 TIGER 307: CC-130E Serial 130307 1952 USB 424 Transport & Rescue Sqn, CFB Trenton, wkg Trenton Military w/pp 424 Op's "Tiger Op's", est ramp 1640z. (RB)
13342 Edelweiss 463: 1100 (on gnd Las Palmas) wkg Stockholm 7/11 (JS3)
13376.7 Unid: Egy diplo irs mode at 14.17 s/off with yks yks no id monitored 14.16 ARQ 100 (BVR)
13387 poss IPG20: Italian MFA, Rome 1508 ARQ-E 96/810 w/5FGs and plaintext chatter. QRT at 1511 w/"ok qrx at next by by ar va"(27/Nov) (DW2)
13410 Unid FAPSI 1250 RTTY 75/500 5LGs link 20076 (20/Nov) (ML2)
13440 SAM 203: 1810 USB; DV-2 (poss. Defense Secretary William S. Cohen) inbound Nicaragua, wkg Andrews VIP for pps. 29/Nov (JJ)
13444.2 RFQP: FF DJIBOUTI 1655 ARQ/E3 100/400 8rc. betas. Cct [DJI] to Le Port. 1819z Controle de v svc RFQP de RFQP. (28/Nov) (DW)
Unid 2235 ARQ-E3 100/401 idle, poss ID: FF Djibouti. 8/Nov (WJL)
13446.7 ASM41: Parep Moscow EE mgs to Islamabat 13.34 ARQ 100 (BVR)
13446.7 PAKISTAN EMB MOSCOW 0746 arq Tfc in EE. Political summary signed Parep Moscow. Then signoff. (10/Dec) (DW)
13446.7 PAKISTAN EMB: ? LOC 1210 TWINPLEX 100bd -200/-85/85/600. F7b-1. irs mode. (4/Dec) (DW)
13452 FAPSI JMS 2238 RTTY 75/499 rptd callup/msg. 6/Nov (WJL)
13457.9 OZU25: MFA COPENHAGEN 1035 TWINPLEX 100bd tfc in online encrypt. long msg till 1113z offair no opchat. scals TPOV (unid) some opchat inc few line online encrypt. scals TPOV encrypt. 1137 brief opchat/signoff. 1138 scals TPEM (Riyadh) (22/Nov) (DW)
13462 Unid: s/off ok ome hrn qsl qsl all ok tks 7373 skk XJXJXJXJXJ string 09.25 FEC A 144 (BVR)
13486.9 OZU25: MFA COPENHAGEN 1033 TWINPLEX 100bd -400/-200/400 F7b-1. Rcving tfc. Opchat in Danish, signoff. Selcals TPIV (unid). Short qso - nil copy, heavy qrn. (4/Dec) (DW)
13495.9 MFA OSLO 0941 TWINPLEX 100bd -400/-200/200/400. F7b-1. Selcals KFQD (Ankara?). No qso. (8/Dec) (DW)
MFA OSLO: ? 0935 TWINPLEX 100bd -400/-200/200/400. F7b-1. End of qso "att god dag og helg bibi" (4/Dec) (DW)
13510 CFH: CF HALIFAX 1844 rtty 75/750 Met tfc. Ice limits. (28/Nov)(DW)
CFH: CF HALIFAX 1133 rtty 75/750 Met tfc. Forecast for Newfoundland (11/Dec) (DW)
13515 MKD: RAF AKROTIRI ? 1905 DCN 16 channel interleaved vft on isb. On usb ch4 + 6 active with 1(eng) idle on Mark. On lsb ch A, B C active. Signal very noisy.(28/Nov) (DW)

MKD: RAF AKROTIRI ? 1934 rtty 50/N/340 13515.595. Chan 1 in vft (eng). Idle on mark. Fading rapidly. (28/Nov) (DW)
13517.1 MKD: RAF AKROTIRI ? 1925 75/340 13517.125. Chan 6 in vft. On line encrypted. (28/Nov) (DW)
13533.9 Unid: Meteo 1603 rtty 75/400 Aero Wx and Tfc (16/Nov) (RH2)
13541.9 ZRO3: PRETORIA MET 1640 rtty 75/400 Much idle on space. Occ met tfc. (11/Dec) (DW)
13542 ZRO3: Petroria Meteo, RSA 0020 RTTY 75/425 w/AAXX meteo info. (RB)
ZRO3: Petroria Meteo, RSA 2055 RTTY 75/425 w/synop coded 5FG's. (RB)
ZRO3: Pretoria Meteo 2056 RTTY 75/425 w/wx tfc (24/Nov) (DW2)
13550.1 ZKLF: AUCKLAND MET 0845 CW. End of wx forecast, plus note re cessation cw 1/Feb/99. (12/Nov) (DW)
13550.5 ZKLF: AUCKLAND MET 1630 FAX Fax schedule table, weak, discernable but unreadable in noise. (28/Nov) (DW)
13551.5 P6Z: MFA Paris idle 17.50 FEC A 192 (BVR)
13553 P6Z: MFA Paris, F, FEC-A 192/400, 0820, tfc to H6L (French embassy, Algiers), 29/Nov/98. (ANE)
13556 FAPSI HZW 2027 RTTY 75/499 5LGs; xmtd 7/11 wrk QSF4 8/11 wrk QSF3 9/11 wrk QSF2 - xmsn snt before QRU SK (2028) and suggests HZW may employ alternate skeds/freqs on the dates indicated. 4/Nov (WJL)
13572.5 RFFAB: Paris, France 10.55 ARQ-E 184/383 5-lg tfc to unknown station via unknown circuit (very poor rx)(14 Nov). (PT)
13580 HMF36: KCNA Pyongyang, N. Korea 0025 FAX 60/288 wirephoto of group of happy people, photo was // 11476. (RB)
13593.7 RFFXCC: Versailles(?), France 10.14 ARQ-E3 192/383 5-lg tfc and press reports to RFTJC via "LFA" circuit (14 Nov). (PT)
13665.3 6VU73: DAKAR MET 1220 rtty 50/R/750 Met tfc. (11/Dec) (DW)
13855 OXT: Copenhagen Meteo 1220 FAX 120/576 as on 9360. 2/Nov (KB)
13868.7 Unid French mil 1515 USB voice mirror. 29/Nov (CK)
13872 Unid: Pol diplo idle 14.02 POL-ARQ 100 (BVR)
13900 BMF: Taipei Meteo, TAI 1801 FAX 120/576 w/weak wefax. (RB)
13907 UNID: US Customs Service 2213 USB w/PARKHILL scrambled speech. Also at 2254. (1/Nov) (DW2)
13927 AFA1EN: USAF MARS Indiana 2304 USB wkg AGA01D: USAF MARS S. America and AFAR368: USAF MARS Africa . (23/Nov) (DW2)
REACH 106 2259 USB wkg AFA1EN: USAF MARS Indiana w/personal pp's. (23/Nov) (DW2)
13947 ROM5: Tashkent Meteo 1348 FAX 60/576 w/chart. Strong, but dirty signal. (27/Nov) (DW2)
13950.2 NMC1: USCG CAMSPAC Point Reyes 1654 GTOR 200/170 w/encrypted tfc to NMAG: USCGC Hamilton (WHEC-715). Note: NMC1 c/s sent vice normal "NMC" (24/Nov) (DW2)
NMC1: USCG CAMSPAC Point Reyes 1805 GTOR clg NZVE: USCGC Alert (WMEC-630) (24/Nov) (DW2)
NMC1: USCG CAMSPAC Point Reyes 1902 GTOR 100/170 wkg NMAG: USCGC Hamilton (WHEC-715) (24/Nov) (DW2)
NMC1: USCG CAMSPAC Point Reyes 1935 GTOR 100/170 clg NYCQ:USCGC Boutwell (WHEC-719) (24/Nov) (DW2)
NMC: USCG CAMSPAC Point Reyes, Ca 1916 GTOR 100/200 (can't decode this mode). (RB)
13953 P6Z: MFA Paris 5 fgs 09.32 FEC A 192 (BVR)
13953.3 NMC: USCG CAMSPAC Point Reyes 2105 GTOR 100/170 clg NMAG: USCGC Hamilton (WHEC-715) NRUO: USCGC Polar Sea (WAGB-11) NDWA: USCGC Morgenthau (WHEC-722) and NLVS: USCGC Rush (WHEC-723) (24/Nov) (DW2)
NMC: USCG CAMSPAC Point Reyes, Ca 2104 GTOR 100/200 (can't decode this mode, but per DW2, was NMC wkg NMAC). (RB)
13956.5 21S: MFA Tunisia 1532 FEC w/plaintext FF tfc to U3H: Unid Tunisian Embassy. Used typical Tunisian transmitted callsigns: "2222221111111sssssss", etc (24/Nov) (DW2)
Chq ? MFA Tunis 1735 fec RY's and clg 4ku, then okokokok QRZ (19/Nov) (RH2)
13956.5 N/A: MFA Tunis, TUN 1832 FEC w/5LG, FF tfc. (RB)
13976 HBD?: Swiss Diplo 1426 ARQ w/5LGs to unid station (24/Nov) (DW2)
13977 HBD20: MFA Berne 5 fgs to Tripoli 09.29 ARQ 100 (BVR)
13977.7 RFFVA: FAF Paris 2200 ARQ-E3 200/400 svc msg ZIC FDZ2A001 (last sent) ZID FDZA040 (last rcvd) to RFTPA N'djamena cct FDZ2A (9/Nov) (ML2)
13978 Unid: 75.0bd 236hz no acf 11.16 75 (BVR)
13986 WRD719: Sailmail Inc, Palo Alto 2240 PACTOR-4 200/200 w/callsign id

and occasional cw ident. Second PACTOR signal slight off freq (vessel?) (24/Nov) (DW2)
WRD719: Sailmail Inc. 2241 PACTOR4 200/200 weak, no synch. (RB)
13991.7 HEC: BERN RADIO 1600 fec 100/170 Tfc list for DTS-Mail svc. (23/Nov) (DW)
13993 AAA9A: Sierra Vista, Arizona QSO AAR4EQ 15:21 (JC7)
AAA9ASC: Ft Huachuca, Arizona Calling AFA6DJ 15:13 21/Nov (JC7)
AAM5EIL: Carrier Mills, Illinois Calling AAA9ASC 15:37 21/Nov (JC7)
AAR0BT: Location unknown QSO NNN0OAR 15:51 21/Nov (JC7)
AAR3IS: Location unknown QSO AFA5BK 15:49 21/Nov (JC7)
AAR8PA: Montana QSO unID 23:40 21/Nov (JC7)
AAR9EV/T: Ventura, California QSO AAV6LY 15:34 21/Nov (JC7)
AFA1EY: Phillipsburg, Ohio QSO AFA6DJ 15:29 21/Nov (JC7)
AFA2JQ: Richburg, So Carolina QSO AFA6DJ 23:31 21/Nov (JC7)
AFA3EA: Scotts Bluff, Nebraska QSO AFA5BK 15:20 21/Nov (JC7)
AFA5BK: Emmett, Idaho QSO AFA6DS 15:04 21/Nov (JC7)
AFA5GG: USAF MARS Net Control 1809 USB w/AFA3DK, AFA2PE, and others w/chatter (24/Nov) (DW2)
AGA5MC: McChord AFB, Washington QSO AAR4EQ 15:52 21/Nov (JC7)
NNN0OAR: Machesny Park,Illinois QSO AFA5BK 15:49 21/Nov (JC7)
NNN0QCQ: Ankeny, Iowa QSO AFA--- 15:47 21/Nov (JC7)
13996 AAA9PP: US Army MARS 1325 USB clg "any canal zone military station" and "any CONUS station." (29/Nov) (DW2)
ACM5AE: US Army MARS 2225 USB wkg AAR4CSS: US Army MARS w/chatter and pp. (27/Nov) (DW2)
13998 IFRCGVA: Geneva, Switzerland 12.56 PACTOR 100/200 Tfc to IFRCBGH, Baghdad (11 Nov). (PT)
14336.5 BAF47: Beijing R CHN 0950z 5Ltr WX Grps 30 Nov 98 [BC3]
14340 BAA: BEIJING MET 0923 rtty 50/R/850 Reasonable signal but only just discernable as met tfc. (12/Dec) (DW)
BEIJING MET 0926 rtty 50/R/850 Met tfc. Poor copy. (14/Dec) (DW)
14352 AFA2ZS: USAF MARS Alexandria 1739 PACKET 300/200 wkg AFA3EA: unid USAF MARS. (28/Nov) (DW2)
N/A: Russian SVR, Lourdes, Cuba 2052 RTTY 75/500 w/call-up to KAC w/RY's, then off w/QRU QRU SK SK. (RB)
Russian FAPSI 2050 RTTY 75/425 w/RYs and ckt id KAC. QRT at 2053 (24/Nov) (DW2)
14367 BAF8: Beijing Meteo 0645 FAX 120/576 both strong long and short path signal, spaced 80 ms. 4/Nov (KB)
14377 FDI8: Nice Air, F, ITA-2 50/400, 1545, test tape 'voyez le brick..', 28/Nov/98 (ANE)
14383.5 AAA9A: Sierra Vista, Arizona QSO AAT4LM 18:17 21/Nov (JC7)
AAR6ZM: New Mexico QSO NNN0RPM 18:07 21/Nov (JC7)
AAR8DMT: Riverton, Wyoming Calling AAR4EQ 18:06 21/Nov (JC7)
AAT4LM: Location unknown QSO AAA9A 18:17 21/Nov (JC7)
AAV5ZQ: New Mexico QSO AAA9A 18:25 21/Nov (JC7)
NNN0BMV: Dell Rapids, South Dakota QSO NNN0FNB 19:13 21/Nov (JC7)
NNN0FBN: Benton, Ilinois QSO AA5DMT 19:03 21/Nov (JC7)
NNN0FTV: Oak Harbor, Wisconsin QSO NNN0FBN 23:26 21/Nov (JC7)
NNN0IXM: Hitchcock, South Dakota QSO NNN0FBN 19:10 21/Nov (JC7)
NNN0PHB: 65 miles SW of Tuscon, Ariz. QSO NNN0FBN 19:07 21/Nov (JC7)
NNN0RPM: Littleton, Colorado QSO AAR4EQ 18:03 21/Nov (JC7)
14396.5 KNR33: NCC Falls Church, VA 1641 USB wkg KBW49, DOE, Las Vegas w/check-ins to the SHARES weekly net. 25/Nov (JM)
14402 AAR1HG: US Army MARS station, USB, 1610, net control with many army and some USAF MARS stations, 28/Nov/98 (ANE).
AAR3CB: US Army MARS Pennsylvania 1429 USB wkg AAR3JI: US Army MARS, AEM1WF: US Army MARS Germany and others w/pp's. (27/Nov) (DW2)
14426 UNID: FAPSI transmission, ITA-2 75/425, 1527, 5-letter groups, 28/Nov/98 (ANE)
14441.5 NN0KEB: Citra, FL, Working unID, 20:18 2/DEC (JC7)
NNN0CSH: USCGC Hamilton (WHEC-715) 2202 USB clg assms, NNN0XEN answers, but call is cancelled by cutter. (RB)
NNN0CSH: USCGC Hamilton WHEC-715 2202 USB wkg NNN0XEN: USN MARS sta. Also NNN0TSD: USN MARS, NNN0RRC: USN MARS active in net (24/Nov) (DW2)

NNN0CSN: USS Moosbruger (DD-980) 2249 USB (ships MARS stn) clg any MARS stn stateside, NNN0KEA answers, both QSY to a wkg freq (14477.0) for pp tfc. (RB)
NNN0CZO: USS Stephen W. Groves FFG-29 1448 USB wkg NNN0ASN: USN MARS. QSY to 14470.0 (29/Nov) (DW2)
NNN0PRQ: Caneyville, KY, Working NNN0QTF, 20:41 2/Dec (JC7)
NNN0QTF: Wilmington, NC, Working NNN0PRQ, 20:41 2/Dec (JC7)
14441.6 Unid 2044 RTTY 075/851 undecodable. 8/Nov (WJL)
14461.7 UNID 1427 arq Tfc in offline encrypt (5ltr grps). (9/Dec) (DW)
14467.2 DDH8: Hamburg Meteo, D, ITA-2 50/400, 1445, meteo GG, 28/Nov/98 (ANE)
14467.3 DDH8: HAMBURG MET 1226 rtty 50/440 Marker then met tfc. (11/Dec) (DW)
14467.3 DDH8: Hamburg Meteo 1407 RTTY 50/410 w/wx tfc. (29/Nov) (DW2)
14470 NNN0CZO: USS Stephen W. Groves FFG-29 1452 USB wkg NNN0ASN: USN MARS w/pp's. FFG-29 is now based out of Pascagoula, Mississippi. (29/Nov) (DW2)
14477 NNN0KEB: Citra, FL, Working unID, 20:27 2/Dec (JC7)
14485.7 RFGW: MFA Paris. F FEC-A 192bd 0912z 5Ltr Grps 26Nov98 [BC3]
14487 AAA7BS: Location unknown Giving call sign 15:43 21/Nov (JC7)
AAT3BE: Location unknown QSO AAA9A 15:42 21/Nov (JC7)
Lincolnshire Poacher Numbers Station 1441 USB YL/EE w/5FGs (x2) QRT at 1445 w/tones and music (27/Nov) (DW2)
NNN0RRP: Colorado QSO unID 15:45 21/Nov (JC7)
14496 Unid FAPSI 1220 RTTY 75/500 5LGs link 20076 (6/Nov) (ML2)
14501.8 KRN: Unid 1800 RTTY 75/??? RYs KRN repeats then into 5LGs (MSD)
14502 UNID 1336 ARQ too weak to synch. (29/Nov) (DW2)
14514.5 UNID: 0901 fec 100/170 Stn operating in blocks of fec. "dia adt kkk" "QXVT ok ok oscar4 control 5/5 qru" "QXVT ok ok tks saludos y hasta la tardes adsar va corto" (2/Dec) (DW)
14530 AFA5ET: unid USAF MARS 1735 G-TOR 100/200 w/calls for AFA3PV: unid USAF MARS and AFA4OL: unid USAF MARS. (28/Nov)(DW2)
14530.2 AFA2QG: USAF MARS 1409 GTOR 100/200 clg AFA1LZ: USAF MARS and AFA3PV: USAF MARS. (29/Nov) (DW2)
14532 AFA2FK: USAF MARS 2133 PACKET 300/200 wkg AFA1AH: USAF MARS. (27/Nov) (DW2)
14541.7 Unid: Egy diplo irs mode at 09.53 s/off no id monitored 09.34 ARQ 100 (BVR)
14542.9 FAPSI JMS 2230 RTTY 75/491 4646 jms 1/150 and 5FGs. 6/Nov (WJL)
14553 A9C: French Emb Bucharest 1320 FEC-A 192/400 5LGs to Paris (20/Nov) (ML2)
14564 UNID 1442 USB w/PARKHILL scrambled speech. Again at 1458. (29/Nov) (DW2)
14573 5AQ7O: JANA Tripoli, LBY, ITA-2 50/400, 1610, Nx AA, 28/Nov/98 (ANE)
14575 P6Z: French MFA Paris 1446 FEC-A 192/400 w/plaintext chatter "de p6z okokok qsl qsl a toi vx". Strong clean signal (27/Nov) (DW2)
14585.3 Unid 2105 ARQ-E3 200/356, poss ID: FF N'Djamena, idle mode. 8/Nov (WJL)
14585.7 RFPTC FF n'djamena 200.12bd/379hz idle 12.39 ARQ E3 200 (BVR)
RFTPA: FF N'Djamena TCD 2220 ARQ-3E 200/400 svc msg ZIC FDZ007 ZID FDX001 to RFFVA Paris cct FDZ (2/Nov) (ML2)
14626.4 Unid 2110 ARQ-E3 192/360, poss ID: FF Fort de France, MRT, idle mode. 8/Nov (WJL)
14626.5 RFLI: Fort De France MRT ARQ-E3 192/405 0851Z C De V F-D-France / DAKAR cct [LIJ] 23 Nov98 [BC3].
14626.6 Unid 2234 ARQ-E3 191/390 Tent.: FF Fort de France. 10/Nov (WJL)
14626.7 RFLI: FF FT DE FRANCE 1938 ARQ/E3 192/400 8rc. Cct [LIJ]. Controle de v svc RFLI. 2006z further c de v followed by offline encrypted tfc (RFVICF fm RFLIC). (7/Dec) (DW)
14639.1 KPL: Vientiane R LAO Rtty 50/175 0937z E News 26 Nov98 [BC3]
14654.5 SPW: Warsaw R., POL, SITOR-B 100/170, 1500, tfc list, 28/Nov/98 (ANE)
14670 CHU: TS Ottawa 2126 AM voice time ann on the minute in EE and FF. 8/Nov (WJL)
14674 DFZG: MFA Belgrade, YUG, ITA-2 75/400, 0835, encrypted tfc, 29/Nov/98 (ANE)
14681 V5G: MFA BUCHAREST 1120 FEC/ROU 164.5/R/400 Online encrypted diplo bdcast. BInv=24. 90hz low. Ceased rtt at 1218z. Signalling briefly in cw with unkwn Q codes. Rtrn to fec/rou online encryp. 1225z bdcst "radiograma - circulara" in Romanian (20/Nov) (DW)
14684.4 V5G: MFA BUCHAREST 1132 FEC/ROU 164.5/R/400 Online encrypted bdcast.

BInv=24. Suspect this is a spurious output fm the 14681 tx - power substantially lower. (20/Nov) (DW)
14686 ATLAS: DEA comms center, Rockwell-Collins, Cedar Rapids, Iowa 1802 USB wkg PANTHER, DEA Bahamma's for rdo ck. (RB)
CONDOR 101: Unid DEA, Mexican location? 2131 USB wkg ATLAS for radio check. (RB)
DOLPHIN 81: USCG HH-65 #6581 2043 USB wkg ATLAS w/pp ODO (Op's Duty Officer) at Miami Air re ETA. (RB)
14723.3 Unid 2131 RTTY 100/866 undecodable. 8/Nov (WJL)
14731 FAPSI BPA (00116) 1515 RTTY 75/488 no tfc1517. 9/Nov (WJL)
14761.2 USN MARS Manchester NH 2200 PACTOR, RX/TX c/ss and op chat. 8/Nov (WJL)
14761.5 NN0MDE: USN Mars Manchester NH 1813 ARQ "NN0NZW DE NN0MDE ZBO 7" (I have seven msgs for you) btwn personal msg tfc. Origin of msgs as indiated in prmbls was NNN0MRQ. 11/Nov (WJL)
14763 A9M70: GNA Bahrain, ITA-2 75/350, 0855, Nx AA, 29/Nov/98 (ANE)
DOR: MFA Sofia 1634 rtty 75/350 Nx\Bulgar (07/Dec) (RH2)
14787 FDI8: Nice Air, F, CW, 1120, VVV marker, 29/Nov/98 (ANE)
14837.2 ATV65: NEW DELHI MET 1228 rtty 50/R/400 Met tfc - still equipment fault. Little/no Mark. (11/Dec) (DW)
ATV65: NEW DELHI MET 1238 rtty 50/R/400 Met tfc. Equipment faulty - MARK virtually non existant. (9/Dec) (DW)
14894 Ankara Turkey: 12.30 POL-ARQ 100/240 Polish emb w/5-ng tfc to Warsaw (27 Nov). (PT)
14909.7 UNID: presum. egyptian diplo, SITOR-A 100/170, 1550, tfc AA, 28/Nov/98 (ANE)
14913.5 Kiyev Radio (tent) 1355 FAX 60/576 chart Mediterranean area. Scanning much too fast. 1/Nov (KB)
14931 8BY: French Intel 1355 CW w/V mkr. QRT at 1400. (29/Nov) (DW2)
8BY: Paris, F, CW, 1446, "vvv vvv vvv 8by 8by 8by 776/354/300/063/055/982/837", 28/Nov/98 (ANE)
Unid 1258 CW "V-S 867 020/146/476" for several minutes; no tfc. 19/Nov (WJL)
14932 Tel Aviv, Israel 12.27 POL-ARQ 100/218 Polish emb w/5-ng tfc to Warsaw (27 Nov). (PT)
14934 Unid FAPSI 1010 RTTY 75/500 5LGs link 30088 (20/Nov) (ML2)
14940.9 FAPSI WNY 1813 RTTY 075/491 DE WNY 2/575 xmtd one 5LG/one 5FG msg QRU SK 1821. 3/Nov (WJL)
14959.7 Unid 1724 ARQ-E3 192/364 idle, poss. FF Dakar, SEN. 11/Nov (WJL)
14960 Unid: 50bd / 200 hz s/off 20seconds after tuning 09.17 50 (BVR)
14991.5 EAD: MADRID RADIO 1436 arq Channel free marker "EAD" and working ship. This is a spurious transmission. (10/Dec) (DW)
15006.7 EGY Emb.: Madrid (tent) 1719 arq Tfc\AA. Missed ID but this a weel-known Madrid freq. (01/Dec) (RH2)
15016 ENDOWMENT: 2126 USB clg MAINSAIL. (1/Nov) (DW2)
HARDROCK 34: Poss deployed USAF TACP/ALO 2142 USB (Tactical Air Control Party/Air Liaison Officer) clg MacDill, Offutt answers, says they need MacDill. Then calls Offutt req they have Andrews come up here. Andrews comes up,
Hickam AFB 0213 USB clg SAM 8002 with an all frequency request. 18/Nov (JJ)
PAPA-4-FOXTROT: 2130 USB w/EXCERISE ESTEEM HIGHLY ALPHA request, clg any station for pp to NovEMBER-0-ECHO. DSN 315-471-3201. 21/Nov (JJ)
PAT 040: Army Priority Air Transport/VIP Flt 2019 USB clg MacDill & not getting an answer for the obvious reason. (RB)
15027 REACH 857-? : 1748 USB clg LOBO (SOUTHCOM Air Op's Center, Howard AFB, Panama), no joy. (RB)
15027 SHARK 43: 310th ALS C-130, Howard AFB 1756 USB clg LOBO no joy, passes "op's normal top of the hour" msg in the blind. (RB)
15034 TRENTON MILITARY 1920 USB w/aviation wx report. QRT at 1933. (22/Nov) (DW2)
15041 Andrews 1918 USB wkg NIGHTWATCH 01. 11/Nov (JJ)
15318.2 BEIJING MET 0918 rtty 50/R/1000 Met tfc. (14/Dec) (DW)
15318.6 BABJ: Beijing Meteo CHN Rtty 50/170 0940z 5LTR Grps 23 Nov98 [BC3]
15466.7 EGYPTIAN EMB ? LOC 0830 arq 100/170 Long msg in AA (ATU80). Slowly fading. (23/Nov) (DW)
15478 THE COUNTING STATION: 0112 AM YL/SS with 3/2 5FGs //13452// (25/Nov)

(DW2)
15682 N/A: Polish MFA, Warsaw 0836 in 100Bd POL-ARQ with economic news bulletin (in Polish) 30/Oct (HOOD).
15733 unid FAPSI 0950 RTTY 75/500 5LGs link 30088 (2/Nov) (ML2)
15836.6 UNID: Rtty 75/170 0948z 5LTR Grps 23 Nov98 [BC3]
15873 P6Z: MFA Paris 5 fgs to o9b l9c 07.24 FEC A 192 (BVR)
P6Z: MFA Paris F Fec-A 192/170 1005z 5Ltr Grps 23 Nov98 [BC3]
15898 P6Z: MFA Paris 5 fgs page numbers like "PAGE 7 RFGW #135" 07.12 FEC A 192 (BVR)
15920 CFH: CF Halifax NS CAN 2106 RTTY 75/851 "naws de cfh...". 4/Nov (WJL)
CFH: Halifax Military, NS, CAN 2015 RTTY 75/850 w/NAWS marker. (RB)
15930.7 PWB: BN Belem B Rtty 50/828 1905z Encrypted Tfc 22 Nov98 [BC3]
15946.2 UNID 0910 15946.25. Unid station calling/working MIN5 and MIN3 followed each time by period of psk centred 15946.57 b/w 2.5khz. This is known MFA Madrid freq -same user on psk? (10/Dec) (DW)
EAE220: MFA MADRID 1104 arq 100/170 Selcals TQVC (unid), no qso. TQVV (Managua), no qso. (21/Nov) (DW)
EAE220: MFA MADRID 1134 TWINPLEX 100bd -200/-85/85/200 F7b-1. Tfc in offline encrypt (10ltr grps) to Tripoli Emb. Signoff. (10/Dec) (DW)
EAE: Madrid, Spain 11.22 Twinplex 100/170 Tfc in SS to unknown embassy (16 Nov). (PT)
poss EAE220: Spanish MFA 2154 TWINPLEX 100/400. Unable to get good synch before QRT at 2156. (27/Nov) (DW2)
FUB: Navy Paris/Houilles online encrypt 10.08 BAUD 50 (BVR)
16060 Unid FAPSI 1230 RTTY 75/500 5LGs link 20076 (19/Nov) (ML2)
16074 FAPSI 1645 81-81 81/500 Unable decode. This is a Pol-Arq freq. ! (07/Dec) (RH2)
16101 HBD46: Swiss Embassy, Havana, Cuba 1929 ARQ w/5LG msgs fm HBD20, Berne. (RB)
HBD?: Swiss Diplo 1324 ARQ w/5LGs to unid station (24/Nov) (DW2)
16101 HBD20: Mfa Berne 5 fgs to a number off Embassy's 12.02 ARQ 100 (BVR)
16103.9 MFA OSLO 0900 TWINPLEX 100bd -400/-200/200/400. F7B-1. Selcals KFQA (New Delhi). Brief tfc fmNew Delhi and sign off. 0908z Selcals KFQE (Bangkok), no qso. (8/Dec) (DW)
16103.9 MFA OSLO: 1145 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc (Nx) in Norwegian, signed NOREG. (4/Dec) (DW)
16106.9 SAM: MFA STOCKHOLM 0958 ARQ/SWE 100/I/400 CHB22. Offline encrypted tfc to Kuwait.(15/Nov)(DW)
16122.3 Unid 1923 RTTY 50/851 unid mode. 4/Nov (WLJ)
16135 KVM70: Honolulu Meteo, Hi 1848 FAX 120/576 w/weak wefax. (RB)
16141.7 bkfqsr MFA Cairo 1620 arq Tfc\AA to Accra Emb., (yphkg kw-fk) (19/Nov) (RH2)
kdakrfr MFA Cairo 1640 arq Tfc\AA to large number of addressees! (18/Nov) (RH2)
16161.5 CLP8: Cuban Emb Conakry GUI 0930 RTTY 50/500 msg SS & QSL rqs (7/Nov) (ML2)
16165.2 RFFA: MOD Paris 1717 ARQ-M2 200/390 Ch B: list of personnel; Ch A: tfc w/currency references. 13/Nov (WJL)
16209.9 OZU25: MFA COPENHAGEN 0804 TWINPLEX 100bd -400/-200/200/400. F7b-1. Short qso, no tfc. Selcals TPEP (unid),short qso. (10/Dec) (DW)
OZU25: MFA COPENHAGEN 0820 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc in offline encrypt. (4/Dec) (DW)
16216.1 Unid 2019 USB, YL in FF w/freq suggests; ID may be Goma CGO. Then beeps folwd by FF spkng operator clg YZI. 18/Nov (WJL)
16218 FAPSI HZY (00117) 2000 RTTY 75/476 RY's, 5FG msg. 10/Nov (WJL)
16223 unid FAPSI 0940 RTTY 75/500 5LGs link 40034 (27/Nov) (ML2)
16234 Russian Navy 1541 36-50 36/230 Unable decode (14/Nov) (RH2)
16251 Unid FAPSI 0900 RTTY 75/500 5LGs link 70037 (23/Nov) (ML2)
16260 RFGW: MFA Paris 1652 fec-a 192/400 5LG to Embassies (1/Dec) (RH2)
16264.5 Unid 1937 RTTY 75/859 unid mode. 4/Nov (WJL)
16284.9 OZU25: MFA COPENHAGEN 1040 TWINPLEX 100bd -400/-200/200/400. F7b-1. End of qso. Scals TPOF (unid). Opchat in Danish - short qso. (4/Dec) (DW)
16302 DFZG: MFA Belgrade, YUG, ITA-2 75/425, 1425, encrypted tfc, 28/Nov/98 (ANE)
unid FAPSI 0940 RTTY 75/500 5LGs link 00079 (26/Nov) (ML2)
16316 Russian Navy 1543 36-50 36-230 Unable decode. Seems to be a sked around 1500UTC (16/11) (RH2)

16317 Polish Emb.,: Kinshasa 1200 Pol-Arq 100/240 .snnn2999naad wyslij.003 Idling (24/Nov) (RH2)
16335 FZS63: St Denis Meteo, REU 1215 rtty 75/400 Aero Wx (24/Nov) (RH2)
16351.7 Unid 1742 ARQ-E3 192/383 idle, possibly FF. 11/Nov (WJL)
16386.7 PAKISTAN EMB ? LOC 0846 TWINPLEX 100bd -200/-85/85/600. F7b-1. Opchat in EE. Selcals KMEU (Islamahbad) (10/Dec) (DW)
PAKISTAN EMB: ? LOC 1215 TWINPLEX 100bd -200/-85/85/600. F7b-1. irs mode. (4/Dec) (DW)
PAKISTAN EMB: BUCHAREST 1246 arq 100/170 Selcals KMEU (MFA Islamahbad). ID's as "pr bucharest b65" (or byt). Tfc in EE. Switches to irs. Lost qso - alt twotones (Islamahbad) selcals KMEU (Bucharest emb). qso reestablished. (4/Dec) (DW)
16528 KAQP: Research Vessel Atlantis 1450 USB wkg KXC713: Woods Hole Oceanographic Institute w/INMARSAT A problems. The ATLANTIS is a 247', 3304 gross ton research vessel built for Woods Hole in 1997 (24/Nov) (DW2)
16631.7 EGYPTIAN EMB LUANDA 1535 arq Tfc in AA (ATU80). jg dlkgmk (fm Luanda). This is a ship cw working freq. (6/Dec) (DW)
dlkgmk Egy Emb., Luanda 1600 arq/fec Tfc\AA to unk then fec burst to MFA Cairo (07/Dec) (RH2)
16639.1 unid CW TLX msg nm1 #040044 11/20 (BG3)
16671.8 Voyager mgs to mv creh Herc.... 15.27 ARQ 100 (BVR)
16684.5 P3GF4: M/V Sea Concert 1829 ARQ 35,571 DWT bulker w/tlx to Bravmar re boat/fire drills, login 56150 P3GF4. (RB)
16693 ELUI7: M/V Doceisland 2010 ARQ Liberian-flagged 72,861 DWT bulker wkg USCG, NMC, re injured crewman aboard. (RB)
ELUI7: MV Doceisland 2000 ARQ w/plaintext medical emergency tfc to NMC: USCG CAMSPAC. 72,824dwt vsl(24/Nov) (DW2)
16696.5 3FXQ2: Sea Cattleya 1601 ARQ Panamainan-flagged freighter w/AMVER/PR. (RB)
16697 VSBW6: MT Stena King 1818 ARQ w/AMVER msg. Stena King is a 458000dwt tanker (24/Nov) (DW2)
16698.5 OZEC6: M/V SEA FLOWER 1410 ARQ msg via OXZ login 10194 OZEC6 25/Oct (HOOD).
LXVC: M/V Crystal Privilege 2225 ARQ w/AMVER msg. Sign off "29066 priv" (24/Nov) (DW2)
16699.5 MV Aghia Markella 1412 ARQ w/weekly maintenance report. Missed callsign. (29/Nov) (DW2)
Unid 2047 ARQ req flights for nine crewman to Gdansk, Warsaw, etc. 18/Nov (WJL)
16702 3?ZV9: M/V Pelander 2037 ARQ 11,080 DWT Ro/Ro w/AMVER msg. (RB)
16711.5 9ACI: M/V Motovun 1855 ARQ 13,914 DWT dry cargo vsl w/BBXX wx report to "Meteo Wash", login 27812 MOTO. (RB)
16713.5 9HEN5: M/V Vulcan 1944 ARQ 30,499 DWT bulker w/AMVER/PR. (RB)
16716.5 UHXE: TK TUAPSE 1237 ARQ msg to crew member on ELTI6: TK TULA via UFN 21/Oct (HOOD).
16737 UNID 2043 FEC w/PNA relay (24/Nov) (DW2)
16744.9 unid 2144 USB SITOR-B TLX news 11/14 (BG3)
16791 Unid 2100 FEC personal msg to a ship for a safe sailing etc. 18/Nov (WJL)
16800.5 UALX: RTMS VOLNYY VETER 0848 RTTY 50/170 crew TGs to UIW 25/Oct (HOOD).
16802 UCTW: BATM MARSHAL YEREMENKO (MA-0064) 1257 RTTY 50/170 admin to UDK2 22/Oct (HOOD).
16804 UBAU: RTMKS ALEKSANDR MIRONENKO (MA-1808)1836 RTTY 50/170 admin to "Murmansk Dolfin" from 2045N 1738W via UDK2 25/Oct (HOOD).
16804.5 GMDSS/DSC 1200 fec 100/170 From 1220 to 1800: -61 msgs rec'd described as:- Ship's Business-2 ; Routine-16, Safety/Test-10 ; Error-30 ; Distress/Test-3 (07/Dec) (RH2)
16806.5 NMC: USCG CAMSPAC Point Reyes 1826 FEC w/MSI broadcast (24/Nov) (DW2)
16809.5 EDJ6: Madrid Radio 1301 FEC tfc list 22/Oct (HOOD).
16819.5 NMN: USCG Portmouth, VA 2005 ARQ/CW, Xmtd SITOR: QSL AMV+ 147 byte; CW: NMN. 8/Nov (WJL)
16836 UFL: Vladivostok R 0753z CW id nov 27 (PvdE)
16841.1 8PO: Bridgetown Radio, BRB 2021 ARQ/CW, Xmtd SITOR: sutk, mprm SECALS or C/SS (?) CW: 8PO. 8/Nov (WJL)
16898.5 XSG: Shanghai Radio 2350 FEC tfc list & 4LGs (25/Nov) (ML2)
16926 LFI: ROGALAND RADIO 0838 arq 100/170 Scals XBCC. Chan free marker

(Globe) "LFI" (25/Nov) (DW)
16935 A7D: Doha Radio 1056 CW ID marker 25/Oct (HOOD).
16940 XSW: KAOHSIUNG RADIO 0928 CW. Marker "cq de XSW hr tfc list cmg as". 0930z tfc list then rtn tomarker "cq de XSW k". (7/Nov) (DW)
16945 XVG7: Haiphong Radio 1058 CW ID marker for tfc list 25/Oct (HOOD).
16948 6WW: FN Dakar 2330 RTTY 75/850 w/bricks 1-0 10-15 //16955.5, spurious emissions - sigs were weaker than 6WW on 16951.5 running the same tape (20/Nov) (ML2)
16951.5 6WW: FN DAKAR 0810 rtty 75/850 Marker "voyez le brick figs 1-15 sg's" No ID. Still spurii at16947.866 (920hz) and 16955.125 (750hz shift). (25/Nov) (DW)
6WW: French Navy, Dakar 0031 RTTY 75/850 w/"le brick" calltape (25/Nov) (DW2)
16955 YLQ: RIGA RADIO 1113 fec 100/170 Marker "cq de Riga radio YLQ info/blind qss 8432.0/12579.5/16955.0 khz" then bdcst of tfc, wx, news in Russian - all rptd. (7/Nov) (DW)
16957.8 FUJ: FN NOUMEA 0800 rtty 75/850 Marker "------ de FUJ testing ryryryry2633". Four fig number increments each pass. (25/Nov) (DW)
16959.2 FUM: French Navy, Papeete 0033 RTTY 75/836 w/calltape (25/Nov) (DW2)
16960.1 FUF USB RTTY 75 bd testing 1234... 11/20 (BG3)
16961.5 FUF: FN Fort de France ryryryr sgsgsg de fuf testing 13.09 BAUD 75 (BVR)
FUF: FN Fort de France, MRT 2116 RTTY 75/851 marker. 18/Nov (WJL)
16972 WNU/WCC: CW 11/20 (BG3)
16977 OLP6: PRAGUE RADIO 1444 fec Tfc list in cw, qsx 634. Rpt tfc list in fec. No qso "qsy to OLP7". (7/Dec) (DW)
16982.7 unid: RTTY 75 bd USB in spanish (BG3)
16983.9 Unid 2125 RTTY 75/848 undecodale. 18/Nov (WJL)
16984 PPR: Rio Radio 1106 CW tfc list 25/Oct (HOOD).
16987 VRX: Hong Kong Radio 0920 CW marker (31/Oct) (IJ)
16997.3 unid: 2103 SITOR-B MSGS FOR M/V LIBERTY WAVE,VAGABOND, CATALINA (BG3)
17016.8 KPH: QSV CW 11/20 (BG3)
17020.6 WLO/WSC/KLB: 2039 USB SITOR-B 11/22 (BG3)
17021.5 TAH: ISTANBUL RADIO 1659 CW. Marker "de TAH tfc list as". Tfc list. (5/Dec) (DW)
17045.6 LPD46: General Pacheco Radio 0052 CW w/calltape (25/Nov) (DW2)
17053 XSX: Chi-lung Radio 0054 CW w/calltape (25/Nov) (DW2)
17074 LGX: Rogaland Radio 0825 CW tfc list (30/Nov) (IJ)
17080 UAI3: Nakhodka R 0809z CW VVV QSX nov 27 (PvdE)
17091 XSQ: Guangzhou Radio, CHN 0835 CW "CQ DE XSQ" (30/Nov) (IJ)
17103 XSG: Shanghai Radio 0103 CW w/calltape (25/Nov) (DW2)
IAR: ROME RADIO 1602 CW. Marker "vvv de IAR k 4 8 12 16 22 mhz - we lsn 22 and reply on 17206.1 kh". Unlisted freq or spurious? (5/Dec) (DW)
17106.6 Unid 1947 RTTY 150/851 undecodable. 17/Nov (WJL)
17138 LYL: Klaipeda Radio 0753 RTTY 50/170 msgs to BMRT WINDROSE for Km Minin and to BMRT SNIEGYNAS for Km Oleynikov 22/Oct (HOOD).
17155.5 8PO: Bridgetown Radio cw 8PO 1537. (RV)
17161 VIP: Perth R CW CQ nav warnings and tfc list 1235z nov 22 (PvdE)
17164.7 ZSC7: CAPETOWN RADIO 1632 CW. Marker "cq de ZSC monitoring 4/8/12/16 mhjz w/t de ZSC ar". (5/Dec) (DW)
17165.7 CLA41: HAVANA RADIO 1626 CW. Marker "cq de CLA qsx c/11 8368/12552/16736 tx 8573/12673.5/16961qsw CLA20/32/41/50 qrj c/7217 K" (5/Dec) (DW)
17175.2 A9M: BAHRAIN RADIO 1618 CW. Marker "cq de A9M". Reply to unid ship "up 169" but no further signals other than call tape. (5/Dec) (DW)
17184.8 KFS: PALO ALTO RADIO 1611 CW. Marker "cq de KFS ... qsx 4 6 8 12 16 22 mhz k" (5/Dec) (DW)
17195 UJE: Nizhnij-Novogrod R 1002z CW VVV CQ QSW QTC nov 27 (PvdE)
17198.9 PCH60: Scheveningen Radio 0830 CW marker (30/Nov) (IJ)
17211.1 unid: Globe Wireless SWED-ARQ (probably SITOR-A) with msgs 11/25 (BG3)
17211.4 KFS: PALO ALTO RADIO 1556 CW Chan free marker (Globe) "KFS". (5/Dec) (DW)
17223.6 Unid 1506 RTTY 100/851 unid mode. 9/Nov (WJL)
17227.6 ZLO6: RNZN IRIRANGI 1150 CW. Variable length marker. barely audible. (8/Nov) (DW)
17230 CWA: Cerrito Radio URG 2256 CW marker. 9/Nov (WJL)
17236.3 UNID 1619 PACKET 250/250 17236.33. Unusual parameters for this mode,

also this is a maritime band. Calls in use AG4 AG5. Text seen in SS, commands in EE (eg 90654 bytes available). qrm occ fm Kaliningrad/UIW 17236.4 (11/Nov) (DW)
17236.4 UIW: KALININGRAD RADIO 1204 CW. Working ships. (8/Nov) (DW)
17239.5 PKX: Jakarta Radio cw cq 1315. (RV)
17314 NMC: USCG CAMSPAC Point Reyes 2253 USB w/MIB. //13089/8764// (15/Nov) (DW2)
NMC: USCG Pt Reyes 1635 USB computer voice w/wx. 2/Nov (KB)
17416.9 SAM: MFA Stockholm 1133 Swed-Arq 100/400 Tfc\Sede to Addis Abeba (18/Nov) (RH2)
17428.8 SAM: MFA STOCKHOLM 1402 ARQ/SWE 100/I/400 22 chb. Tfc in offline encrypted. (16/Nov) (DW)
17430.7 FAPSI 0604 rtty 75/500 5LG No Link seen (23/Nov) (RH2)
17441.6 5YE: NAIROBI MET 0808 rtty 100/R/850 Met tfc. (28/Nov) (DW)
5YE: NAIROBI MET 1233 rtty 100/R/850 Met tfc. Area forecast. (11/Dec) (DW)
17441.8 5YE: NAIROBI MET 1200 CW. Marker "cq de 5ye1/2". 1205z wx fcst for sea areas D00-D25 and D30/35 (N of10S). Coded AAXX reports. "qrx tmw". (29/Nov) (DW)
17445.5 5YE: Nairobi, Kenya 12.20 FAX 120/576 Wx chart covering E. Africa & Middle East (21 Nov). (PT)
17468 Unid FAPSI 0710 RTTY 75/500 5LGs (13/Nov) (IJ)
17510 OXT: Copenhagen Meteo 1335 FAX ice SE Greenland. 1/Nov (KB)
17521.7 BSW61: BANGKOK MET 1436 rtty 50/R/170 Met tfc, just discernable but inc typhoon wng in EE origin PGTW (Guam) (13/Dec) (DW)
17522.1 V5G: MFA Bucharest 1210 Rou-Fec 164.5/400 Usual daily Circulara. Must be v. powerful transmitter to reach down here at this time of day ! (24/Nov) (RH2)
17529.9 Unid 2203 RTTY 75/851 unid mode. 9/Nov (WJL)
17550.9 RFTJ: FF DAKAR 0828 ARQ/E3 192/400 8rc. Betas. Seems reluctant to sync on ARQ/E3 but does so on ARQ/E. (28/Nov) (DW)
17590 HZN49: JEDDAH MET 1238 rtty 100/R//850 Met tfc. qrm, and faulty Mark keying. (11/Dec) (DW)
17992 Unid 1938 RTTY 75/161 undecodable. 17/Nov (WJL)
18012 French AF: (Unid stn) 1850 USB wkg CTM flt in FF. (RB)
18018 ARCHITECT: RAF Strike Command, London 1900 USB w/H+00 QNH wx broadcast. (RB)
18021.7 EGYPTIAN EMB ? LOC 1532 arq Tfc in (ATU80) AA. "jg kmkfh kdxtkuh ikdkodkj" (translit. adartalshaft zalaglam) ? loc (7/Dec) (DW)
18032.8 CLP1: Cuban Ministerio de las Relaciones Exteriores (MINREX), Havana, Cuba 2010 RTTY 50/500, w/EE press releases, this is 3rd time logged on this freq in 10 days, may be a (rare) regular schedule. (RB)
18033 CLP1: Cuban MFA Havana 2027 RTTY 50/435 w/SS nx circulars. (27/Nov) (DW2)
18036.7 EGYPTIAN EMB CONAKRAY 1503 arq 100/E/170 Tfc in ATU80 to Cairo plus opchat. (1/Dec) (DW)
18040.8 HGX21: MFA BUDAPEST 1530 ARTRAC 125/170 News summary in Hungarian. Occ test sequencing of all channels based 18040 carrier. 1600z off air abruptly - swap to another frequency? (10/Nov)(DW)
18042.7 RFTJD: FF, Libreville, GAB 1750 ARQ-E3 192/425 (assumed C.I. HAI to Paris), idling. (RB)
18051.7 EGYPTIAN EMB ? LOC 0750 arq irs mode. Then little opchat in AA (ATU80) and signoff. (8/Dec) (DW)
MFA CAIRO 0741 arq Selcals KKVU (Accra). Betas and two short lengths of AA(ATU80) (9/Dec) (DW)
18064 MFA Warsaw: 1600 Pol-Arq 100/240 Claris tfc\Pol to URZEDY KONSULARNE (16/Nov) (RH2)
18066.4 OCBN96: (??), loc unknown 15.35 PACTOR 200/200 Sends OCBN96 22 times then shuts down. Using ICRC pactor mode (18 Nov). (PT)
18070 U3H: Moscow, Russia 13.42 FEC-A 192/803 French embassy with 5-lg tfc (09 Nov). (PT)
18085 G7M: French Emb Bangkok 1110 FEC-A 192/850 5LGs (23/Nov) (ML2)
18180 Unid: 74.99bd/850hz no acf 13.07 75 (BVR)
18220 JMH5: Tokyo Meteo 2221 FAX 120/576 w/chart. (27/Nov) (DW2)
18223 Unid FAPSI 0820 RTTY 75/500 5LGs link 20076 (11/Nov) (ML2)
18223.9 Gecamines Lubumbashi: (tent) 1231 arq Msg\FF to Kinshasa re Treasury/Forex transfers (18/Nov) (RH2)
18231.7 HEC: BERN RADIO 1200 fec DTS system, tfc list. (7/Dec) (DW)

18238 ZRO4: Pretoria, S. Africa(?) 15.20 FAX 120/576 Poor rx of meteo chart, presume it is ZRO4 (19 Nov).(PT)
18238.1 ZRO4: PRETORIA MET 1505 FAX Sfc analysis for Southern Africa and Southern Ocean. Noisy, grainy chart (lsb of 18240). (23/Nov) (DW)
18241.8 ZRO4: Pretoria, S. Africa(?) 14.50 RTTY 75/370 Meteo tfc from Kenya, Tanzania, Teheran FIR plus cyclone warning for S.E. Asia. Presume it is ZRO4 (19 Nov). (PT)
18241.9 ZRO4: PRETORIA MET 1242 rtty 75/R/400 Met tfc. Poor copy. (11/Dec) (DW)
ZRO4: PRETORIA MET 1520 rtty 75/R/400 Met tfc (usb of 18240, offset 1885hz). 30 mins of good copy. (23/Nov) (DW)
18242 ZRO4: Pretoria Meteo 2256 RTTY 75/380 w/wx tfc. (22/Nov) (DW2)
18242.2 ZRO4: Pretoria Meteo 1719 rtty 75/400 Aero Wx (19/Nov) (RH2)
18245.6 Unid: Meteo 1635 rtty 75/400 SPECI and Wx for Australian stations. Help with ID pls ? (19/Nov) (RH2)
18254 SUU20: Cairo AFTN, EGY, ITA-2 100/850, 1035, aviation meteo for LCLK, HSSS etc, 29/Nov/98 (ANE)
18254 SUU: CAIRO MET 1100 rtty 100/R/850 Long period of idle on space then (1120z) met tfc (AAXX) (10/Dec) (DW)
SUU: Cairo Meteo 1523 rtty 100/850 Wx codes (04/Dec) (RH2)
18261 GFE24: Bracknell Meteo 1728 FAX 120/576 w/beginning of chart (24/Nov) (DW2)
18269 HBD20: Swiss MFA Berne 1732 ARQ w/5LGs and end of message to unid station (24/Nov) (DW2)
18270 Unid FAPSI 0720 RTTY 75/500 5LGs link 50035 (5/Nov) (ML2)
18270.5 HBD20: MFA Berne 1530 arq 5LG to 14 Embassies - Athenam, Beijingam, Bonnam etc etc (07/Dec) (RH2)
18277 8WB3: Indian HiCom Pt Louis MAU 1010 RTTY 50/400 clg 8WD6 then to 5LGs & svc msg (19/Nov) (ML2)
18308.4 RFGW: MFA Paris 1730 fec-a 192/400 5LG Evening circular to Embassies (24/Nov) (RH2)
18308.5 P6Z: MFA Paris 1534 fec-a 192/400 calling Y9L/Pretoria (04/Dec) (RH2)
18308.5 RFGW: MFA Paris 1619 fec-a 192/400 5LG Circular to Embassies (18/Nov) (RH2)
18316 Unid FAPSI 1150 RTTY 75/500 5FGs link 50080 (25/Nov) (ML2)
18320.7 RFTJ: French Forces, Dakar, SEN 2040 ARQ-E3 192/393 (assumed circuit TJD) idling. (RB)
poss RFTJ: FF Dakar 1736 ARQ-E3 192/400 w/broken signal. Poor synch (24/Nov) (DW2)
18380.2 RFFTA: France 14.52 ARQ-E3 100/390 5-lg tfc to RFVIC, Le Port, Reunion via IRE cct (19 Nov). (PT)
18410 Unid FAPSI 0910 RTTY 75/500 5LGs link 40078 (21/Nov) (ML2)
18411.7 GXQ: London, England 11.02 VFT RTTY 50/340 RYI's, foxes and ID (09 Nov). (PT)
18435.7 RFFVAEA: FF Alysse ARS 1250 ARQ-E3 200/400 5LGs cct FKW (tent as cct ESK prev seen for tfc ex RFFVAEA) (13/Nov) (ML2)
18435.7 Unid: 1227 IRA-ARQ ? 200.2/240 Unable decode. Unlisted. Bulgarian origins ? (18/Nov) (RH2)
18435.9 RFFVAEA: Dahran, Saudi Arabia 10.32 ARQ-E3 200/326 COMELEF ALYSSE with tfc to RFFVF, VILLACOUBLAY via FKXW circuit (16 Nov). (PT)
18445.4 MFA OSLO 0930 TWINPLEX 100bd -400/-200/200/400. F7B-1. Rcvng tfc then opchat. (10/Dec) (DW)
18487.9 MFA OSLO 0910 TWINPLEX 100bd -400/-200/200/400 F7B-1. Online encrypted tf in fixed length lines. Signed NOREG (8/Dec) (DW)
18505.6 981: unid 1240 PACKET 300bd part crypto msg to 701 (7/Nov) (ML2)
18513.9 DANISH EMB ? LOC 1400 TWINPLEX 100bd -400/-200/200/400, F7b-1. Tfc in online encrypt. (9/Dec) (DW)
OZU25: MFA COPENHAGEN 0955 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc (Nx) in Danish (4/Dec) (DW)
18529.3 7RW70: Algerian Emb Kuwait mgs to Alger 09.00 COQ8 26 (BVR)
18529.4 7RV60: Algerian diplo Belgrade mgs to Alger "vci off belgrade nr 726 le 01.12.98 a 07h00z l.03 exp cc belgrade dest mae ccd lr hvc lrf du 30.11.98 stop" 08.18 COQ8 26 (BVR)
18541 Unid FAPSI 0940 RTTY 75/500 5LGs link 70037 (13/Nov) (ML2)
18552 V5G: MFA BUCHAREST 1126 FEC/ROU 164.5/R/400 Online encrypted diplo bdcast. BInv=24. 100hz high. (20/Nov) (DW)
V5G: MFA Bucharest 1215 Rum-Fec 164.5/400 Radiograma/Circulara - Nx\Rum (14/Nov) (RH2)

18579.6 RFHI: FF Noumea OCL ARQ/E3 100/391 1026 5Dec98 Noumea/LAPort cct [HII] [BC3]
18583.9 OZU25: MFA COPENHAGEN ? 1115 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc in online encrypt. (4/Dec) (DW)
18644.5 CLP67: Baghdad, Iraq 12.31 RTTY 75/473 Cuban emb. with SS tfc to MINREX (26 Nov). (PT)
18668.1 EGYPTIAN EMB ? LOC 1008 arq Strong signal. Little opchat in AA (ATU80) and signoff. (8/Dec) (DW)
18677.7 CLP1: Cuban MFA Havana 2058 RTTY 75/533 w/SS nx circulars (27/Nov) (DW2)
18760 RFGW: MFA Paris 1702 fec-a (192/400) 5LG to Embassies- same as on 16260.0 ! (1/Dec) (RH2)
18801.7 Marry X: Eastern Mediterranean Athens mgs to unid mv 15.03 ARQ 100 (BVR)
18806.8 UNID 0854 arq 100/170 Selcals TXVV (23/Nov) (DW)
18847.5 WHW462: Pin Oak Digital 1436 CW w/occasional id. (29/Nov) (DW2)
18879.5 MTS: RAF PORT STANLEY 1522 PICCOLO 18879.510. Idle till 1826z. 6 tone. Opchat to MKK re qsy to F79.This is an ITU duplex telex ship frequency. Been logged here before. (14/Nov) (DW)
18940 BDF2: Shanghai Meteo 0750 FAX synops SE China. 4/Nov (KB)
18974 TAD: MFA ANKARA 0746 FEC/A 144/850 Tfc (Nx) in TT. Also in offline encrypt (3 embassy addresses) and in EE. Ends "Kins de TAD" and "can bunlar qsl mi?". Offair 0919z (19/Nov) (DW)
18986.7 RFHJ: FF Papeete Tahiti OCL ARQ-E3 100/425 0845 5Dec98 Msgs Papeete/Noumea cct [HJI] [BC3]
RFHJ: French Forces, Papeete, Tahiti 1741 ARQ-E3 100/425 (assumed) idling. (RB)
19031.7 PAKISTAN EMB ALGIERS 1025 TWINPLEX 100bd Tfc in EE fm Parep Algiers to Foreign Islamabad. (21/Nov) (DW)
PAKISTAN EMB ALGIERS 1413 arq 100/170 Selcals KMEU (MFA Islamahbad) then rcving tfc fm MFA. Signs off Parep Algiers. (22/Nov) (DW)
Pak Emb Rabat: Eng mgs to foreign islamabad at 13.13 s/off in the middle of a mgs 13.08 ARQ 100 (BVR)
19040.3 RETAH: Spain 13.00 RTTY 75/525 Tfc in SS about festival of Santa Barbara to RETAIB (COMIL ZARAGOZA), info to RETAIF (JERAAA 72) and RETANX (GEMAAA FUENCARRAL) via ZMA circuit (30 Nov). (PT)
19101.7 RFLI: FF Fort de France 400hz idle 14.03 ARQ E3 192 (BVR)
19108.9 MFA COPENHAGEN: ? 1000 TWINPLEX 100bd -400/-200/200/400. F7b-1. Online encrypted tfc, terminates with no opchat. (4/Dec) (DW)
19108.9 OZU25: MFA COPENHAGEN 1243 TWINPLEX 100bd -400/-200/200/400. F7b-1. Quick opchat. Same opr as was on 9327.9 at 1222z. (9/Dec) (DW)
19131 411: DEA aircraft 1635 USB wkg ATLAS w/ops normal. (RB)
733: 2002 USB wkg ATLAS: DEA Comms Center w/apparent personal phone patches. 733 is about 2 hrs from JAGUAR 200: Panama City, Panama. (19/Nov) (DW2)
901: DEA a/c 2122 USB wkg ATLAS: DEA Comms Center Cedar Rapids w/pp to 922: DEA a/c (24/Nov) (DW2)
912: DEA aircraft 2122 USB wkg ATLAS w/pp from 901. (RB)
ATLAS: DEA Comms Center Cedar Rapids 2031 USB wkg 260. (11/Nov) (DW2)
ATLAS: DEA comms center, Rockwell-Collins, Cedar Rapids, Iowa 2013 USB wkg flight 4013 w/pp 413, 413 stepped out, gets 415. (RB)
ATLAS: DEA comms center, Rockwell-Collins, Cedar Rapids, Iowa 2131 USB wkg flight 712 w/radio guard, Sierra Juliet (19131) primary, Sierra Lima (still unid) secondary. (RB)
BEAR 600: 1801 USB wkg ATLAS w/pp 912. (RB)
FLINT 930: DEA a/c 2027 USB clg FLINT 931: DEA a/c. ATLAS: DEA Comms Center answers. 930 informs ATLAS that 260 is attempting to contact him. (19/Nov) (DW2)
MUSTANG: 2004 USB wkg ATLAS w/ops normal. (RB)
19145 unid FAPSI 0950 RTTY 75/500 5LGs link 30044 (28/Oct) (ML2)
19145.7 RFTJ: Dakar, Senegal 09.50 ARQ-E3 200/379 Relaying RFQP's Controle de Voie message via "DKJ" circuit (14 Nov). (PT)
19204.6 RFLI: Fort de France, Martinique? 12.44 ARQ-E3 100/390 Looks like relaying Controle de Voie from RFHI on unknown circuit (18 Nov). (PT)
19204.7 RFHI: FF Noumea 0906 arq-E3 100/400 CdeV on RFVI cid (17/Nov) (RH2)
19216.7 RFLI: FF, Ft de France, Martinique 2038 ARQ-E3 96/425 (assumed) idling. (RB)

19230.9 OZU25: MFA COPENHAGEN 1255 TWINPLEX 100bd -400/-200/200/400. F7b-1. Selcals TPIQ (unid). Online encryptedtfc. (9/Dec) (DW)
UNID: 0830 TWINPLEX 100bd -400/-200/200/400. F7b-1. Tfc in online encrypt. (4/Dec) (DW)
19231.7 Egyptian Embassy Pyongyang: KRE Sitor-A 0645z 5 Ltr Grps 24Nov98 [BC3]
19323.5 KAWN 1813 USB RTTY 75 bd WX 11/20 (BG3)
19325.2 USAF AWS: ? LOC 1558 rtty 75/R/850 Met tfc. KAWN originated. (14/Dec) (DW)
19385.2 Poss. Paris, France? 12.00 ARQ-M2 200/353 Not even a C De V in 9 hrs monitoring! (27 Nov). (PT)
19415 Unid FAPSI 1020 RTTY 75/500 5LGs link 50002 (20/Nov) (ML2)
19462.9 STS22: SUNA Khartum, SUD, ITA-2 50/200, 1015, Nx EE, 29/Nov/98 (ANE)
19463 SUNA: Khartoum 0905 rtty 50/170 Revue de Presse (22/Nov) (RH2)
19498.6 Unid 1525 ARQ-E3 100/386 idle mode. 22/Nov (WJL)
19498.7 poss RFHJ: FF Papeete 2029 ARQ-E3 100/425 w/idle signal. Moderate fading (24/Nov) (DW2)
19510 LGOS: FF Emb., Lagos 1211 Arq6-90 200/400 5LG to MFA Paris. Further msg at 1621 hrs (18/Nov) (RH2)
19541.9 RHDX: Riyadh, Saudi Arabia 14.35 ARQ6-90 200/400 French emb. with 5-lg tfc to Paris (28 Nov). (PT)
19621.9 OZU25: MFA COPENHAGEN 1130 TWINPLEX 100 -400/-200/200/400 F7B-1. Tfc in offline encrypt. Ends "endumtxt"and offair. 1144z selcals TPRV (unid) and lock-in. Opchat and tfc in offline encrypt. (9/Dec) (DW)
19632 N2G: San'a, Yemen 08.40 FEC-A 192/394 French embassy with 5-lg tfc to RFGW (8 Nov). (PT)
19635 RFGW: MFA Paris 0815 FEC-A 192/400 5LGs (16/Nov) (IJ)
RFGW: MFA Paris 0821 fec-a 192/400 10 pages of 5LG - morning circular to embassies (17/Nov) (RH2)
19726 A9M: Bahrein 13.40 FEC Bahrein Radio with traffic list (21 Nov). (PT)
19730 RFGW: MFA Paris 0735 FEC-A 192/400 5LGs (21/Nov) (IJ)
19741.3 8PO: Bridgetown Radio, BRB 2221 CW/ARQ marker. 10/Nov (WJL)
19741.4 8PO: Bridgetown, Barbados 11.50 ARQ Idling with CW marker (21 Nov). (PT)
19741.5 8PO: Barbados Radio 1750 ARQ w/free idle and cw id. Not listed as a Globe Wireless frequency(24/Nov) (DW2)
19810.4 HGX: 21 MFA Budapest hng mgs to HGX 71 at 10.36 s/off with "tprno tprok endtx" 10.34 ARTRAC 125 (BVR) 6237.5 M2F: clg FAL
19826.9 MFA OSLO 0923 TWINPLEX 100bd -400/-200/200/400. F7b-1. Long period betas. Brief opchat then offair. 0932 selcals KFQI (Lusaka). No qso by 0940z. (8/Dec) (DW)
19826.9 MFA OSLO: 1153 TWINPLEX 100bd -400/-200/200/400. F7b-1. Selcals KFKO (Harare). Brief opchart, further selcals, then qso but poor signal/sync. (4/Dec) (DW)
20035.4 HGX21: Budapest, Hungary 13.18 DUP-ARQ 125/170 Tfc in Hungarian to HGX41, Damascus (18 Nov). (PT)
HGX21: Budapest, Hungary 14.30 DUP-ARQ 125/170 Very long 5-lg msg to HGX41, Damascus (06 Nov). (PT)
20036.7 Unid: 5 fgs Egy emb Dakar logged before 10.50 ARQ(BVR)
20056.7 MFA CAIRO: 1458 arq 100/E/170 EWnd qso? Selcals KKVD (Conakray). Swtchs to fec indicates qsx 53081 = 18036.7. Rtn arq and syncs up. Tfc fm Conakray and opchat in AA (ATU80). (1/Dec) (DW)
20091.7 HEC: BERN RADIO 1600 fec 100/170 Qtc list "bern radio HEC ZXO :251ZAK DF0GTZ MYXS5 9SD42". (21/Nov) (DW)
20179.7 FF PARIS 0852 ARQ/E 100/400 8rc. Betas. Weak sync. Cct [IRE] Controle de voie Paris de Paris. (28/Nov) (DW)
RFVI: Le Port, Reunion 12.10 ARQ-E3 100/393 Controle de Voie via unknown circuit (18 Nov). (PT)
20187.7 Unid: Finnish?? diplo packet like system, single freq operations, 700hz 13.35 301 (BVR)
20192.8 Unid: 1732 VFT 75bd can't decode. (RB)
20265.5 Unid: 1727 PICCALO can't decode. (RB)
20320.5 MKD: RAF AKROTIRI 1013 rtty 50/340 20320.595. Chan 1 in vft. Eng ch. Various opchat post equipment problems. Reference to "epet ccts" ??? (28/Nov) (DW)
20321.9 MKD: RAF AKROTIRI 1032 ARQ/342 96/340 20321.955. Chan 5 in vft. 2 ch tdm. Ch:A and Ch:B. Betas, no tfc in 3.5 hrs. (28/Nov) (DW)
20350.4 IK6BAK: R/AMATEUR BEACON 1415 CW. Marker "IK6BAK/beacon www.publi.it/ham/IK6BAK". This freq ex amateur band and not listed on

