

Federal Communications Commission

Pt. 74

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[50 FR 38530, Sept. 23, 1985; 50 FR 40395, Oct. 3, 1985, as amended at 51 FR 34621, 34622, Sept. 30, 1986; 52 FR 37316, Oct. 6, 1987; 52 FR 47569, Dec. 15, 1987; 53 FR 2499, Jan. 28, 1988; 58 FR 51250, Oct. 1, 1993; 59 FR 67103, Dec. 28, 1994]

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ALPHABETICAL INDEX—PART 74

AUTHORITY: 47 U.S.C. 154, 303, 307, and 554.

Subpart—General; Rules Applicable to All Services in Part 74

§ 74.1 Scope.

(a) The rules in this subpart are applicable to the Experimental, Auxiliary and Special Broadcast, and Other Program Distributional Services.

(b) Rules in part 74 which apply exclusively to a particular service are contained in that service subpart, as

follows: Experimental Broadcast Stations, subpart A; Remote Pickup Broadcast Stations, subpart D; Aural Broadcast STL and Intercity Relay Stations, subpart E; TV Auxiliary Broadcast Stations, subpart F; Low Power TV, TV Translator and TV Booster Stations, subpart G; Low Power Auxiliary Stations, subpart H; Instructional TV Fixed Service, subpart I; FM Broadcast Translator Stations and FM Broadcast Booster Stations, subpart L.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[47 FR 53022, Nov. 24, 1982, and 49 FR 32583, Aug. 15, 1984, as amended at 52 FR 31402, Aug. 20, 1987]

§ 74.2 General definitions.

Broadcast network-entity. A broadcast network-entity is an organization which produces programs available for simultaneous transmission by 10 or more affiliated broadcast stations and having distribution facilities or circuits available to such affiliated stations at least 12 hours each day.

Cable network-entity. A cable network-entity is an organization which produces programs available for simultaneous transmission by cable systems serving a combined total of at least 5,000,000 subscribers and having distribution facilities or circuits available to such affiliated stations or cable systems.

[51 FR 4601, Feb. 6, 1986]

§ 74.3 FCC inspections of stations.

(a) The licensee of a station authorized under this part must make the station available for inspection by representatives of the FCC during the station's business hours, or at any time it is in operation.

(b) In the course of an inspection or investigation, an FCC representative may require special equipment tests or program tests.

(c) The logs and records required by this part for the particular class or type of station must be made available upon request to representatives of the FCC.

[47 FR 53022, Nov. 24, 1982]

§ 74.5 Cross reference to rules in other parts.

Certain rules applicable to Experimental, Auxiliary, Special Broadcast and other Program Distribution services, some of which are also applicable to other services, are set forth in the following Parts of the FCC Rules and Regulations:

(a) Part 1, "Practice and procedure".

(1) Subpart A, "General Rules of Practice and Procedure". (§§1.1 to 1.120).

(2) Subpart B, "Hearing Proceedings". (§§ 1.120 to 1.364).

(3) Subpart C, "Rulemaking Proceedings". (§§ 1.399 to 1.430).

(4) Subpart G, "Schedule of Statutory Charges and Procedures for Payment". (§§1.1101 to 1.1120).

(5) Subpart H, "Ex Parte Presentations". (§§ 1.1200 to 1.1216).

(6) Subpart I, "Procedures Implementing the National Environmental Policy Act of 1969". (§§ 1.1301 to 1.1319).

(b) Part 2, "Frequency Allocations and Radio Treaty Matters, General Rules and Regulations", including subparts A, "Terminology"; B, "Allocation, Assignments and Use of Radio Frequencies"; C, "Emissions"; D, "Call Signs and Other Forms of Identifying Radio Transmissions"; and J, "Equipment Authorization Proceedings".

(c) [Reserved]

(d) Part 17, "Construction, Marking and Lighting of Antenna Structures".

(e) Part 73, "Radio Broadcast Services".

