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stations first authorized after September 14, 1973, under this part may be operated aboard aircraft for air-to-mobile, air-to-base, air-to-air and air-to-ship communications subject to the following:

(1) Operations are limited to aircraft that are regularly flown at altitudes below 1.6 km (1 mi) above the earth's surface;

(2) Transmitters are to operate with an output power not to exceed ten watts;

(3) Operations are secondary to land-based systems;

(4) Such other conditions, including additional reductions of altitude and power limitations, as may be required to minimize the interference potential to land-based systems.

(b) Exceptions to the altitude and power limitations set forth in paragraph (a) of this section may be authorized upon a showing of unusual operational requirements which justify departure from those standards, provided that the interference potential to regular land-based operations would not be increased.

(c) Mobile operations aboard aircraft in the services governed by this part, under licenses in effect September 14, 1973, may be continued without regard to provisions of paragraph (a) of this section, as follows:

(1) Operations may be continued only for the balance of the term of such licenses if aircraft involved are regularly flown at altitudes greater than 1.6 km (1 mi) above the earth's surface.

(2) Operations may be continued for one additional renewal license term if the aircraft involved are regularly flown at altitudes below 1.6 km (1 mi) above the earth's surface.

(d) Operation of radiolocation mobile stations may be authorized without regard to limitations and conditions set forth in paragraphs (a), (b), and (c) of this section.

[43 FR 54791, Nov. 22, 1978, as amended at 58 FR 44960, Aug. 25, 1993]

§ 90.425 Station identification.

Stations licensed under this part shall transmit identification in accordance with the following provisions:

(a) *Identification procedure.* Except as provided for in paragraphs (d) and (e) of this section, each station or system shall be identified by the transmission of the assigned call sign during each transmission or exchange of transmissions, or once each 15 minutes (30 minutes in the Public Safety Pool) during periods of continuous operation. The call sign shall be transmitted by voice in the English language or by International Morse Code in accordance with paragraph (b) of this section. If the station is employing either analog or digital voice scrambling, or non-voice emission, transmission of the required identification shall be in the unscrambled mode using A3E, F3E or G3E emission, or International Morse, with all encoding disabled. Permissible alternative identification procedures are as follows:

(1) A mobile relay stations call sign may be used to identify the associated control and mobile stations, except in the Public Safety Pool where the stations operate on frequencies below 450 MHz. Alternatively, a base station (including a mobile relay station) which is controlled by radio may be identified by the transmission of the call sign of the station at which communications originate.

(2) One or more fixed relay stations may be identified by the transmission of the call signs of the stations at which the communications originate.

(3) When a mobile station transmits on a different frequency than its associated base station, the assigned call sign of either the mobile station or the base station may be transmitted. Further, a single mobile unit in the licensee's authorized geographic area of operation may transmit station identification on behalf of any other operating mobile units in the fleet.

(4) *Use of an identifier other than the assigned call sign.* (i) In the Public Safety Pool, mobile units licensed to a governmental entity and which operate on frequencies above 30 MHz may use an identifier which contains, at a minimum, the name of the licensee if the licensee maintains at the station a list of the special identifiers to be used by the mobile units.

(ii) In the Industrial/Business Pool, licensees may request the Commission's Wireless Telecommunications Bureau to approve the use of special

mobile unit identifiers in lieu of the assigned call sign. Such requests, however, will not be granted where it appears that harmful interference to international operations may be caused by stations below 50 MHz, or by stations operating in areas within 80 km (50 miles) of an international boundary, or where it appears that the proposed method of identification will not adequately distinguish the mobile units of the applicant from the mobile units of other licensees in the area.

(iii) In the Industrial/Business Pool, railroad licensees (as defined in §90.7) may identify stations by the name of the railroad and the train number, caboose number, engine number, or the name of the fixed wayside station. If none of these forms is practicable, any similar name or number may be designated by the railroad concerned for use by its employees in the identification of fixed points or mobile units, provided that a list of such identifiers is maintained by the railroad. An abbreviated name or the initials of the railroad may be used where such are in general usage. In those areas where it is shown that no difficulty would be encountered in identifying the transmission of a particular station (as, for example, where stations of one licensee are located in a yard isolated from other radio installations), approval may be given to a request from the licensee for permission to omit the station identification.

(5) *Use of identifiers in addition to assigned call signs.* Nothing in this section shall be construed as prohibiting the transmission of station or unit identifiers which may be necessary or desirable for system operation, provided that they are transmitted in addition to the assigned station call sign or other permissible form of identification.

