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Title 47: Telecommunication
PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS
Subpart C—Emissions

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§2.201 Emission, modulation, and transmission characteristics.

The following system of designating emission, modulation, and transmission characteristics shall be employed.

(a) Emissions are designated according to their classification and their necessary bandwidth.

(b) Three symbols are used to describe the basic characteristics of emissions. Emissions are classified and symbolized according to the following characteristics:

(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.

NOTE TO PARAGRAPH (b): Two additional symbols for the classification of emissions may be added for a more complete description of an emission. *See* Appendix 1, Sub-Section IIB of the ITU *Radio Regulations* for the specifications of these fourth and fifth symbols. Use of these symbols is not required by the Commission.

(c) First Symbol—types of modulation of the main carrier:

(1) Emission of an unmodulated carrier	N
(2) Emission in which the main carrier is amplitude-modulated (including cases where sub-carriers are angle-modulated):	
—Double-sideband	A
—Single-sideband, full carrier	H
—Single-sideband, reduced or variable level carrier	R
—Single-sideband, suppressed carrier	J
—Independent sidebands	B
—Vestigial sideband	C
(3) Emission in which the main carrier is angle-modulated:	
—Frequency modulation	F
—Phase modulation	G

NOTE: Whenever frequency modulation “F” is indicated, Phase modulation “G” is also acceptable.

(4) Emission in which the main carrier is amplitude and angle-modulated either simultaneously or in a pre-established sequence	D
(5) Emission of pulses:[1]	
—Sequence of unmodulated pulses	P
—A sequence of pulses:	
—Modulated in amplitude	K
—Modulated in width/duration	L
—Modulated in position/phase	M
—In which the carrier is angle-modulated during the period of the pulse	Q
—Which is a combination of the foregoing or is produced by other means	V
(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
(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 (2) or (3).

(d) Second Symbol—nature of signal(s) modulating the main carrier:

(1) No modulating signal	0
(2) A single channel containing quantized or digital information without the use of a modulating sub-carrier, excluding time-division muliplex	1
(3) A single channel containing quantized or digital information with the use of a modulating sub-carrier, excluding time-division multiplex	2
(4) A single channel containing analogue information	3
(5) Two or more channels containing quantized or digital information	7
(6) Two or more channels containing analogue information	8
(7) Composite system with one or more channels containing quantized or digital information, together with one or more channels containing analogue information	9
(8) Cases not otherwise covered	X

(e) Third Symbol—type of information to be transmitted:[2]

[2]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.

(1) No information transmitted	N
(2) Telegraphy—for aural reception	A
(3) Telegraphy—for automatic reception	B
(4) Facsimile	C
(5) Data transmission, telemetry, telecommand	D
(6) Telephony (including sound broadcasting)	E
(7) Television (video)	F
(8) Combination of the above	W
(9) Cases not otherwise covered	X

(f) Type *B* emission: As an exception to the above principles, damped waves are symbolized in the Commission's rules and regulations as type *B* emission. The use of type B emissions is forbidden.

(g) Whenever the full designation of an emission is necessary, the symbol for that emission, as given above, shall be preceded by the necessary bandwidth of the emission as indicated in §2.202(b)(1).

[49 FR 48697, Dec. 14, 1984, as amended at 75 FR 63030, Oct. 13, 2010]