[53 FR 2499, Jan. 28, 1988, as amended at 60 FR 55482, Nov. 1, 1995]

§ 74.12 Notification of filing of applications.

The provisions of § 73.1030 "Notification concerning interference to Radio Astronomy, Research, and Receiving Installations" apply to all stations authorized under this part of the FCC Rules except the following:

(a) Mobile remote pickup stations (subpart D).

(b) TV pickup stations (subpart F).

(c) Low power auxiliary stations (subpart H).

[44 FR 58735, Oct. 11, 1979, as amended at 44 FR 77167, Dec. 31, 1979; 47 FR 28388, June 30, 1982]

§ 74.13 Equipment tests.

(a) During the process of construction of any class of radio station listed in this part, the permittee, without further authority of the Commission, may conduct equipment tests for the purpose of such adjustments and measurements as may be necessary to assure compliance with the terms of the construction permit, the technical provisions of the application therefor, the technical requirements of this chapter, and the applicable engineering standards.

(b) Equipment tests may be continued so long as the construction permit shall remain valid.

(c) The authorization for tests embodied in this section shall not be construed as constituting a license to operate.

[38 FR 18378, July 10, 1973]

§ 74.14 Service or program tests.

(a) Upon completion of construction of a radio station in accordance with the terms of the construction permit, the technical provisions of the application therefor, technical requirements of this chapter, and applicable engineering standards, and when an application for station license has been filed showing the station to be in satisfactory operating condition, the permittee or any class of station listed in this part may, without further authority of the Commission, conduct service or program tests.

(b) Program test authority for stations authorized under this part will continue valid during Commission consideration of the application for license and during this period further extension of the construction permit is not required. Program test authority shall be automatically terminated with final action on the application for station license.

(c) The authorization for tests embodied in this section shall not be construed as approval by the Commission of the application for station license.

[38 FR 18378, July 10, 1973]

§ 74.15 Station license period.

(a) Licenses for experimental broadcast stations will be issued for a one year period.

(b) Licenses for stations or systems in the Auxiliary Broadcast Service held by a licensee of a broadcast station will be issued for a period running concurrently with the license of the associated broadcast station with which it is licensed. Licenses held by eligible networks for the purpose of providing program service to affiliated stations under subpart D of this part, and by eligible networks, cable television operators, motion picture producers and television program producers under subpart H of this part will be issued for a period running concurrently with the normal licensing period for broadcast stations located in the same area of operation.

(c) The license of an FM broadcast booster station or a TV broadcast booster station will be issued for a period running concurrently with the license of the FM radio broadcast station or TV broadcast station (primary station) with which it is used.

(d) Initial licenses for low power TV, TV translator, and FM translator stations will ordinarily be issued for a period running until the date specified in § 73.1020 of this chapter for full service stations operating in their State or Territory, or if issued after such date, to the next renewal date determined in accordance with § 73.1020 of this chapter. Lower power TV and TV translator station and FM translator station licenses will ordinarily be renewed for 8 years. However, if the FCC finds that the public interest, convenience or necessity will be served, it may issue either an initial license or a renewal thereof for a lesser term. The FCC may also issue a license renewal for a shorter term if requested by the applicant. The time of expiration of all licenses will be 3 a.m. local time, on the following dates, and thereafter to the schedule for full service stations in their states as reflected in § 73.1020 of this chapter:

(1) Nevada:

(i) FM translators, February 1, 1997.

(ii) LPTV and TV translator, February 1, 1998.

(2) California:

(i) FM translators, April 1, 1997.

