

## § 90.238

F1B, F2B, F3C, G1B, G2B or G3C emission for radioteleprinter and radiofacsimile transmissions.

(f) The station identification required by §90.425 must be given by voice or Morse code.

(g) For single sideband operations in accordance with §90.266, transmitters certified under this part for use of J3E emission may also be used for A2B and F2B emissions for radioteleprinter transmissions. Transmitters certified under this part for use of J3E emission in accordance with §§90.35(c)(1)(A), 90.35(c)(1)(B), 90.35(c)(1)(C) and 90.257(a) may also be used for A1B, A2B, F1B, F2B, J2B, and A3C emissions to provide standby backup circuits for operational telecommunications circuits which have been disrupted, where so authorized in other sections of this part.

[43 FR 54791, Nov. 22, 1978, as amended at 49 FR 48712, Dec. 14, 1984; 51 FR 14998, Apr. 22, 1986; 62 FR 18927, Apr. 17, 1997; 63 FR 36610, July 7, 1998; 63 FR 68965, Dec. 14, 1998; 72 FR 35195, June 27, 2007]

### § 90.238 Telemetry operations.

The use of telemetry is authorized under this part on the following frequencies.

(a) 72–76 MHz (in accordance with §90.257 and subject to the rules governing the use of that band).

(b) 154.45625, 154.46375, 154.47125, and 154.47875 MHz (subject to the rules governing the use of those frequencies).

(c) 173.20375, 173.210, 173.2375, 173.2625, 173.2875, 173.3125, 173.3375, 173.3625, 173.390, and 173.39625 MHz (subject to the rules governing the use of those frequencies).

(d) 216–220 and 1427–1435 MHz (as available in the Public Safety and Industrial/Business Pools and in accordance with §90.259).

(e) In the 450–470 MHz band, telemetry operations will be authorized on a secondary basis with a transmitter output power not to exceed 2 watts on frequencies subject to §90.20(d)(27) or §90.35(c)(30), except that telemetry operations used by Railroad licensees may be authorized on frequency pair 452/457.9375 MHz with a transmitter output power not to exceed 8 watts.

(f) 220–222 MHz as available under subpart T of this part.

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(g) 450–470 MHz band (as available for secondary fixed operations in accordance with §90.261 and for low power operations in accordance with §90.267).

(h) 458–468 MHz band (as available in the Public Safety Pool for bio-medical telemetry operations).

(i) For Industrial/Business frequencies which are not governed by paragraphs (a) through (h), on frequencies available for operations up to 2 watts.

[44 FR 17183, Mar. 21, 1979, as amended at 46 FR 45955, Sept. 16, 1981; 50 FR 39680, Sept. 30, 1985; 50 FR 40976, Oct. 8, 1985; 56 FR 19603, Apr. 29, 1991; 60 FR 37268, July 19, 1995; 61 FR 6576, Feb. 21, 1996; 62 FR 18927, Apr. 17, 1997; 68 FR 19460, Apr. 21, 2003; 78 FR 28756, May 16, 2013]

### § 90.239 [Reserved]

### § 90.241 Radio call box operations.

(a) The frequencies in the 72–76 MHz band listed in §90.257(a)(1) may be assigned in the Public Safety Pool for operation of radio call boxes to be used by the public to request fire, police, ambulance, road service, and other emergency assistance, subject to the following conditions and limitations:

(1) Maximum transmitter power will be either 2.5 watts plate input to the final stage or 1 watt output.

(2) Antenna gain shall not exceed zero dBd (referred to a half-wave dipole) in any horizontal direction.

(3) Only vertical polarization of antennas shall be permitted.

(4) The antenna and its supporting structure must not exceed 6.1 m (20 feet) in height above the ground.

(5) Only A1D, A2D, F1D, F2D, G1D, or G2D emission shall be authorized.

(6) The transmitter frequency tolerance shall be 0.005 percent.

(7) Except for test purposes, each transmission must be limited to a maximum of two seconds and shall not be automatically repeated more than two times at spaced intervals within the following 30 seconds. Thereafter, the authorized cycle may not be reactivated for one minute.

(8) All transmitters installed after December 10, 1970, shall be furnished with an automatic means to deactivate the transmitter in the event the carrier remains on for a period in excess of three minutes. The automatic cutoff

system must be designed so the transmitter can be only manually reactivated.

(9) Frequency selection must be made with regard to reception of television stations on channels 4 (66–72 MHz) and 5 (76–82 MHz) and should maintain the greatest possible frequency separation from either or both of these channels, if they are assigned in the area.

(b) [Reserved]

(c) Frequencies in the 450–470 MHz band which are designated as available for assignment to central control stations and radio call box installations in § 90.20(c) or § 90.20(d)(58) may be assigned in the Public Safety Pool for highway call box systems subject to the following requirements:

(1) Call box transmitters shall be installed only on limited access highways and may communicate only with central control stations of the licensee.

(2) Maximum transmitter power for call boxes will be either 2.5 watts input to the final amplifier stage or one watt output. The central control station shall not exceed 25 watts effective radiated power (ERP).

(3) The height of a call box antenna may not exceed 6.1 meters (20 feet) above the ground, the natural formation, or the existing man-made structure (other than an antenna supporting structure) on which it is mounted. A central station transmitting antenna, together with its supporting structure shall not exceed 15 m. (50 ft.) above the ground surface.

(4) Only F1D, F2D, F3E, G1D, G2D, or G3E, emission may be authorized for nonvoice signaling, radiotelephony, and multiplexed voice and nonvoice use. The provisions in this part applicable to the use of F3E or G3E emission are also applicable to the use of F1D, F2D, G1D or G2D emission for call box transmitters.