this w/site. Spurious? (28/Nov) (DW)
20451 UNID: 1546 ARQ/6 200/400 ACF90. Betas. "qrx 1630z as for fq" "qrx 1630z 31/52 k+" and offair. (1/Dec) (DW)
20476 UNID: 1710 6028? 45bd can't decode. (RB)
20573 MFA ROME: ? 1556 ARQ/RS 228/170 ITA2 mode. Online encrypted tfc. (1/Dec) (DW)
20584 Salcost Guinee: 1625 arq Tfc\II fm Chantier de Garafini (18/Nov) (RH2)
20590.2 HBD20: MFA Berne 5 fgs 15.19 ARQ 100 (BVR)
20609 HBD41: Pretoria, S. Africa 11.43 ARQ Swiss embassy signs off and shuts down (25 Nov). (PT)
20633.7 RFFLCVM: UGECOMANEC Toulon 1532 arq-E3 100/400 Tfc\FF to FN Le Port, RFVIFLR/Garonne & Others (1/Dec) (RH2)
RFVI: FF LE PORT 1500 ARQ/E 100/400 8rc. Betas. 1506z cct [REI] controle de v svc Paris de Paris (28/Nov) (DW)
RFVI: FF Le Port, REU 1524 ARQ-E3 100 "vzczcrei171 oo rfvi de rfvi" & CdV. 29/Nov (WP3)
RFVI: FN Le Port, REU 1542 arq-E3 100/400 CdeV on REI cid (1/Dec) (RH2)
FF PARIS 1510 ARQ/E3 192/400 8rc. Betas. 1522 cct [IAH] c de v svc Paris de Paris. Svc "zno -ini ~a int zdk citant present service". Svc to RFTJD/Libreville "zah HAI0168 fin ???" (28/Nov) (DW)
20780 RFGW: MFA Paris 0755 FEC-A 192/400 5LGs (30/Nov) (IJ)
P6Z: MFA Paris 5 fgs 13.39 FEC A 192 (BVR)
20828.4 CLP8: Conakry, Guinea Bissau 14.10 RTTY 50/461 Cuban emb. with tfc in SS to MINREX (30 Nov). (PT)
20838 G7M: French Emb Bangkok 0840 FEC-A 192/850 5LGs (13/Nov) (ML2)
20856.6 RFQP: Djibouti 12.25 ARQ-E3 200/368 Controle de Voie to self via DJK circuit (25 Nov). (PT)
20872.7 Unknown: 11.20 HC-ARQ 240/200 Synched on the signal but unable to set correct block length before shutdown (02 Dec). (PT)
20890 Unid 1636 USB wkg Andrews, mentioned RADAR. 25/Nov (JJ)
20917 EGYPTIAN EMB KENYA? 1132 arq 100/170 Tfc in offline encrypt. (13/Nov) (DW)
20917 EGYPTIAN EMB KENYA? 1132 arq 100/170 Tfc in offline encrypt. (13/Nov) (DW)
20925 NDJA: FF Emb., N'Djamena 1545 arq6-90 200/400 5LG to MFA Paris (04/Dec) (RH2)
NDJA: FRENCH EMB NDJAMENA 1529 ARQ/6 200/400 ACF90. Tfc in offline encrypt. "qrx 140700z 70/17". (13/Nov) (DW)
RFGW: MFA PARIS ? 1404 ARQ/6 200/400 French diplo. ACF90. Betas and signoff. "ok r r r r 695 pse qrx 1515z 70/17" (13/Nov) (DW)
20930 Unknown: (China????) 10.17 RTTY 50/521 Tfc in unknown language. Word such as "GIMZENGQILZANGGUNNIMQEUN" AND "GIMZENGQILDONGZIQEUI" used. Signs off "BL.05.100" (16 Nov). (PT)
20933.5 Unid 1458 FEC currency exchange rates. 23/Nov (JM)
20946 8BY: French Intel, F 1659 CW w/marker. (RB)
20975 Unid: 1604 FEC-A 192/425 w/FF tfc. (RB)
20976.7 Pakistani Emb Kuala Lumpur 0640 ARQ msg EE (3/Nov) (ML2)
20976.7 Pakistani HiCom Bandar Seri Begawan BRU 0910 ARQ msg EE to Islamabad (7/Nov) (ML2)
20992.5 REACH 5105: 1946 USB wkg AFN2AC (Air Force MARS) w/pp tfc. (RB)
22249 9HYQ3: SHIP VITKOVICE 1455 PACTOR I 200/200 Tfc to OLP7. (7/Dec) (DW)
22299.5 LAII2: MV Adriatic 1840 ARQ w/plaintext msg to Goteborg Radio. sc: 26895 (24/Nov) (DW2)
LAKW2: MV Swan River 1838 ARQ w/plaintext tfc to Goteborg Radio. sc: 26557 (24/Nov) (DW2)
22350 EOPN: RTMA LENINOGORSK 1357 CW signing off with URL 31/Oct (HOOD).
22383.3 unid: 1540 SITOR-A 11/25 (BG3)
22389 NMN: USCG CAMSLANT Chesapeake 1848 ARQ w/free idle and cw id (24/Nov) (DW2)
22407.5 UAT: Moscow Radio 0759 ARQ msg from Vladivostok to UGDS: TKH TOPAZ (possibly ex USFJ ??) 14/Oct (HOOD).
22459 XSX: Chi-Lung Radio, TWN 0810 CW marker (30/Nov) (IJ)
22486 OLP7: PRAGUE RADIO 1455 PACTOR I 200/200 In sync with signals on 22249 khz but too weak to sync/decode. (7/Dec) (DW)
22487 WLO: MOBILE RADIO 1439 fec 100/170 Tfc list. Storm trac data for ts Nicole. Station info. (29/Nov) (DW)
22490 UGE/UCE: Arkhangelsk, Russia 11.21 RTTY 50/170 RY's then "DE UGE/UCE"

(25 Nov). (PT)
22527 NMC: USCG CAMSPAC Point Reyes 2319 FAX 120/576 w/end of chart. At 2324 into facisimile product schedule. (23/Nov) (DW2)
22527 USU: Mariupol Radio 1114 RTTY 50/170 ID and listening 480/6277.5/8366.5/12550.5/22260 15/Oct (HOOD).
22542 JJC: Tokyo Radio 0655 FAX 60/576 encrypted text. 4/Nov (KB)
22554 LZS: Bourgas Radio 0750 CW sign off with ID 14/Oct (HOOD).
22603 PPR: Rio de Janiero, Brazil 13.05 CW Rio Radio with CW marker (21 Nov). (PT)
22610.5 CLA: Havana, Cuba 13.00 CW Havana Radio with CW marker (21 Nov). (PT)
22652 UDK2: Murmansk Radio 1443 CW ID 13/Oct (HOOD).
22678.3 Unid 2210 RTTY 150/851 unid mode. 8/Nov (WJL)
22818.5 EAE220: MFA MADRID 1028 arq Selcals TQXP (unid), no subsequent qso. (10/Dec) (DW)
Unknown: Spanish 11.15 TWINPLEX 100/170 Encryption then "POR AQUI NIL" (25 Nov). (PT)
22935 P6Z: MFA Paris 0740 ARQ-690 200/400 5LGs to TNNR Antananarivo (17/Nov) (ML2)
P6Z: MFA Paris 1205 Arq6-90 200/400 5LG to unk (24/Oct) (RH2)
22963 Bern, Switzerland 11.51 ARQ MFA with 5-lg tfc to various embassies (27 Nov). (PT)
23370 HZN: Jeddah Meteo 0950 RTTY 100/850 wx synopsis (5/Nov) (IJ)
HZN50: JEDDAH MET 1246 rtty 100/R/600 Met tfc. Poor copy due faulty Mark keying. (11/Dec) (DW)
23389 NMO: USCG COMSTA Honolulu 1848 ARQ w/free idle and cw id (24/Nov) (DW2)
23505.9 SAM: MFA Stockholm 1210 SWED-ARQ 100/400 5LGs to SAM76 Pretoria (19/Nov) (ML2)
23522.9 JMH6: Tokyo METEO 2315 FAX 120/576 w/chart. QRT at 2318. (23/Nov) (DW2)
23624 RYAD: French Emb Riyadh 1030 ARQ6-90 200/400 5LGs (31/Oct) (ML2)
23644 P6Z: MFA Paris 1130 ARQ-690 200/400 5LGs to LGOS Lagos (18/Nov) (ML2)
23857 P6Z: MFA Paris 0910 ARQ-690 200/400 5LGs to KHTM Khartoum (25/Nov) (ML2)
23966 TNNR: French Emb Antananarivo MDG 0750 ARQ-690 200/400 to Paris (17/Nov) (ML2)
24006.7 Unid: Egy? diplo, irs mode, no tfc monitored, s/off with yks 10.50 ARQ 100 (BVR)
24083.9 RYAD: Riyadh, Saudi Arabia 12.53 ARQ6-90 200/386 French embassy with 5-lg tfc (8 Nov). (PT)
24084 RYAD: French Emb Riyadh 1010 ARQ6-90 5LGs (3/Nov) (ML2)
24198.3 Unknown: 12.20 ARQ-E3 192/386 Very hard to lock on, sends KF continuously until shutdown (30 Nov).(PT)
24228 Unid Bulgarian Diplo 1000 RTTY 75/500 w/ODK RY BK SHORT 5 ZAR 600 then to ASCII 600 bd w/online crypto (9/Nov) (ML2)
24332 MKK: London, England 14.50 Piccolo 6 Op chat to MTS Port Stanley (18 Nov). (PT)
24367 RFGW: MFA PARIS 1100 FEC/A 192/400 Tfc in offline (5ltr grps) encrypt. (13/Nov) (DW)
24370 RFGW: MFA Paris 0955 FEC-A 192/400 5LGs (5/Nov) (IJ)
RFGW: MFA Paris 1321 fec-a 192/400 5LG to N2G (San'a) and K4X (Damascus) (19/Nov) (RH2)
24370 Unid: FF diplo mgs and rq status 13.35 FEC A 192 (BVR)
24711.6 RFTJC: Cap Vert, Senegal 14.00 ARQ-E3 192/388 AIR ESTRONAVTECH CAP VERT with tfc in FF to RFFUHF, AIR SMATRANSIT CREIL via AFL cct (19 Nov). (PT)
24711.7 RFTJ: Dakar, Senegal 13.32 ARQ-E3 192/390 Controle de Voie to self via AFL circuit then relaying tfc from RFTJAZB, warship D'Estienne D'Orves, to RFFKA, ALGASM Brest (25 Nov). (PT)
RFTJ: FN Dakar 1546 arq-E3 192/400 CdeV on CAF cid, then Admin Tfc\FF to unk (19/Nov) (RH2)
RFTJL?: Unid, FF Navy NW Africa? 1332 arq-E3 192/400 5LG. Don't know this callsign ? (19/Nov) (RH2)
RFTJR: Batinfma, Cap Vert 1516 arq-E3 192/400 5LG to Guerre Dipermil, Paris. AFL cid (19/Nov) (RH2)
RFTJT?: Unid, FF Navy NW Africa ? 1508 arq-E3 192/400 5LG to unk. No cid seen (19/Nov) (RH2)
24851.7 Unknown: 12.15 ARQ-E3 192/390 Very hard to lock on, sends KF

continuously until shutdown (30 Nov).(PT)
24880.1 Unid 2222 USB conversation btwn OM & YL in SS. 8/Nov (WJL)
28279.1 K5AB: CW beacon in central TX 11/25 (BG3)
29730 KKN 925: International Paper Company, MO USA 2135 NFM OM with "you're wanted so you can come up now" (4/Nov) (IJ)

Logs from Fabio Fonseca:
Subject: Log's from Brasil.
Date: Thu, 03 Dec 98 16:12:10 PST
From: "Fabio Fonseca" <fabiolsf@zaz.com.br>
To: "Donald E. Stidwell (WUN)" <dstidwe@pilot.infi.net>

Dear friends:

I would like to put my name in your log's list.

This is are most recent log's on 8.888 khz, Angola domestic airspace.
I have listen to on this frequency C-130, AN-12 and AN-8 !!!!!!!!!!!!
Names and infos between (" "), need confirmation.
Please, I need buy or change detailed maps and aeronautical chart from Angola airspace.

08/NOV/98

Angola 333 Luanda/Menongue dep 05:15, fl 290, abm Huambo 05:56, eta 06:24, Boeing 737-200, D2-TBX;
KHO 398 Luanda/Saurimo dep 04:55, fl 210, eta 06:15;
Transafrike 954 Luanda/Saurimo dep 05:10, fl 270, eta 06:18;
TW-WSI Luanda/Saurimo dep 04:40, fl 190, eta 06:22;
KHO 340 Luanda/Dundo dep 04:25, fl 150, eta 06:14;
Tropical 121 Luanda/Dundo dep 04:31, fl190, eta 06:25;
Transafrike 952 Luanda/Saurimo dep 06:04, fl290, abm Malange 06:35, eta 07:13;
Alada 305 Luanda/Dundo dep 06:24, fl 230, abm Malange 07:10, abm Cafunfo 07:35, eta 08:20, Antonov 12,
reg. (prefixo) D2-FPB;

13/NOV/98

Savanair 145A Luanda/Dundo dep 04:31, fl 190, eta 06:15;
RCI 253 Luanda/Dundo dep 04:37, fl 170, eta 06:31;
KHO 340 Luanda/Dundo dep 04:54, fl 130, eta 06:45;
Tropical 121 Luanda/Dundo dep 04:48, fl 210, eta 06:40;
RCI 255 Luanda/Dundo dep 05:00, fl 170, eta 06:53;
Alada 307 Luanda/Saurimo dep 04:14, fl 190, eta 05:52;
API 095 Luanda/Saurimo dep 05:04, fl 140, eta 07:00;
RCI 151 Luanda/ "Nzaize" dep 04:50, fl 190, eta 07:42; *** Preciso de confirmação do nome correto da cidade de
API 297 Luanda/ "Nzaize" dep 05:10, fl 150, eta 07:10; destino: "NZAIZE"????
ZS-BEB Luanda/Lucapa dep 05:48, fl 270, eta 07:42;
Angola 098 Luanda/Kisangani dep 05:34, fl 270, "Kilge" 06:33, over Saurimo 06:50, eta 07:29.