(ii) LPTV and TV translators, April 1, 1998

(3) Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Delaware, West Virginia, Ohio and the District of Columbia:

- (i) FM translators, June 1, 1997
- (ii) LPTV and TV translators, June 1, 1998

(4) Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Missouri, Kentucky, Tennessee, Indiana, Illinois, Michigan, Wisconsin, Puerto Rico and the Virgin Islands:

- (i) FM translators, August 1, 1997
- (ii) LPTV and TV translators, August 1, 1998

(5) Oklahoma and Texas:

- (i) FM translators, October 1, 1997
- (ii) LPTV and TV translators, October 1, 1998

(6) Kansas and Nebraska:

- (i) FM translators, December 1, 1997
- (ii) LPTV and TV translators, December 1, 1998

(7) Iowa and South Dakota:

- (i) FM translators, February 1, 1998
- (ii) LPTV and TV translators, February 1, 1999

(8) Minnesota and North Dakota:

- (i) FM translators, April 1, 1998
- (ii) LPTV and TV translators, April 1, 1999

(9) Wyoming:

- (i) FM translators, June 1, 1998
- (ii) LPTV and TV translators, June 1, 1999

(10) Montana:

- (i) FM translators, August 1, 1998
- (ii) LPTV and TV translators, August 1, 1999

(11) Idaho:

- (i) FM translators, October 1, 1995
- (ii) LPTV and TV translators, October 1, 1996

(12) Washington:

- (i) FM translators, December 1, 1995
- (ii) LPTV and TV translators, December 1, 1996

(13) Oregon:

- (i) FM translators, February 1, 1996
- (ii) LPTV and TV translators, February 1, 1997

(14) Alaska, American Samoa, Guam, Mariana Islands and Hawaii:

- (i) FM translators, April 1, 1996
- (ii) LPTV and TV translators, April 1, 1997

(15) Colorado:

- (i) FM translators, June 1, 1996
- (ii) LPTV and TV translators, June 1, 1997

(16) New Mexico:

- (i) FM translators, August 1, 1996
- (ii) LPTV and TV translators, August 1, 1997

(17) Utah:

- (i) FM translators, October 1, 1996
- (ii) LPTV and TV translators, October 1, 1997

(18) Arizona:

- (i) FM translators, December 1, 1996
- (ii) LPTV and TV translators, December 1, 1997

(e) Licenses for instructional television fixed stations will be issued for a period of 10 years beginning with the date of grant. An application for renewal of license (FCC Form 330-R) shall be filed not later than the first day of the fourth full calendar month prior to the expiration date of the license sought to be renewed. If the prescribed deadline falls on a nonbusiness day, the cutoff shall be the close of business of the first full business day thereafter.

(f) Licenses held by broadcast network-entities under Subpart F will ordinarily be issued for a period of 8 years running concurrently with the normal licensing period for broadcast stations located in the same area of operation. An application for renewal of license (FCC Form 313-R) shall be filed not later than the first day of the fourth full calendar month prior to the expiration date of the license sought to be renewed. If the prescribed deadline falls on a nonbusiness day, the cutoff shall be the close of business of the first full business day thereafter.

(g) The license of an experimental broadcast station, FM translator or FM broadcast booster, TV translator or TV broadcast booster, or low power TV station will expire as a matter of law upon failure to transmit broadcast signals for any consecutive 12-month period notwithstanding any provision, term, or condition of the license to the contrary. Further, if the license of any AM, FM, or TV broadcasting station licensed under part 73 of this chapter expires for failure to transmit signals for any consecutive 12-month period, the licensee's authorizations under part 74,

subparts D, E, F, and H in connection with the operation of that AM, FM, or TV broadcasting station will also expire notwithstanding any provision, term, or condition to the contrary.

(Secs. 4, 5, 303, 48 Stat., as amended, 1066, 1068, 1082 (47 U.S.C. 154, 155, 303))

[28 FR 13706, Dec. 14, 1963, as amended at 49 FR 32583, Aug. 15, 1984; 50 FR 26758, June 28, 1985; 52 FR 7142, Mar. 9, 1987; 52 FR 25604, July 8, 1987; 52 FR 31402, Aug. 20, 1987; 59 FR 63052, Dec. 7, 1994; 61 FR 28767, June 6, 1996; 62 FR 5347, Feb. 5, 1997]

§ 74.16 Temporary extension of station licenses.

Where there is pending before the Commission any application, investigation, or proceeding which, after hearing, might lead to or make necessary the modification of, revocation of, or the refusal to renew an existing auxiliary or experimental broadcast station license or a television broadcast translator station license, the Commission in its discretion, may grant a temporary extension of such license: *Provided, however,* That no such temporary extension shall be construed as a finding by the Commission that the operation of any radio station thereunder will serve public interest, convenience, and necessity beyond the express terms of such temporary extension of license: *And provided further,* That such temporary extension of license will in no wise affect or limit the action of the Commission with respect to any pending application or proceeding.

[28 FR 13706, Dec. 14, 1963, as amended at 37 FR 25843, Dec. 5, 1972]

§ 74.18 Transmitter control and operation.

Except where unattended operation is specifically permitted, the licensee of each station authorized under the provisions of this part shall designate a person or persons to activate and control its transmitter. At the discretion of the station licensee, persons so designated may be employed for other duties and for operation of other transmitting stations if such other duties will not interfere with the proper operation of the station transmission systems.

[60 FR 55482, Nov. 1, 1995]

§ 74.19 Special technical records.

The FCC may require a broadcast auxiliary station licensee to keep operating and maintenance records necessary to resolve conditions of actual or potential interference, rule violations, or deficient technical operation.

[48 FR 38482, Aug. 24, 1983]

§ 74.21 Broadcasting emergency information.

(a) In an emergency where normal communication facilities have been disrupted or destroyed by storms, floods or other disasters, the stations licensed under this part may be operated for the purpose of transmitting essential communications intended to alleviate distress, dispatch aid, assist in rescue operations, maintain order, or otherwise promote the safety of life and property. In the course of such operation, a station of any class may communicate with stations of other classes and in other services. However, such operation shall be conducted only on the frequency or frequencies for which the station is licensed and the used power shall not exceed the maximum authorized in the station license. When such operation involves the use of frequencies shared with other stations, licensees are expected to cooperate fully to avoid unnecessary or disruptive interference.

(b) Whenever such operation involves communications of a nature other than those for which the station is licensed to perform, the licensee shall, at the earliest practicable time, notify the FCC in Washington, DC of the nature of the emergency and the use to which the station is being put and shall subsequently notify the same offices when the emergency operation has been terminated.

(c) Emergency operation undertaken pursuant to the provisions of this section shall be discontinued as soon as substantially normal communications facilities have been restored. The Commission may at any time order discontinuance of such operation.

(Secs. 4, 5, 303, 48 Stat., as amended, 1066, 1068, 1082 (47 U.S.C. 154, 155, 303))

[28 FR 13706, Dec. 14, 1963, as amended at 37 FR 25843, Dec. 5, 1972; 44 FR 65765, Nov. 15, 1979; 47 FR 40175, Sept. 13, 1982]

§ 74.22 Use of common antenna structure.

The simultaneous use of a common antenna structure by more than one station authorized under this part, or by one or more stations of any other service may be authorized. The owner of each antenna structure is responsible for ensuring that the structure, if required, is painted and/or illuminated in accordance with part 17 of this chapter. In the event of default by the owner, each licensee or permittee shall be responsible for ensuring that the structure complies with applicable painting and lighting requirements.

[61 FR 4368, Feb. 6, 1996]

§ 74.23 Interference jeopardizing safety of life or protection of property.

(a) The licensee of any station authorized under this part that causes harmful interference, as defined in § 2.1 of the Commission's rules, to radio communications involving the safety of life or protection of property shall promptly eliminate the interference.