(5) The station identification required by § 90.425 shall be by voice and may be transmitted for the system from the central control station. Means shall be provided at each central control station location to automatically indicate the call box unit identifier when a call box unit is activated.

(6) Call box installations must be so designed that their unit identifier is

automatically transmitted when the handset is lifted.

(7) Each application for a call box system must contain information on the nonvoice transmitting equipment, including the character structure, bit rate, modulating tone frequencies, identification codes, and the method of modulation (i.e., frequency shift, tone shift, or tone phase shift).

(8) Call box installations may be used secondarily for the transmission of information from roadside sensors. Central control station transmitters may be used secondarily to interrogate call box roadside sensors and for the transmission of signals to activate roadside signs.

(9) Each call box transmitter must be provided with a timer which will automatically deactivate the transmitter after 2 minutes unless the central control station operator reactivates the timer cycle.

(10) The central control station must include facilities that permit direct control of any call box in the system.

(11) Call box transmitter frequency tolerance shall be 0.001 percent.

(12) Transmitters certificated under this part for use of F3E or G3E emission may be used for F1D, F2B, G2B or G2D emission provided that the audio tones or digital data bits are passed through the low pass audio filter required to be provided in the transmitter for F3E or G3E emission. The transmitter must be adjusted and operated so that the instantaneous frequency deviation does not exceed the maximum value allowed for F3E or G3E emission.

(d) In addition to the frequencies available pursuant to § 90.20(c) the frequencies set forth in § 90.20(d)(58) may be used for central control station and call box installations in areas where such frequencies are available for fixed system use subject to the requirements and limitations of that section and subject to the provisions of paragraphs

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(c) (1), (4), (5), (6), (7), (8), (9), (10), and (12) of this section.

[43 FR 54791, Nov. 22, 1978; 44 FR 32219, June 5, 1979; 49 FR 48712, Dec. 14, 1984; 50 FR 39680, Sept. 30, 1985; 50 FR 40976, Oct. 8, 1985; 54 FR 38681, Sept. 20, 1989; 54 FR 45891, Oct. 31, 1989; 58 FR 44957, Aug. 25, 1993; 62 FR 18927, Apr. 17, 1997; 63 FR 36610, July 7, 1998; 63 FR 68965, Dec. 14, 1998; 72 FR 35195, June 27, 2007; 78 FR 25175, Apr. 29, 2013]

**§ 90.242 Travelers' information stations.**

(a) The frequencies 530 through 1700 kHz in 10 kHz increments may be assigned to the Public Safety Pool for the operation of Travelers' Information Stations subject to the following conditions and limitations.

(1) [Reserved]

(2) Each application for a station or system shall be accompanied by:

(i) A statement certifying that the transmitting site of the Travelers' Information Station will be located at least 15 km (9.3 miles) measured orthogonally outside the measured 0.5 mV/m daytime contour (0.1 mV/m for Class A stations) of any AM broadcast station operating on a first adjacent channel or at least 130 km (80.6 miles) outside the measured 0.5 mV/m daytime contour (0.1 mV/m for Class A stations) of any AM broadcast station operating on the same channel, or, if nighttime operation is proposed, outside the theoretical 0.5 mV/m-50% nighttime skywave contour of a U.S. Class A station. If the measured contour is not available, then the calculated 0.5 mV/m field strength contour shall be acceptable. These contours are available at the concerned AM broadcast station and FCC offices in Washington, DC.

(ii) In consideration of possible cross-modulation and inter-modulation interference effects which may result from the operation of a Travelers' Information Station in the vicinity of an AM broadcast station on the second or third adjacent channel, the applicant shall certify that it has considered these possible effects and, to the best of its knowledge, does not foresee interference occurring to broadcast stations operating on second or third adjacent channels.

(iii) A map showing the geographical location of each transmitter site and

an estimate of the signal strength at the contour of the desired coverage area. For a cable system, the contour to be shown is the estimated field strength at 60 meters (197 feet) from any point on the cable. For a conventional radiating antenna, the estimated field strength contour at 1.5 km (0.93 mile) shall be shown. A contour map comprised of actual on-the-air measurements shall be submitted to the Commission within 60 days after station authorization or completion of station construction, whichever occurs later. A sufficient number of points shall be chosen at the specified distances (extrapolated measurements are acceptable) to adequately show compliance with the field strength limits.

(iv) For each transmitter site, the transmitter's output power, the type of antenna utilized, its length (for a cable system), its height above ground, distance from transmitter to the antenna, and the elevation above sea level at the transmitting site.

(3) Travelers' Information Stations will be authorized on a primary basis on 530 kHz and on a secondary basis to stations authorized on a primary basis in the band 535–1705 kHz.

(4) A Travelers' Information Station authorization may be suspended, modified, or withdrawn by the Commission without prior notice or right to hearing if necessary to resolve interference conflicts, to implement agreements with foreign governments, or in other circumstances warranting such action.

(5) The transmitting site of each Travelers' Information Station shall be restricted to the immediate vicinity of the following specified areas: Air, train, and bus transportation terminals, public parks and historical sites, bridges, tunnels, and any intersection of a Federal Interstate Highway with any other Interstate, Federal, State, or local highway.

(6) A Travelers' Information Station shall normally be authorized to use a single transmitter. However, a system of stations, with each station in the system employing a separate transmitter, may be authorized for a specific area provided sufficient need is demonstrated by the applicant.

(7) Travelers' Information Stations shall transmit only noncommercial