19/NOV/98

KHO 755 Luanda/Saurimo dep 04:55, fl 230, abm Malange 05:33, "Kilbe" 05:53, eta 06:15, pessoas à bordo 30.
Alada 305.5 Luanda/Saurimo dep 05:00, fl 210, abm Cafunfo 06:10, eta 06:35;
Transafrike 952 Luanda/Saurimo dep 05:18, fl 290, "Kilbe" 06:03, eta 06:23, Boeing 727, reg. S9-NAZ;
RCI 151 Luanda/Dundo dep 04:45, fl 190, "Kilbe" 05:55, eta 06:40;
Savanair 156A Luanda/Dundo dep 04:23, fl 190, abm Cafunfo 05:27, eta 06:03;
"Air Passae" 355 Luanda/Dundo dep 04:48, fl 170, abm Cafunfo 05:55, eta 06:40;

RCI 252 Luanda/Dundo dep 04:51, fl 150, abm Cafunfo 06:00, eta 06:43;
ER-ADL Luanda/"Nzaize" dep 05:25, fl 170, abm Cafunfo 06:25, eta 07:05;
"Jamex" 333 Luanda/"Nzaize" dep 04:23, fl 170, abm Cafunfo 05:28, eta 06:10;
D2-MAJ Luanda/Ngiva dep 04:27, fl 210, abm Lubango 05:54, eta 06:29;
Alada 305 Luanda/Saurimo dep 05:21, fl 250, abm Malange 06:13, abm Cafunfo 06:44, eta 07:08,
aeronave Antonov 12;
KHO 340 Luanda/Luena dep 04:15, fl 170, eta 05:55;
D2-FBB Luanda/Ngiva dep 05:40, fl 190, abm Lubango 07:00, eta 07:44;

20/NOV/98

KHO 340 Luanda/Dundo dep 04:08, fl 170, eta 05:56;
"Jamex" 333 Luanda/"Nzaize" dep 04:49, fl 170, abm Malange 05:35, abm Cafunfo 05:55, eta 06:45;
D2-FBB Luanda/Luena dep 04:11, fl 170, eta 05:45;
KHO 755 Luanda/Menongue just pass Tutim, fl 230, abm Waco Kungo 05:48, abm Huambo 06:07, eta 06:31;
API 889 Luanda/"Luzamba" dep 05:50, fl 190, abm Malange 06:30, eta 07:01;
EL-ALE Luanda/Dundo dep 05:14, fl 210, eta 07:05, ANTONOV 8 !!!!
Alada 203 Luanda/Cabinda dep 06:16, fl 140, eta 07:03;

24/NOV/98

ZS-NKD Maputo/Lomé dep 23:21, fl390, Agram 01:12, CV 01:47, Kuito 02:20, Luanda 03:09, Natar 03:22,
Araki 03:45, eta 05:46, selcal FL-AC.

01/DEC/98

8888,0 khz

(LUANDA wkg NGIVA): ALADA 116 (RAD 116) Luanda/Huambo dep 04:26, fl 250, abm Lubango 05:47, eta 06:20,
aircraft AN-32.

(LUANDA wkg LUCAPA): TROPICAL 121 (TPB 121) Luanda/Dundo, dep 04:29, fl 170, abm Malange 05:32, eta 06:22, aircraft AN-12.

8903,0 khz:

(KINSHASA wkg LUANDA): UNITED NATIONS 303 (UN 303), Bangui/Luanda, dep 0018, fl 280, eta 04:14, aircraft BE-200 (Beech King Air 200), reg. ZS-MSK.

02/DEC/98

***** ATTENTION: New station listended, SOYO RADIO !!!!

(LUANDA)

- C-GWHO from Lubango to Ngiva, departure 04:20, eta 05:45, fl 110, people on board 02, fuel on board 06:10 hr.

(LUANDA wkg DUNDO)

- Alada 305 (RAD305) Luanda / Dundo, dep 04:40, fl 190, abm Malange 05:22, abm Cafunfo 05:44, eta 06:37;
- Air Cassai 253 (RCI253) Luanda / "Nzaize", dep 04:50, fl 170, Cafunfo 05:59, eta 06:48;
- Air Cassai 151 (RCI 151) Luanda / Dundo, dep 05:04, fl 220, abm Malange 05:51, abm Cafunfo 06:13, eta 06:53;

- Air Cassai 355 (RCI 355)   Luanda / Dundo, dep 05:12, fl 170, abm Malange 05:57, abm Cafunfo 06:20, eta 07:03;

(LUANDA wkg SOYO)

- "MAZD"   Luanda / Soyo, dep 04:58, fl 140, eta 05:49;
- Angola 806 (DTA 806) Luanda / Soyo, dep 05:06, fl 100, eta 05:55 (Prob. aircraft Fokker F-27);

(LUANDA wkg "LUZAMBA")

- Transafrike 870 (TRF 870)   Luanda / Luzamba, dep 05:13, fl 170, eta 06:25;

(LUANDA wkg SAURIMO)

- VHA 180   Luanda / Saurimo, dep 05:30, fl 190, eta 07:48.

It's all.

Fabio Fonseca

##
Numbers + Oddities Newsletter LOG COLUMN

Jascha Ruesseler
Ruessele@pc0401.psychologie.uni-marburg.de
znn000000@hotmail.com (use only if the other one is not available)
##

Hi, folx, welcome to the logs.

Our log format is as follows:
FREQ c/s Station Enigma-Code rest in free format should include time, date, mode, details and initials.

Unfortunaltely, folks are using different formats for the date. This is very annoying to those who want to import the logs to a database. Please use the following format: mmddyy, that is 121498 from now on. This is the most common format for the folks on this list, so the Europeans have to change their habit, i think :-)

Due to limited time no logs from my side this month and i also had to exclude older logs due to limited time. I'll try to compile a supplement from these older logs for inclusion in the december issue.

Please note that I can only include logs in the column which stick to this format. In this column I include logs posted to the spooks or WUN mailing lists or to Ary or myself privately. For a reference of the enigma designators see n+o newsletter no.1. If you want to remain anonymous, just send your logs to me or Ary with a note saying so.

Let's open the logbook...

LP = Lincolnshire Poacher
TCS = The Counting Station aka Cythia
##

 2809   M10 Weds 18 Nov 1645 555x3 571 32 275 49 049 46 (GD2)
 3389   V2 0100 USB ATTENTION 48833 79602 48833 (Cont'd - Fem/SS
         - Tue) 17 Nov 98 (LBJ)
 3389   Atencion/V2 0100 Tue 11/17/98 YL/SS 5FG in progress. (JM4)
 3410   M17   Thurs 12 Nov   2130   66329 22(GD2)
 3525   M45   Thurs 19 Nov   1802   525 974 974 47 47 = =(GD2)
 3525   M45   Thurs 12 Nov   1802   525 974 974 47 47 (GD2)
 3745   M51 0545 (Thu 29 Oct) CW "NR 77 O 29 05:42:41 1998" (VM)
 3745   M51 0639 (Fri 06 Nov) CW "NR 40 N 06 07:39:35 1998" (VM)
 4027   M8 0328 CW (In 5ltr/cut/nrs - Sun) 15 Nov 98 (LBJ)

4027 M8 Cut-numbers 0600z (03-Nov-98) TDWDN WTWDN WMATD obscured & faint (PFR)
4027.5 ANDUWRIGMT/M8 0300 Fri 11/20/98 5F/L/G in progress. (JM4)
4028 Atencion/V2 0200 Sat 11/28/98 YL/SS 5FG in progress. Note new time slot. (JM4)
4028 Spanish YL, V2A, *0600 (16 Nov), Atencion 37221 53111 54371. Weak to fair signal. (DM)
4029 V2 1100 AM TENCION (Too weak to copy - Fem/SS - Mon) 23 Nov 98 (LBJ)
4029 M10 Thurs 19 Nov 1810 555x3 905 71 423 35(GD2)
4034.5 ANDUWRIGMT/M8 0400 Sat 11/28/98 5F/L/G in progress. (JM4)
4035.5 ANDUWRIGMT/M8 0400 Sat 11/21/98 5F/L/G in progress. (JM4)
4036 V2 1100 AM ATENCION (Too weak to copy - Fem/SS - Wed) 25 Nov 98 (LBJ)
4036 V2 1100 AM ATTENTION 89563 65853 52.73 SS 18 Nov 98 (LBJ)
4106 M26 Sat 14 Nov 2100 54 54 54 54 54 // 2967(GD2)
4106 M26 Sat 14 Nov 2102 99 11008(GD2)
4106 M26 Sat 14 Nov 2104 95 12345(GD2)
4106 M26 Sat 14 Nov 2110 95 11000(GD2)
4173 M8 1100 CW TGDWD TWWWD WIIMNH (Fri) 20 Nov 98 (LBJ)
4174 Atencion/V2 0300 Mon 11/16/98 YL/SS rptg A 58963 54192 29953 and into 5FG. (JM4)
4178.5 ANDUWRIGMT/M8 0500 Thur 11/26/98 5F/L/G in progress. (JM4)
4180 M3 Weds 18 Nov 1630 287/00(GD2)
4180 M3 Thurs 19 Nov 1630 287/00(GD2)
4180 M3 Friday 13 Nov 1630 287/00(GD2)
4180 M3 Sat 14 Nov 1630 287/00(GD2)
4180 M3 Thurs 12 Nov 1630 287/00(GD2)
4270 Mossad (E10) 1506 (20/nov) USB YL/EE 5 letter groups (JD)
4329 Atencion/V2 0400 Wed 11/18/98 YL/SS rptg A 50523 81689 95592 into 5FG. (JM4)
4460 M29 Friday 13 Nov 2000 14x5F(GD2)
4460 M29 Thurs 12 Nov 2000 Rpt of 1800 4540(GD2)
4461 MOSSAD/E10 0300 Sat 11/28/98 YL/EE rptg FTJ and into 5LG (JM4)
4461 MOSSAD/E10 0300 Fri 11/27/98 YL/EE rptg FTJ and into 5LG (JM4)
4461 MOSSAD/E10 0300 Thur 11/26/98 YL/EE rptg FTJ and into 5LG (JM4)
4479 Atencion/V2 0400 Fri 11/27/98 YL/SS rptg A 50311 31093 53153 and into 5FG. (JM4)
4479 Atencion/V2 0300 Wed 11/18/98 YL/SS rptg A 50523 81689 95592 into 5FG. (JM4)
4490 M1 Thurs 12 Nov 2000 197 278 278 34 34 = =(GD2)
4506 M8 0335 CW (In 5ltr/cut/nrs - Sun) 15 Nov 98 (LBJ)
4506.5 ANDUWRIGMT/M8 0400 Fri 11/27/98 5F/L/G in progress. (JM4)
4507.5 ANDUWRIGMT/M8 0300 Sun 11/22/98 5F/L/G in progress. (JM4)
4540 M29 Weds 18 Nov 1800 11x5F Heavy QRM(GD2)
4540 M29 Friday 13 Nov 1800 14x5f(GD2)
4540 M29 Sat 14 Nov 1800 14x5F(GD2)
4540 M29 Thurs 12 Nov 1800 14x5F(GD2)
4615 M14A Friday 13 Nov 1900 560 321 48 Heavy QRM(GD2)
4630 English Man/E6 0400 Sun 11/22/98 OM/EE (herm voice) rptg 347 then 592 592 64 64 and into 5FGx2. Down at :16 w/592 592 64 64 00000. Repeat of previous night's broadcast. (JM4) When audio dropped, a second weaker TEM broadcast could be heard on the carrier rptg 329 329 329 00000. I searched around and found this... 4630 The English Man/E6 0400 Sat 11/21/98 OM/EE (hermaphrodite voice) 5FGx2 in progress. Down at :15 w/592 592 64 64 00000. (JM4)
4660 M29 Weds 18 Nov 2000 11x5F Heavy QRM(GD2)
4670 //5238 TCS/E5 (test) 0200 Tue 11/17/98 YL/EE rptg 062 Count 215 3/2FG w/ 333/33 text. (JM4)
4670 //5238 TCS/E5 (test) 0200 Mon 11/16/98 YL/EE rptg "062" Count 215 into 3/2FG. (JM4)
4670 //5238 TCS/E5 (another test broadcast) 0200 Sun 11/15/98 YL/EE rptg 049 w/1-0 count. At 0210 Count 215 and into 3/2FG - the first five being 222/22 987/65 432/10 987/65 432/10 then random groups. Carriers up at 0100. (JM4)
4693 M12 2228 (Wed 21 Oct) CW in progress. Ended at 2234 with 000 000 (VM)

4705 M1B Friday 13 Nov 2203 419 135 135 44 44 = =(GD2)
4740 M17 0443 (Tue 27 Oct) CW 63236 27 27 = (VM)
4740 M17 Weds 18 Nov 1720 53283 22 22 =(GD2)
4803 M52 0630 (Thu 05 Nov) CW 12 II 426276x3 AR (VM)
4870 M3 Weds 18 Nov 1030 048/00(GD2)
4870 M3 Friday 13 Nov 0800 041/00(GD2)
4870 M3 Friday 13 Nov 0800 041/00 (GD2)
4950 M1B 1828 (Wed 11 Nov) CW in progress Ended ==296 296 36 36 000 (VM)
4950 M1B Weds 18 Nov 1818 103 296 296 36 36 = =(GD2)
4970 M24A Weds 18 Nov 1900 362 108 95 362 510 47 (GD2)
4990 2132 Thurs 12 Nov 2132 514 913 913 48 48 = =(GD2)
5020 M10? Thurs 19 Nov 1000 111x3 52544 18 44730 20(GD2)
5028 M10 Thurs 12 Nov 1810 555x3 905/90 423/50(GD2)
5089 M3 Weds 18 Nov 1200 016/00(GD2)
5091 Mossad (E10) 1507 (20/nov) USB YL/EE 5 letter groups (JD)
5091 Mossad (E10) 1712(23/nov) USB YL/EE 5 letter groups (JD)
5127 German lady G7 1949 (Fri 23 Oct) in progress (VM)
5202 M52 0420 (Thu 29 Oct) CW 31 II 657009x3 AR (VM)
5221 M51 0641 (Thu 29 Oct) CW "NR 86 O 29 06:38:45 1998" (VM)
5320 M1 Thurs 12 Nov 1800 197 914 914 33 33 = =(GD2)
5360 M3 Weds 18 Nov 0830 044/00(GD2)
5366 M3 0640 (Tue 27 Oct) CW 044/63 in progress (VM)
5417 Spanish Lady V2 0711 (Mon 12 Oct) in progress (VM)
5417 Spanish YL, V2A, *0700 (16 Nov), Atencion 37221 53111 54371. Very good signal, don't know why the repeats were coming in better this evening. (DM)
5419 M8 CW cut numbers, 0235, (16 Nov), joined in progress. Fair signal (DM)
5435 MOSSAD/E10 0300 Sat 11/28/98 YL/EE rptg ART and into 5LG.(JM4)
5435 MOSSAD/E10 0300 Fri 11/27/98 YL/EE rptg ART and into 5LG. (JM4)
5435 MOSSAD/E10 0300 Thur 11/26/98 YL/EE rptg ART and into 5LG (JM4)
5435 Mossad (E10) 1502 (20/nov) USB YL/EE ART 2 (JD)
5435 MOSSAD/E10 0300 Sun 11/22/98 YL/EE rptg ART into 5LG. (JM4)
5520 M3 Thurs 19 Nov 0830 019/00 Same as 1997(GD2)
5520 M3 Thurs 19 Nov 0900 011/00(GD2)
5520 M3 Thurs 12 Nov 0830 018/51(GD2)
5520 M3 Thurs 12 Nov 0900 011/00(GD2)
5732 Two-Letter German/G16 0400 Sun 11/22/98 YL/GG rptg "Whiskey Lima" w/electronic tune. At 0405, ...messages for 046; 046 64 gruppen... Achtung! and into 3/2FGx2. Down at :13 w/ende. (JM4)
5732 Two-Letter German/G16 0400 Sun 11/15/98 YL/GG rptg Whiskey Lima w/electronic tune. At 0405, ...046; 046 67 gruppen... Achtung! and into 3/2FGx2. Down w/ende at :13. (JM4)
5738 M24? 0732 (Wed 04 Nov) CW 738 902 902 173 173== (VM)
5738 M24? 0730 (Wed 11 Nov) CW 738 94 181 181== (VM)
5748 M4 Thurs 12 Nov 1257 LO LOx3/88613(GD2)
5758.5 ANDUWRIGMT/M8 0300 Fri 11/20/98 5F/L/G in progress. Groups MNDDA and MARRD given during text. Down at :36 w/AR AR AR SK SK SK. (JM4)
5788 M12 1830 (Mon 12 Oct) CW in progress. Repeat of 6856. Ended at 1833 (VM)
5810 M1 Sat 14 Nov 1500 197 403 403 41 41 = =(GD2)
5870 M51 1828 (Mon 09 Nov) CW in progress (VM)
5870 M3 Thurs 19 Nov 0800 017/00(GD2)
5898 M51 0720 (Fri 30 Oct) CW in progress (VM)
5905 M51 0627 (Tue 20 Oct) CW in progress (VM)
5905 M51 0619 (Fri 23 Oct) CW in progress (VM)
6270 //7760 MOSSAD/E10 0100 Sat 11/28/98 YL/EE rptg ULX and into 5LG. (JM4)
6270 //7760 MOSSAD/E10 0100 Fri 11/27/98 YL/EE rptg ULX and into 5LG. (JM4)
6270 //7760 MOSSAD/E10 0100 Thur 11/26/98 YL/EE rptg "ULX ULX" several times, stopped, then proper ULX call-up sent and into 5LG. (JM4)
6270 //7760 MOSSAD/E10 0100 Fri 11/20/98 YL/EE rptg ULX into 5LG (JM4)
6270 //7760 MOSSAD/E10 0100 Wed 11/18/98 YL/EE rptg ULX and into

