

## § 73.1

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AUTHORITY: 47 U.S.C. 154, 303, 334, 336, and 339.

## Subpart A—AM Broadcast Stations

### § 73.1 Scope.

This subpart contains those rules which apply exclusively to the AM broadcast service and are in addition to those rules in Subpart H which are common to all AM, FM and TV broadcast services, commercial and non-commercial.

[47 FR 8587, Mar. 1, 1982]

### § 73.14 AM broadcast definitions.

*AM broadcast band.* The band of frequencies extending from 535 to 1705 kHz.

*AM broadcast channel.* The band of frequencies occupied by the carrier and the upper and lower sidebands of an AM broadcast signal with the carrier frequency at the center. Channels are designated by their assigned carrier frequencies. The 117 carrier frequencies assigned to AM broadcast stations begin at 540 kHz and progress in 10 kHz steps to 1700 kHz. (See § 73.21 for the classification of AM broadcast channels).

*AM broadcast station.* A broadcast station licensed for the dissemination of radio communications intended to be

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received by the public and operated on a channel in the AM broadcast band.

*Amplitude modulated stage.* The radio-frequency stage to which the modulator is coupled and in which the carrier wave is modulated in accordance with the system of amplitude modulation and the characteristics of the modulating wave.

*Amplitude modulator stage.* The last amplifier stage of the modulating wave amplitude modulates a radio-frequency stage.

*Antenna current.* The radio-frequency current in the antenna with no modulation.

*Antenna input power.* The product of the square of the antenna current and the antenna resistance at the point where the current is measured.

*Antenna resistance.* The total resistance of the transmitting antenna system at the operating frequency and at the point at which the antenna current is measured.

*Auxiliary facility.* An auxiliary facility is an AM antenna tower(s) separate from the main facility's antenna tower(s), permanently installed at the same site or at a different location, from which an AM station may broadcast for short periods without prior Commission authorization or notice to the Commission while the main facility is not in operation (e.g., where tower work necessitates turning off the main antenna or where lightning has caused damage to the main antenna or transmission system) (See § 73.1675).

*Blanketing.* The interference which is caused by the presence of an AM broadcast signal of one volt per meter (V/m) or greater strengths in the area adjacent to the antenna of the transmitting station. The 1 V/m contour is referred to as the blanket contour and the area within this contour is referred to as the blanket area.

*Carrier-amplitude regulation* (Carrier shift). The change in amplitude of the carrier wave in an amplitude-modulated transmitter when modulation is applied under conditions of symmetrical modulation.

*Combined audio harmonics.* The arithmetical sum of the amplitudes of all the separate harmonic components. Root sum square harmonic readings

may be accepted under conditions prescribed by the FCC.

*Critical hours.* The two hour period immediately following local sunrise and the two hour period immediately preceding local sunset.

*Daytime.* The period of time between local sunrise and local sunset.

*Effective field; Effective field strength.* The root-mean-square (RMS) value of the inverse distance fields at a distance of 1 kilometer from the antenna in all directions in the horizontal plane. The term "field strength" is synonymous with the term "field intensity" as contained elsewhere in this Part.

*Equipment performance measurements.* The measurements performed to determine the overall performance characteristics of a broadcast transmission system from point of program origination at main studio to sampling of signal as radiated. (See § 73.1590)

*Experimental period.* the time between 12 midnight local time and local sunrise, used by AM stations for tests, maintenance and experimentation.

*Frequency departure.* The amount of variation of a carrier frequency or center frequency from its assigned value.

*Incidental phase modulation.* The peak phase deviation (in radians) resulting from the process of amplitude modulation.

*Input power.* Means the product of the direct voltage applied to the last radio stage and the total direct current flowing to the last radio stage, measured without modulation.

*Intermittent service area.* Means the area receiving service from the groundwave of a broadcast station but beyond the primary service area and subject to some interference and fading.

*Last radio stage.* The radio-frequency power amplifier stage which supplies power to the antenna.

*Left (or right) signal.* The electrical output of a microphone or combination of microphones placed so as to convey the intensity, time, and location of sounds originated predominately to the listener's left (or right) of the center of the performing area.

*Left (or right) stereophonic channel.* The left (or right) signal as electrically reproduced in reception of AM stereophonic broadcasts.

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*Main channel.* The band of audio frequencies from 50 to 10,000 Hz which amplitude modulates the carrier.

*Maximum percentage of modulation.* The greatest percentage of modulation that may be obtained by a transmitter without producing in its output, harmonics of the modulating frequency in excess of those permitted by these regulations. (See § 73.1570)

*Maximum rated carrier power.* The maximum power at which the transmitter can be operated satisfactorily and is determined by the design of the transmitter and the type and number of vacuum tubes or other amplifier devices used in the last radio stage.

*Model I facility.* A station operating in the 1605-1705 kHz band featuring fulltime operation with stereo, competitive technical quality, 10 kW daytime power, 1 kW nighttime power, non-directional antenna (or a simple directional antenna system), and separated by 400-800 km from other co-channel stations.

*Model II facility.* A station operating in the 535-1605 kHz band featuring fulltime operation, competitive technical quality, wide area daytime coverage with nighttime coverage at least 15% of the daytime coverage.

*Nighttime.* The period of time between local sunset and local sunrise.

*Nominal power.* The antenna input power less any power loss through a dissipative network and, for directional antennas, without consideration of adjustments specified in paragraphs (b)(1) and (b)(2) of § 73.51 of the rules. However, for AM broadcast applications granted or filed before June 3, 1985, nominal power is specified in a system of classifications which include the following values: 50 kW, 25 kW, 10 kW, 5 kW, 2.5 kW, 1 kW, 0.5 kW, and 0.25 kW. The specified nominal power for any station in this group of stations will be retained until action is taken on or after June 3, 1985, which involves a change in the technical facilities of the station.