(b) If harmful interference to radio communications involving the safety of life or protection of property cannot be promptly eliminated and the Commission finds that there exists an imminent danger to safety of life or protection of property, pursuant to 47 U.S.C. 312 (b) and (e) and 5 U.S.C. 558, operation of the offending equipment shall temporarily be suspended and shall not be resumed until the harmful interference has been eliminated or the threat to the safety of life or property has passed. In situations where the protection of property alone is jeopardized, before taking any action under this paragraph, the Commission shall balance the nature and extent of the possible property damage against the potential harm to a licensee or the public caused by suspending part 74 operations. When specifically authorized, short test operations may be made during the period of suspended operation to check the efficacy of remedial measures.

[47 FR 1395, Jan. 13, 1982]

§ 74.24 Short-term operation.

The classes of broadcast auxiliary stations provided for in subparts D, E,

F and H of this part may be operated on a short-term basis under the authority conveyed by a part 73 license without prior authorization from the FCC, subject to the following conditions:

(a) The part 73 licensee of this chapter must be eligible to operate the particular class of broadcast auxiliary station.

(b) The short-term broadcast auxiliary station shall be operated in conformance with all normally applicable regulations to the extent they are not superceded by specific provisions of this section.

(c) Short-term operation is on a secondary, non-interference basis to regularly authorized stations and shall be discontinued immediately upon notification that perceptible interference is being caused to the operation of a regularly authorized station. Short-term station operators shall, to the extent practicable, use only the effective radiated power and antenna height necessary for satisfactory system performance.

(d) Short-term operation by a part 73 licensee shall not exceed 720 hours annually per frequency.

NOTE: Certain frequencies shared with other services which are normally available for permanent broadcast auxiliary station assignment may not be available for short-term operation. Refer to any note(s) which may be applicable to the use of a specific frequency prior to initiating operation.

(e) The antenna height of a station operated pursuant to this section shall not increase the height of any man-made antenna supporting structure, or increase by more than 6.1 meters (20 feet) the height of any other type of man-made structure or natural formation. However, the facilities of an authorized broadcast auxiliary station belonging to another licensee may be operated in accordance with the terms of its outstanding authorization.

(f) Stations operated pursuant to this section shall be identified by the transmission of the call sign of the associated broadcast station.

(g) The part 73 licensee of this chapter, prior to operating pursuant to the provisions of this section shall, for the intended location or area-of-operation,

notify the appropriate frequency coordination committee or any licensee(s) assigned the use of the proposed operating frequency, concerning the particulars of the intended operation and shall provide the name and telephone number of a person who may be contacted in the event of interference. Information on active frequency coordination committees may be obtained by contacting the FCC's Auxiliary Services Branch at (202) 634-6307 between 8:00 a.m. and 4:30 p.m. Eastern Time. Except as provided below, this notification provision shall not apply where an unanticipated need for immediate short-term mobile station operation would render compliance with the provisions of this paragraph impractical.

(1) A CARS licensee shall always be given advance notification prior to the commencement of short-term operation on or adjacent to an assigned frequency.

(h) Short-term operation is limited to areas south or west of the United States-Canada border as follows:

(1) Use of broadcast auxiliary service frequencies below 470 MHz is limited to areas of the United States south of Line A or west of Line C unless the effective radiated power of the station is 5 watts or less.

NOTE: Line A is a line above which frequency assignments made by the Federal Communications Commission are coordinated with the Canadian Department of Communications and which begins at Aberdeen, Washington, running by great circle arc to the intersection of 48° N., 120° W., then along parallel 48° N., to the intersection of 95° W., then by great circle arc through the southernmost point of Duluth, Minnesota, then by great circle arc to 45° N., 85° W., then southward along meridian 85° W., to its intersection with parallel 41° N., then along parallel 41° N., to its intersection with meridian 82° W., then by great circle arc through the southernmost point of Bangor, Maine, then by great circle arc through the southernmost point of Searsport, Maine, at which point it terminates. Line C is a line east of which frequency assignments are similarly coordinated and which begins at the intersection of 70° N., 144° W., then by great circle arc to the intersection of 60° N., 143° W., then by great circle arc so as to include all of the Alaskan Panhandle.