5LG. (JM4)
6270 //7760 MOSSAD/E10 0100 Mon 11/16/98 YL/EE rptg ULX and into 5LG. (JM4)
6270 //7760 MOSSAD/E10 0100 Sun 11/15/98 YL/EE rptg ULX and into 5LG. (JM4)
6330 M3 Friday 13 Nov 0830 017/00(GD2)
6430 M3 Thurs 19 Nov 1030 216/00 Same as 1997(GD2)
6430 M3 Thurs 12 Nov 1030 216/00(GD2)
6625 CUBA Babbler, 1723 SP W tfc, xlnt audio! Still going 2120 recheck. Fair. 11/27 (ANUS)
6727 German lady G7 1914 (Fri 23 Oct) in progress. Ended at 1919 with 000 000 (VM)
6745 MOSSAD/E10 0508 Thur 11/26/98 YL/EE rptg KPA2 sporatically from :08 until I gave up at :20. (JM4)
6767 M8 0111 CW (In 5ltr/cut/nrs - Tue) 17 Nov 98 (LBJ)
6767.5 ANDUWRIGMT/M8 0100 Tue 11/17/98 5F/L/G in progress. (JM4)
6780 M10? 1824 (Sun 18 Oct) CW 5FGx2 in progress. Ending == 3939 13 13 000 (VM)
6782 Atencion/V2 0300 Fri 11/27/98 YL/SS rptg A 04134 32492 93552 and into 5FG. (JM4)
6782 M12 0511 (Mon 19 Oct) CW in progress (VM)
6782 M12 0408 (Tue 27 Oct) CW in progress. Ended at 0413 with 000 000 (VM)
6782 M12 0605 (Wed 28 Oct) CW 749x3 1 4307 142 (VM)
6782 M24? 0717 (Wed 04 Nov) CW in progress. Ended at 0724 with == 902 902 173 173 00000 (VM)
6782 M24? 0708 (Wed 11 Nov) CW in progress (VM)
6782 Atencion/V2 0300 Fri 11/20/98 YL/SS rptg A 04131 43592 25363 into 5FG. (JM4)
6782 M12 Weds 18 Nov 1700 749x3 1 1136 145(GD2)
6782 M12 Thurs 19 Nov 1700 749x3 000(GD2)
6782 M12 Friday 13 Nov 1700 749x3 000(GD2)
6782 M12 Thurs 12 Nov 1700 749x3 000(GD2)
6786 M8 0726 (Mon 12 Oct) CW in progress (VM)
6786 Spanish YL, V2A, 0600 (15 Nov) with Atencion 69442 36301 05493. Signal this time was very good. (DM)
6786 M8 CW cut numbers 0700 (16 Nov), RWGAA RNTUN ATTID. Excellent signal. (DM)
6786 M8 Cut-numbers 0600z (03-Nov-98) IGGUA WWTMD WRTAA rpt of 7682/0500z (PFR)
6787 M8 Weds 18 Nov 1000 16022 31993 58392(GD2)
6787 M8 Thurs 19 Nov 0800 93721 25912 93343(GD2)
6787 M8 Thurs 12 Nov 0800 04403 12371 75502 (GD2)
6795 Spanish YL, V2A, *0600 (16 Nov). NOTE: Normally they use 6797 but this time it was 6795. Atencion 76191 74931 09271. Signal was fair to good. (DM)
6797 Atencion/V2 0500 Thur 11/26/98 YL/SS rptg A 58852 24922 58112 and into 5FG. (JM4)
6797 Atencion/V2 0200 Mon 11/23/98 YL/SS rptg A 43593 52253 24851 into 5FG. (JM4)
6797 M8 CW cut numbers 0800 (15 Nov), DTAUD RNTUA ATTIN, very good signal on this one. (DM)
6797 Spanish YL, V2A, 0200 (16 Nov), started out with M8 tape but then switched over to their regularly-scheduled voice. I have the callup as "Atencion 18033 52252 77893". Signal was weak to fair. (DM)
6797 Atencion/V2 0200 Mon 11/16/98 YL/SS rptg A 18033 55252 55893 and into 5FG. Broadcast started w/a M8 tape being played on AM for a few seconds before op realized error. (JM4)
6809 M3 Thurs 12 Nov 1000 976/00(GD2)
6816 Backwards Music Station/XM 0200 Sat 11/28/98 (JM4)
6820 M53 2209 (Thu 05 Nov) CW in progress (VM)
6820 M53 Sat 14 Nov 0800 CQ 747.??? Poor signal(GD2)
6820 M53 Thurs 12 Nov 2100 CQ 747.491(GD2)
6825 M8 1200 CW MNDDA IRAIN RIRTA (Thurs) 19 Nov 98 (LBJ)
6825 M8 Weds 18 Nov 0800 65813 25911 93342(GD2)
6826 Atencion/V2 0300 Wed 11/18/98 YL/SS rptg A 52646 43381 43591 into 5FG. (JM4)

6826 Spanish YL, V2A, *0300 (16 Nov), Atencion 18033 52252 77893. Fair signal this time around. (DM)
6826 Spanish YL, V2A, *0900 (16 Nov), Atencion 62731 27543 21062. Excellent signal. (DM)
6826 Atencion/V2 0300 Mon 11/16/98 YL/SS rptg A 18033 55252 55893 and into 5FG. (JM4)
6827 M8 1200 CW WADND GUUDA IDNWD (Thurs) 12 Nov 98 (LBJ)
6827 M8 CW cut numbers 0700 (15 Nov), DTAUD RNTUA ATTIN. Fair signal.(DM)
6834 M10? 1716 (Tue 10 Nov) CW 5FGx2 in progress. Ended at 1718 with ==92 92 34 34 000 (VM)
6835 M10, ? 17.00 (Nov 1) CW 555(3x) 585(3x) 36 086(3x) 31 etc (AB)
6839 M51 0726 (Mon 09 Nov) CW "NR 41 N 09 08:25:52 1998" (VM)
6839 M51 0717 (Thu 12 Nov) CW "NR 68 N 12 08:16:45 1998" (VM)
6840 Mossad/E10, ISR 20.00 (Nov 1) USB EZI + 5LG (AB)
6840 Mossad (E10) 1708(23/nov) USB YL/EE 5LGs //9130 (JD)
6854 M8 1200 CW MRNGA ADAUN AINAA (Wed) 25 Nov 98 (LBJ)
6854 M8 1200 CW (Already in tfc - Wed) 18 Nov 98 (LBJ)
6854 M8 Thurs 19 Nov 0800 98611 20882 59082(GD2)
6854 M8 Thurs 12 Nov 0800 IP(GD2)
6854.5 ANDUWRIGMT/M8 0400 Thur 11/26/98 5F/L/G in progress w/groups GTMWD and TNRNA given during text. (JM4)
6855 M8 0508 (Tue 13 Oct) CW in progress (VM)
6855 Spanish YL, V2A, 0300 (16 Nov), Atencion 27662 04982 61622. Weak signal. (DM)
6855 M8 CW cut numbers 0500 (16 Nov), WTAUD DAMMN NMNGD. Fair signal. (DM)
6855 Atencion/V2 0300 Mon 11/16/98 YL/SS rptg A 25362 04982 61622 and into 5FG. (JM4)
6855 M8 Cut-numbers 0500z (03-Nov-98) DWWRD GAUGA GRRMN faint (PFR)
6856 M12 1810 (Mon 12 Oct) CW in progress. Ended at 1813 (VM)
6865 The English Man/E6 0130 Mon 11/23/98 OM/EE 5FGx2 in progress w/repeat of prior nights broadcast. Down at :07 w/782 782 194 194 00000. (JM4)
6865 The English Man/E6 0130 Sun 11/22/98 OM/EE (hermaphrodite voice) rptg 936 then 782 782 194 914 and into 5FGx2. Down at :07 w/782 782 64 64 00000. (JM4)
6865 The English Man/E6 0130 Mon 11/16/98 OM/EE (hermaphrodite voice) rptg 936 w/repeat of previous nights broadcast. (JM4)
6865 The English Man/E6 0130 Sun 11/15/98 OM/EE (hermaphrodite voice) rptg 936 then 547 547 128 128 and into 5FGx2. Down at :56 w/547 547 128 128 00000. Carrier was up as early as 0100 w/test tones and call ups. Usual +60db. (JM4)
6866 M8 1204 CW (In 5ltr/cut/nrs NGDUA (Cont'd) BT(x3) NAAGM GRDNU...(Fri) 13 Nov 98 (LBJ)
6866 M8 1200 CW MNDDN IRAID RIRTN (Fri) 20 Nov 98 (LBJ)
6867 The English Man/E6 0315 Fri 11/27/98 OM/YL/EE rptg 562 w/repeat of previous nights broadcast. (JM4)
6867 The English Man/E6 0315 Thur 11/26/98 OM/EE (herm. voice) rptg 562 then 384 384 61 61 and into 5FGx2. Down at :30 w/384 384 61 61 00000. +60 db carrier up w/tests at 0300 (JM4)
6876 M12 0522 (Thu 29 Oct) CW 691x3 1 (VM)
6877 Russian man S7 0505 (Tue 13 Oct) ID 812 null message (VM)
6887 M13A 2003 (Mon 12 Oct) CW repeating 387 387 387 000 until 2005 then = 176 22 = and into 5FG (VM)
6893 M12 2123 (Wed 28 Oct) CW 886x3 1 5136 101 (VM)
6920 M53 Weds 18 Nov 2100 CQ 747.381 HR 20 (GD2)
6921 M8 0710 (Thu 12 Nov) CW in progress (VM)
6925 //6954 M51 0717 (Fri 06 Nov) CW "NR 46 N 06 08:16:39 1998 (VM)
6933 M8 1200 CW UWTAD ARNIN GNTID (Tue) 24 Nov 98 (LBJ)
6933 M8 1200 CW GGDAN IRUTA UANWD (Tue) 17 Nov 98 (LBJ)
6933 M8 Friday 13 Nov 0800 30141 12372 75503 (GD2)
6933 M8 Sat 14 Nov 0800 30112 12273 00471(GD2)
6933 M8 Friday 13 Nov 0800 30141 12372 75503 (GD2)
6934 M12 Sat 14 Nov 2100 658x3 1 4342 145(GD2)
6940 //6963 M51 0728 (Mon 26 Oct) CW "NR 44 O 26 10:30:16 1998 BT" and into 5LG. Note UTC+3! At 0818 it is sending a FAV22 Morse lesson (VM)

6940 //6963 M51 0514 (Tue 27 Oct) CW "NR 61 O 27 08:15:51 1998" (VM)
6941 M51 0637 (Mon 19 Oct) CW in progress (VM)
6941 M51 0706 (Thu 22 Oct) CW in progress (VM)
6941 M51 2026 (Thu 22 Oct) CW in progress (VM)
6946 M51 1806 (Wed 28 Oct) CW "NR 55 O 28 19:03:55 1998" (VM)
6959 LP, CYP 20.00 (Nov 1) USB id 92865 (AB)
6962 M51 0625 (Mon 12 Oct) CW "NR 75 O 12 08:25:21 1998" (VM)
6962 M51 2057 (Mon 12 Oct) CW "NR 21 O 12 22:57:25 1998" (VM)
6978 M24? 0640 (Wed 28 Oct) CW in progress. Ended at 0652 with ==930 930 156 156 00000 (VM)
6983 Atencion/V2 0200 Fri 11/27/98 YL/SS rptg A 04134 32492 93552 and into 5FG. (JM4)
6983 M51 0638 (Mon 12 Oct) CW "NR 77 O 12 08:38:49 1998" (VM)
6983 M51 2051 (Mon 12 Oct) CW "NR 20 O 12 22:51:06 1998" (VM)
6983 Atencion/V2 0200 Fri 11/20/98 YL/SS rptg A 04131 43592 25363 into 5FG. (JM4)
6984 V2 1100 AM (Fem/SS - unable to copy - extremely distorted - Thurs) 12 Nov (8 (LBJ)
7262 M12 1930 (Fri 23 Oct) CW ID 127 Null message (VM)
7425 M17 Weds 18 Nov 0900 53283 22 22 = (GD2)
7462 English Man/E6 null broadcast 0115 Tue 11/17/98 OM/EE (herma-phrodite voice) rptg 435 435 435 00000 then down. (JM4)
7482 Atencion/V2 0400 Thur 11/26/98 YL/SS rptg A 58852 24922 58112 and into 5FG. (JM4)
7483 V2 0400 AM ATENCION 58852 24922 58112 (Fem/SS - Thurs) 26 Nov 98 (LBJ)
7519 M8 Cut-numbers 0418z (15-Nov-98) in progress (PFR)
7519.5 ANDUWRIGMT/M8 0400 Fri 11/27/98 5F/L/G in progress. (JM4)
7555 Atencion/V2 0300 Sun 11/22/98 YL/SS rptg A 04132 25934 05444 into 5FG. Mucho QRM from Lord's Ranch. You would think one of them would give up. (JM4)
7555 Atencion/V2 0300 Sun 11/15/98 YL/SS rptg A 52645 25933 05443 w/mucho QRM from Lords Ranch, so I might have copied call-up wrong. (JM4)
7576 Unid CW 0516z (04-Nov-98) 4F/LG fast -off 0521z -at one point, had a bunch of Vs in a row, then paused and restarted. VERY faint. (PFR)
7580 M8 Thurs 19 Nov 1000 Call missed(GD2)
7580 M8 Thurs 12 Nov 1000 81773 90163 25462(GD2)
7581 M8 CW cut numbers 0800 (15 Nov), WWWTD NRMTA ATDRA (DM)
7583 Atencion/V2 0000 Sat 11/28/98 YL/SS 5FG in progress. (JM4)
7583 Atencion/V2 0200 Wed 11/18/98 YL/SS 5FG in progress. (JM4)
7584 M8 0911 (Mon 12 Oct) CW in progress (VM)
7585 Counting stn E5 1732 (Tue 10 Nov) in progress (VM)
7600 TCS (E5) 1500 (20/nov) USB YL/EE id 169 count 162 //10597 (JD)
7657 M12 0525 (Mon 19 Oct) CW Call missed, preamble: 4983 146 4983 146 (VM)
7657 M12 0423 (Tue 27 Oct) CW 749x3 1 3647 142(VM)
7657 M12 0722 (Tue 27 Oct) CW 749x3 1 3647 142 (VM)
7657 M12 0625 (Wed 11 Nov) CW 749x3 1 1858 135 (VM)
7680 M8 Weds 18 Nov 0900 20733 20881 59081(GD2)
7680 M8 Sat 14 Nov 0800 U/R QRM(GD2)
7680 M8 Cut-numbers 0420z (03-Nov-98) in progress (PFR)
7680.5 ANDUWRIGMT/M8 0400 Sat 11/28/98 5F/L/G in progress. (JM4)
7681 Atencion/V2 0200 Wed 11/18/98 YL/SS 5FG in progress. (JM4)
7681.5 ANDUWRIGMT/M8 0400 Sat 11/21/98 5F/L/G in progress. (JM4)
7682 M8 Cut-numbers 0500z (03-Nov-98) IGGUA WWTMD WRTAA (PFR)
7726 V2 Atencion 0522z (15-Nov-98) in progress (PFR)
7726 Spanish YL, V2A, *0500 (15 Nov) with Atencion 69442 36301 05493. Signal was weak. (DM)
7726 V2 Atencion 0516z (04-Nov-98) in progress (PFR)
7738 M24? 0716 (Tue 27 Oct) CW in progress (VM)
7738 M24? 0713 (Wed 28 Oct) CW in progress. Ended at 0718 with ==460 460 123 123 00000 (VM)
7760 E10 Mossad 0100z (03-Nov-98) very faint (PFR)
7775 English Man/E6 0215 Fri 11/27/98 OM/YL/EE rptg 562 w/repeat of previous nights broadcast. (JM4)

