

§ 74.533

47 CFR Ch. I (10-1-05 Edition)

having primary use of aural auxiliary frequencies.

(b) More than one aural broadcast STL or intercity relay station may be licensed to a single licensee upon a satisfactory showing that the additional stations are needed to provide different program circuits to more than one broadcast station, to provide program circuits from other studios, or to provide one or more intermediate relay stations over a path which cannot be covered with a single station due to terrain or distance.

(c) If more than one broadcast station or class of broadcast station is to be served by a single aural broadcast auxiliary station, this information must be stated in the application for construction permit or license.

(d) Licensees of aural broadcast STL and intercity relay stations may be authorized to operate one or more aural broadcast microwave booster stations for the purpose of relaying signals over a path that cannot be covered with a single station.

(e) Each aural broadcast auxiliary station will be licensed at a specified transmitter location to communicate with a specified receiving location, and the direction of the main radiation lobe of the transmitting antenna will be a term of the station authorization.

(f) In case of permanent discontinuance of operations of a station licensed under this subpart, the licensee shall cancel the station license using FCC Form 601. For purposes of this section, a station which is not operated for a period of one year is considered to have been permanently discontinued.

[28 FR 13716, Dec. 14, 1963, as amended at 49 FR 7129, Feb. 27, 1984; 49 FR 10930, Mar. 23, 1984; 52 FR 31403, Aug. 20, 1987; 55 FR 50693, Dec. 10, 1990; 57 FR 41111, Sept. 9, 1992; 58 FR 19775, Apr. 16, 1993; 65 FR 7649, Feb. 15, 2000; 68 FR 12766, Mar. 17, 2003]

§ 74.533 Remote control and unattended operation.

(a) Aural broadcast STL and intercity relay stations may be operated by remote control provided that such operation is conducted in accordance with the conditions listed below:

(1) The remote control system must provide adequate monitoring and con-

trol functions to permit proper operation of the station.

(2) The remote control system must be designed, installed, and protected so that the transmitter can only be activated or controlled by persons authorized by the licensee.

(3) The remote control system must prevent inadvertent transmitter operation due to malfunctions in circuits between the control point and transmitter.

(b) Aural broadcast auxiliary stations may be operated unattended subject to the following provisions:

(1) The transmitter shall be provided with adequate safeguards to prevent improper operation of the equipment.

(2) The transmitter installation shall be adequately protected against tampering by unauthorized persons.

(3) Whenever an unattended aural broadcast auxiliary station is used, appropriate observations must be made at the receiving end of the circuit as often as necessary to ensure proper station operation. However, an aural broadcast STL (and any aural broadcast microwave booster station) associated with a radio or TV broadcast station operated by remote control may be observed by monitoring the broadcast station's transmitted signal at the remote control or ATS monitoring point.

(c) The FCC may notify the licensee to cease or modify operation in the case of frequency usage disputes, interference or similar situations where such action appears to be in the public interest, convenience and necessity.

(Sec. 318, 48 Stat. 1089, as amended by sec. 1, 74 Stat. 363; 47 U.S.C. 318)

[28 FR 13716, Dec. 14, 1963, as amended at 47 FR 55936, Dec. 14, 1982; 49 FR 7130, Feb. 27, 1984; 50 FR 32417, Aug. 12, 1985; 50 FR 48599, Nov. 26, 1985; 60 FR 55483, Nov. 1, 1995]

§ 74.534 Power limitations.

(a) *Transmitter output power.* (1) Transmitter output power shall be limited to that necessary to accomplish the function of the system.

(2) In the 17,700 to 19,700 MHz band, transmitter output power shall not exceed 10 watts.

(b) In no event shall the average equivalent isotropically radiated power (EIRP), as referenced to an isotropic

radiator, exceed the values specified in the following table. In cases of harmful interference, the Commission may, after notice and opportunity for hearing, order a change in the equivalent isotropically radiated power of this station.

Frequency band (MHz)	Maximum Allowable ¹ EIRP (dBW)
944 to 952	+40
17,700 to 18,600	+55
18,600 to 19,700	+35

¹ Stations licensed based on an application filed before April 16, 2003, for EIRP values exceeding those specified above, may continue to operate indefinitely in accordance with the terms of their current authorizations, subject to periodic renewal.

(c) The EIRP of transmitters that use Automatic Transmitter Power Control (ATPC) shall not exceed the EIRP specified on the station authorization. The EIRP of non-ATPC transmitters shall be maintained as near as practicable to the EIRP specified on the station authorization.

[68 FR 12766, Mar. 17, 2003]

§ 74.535 Emission and bandwidth.

(a) The mean power of emissions shall be attenuated below the mean transmitter power (P_{MEAN}) in accordance with the following schedule:

(1) When using frequency modulation:

(i) On any frequency removed from the assigned (center) frequency by more than 50% up to and including 100% of the authorized bandwidth: At least 25 dB in any 100 kHz reference bandwidth (B_{REF});

(ii) On any frequency removed from the assigned (center) frequency by more than 100% up to and including 250% of the authorized bandwidth: At least 35 dB in any 100 kHz reference bandwidth;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least $43 + 10 \log_{10}(P_{MEAN}$ in watts) dB, or 80 dB, whichever is the lesser attenuation, in any 100 kHz reference bandwidth.

(2) When using transmissions employing digital modulation techniques:

(i) For operating frequencies below 15 GHz, in any 4 kHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency

by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels:

$$A = 35 + 0.8(G - 50) + 10 \log_{10} B.$$

(Attenuation greater than 80 decibels is not required.)

Where:

A = Attenuation (in decibels) below the mean output power level.

G = Percent removed from the carrier frequency.

B = Authorized bandwidth in megahertz.

(ii) For operating frequencies above 15 GHz, in any 1 MHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 11 decibels:

$$A = 11 + 0.4(G - 50) + 10 \log_{10} B.$$

(Attenuation greater than 56 decibels is not required.)

(iii) In any 4 kHz reference bandwidth (B_{REF}), the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \log_{10}(P_{MEAN}$ in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(b) For all emissions not covered in paragraph (a) of this section, the peak power of emissions shall be attenuated below the peak envelope transmitter power (P_{PEAK}) in accordance with the following schedule:

(1) On any frequency 500 Hz inside the channel edge up to and including 2500 Hz outside the same edge, the following formula will apply:

$$A = 29 \log_{10} [(25/11)[(D + 2.5 - (W/2))^2] \text{ dB}$$

(Attenuation greater than 50 decibels is not required.)

Where:

A = Attenuation (in dB) below the peak envelope transmitter power.

D = the displacement frequency (kHz) from the center of the authorized bandwidth.

W = the channel bandwidth (kHz).

(2) On any frequency removed from the channel edge by more than 2500 Hz: