ITU Classification of emissions

We receive quite frequently questions about the transmission symbols as used in UDXF logs.
You can find a detailed description of the symbols and the ITU Radio Regulations, Resolutions and Recommendations on the website of the ITU International Amateur Radio Club
http://life.itu.int/radioclub/rr/frr.htm

The most common symbols and a shortened Appendix 1 of the Recommendation ITU-R SM.1138 are listed below.

Section II – Classification

§ 5. The basic characteristics are described in Sub-Section IIA:

1. first symbol - type of modulation of the main carrier;
2. second symbol - nature of signal(s) modulating the main carrier;
3. third symbol - type of information to be transmitted. Modulation used only for short periods and for incidental purposes (such as, in many cases, for identification or calling) may be ignored provided that the necessary bandwidth as indicated is not thereby increased.

Please find below a description of the most common symbols and their description.

Unmodulated carrier wave	N0N
On-off-keyed Morse telegraphy	A1A
Facsimile by amplitude modulation (AM)	A3C
AM telephony. Double sideband, amplitude modulated, full carrier, carrying voice, music, etc.	A3E
Single sideband (SSB) telephony. Single sideband suppressed carrier amplitude modulation by voice, music, etc.	J3E
Reduced carrier SSB telephony. The carrier of this SSB signal is not fully suppressed.	R3E
Frequency shift keyed (FSK) Morse telegraphy	F1A
FSK teleprinter. For example single channel radio teletype (RTTY)	F1B
Facsimile by frequency modulation (FM)	F3C

Sub-Section IIA – Basic characteristics

§ 6. 1 First symbol - type of modulation of the main carrier

1.1	Emission of an unmodulated carrier	N
1.2	Emission in which the main carrier is amplitude-modulated (including cases where sub-carriers are angle-modulated)	
1.2.1	Double-sideband	A
1.2.2	Single-sideband, full carrier	H
1.2.3	Single-sideband, reduced or variable level carrier	R
1.2.4	Single-sideband, suppressed carrier	J
1.2.5	Independent sidebands	B
1.2.6	Vestigial sideband	C
1.3	Emission in which the main carrier is anglemodulated	
1.3.1	Frequency modulation	F
1.3.2	Phase modulation	G
1.4	Emission in which the main carrier is amplitude- and angle-modulated either simultaneously or in a pre-established sequence	D
1.5	Emission of pulses [1]	
1.5.1	Sequence of unmodulated pulses	P
1.5.2	A sequence of pulses	
1.5.2.1	modulated in amplitude	K
1.5.2.2	modulated in width/duration	L
1.5.2.3	modulated in position/phase	M
1.5.2.4	in which the carrier is angle-modulated during the period of the pulse	Q
1.5.2.5	which is a combination of the foregoing or is produced by other means	V
1.6	Cases not covered above, in which an emission consists of the main carrier modulated, either simultaneously or in a pre-established sequence, in a combination of two or more of the following modes: amplitude, angle, pulse	W
1.7	Cases not otherwise covered	X

[1] Emissions where the main carrier is directly modulated by a signal which has been coded into quantized form (e.g. pulse code modulation) should be designated under § 1.2 or 1.3.

§ 6. 2 Second symbol - nature of signal(s) modulating the main carrier

2.1	No modulating signal	0
2.2	A single channel containing quantized or digital information without the use of a modulating sub-carrier [2]	1
2.3	A single channel containing quantized or digital information with the use of a modulating sub-carrier [2]	2
2.4	A single channel containing analogue information	3
2.5	Two or more channels containing quantized or digital information	7
2.6	Two or more channels containing analogue information	8
2.7	Composite system with one or more channels containing quantized or digital information, together with one or more channels containing analogue information	8
2.8	Cases not otherwise covered	X

[2] This excludes time-division multiplex.

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§ 6. 3 Third symbol - type of information to be transmitted [3]

3.1	No information transmitted	N
3.2	Telegraphy - for aural reception	A
3.3	Telegraphy - for automatic reception	B
3.4	Facsimile	C
3.5	Data transmission, telemetry, telecommand	D
3.6	Telephony (including sound broadcasting)	E
3.7	Television (video)	F
3.8	Combination of the above	W
3.9	Cases not otherwise covered	X

[3] In this context the word "information" does not include information of a constant, unvarying nature such as is provided by standard frequency emissions, continuous wave and pulse radars, etc.