7775 English Man/E6 0215 Thur 11/26/98 OM/EE (Hermaphrodite voice) rptg 562 then 384 384 61 61 and into 5FGx2. Down at :30 w/384 384 61 61 00000. Carrier up w/tests at 0200. +60 db w/20db attenuation! (JM4) ***may repeat tonight***
7796 M23 Weds 18 Nov 1030 886 = 100 100 =(GD2)
7796 M23 Weds 18 Nov 1600 666 = 95 95 =(GD2)
7796 M23 Thurs 19 Nov 1030 062 = 70 70 =(GD2)
7796 M23 Thurs 19 Nov 1600 482 = 47 47 =(GD2)
7796 M23 Friday 13 Nov 1030 002 = 50 50(GD2) =
7796 M23 Friday 13 Nov 1600 442 = 50 50 =(GD2)
7796 M23 Thurs 12 Nov 1030 224 = 78 78 =(GD2)
7796 M23 Thurs 12 Nov 1600 624 = 42 42 =(GD2)
7803 M51 0734 (Tue 10 Nov) CW "NR 80 N 10 08:33:41 1998" (VM)
7811 CIO1 E10 2345 USB CIO1 (Cont'd - Fem/EE - Thurs - OTA 2351Z - //5170) 26 Nov 98 (LBJ)
7824 M12 2220 (Wed 21 Oct) CW ID 183 Null message (VM)
7840 M3 Friday 13 Nov 1100 508/00(GD2)
7846 M8 1100 CW RIWAD GTMWN GNMGD (Tue) 24 Nov 98 (LBJ)
7846 M8 1100 CW IUTDN INRDN DIUNN (Tue) 17 Nov 98 (LBJ)
7846 M8 1100 CW IUTDD RTAUA GWTIA (Wed) 18 Nov 98 (LBJ)
7854 Atencion/V2 0100 Sun 11/15/98 YL/SS barely audible. (JM4)
7887 Atencion/V2 0200 Sun 11/22/98 YL/SS rptg A 04132 25934 05444 into 5FG. (JM4)
7887 Atencion/V2 0200 Sun 11/15/98 YL/SS 5FG in progress. (JM4)
7889 M8 1200 CW MMRAD ADAUA AMIND (Tue) 24 Nov 98 (LBJ)
7889 M8 1200 CW RNARN WGRRD DGMIN (Tue) 17 Nov 98 (LBJ)
7918 MOSSAD/E10 0200 Sat 11/28/98 YL/EE rptg YHF and into 5LG. (JM4)
7918 MOSSAD/E10 0200 Fri 11/27/98 YL/EE rptg YHF and into 5LG. (JM4)
7918 MOSSAD/E10 0200 Thur 11/26/98 YL/EE rptg YHF and into 5LG. (JM4)
7918 MOSSAD/E10 0200 Mon 11/23/98 YL/EE rptg YHF into 5LG. (JM4)
7918 MOSSAD/E10 0200 Sun 11/22/98 YL/EE rptg YHF into 5LG. (JM4)
7918 MOSSAD/E10 0200 Fri 11/20/98 YL/EE rptg YHF into 5LG. (JM4)
8010 M8 1100 CW GAIID MTARD NWURN (Thurs) 12 Nov 98 (LBJ)
8010 M8 1108 CW (In 5ltr/cut/nrs - Late start - checked on the hour and for about 5 mins after - Thurs) 19 Nov 98 (LBJ)
8012 Spanish lady V2 0538 (Mon 26 Oct) in progress (VM)
8012 Atencion/V2 0100 Wed 11/18/98 YL/SS rptg A 95393 10403 33351 into 5FG. (JM4)
8012 Spanish YL, V2A, *0505 (16 Nov), Atencion 76191 74931 09271. Signal was weak, I wasn't able to verify the callup until the much stronger 0600 xmsn aired. (DM)
8019 M52 1825 (Wed 28 Oct) CW 11 II 697489x3 AR Ended at 1848 (VM)
8065 M8 Cut-numbes 0516z (04-Nov-98) in progress (PFR)
8066 M8 1100 CW TTRWU WTAUA NWURD (Fri) 13 Nov 98 (LBJ)
8066 M8 1100 CW GTUIN TGNAN TMNUA (Fri) 20 Nov 98 (LBJ)
8067 M8 1100 CW AINAN DURWA GTMWA (Mon) 23 Nov 98 (LBJ)
8067 M8 1100 CW IMWUA WMIGD DURWD (Wed) 25 Nov 98 (LBJ)
8067 M8 0513 (Sun 18 Oct) CW in progress (VM)
8067 M8 1100 CW ARTNN DAMMD WGDMN (Wed) 18 Nov 98 (LBJ)
8085 Counting stn E5 1707 (Mon 09 Nov) 905 Count 207 (VM)
8087 Spanish Lady V2 0705 (Sun 08 Nov) in progress (VM)
8124 M12 2210 (Wed 21 Oct) CW ID 183 Null message (VM)
8162 M12 1920 (Fri 23 Oct) CW ID 127 Null message (VM)
8170 English man E6 0516 (Tue 13 Oct) ID 205 null message (VM)
8177 Russian man S7 0515 (Tue 13 Oct) ID 812 null message (VM)
8177 Russian man S7 0512 (Thu 29 Oct) 812 Null message (VM)
8186 M8 1100 CW AINAD INUWA DURWN (Tue) 24 Nov 98 (LBJ)
8186 M8 1100 CW NTARA RRRMA WGDMA (Tue) 17 Nov 98 (LBJ)
8187 M8 1100 CW TTRWD UDIRN RDMIA (Thurs) 12 Nov 98 (LBJ)
8187 M8 1100 CW ARTND RRRMN RDMID (Thurs) 19 Nov 98 (LBJ)
8188 M4 Thurs 12 Nov 1157 LO LOx3/88613(GD2)
8300 New star radio ?? (V13?) 1503(20/nov) USB YL/CC Chinese speech, 2xchimes, repeated. Comments welcome !! (JD)
8300 New star radio ?? (V13?) 1307(23/nov) USB YL/CC Chinese speech, 2xchimes, repeated. (JD)
8300 New Star Broadcasting/V13 1400 Mon 11/23/98 YL/CC 4FGx2 in progress. (JM4)
8300 V13 New Star 1507z (14-Nov-98) in progress (PFR)

8307 M23 Weds 18 Nov 0800 597 R10 // 9285 (GD2)
8307 M23 Weds 18 Nov 1400 579 R10 // 9285(GD2)
8307 M23 Thurs 19 Nov 0800 579 R10 // 9285(GD2)
8307 M23 Friday 13 Nov 0800 579 R10 // 9285 (GD2)
8307 M23 Friday 13 Nov 1400 579 R10 // 9285(GD2)
8307 M23 Friday 13 Nov 0800 579 R10 // 9285 (GD2)
8307 M23 Thurs 12 Nov 1400 579 R10 // 9285(GD2)
8805 Mossad E10 0735 (Mon 09 Nov) in progress (VM)
8984 Backwards Music Station/XM 0300-0400+ Sat 11/28/98 completely blocking USCG comms this freq. (JM4)
9044 M13 0709 (Thu 05 Nov) CW in progress 823 =170 22 (VM)
6925 // 6954 M51 0739 (Thu 05 Nov) CW "NR 07 N 05 08:38:09 1998" (VM)
9063 Atencion/V2 0200 Thur 11/26/98 extremely weak. (JM4)
9115 V2A Atencion Old-Style 0600z (03-Nov-98) 663/01 584/03 faint - 01/52(?) then groups but fading out too quickly - obscured by RTTY (PFR)
9130 //11565 MOSSAD/E10 0100 Sat 11/28/98 YL/EE rptg EZI and into 5LG. (JM4)
9130 //11565 MOSSAD/E10 0100 Wed 11/18/98 YL/EE rptg EZI and into 5LG. (JM4)
9153 V2 Atencion 0516z (04-Nov-98) in progress - faint (PFR)
9178 M24? 0623 (Wed 14 Oct) CW ended at 0634 with == 523 523 111 111 00000 (VM)
9178 M24? 0622 (Wed 28 Oct) CW in progress. Ended at 0622 with ==930 930 156 156 00000 (VM)
9210 English man E6 1920 (Sun 08 Nov) in progress (VM)
9212 M51 0752 (Tue 10 Nov) CW "NR 83 N 10 08:52:24 1998" (VM)
9216 English Man/E6 (null broadcast) 0415 Sun 11/22/98 OM/EE (herm voice) rptg 329 329 329 00000 then down. (JM4)
9219 Counting stn E5 1814 (Wed 11 Nov) in progress (VM)
9265 M13 0528 (Mon 26 Oct) CW in progress ID 501 = 173 23 = (VM)
9268 Spanish lady V2 0812 (Mon 26 Oct) in progress (VM)
9270 M24? 0607 (Thu 29 Oct) CW in progress. Ended at 0611 with ==712 712 65 65 00000 (VM)
9488 M12 1808 (Sun 25 Oct) CW in progress (VM)
10350 English man E6 2021 (Sun 18 Oct) in progress. Ended at 2045 with 528 147 00000 (VM)
10426 //12603//14487 LP/E3 1400 Mon 11/23/98 YL/EE rptg 51997 w/tune and into 5FGx2. (JM4)
10597 TCS (E5) 1510 (13/nov) USB YL/EE 3/2 figure groups //7600 (JD)
11000 Phonetic alphabet (E15) 1307 (14/nov) USB OM/EE BEC QRU (JD)
11270 Russian man control (S25) 0840 (23/nov) USB OM/RR 615(x3) 71024 (JD)
11430 V13 New Star 1507z (14-Nov-98) in progress - very faint (PFR)
11445 M12 0702 (Mon 26 Oct) CW in progress. Ended at 0703 with 000 000 (VM)
11524 Atencion/V2 1500 Wed 11/25/98 YL/SS 5FG in progress. (JM4)
11524 CUBA Atencion/V2 spook 1524 usual format, fair level sig but VERY low level modulation. (11/11) (ANUS)
11545 //12603 LP/E3 1500 Sat 11/28/98 YL/EE rptg 44056 and into 5FGx2. (JM4)
11545 //14487//16084 LP/E3 1500 Wed 11/25/98 YL/EE rptg 84327 into 5FGx2. (JM4)
11545 LP (E3) 1501 (20/nov) USB YL/EE id 42563 //12603//13375 (JD)
11545 LP (E3) 1705 (23/nov) USB YL/EE id 59679 //6959//8464 (JD)
11545 LP/E3 2200 Tue 11/17/98 extremely weak. (JM4)
11545 E3 LP 2200z (03-Nov-98) tune faint - #s inaudible (PFR)
11565 MOSSAD/E10 0100 Fri 11/27/98 YL/EE rptg EZI and into 5LG (JM4)
11565 MOSSAD/E10 0100 Fri 11/20/98 YL/EE rptg EZI into 5LG. (JM4)
11565 MOSSAD/E10 0100 Mon 11/16/98 YL/EE rptg EZI and into 5LG (JM4)
12300.5 //14421 TCS/V5 0300 Sat 11/21/98 YL/SS rptg 102 Count 99 3/2FG. (JM4)
12603 LP (E3) 1504 (13/nov) USB YL/EE id 33695 //11545//13375 (JD)

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13370    English Man 1330 "789 789 000" rptd, fair.(11/17) (ANUS)
13452    //15478 TCS/V5 0100 Fri 11/27/98 YL/SS
         rptg 208 Grupo 122(?) 3/2FG. Very weak. (JM4)
14487    LP/E3 1300 (Music - Fem/EE - Too weak to copy - Thurs) 26
         Nov 98 (LBJ)
14487    LP (E3) 1413 (13/nov) USB YL/EE 5FG //16084//15682 (JD)
14487    LP (E3) 1203 (14/nov) USB YL/EE id 44053 //15682//16084 (JD)
14487    LP (E3) 1304 (14/nov) USB YL/EE id 88551 //15682//16084 (JD)
14487    LP (E3) 1201 (23/nov) USB YL/EE id 44053 //15682//16084 (JD)
14487    LP (E3) 1303 (23/nov) USB YL/EE id 24093 //15682//16084 (JD)
14487    LP (E3) 1404 (23/nov) USB YL/EE id 51977 //10426//12603 (JD)
14487    LP (E3) 1202 (24/nov) USB YL/EE id 44053 //15682//16084 (JD)
14487    LP E3 1300  usb 24093  5LG  01535 24485.(CT)
14739    TCS (E5)  1306  (14/nov)  USB  YL/EE  id 439
         count 215 (JD)
14890    Russian man control (S25)  0810 (23/nov) USB OM/RR 615(x3)
         77344 (JD)
15478    TCS: 0112 AM YL/SS with 3/2 5FGs. //13452// (DCWright)
16086    TCS (E5) 1103 (24/nov) USB  YL/EE id 858 count 215 (JD)
16129    M4W: Israeli intel., ISR  8.26 (Nov 29) RTTY 75bd w/FAPSI
         Moscow on 16247 kHz (AB)
16247    RK2: FAPSI Moscow, RUS  8.29 (Nov 29) RTTY 75bd w/Israeli
         intel. on 16129 kHz (AB)
17499    //22108 Cherry Ripe/E4 0000 Fri 11/20/98 extremely weak. (JM4)
18000    Phonetic alphabet (E15) 1103 (25/nov) USB YL/EE BEC QRU (JD)
18000    Phonetic alphabet (E15) 1106 (24/nov) USB OM/EE BEC QRU (JD)
21866    Cherry Ripe 0100z (03-Nov-98) tune audible - 69?08 (PFR)
22108    Cherry ripe (E4) 1304 (23/nov) USB YL/EE id 21002//17499 (JD)
22108    Cherry Ripe/E4 0000 Mon 11/16/98 extremely weak. (JM4)
23461    Cherry ripe (E4) 1001 (25/nov) USB YL/EE id 24447//20474 (JD)
23461    Cherry ripe (E4) 1100 (25/nov) USB YL/EE id 21002//17499 (JD)
23461    Cherry Ripe (E4) 1106 (13/nov) USB very weak. (JD)
23461    Cherry ripe (E4) 1202 (23/nov) USB YL/EE id 24447//17499 (JD)
23461    Cherry ripe (E4) 1002 (24/nov) USB YL/EE id 54112 (JD)
23461    Cherry ripe (E4) 1104 (24/nov) USB YL/EE id 24447//17499 (JD)
23461    Cherry ripe (E4) 1203 (24/nov) USB YL/EE id 21002//17499
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PFR:  Paul F. Reah, Phoenix, Arizona, USA
VM:   Valeriano Martin, Spain

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             == END == FIN == ENDE == FINE == FIM == KONETS ==

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