*Percentage modulation (amplitude)*

In a positive direction:

$$M = \frac{MAX - C \times 100}{C}$$

In a negative direction:

$$M = \frac{C - MIN \times 100}{C}$$

Where:

*M* = Modulation level in percent.

*MAX* = Instantaneous maximum level of the modulated radio frequency envelope.

*MIN* = Instantaneous minimum level of the modulated radio frequency envelope.

*C* = (Carrier) level of radio frequency envelope without modulation.

*Plate modulation.* The modulation produced by introduction of the modulating wave into the plate circuit of any tube in which the carrier frequency wave is present.

*Primary service area.* Means the service area of a broadcast station in which the groundwave is not subject to objectionable interference or objectionable fading.

*Proof of performance measurements or antenna proof of performance measurements.* The measurements of field strengths made to determine the radiation pattern or characteristics of an AM directional antenna system.

*Secondary service area.* Means the service area of a broadcast station served by the skywave and not subject to objectionable interference and in which the signal is subject to intermittent variations in strength.

*Stereophonic channel.* The band of audio frequencies from 50 to 10,000 Hz containing the stereophonic information which modulates the radio frequency carrier.

*Stereophonic crosstalk.* An undesired signal occurring in the main channel from modulation of the stereophonic channel or that occurring in the stereophonic channel from modulation of the main channel.

*Stereophonic pilot tone.* An audio tone of fixed or variable frequency modulating the carrier during the transmission of stereophonic programs.

*Stereophonic separation.* The ratio of the electrical signal caused in the right (or left) stereophonic channel to the electrical signal caused in the left (or right) stereophonic channel by the transmission of only a right (or left) signal.

*Sunrise and sunset.* For each particular location and during any particular month, the time of sunrise and sunset as specified in the instrument of authorization (See § 73.1209).

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*White area.* The area or population which does not receive interference-free primary service from an authorized AM station or does not receive a signal strength of at least 1 mV/m from an authorized FM station.

[47 FR 8587, Mar. 1, 1982, as amended at 47 FR 13164, Mar. 29, 1982; 47 FR 13812, Apr. 1, 1982; 50 FR 18821, May 2, 1985; 50 FR 47054, Nov. 14, 1985; 56 FR 64856, Dec. 12, 1991; 62 FR 51058, Sept. 30, 1997; 66 FR 20755, Apr. 25, 2001]

**§ 73.21 Classes of AM broadcast channels and stations.**

(a) *Clear channel.* A clear channel is one on which stations are assigned to serve wide areas. These stations are protected from objectionable interference within their primary service areas and, depending on the class of station, their secondary service areas. Stations operating on these channels are classified as follows:

(1) *Class A station.* A Class A station is an unlimited time station that operates on a clear channel and is designed to render primary and secondary service over an extended area and at relatively long distances from its transmitter. Its primary service area is protected from objectionable interference from other stations on the same and adjacent channels, and its secondary service area is protected from interference from other stations on the same channel. (See § 73.182). The operating power shall not be less than 10 kW nor more than 50 kW. (Also see § 73.25(a)).

(2) *Class B station.* A Class B station is an unlimited time station which is designed to render service only over a primary service area. Class B stations are authorized to operate with a minimum power of 0.25 kW (or, if less than 0.25 kW, an equivalent RMS antenna field of at least 141 mV/m at 1 km) and a maximum power of 50 kW, or 10 kW for stations that are authorized to operate in the 1605-1705 kHz band.

(3) *Class D station.* A Class D station operates either daytime, limited time or unlimited time with nighttime power less than 0.25 kW and an equivalent RMS antenna field of less than 141 mV/m at one km. Class D stations shall operate with daytime powers not less than 0.25 kW nor more than 50 kW. Nighttime operations of Class D

stations are not afforded protection and must protect all Class A and Class B operations during nighttime hours. New Class D stations that had not been previously licensed as Class B will not be authorized.

(b) *Regional Channel.* A regional channel is one on which Class B and Class D stations may operate and serve primarily a principal center of population and the rural area contiguous thereto.

NOTE: Until the North American Regional Broadcasting Agreement (NARBA) is terminated with respect to the Bahama Islands and the Dominican Republic, radiation toward those countries from a Class B station may not exceed the level that would be produced by an omnidirectional antenna with a transmitted power of 5 kW, or such lower level as will comply with NARBA requirements for protection of stations in the Bahama Islands and the Dominican Republic against objectionable interference.

(c) *Local channel.* A local channel is one on which stations operate unlimited time and serve primarily a community and the suburban and rural areas immediately contiguous thereto.

(1) *Class C station.* A Class C station is a station operating on a local channel and is designed to render service only over a primary service area that may be reduced as a consequence of interference in accordance with § 73.182. The power shall not be less than 0.25 kW, nor more than 1 kW. Class C stations that are licensed to operate with 0.1 kW may continue to do so.

[56 FR 64856, Dec. 12, 1991]

**§ 73.23 AM broadcast station applications affected by international agreements.**

(a) Except as provided in paragraph (b) of this section, no application for an AM station will be accepted for filing if authorization of the facilities requested would be inconsistent with international commitments of the United States under treaties and other international agreements, arrangements and understandings. (See list of such international instruments in § 73.1650(b)). Any such application that is inadvertently accepted for filing will be dismissed.

(b) AM applications that involve conflicts only with the North American