(b) *Use of automatic Morse code identification equipment.* Automatically activated equipment may be used to transmit station identification in International Morse Code pursuant to the following conditions:

(1) The signal output of the automatic identification equipment shall be connected to the transmitter at the microphone input or any other manufacturer-provided signal input terminal and shall be adjusted to produce 40 percent ±10 percent of the maximum permissible modulation or deviation level. This adjustment shall be performed when all other modulating signals are absent.

(2) The Morse code transmission rate shall be maintained between 20 and 25 words per minute.

(3) The frequency of the keyed tone comprising the identification signal shall be 1200 ±800 Hz. A licensee may be required to change the frequency in order to prevent interference to the operations of another co-channel licensee.

(4) Should activation of automatic Morse code identification equipment interrupt the communications of another co-channel licensee, the Commission may require the use of equipment which will delay automatic station identification until such co-channel communications are completed.

(c) *Special provisions for identification in the Radiolocation Service.* (1) Stations in the Radiolocation Service are not required to identify except upon special instructions from the Commission or as required by paragraphs (c)(2) and (3) of this section.

(2) Stations in the Radiolocation Service operating on frequencies above 3400 kHz that employ spread spectrum techniques shall transmit a two letter manufacturer's designator, authorized by the Commission on the station authorization, at the beginning and ending of each transmission and once every 15 minutes during periods of continuing operation. The designator shall be transmitted in International Morse Code at a speed not exceeding 25 words per minute, and the spread spectrum mode of operation shall be maintained while the designator is being transmitted. The identifying signal shall be clearly receivable in the demodulated audio of a narrow-band FM receiver.

(3) Oceanographic radars operating in the bands shown in section 90.103(b) shall transmit a station identification (call sign) on the assigned frequency, in international Morse code at a transmission rate in accordance with paragraph (b)(2) of this section at the end of each data acquisition cycle, but at an interval of no more than 20 minutes.

(d) *General exemptions.* A station need not transmit identification if:

(1) It is a mobile station operating on the transmitting frequency of the associated base station.

(2) It is a mobile station in the Public Safety Pool using F1E or G1E emission.

(3) It is transmitting for telemetering purposes or for the activation of devices which are employed solely as a means of attracting attention, or for remote control purposes, or which is retransmitting by self-actuating means, a radio signal received from another radio station or stations.

(4) It is any type of radiopositioning or radar station authorized in a service other than the Radiolocation Service.

(5) It is used solely for automatic vehicle monitoring or location.

(6) It is a paging station authorized in accordance with the provisions of § 90.20(a)(2)(v).

(7) It is a mobile station employing non-voice emissions and the associated base station identifies on behalf of the mobile unit(s).

(8) It is a base or mobile station in the 220–222 MHz band authorized to operate on a nationwide basis in accordance with subpart T of this part.

(9) It is a wireless microphone station operating in accordance with the provisions of § 90.265(b).

(10) It is a Roadside Unit in a DSRCS system.

(e) Special provisions for stations licensed under this part that are classified as CMRS providers under part 20 of this chapter.

(1) Station identification will not be required for 929–930 MHz nationwide paging licensees or MTA or EA-based SMR licensees. All other CMRS stations will be required to comply with the station identification requirements of this paragraph.

(2) CMRS stations subject to a station identification requirement will be permitted to use a single call sign for commonly owned facilities that are operated as part of a single system. The call sign must be transmitted each hour within five minutes of the hour, or upon completion of the first transmission after the hour.

(3) CMRS stations granted exclusive channels may transmit their call signs digitally. A licensee that identifies its call sign in this manner must provide the Commission, upon request, information sufficient to decode the digital transmission and ascertain the call sign transmitted.

(f) Special provisions for stations licensed under this part that are not classified as CMRS providers under part 20 of this chapter.

(1) Stations subject to a station identification requirement will be permitted to use a single call sign for commonly owned facilities that are operated as part of a single system.

(2) Stations licensed on an exclusive basis in the bands between 150 and 512 MHz that normally employ digital signals for the transmission of data, text, control codes, or digitized voice may be identified by digital transmission of the call sign. A licensee that identifies its call sign in this manner must provide the Commission, upon request, information sufficient to decode the digital transmission and ascertain the call sign transmitted.

[43 FR 54791, Nov. 22, 1978]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 90.425, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

§ 90.427 Precautions against unauthorized operation.

(a) Each transmitter shall be so installed and protected that it is not accessible to or capable of operation by persons other than those duly authorized by and under the control of the licensee. Provisions of this part authorizing certain unlicensed persons to operate stations, or authorizing unattended operation of stations in certain circumstances, shall not be construed to change or diminish in any respect the responsibility of station licensees to maintain control over the stations licensed to them (including all transmitter units thereof), or for the proper functioning and operation of those stations and transmitter units in accordance with the terms of the licenses of those stations.

(b) Except for frequencies used in accordance with § 90.417, no person shall program into a transmitter frequencies