(2) A broadcast auxiliary service station operating on frequencies between

470 MHz and 1 GHz must be at least 56.3 kilometers (35 miles) south (or west, as appropriate of the United States-Canada border if the antenna looks within a 200° sector toward the border; or, the station must be at least 8.1 kilometers (5 miles) south (or west, as appropriate) if the antenna looks within a 160° sector away from the border. However, operation is not permitted in either of these two situations if the station would be within the coordination distance of a receiving earth station in Canada which uses the same frequency band. (The coordination distance is the distance, calculated for any station, according to Appendix 28 of the International Radio Regulations.)

(3) A broadcast auxiliary service station operating on frequencies above 1 GHz shall not be located within the coordination distance of a receiving earth station in Canada which uses the same frequency band. (The coordination distance is the distance, calculated for any station, according to Appendix 28 of the international Radio Regulations.)

(i) Short-term operation of a remote pickup broadcast base station, a remote pickup automatic relay station, an aural broadcast STL station, an aural broadcast intercity relay station, a TV STL station, a TV intercity relay station or a TV translator relay station in the National Radio Quiet Zone, the Table Mountain Radio Receiving Zone, or near FCC monitoring stations is subject to the same advance notification procedures applicable to regular applications as provided for in §§ 73.1030 and 74.12, except that inasmuch as short-term operation does not involve an application process, the provisions relating to agency objection procedures shall not apply. It shall simply be necessary for the part 73 licensee of this chapter to contact the potentially affected agency and obtain advance approval for the proposed short-term operation. Where protection to FCC monitoring stations is concerned, approval for short-term operation may be given by the local Engineer-in-Charge.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[47 FR 9219, Mar. 4, 1982, as amended at 49 FR 34356, Aug. 30, 1984; 50 FR 23709, June 5, 1985]

§ 74.28 Additional orders.

In case the rules contained in this part do not cover all phases of operation or experimentation with respect to external effects, the FCC may make supplemental or additional orders in each case as may be deemed necessary.

[47 FR 53022, Nov. 24, 1982]

§ 74.30 Antenna structure, marking and lighting.

The provisions of part 17 of the FCC rules (Construction, Marking, and Lighting of Antenna Structures) require certain antenna structures to be painted and/or lighted in accordance with the provisions of §§ 17.47 through 17.56 of the FCC rules.

[47 FR 53022, Nov. 24, 1982]

Subpart A—Experimental Broadcast Stations

§ 74.101 Experimental broadcast station.

The term *experimental broadcast station* means a station licensed for experimental or developmental transmission of radio telephony, television, facsimile, or other types of telecommunication services intended for reception and use by the general public.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32583, Aug. 15, 1984]

§ 74.102 Uses of experimental broadcast stations.

A license for an experimental broadcast station will be issued for the purposes of carrying on research and experimentation for the development and advancement of new broadcast technology, equipment, systems or services which are more extensive or require other modes of transmission than can be accomplished by using a licensed broadcast station under an experimental authorization (see § 73.1510).

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32583, Aug. 15, 1984]

§ 74.103 Frequency assignment.

(a) Frequencies allocated to broadcasting and the various categories of

auxiliary stations, in the FCC's Table of Frequency Allocations (Part 2 of this chapter), may be assigned respectively to experimental broadcast and experimental auxiliary stations.

(b) More than one frequency may be assigned upon a satisfactory showing of the need therefor.

(c) Frequencies best suited to the purpose of the experimentation and on which there appears to be the least likelihood of interference to established stations shall be selected.

(d) In a case of important experimentation which cannot be feasibly conducted on frequencies allocated to broadcasting or the various categories of auxiliary stations, the FCC may authorize an experimental station of any class to operate on other frequencies upon a satisfactory showing of the need therefore and a showing that the proposed operation can be conducted without causing harmful interference to established services. However, experimental operation which looks toward the development of radio transmitting apparatus or the rendition of any type of regular service using such frequencies will not be authorized prior to a determination by the FCC that the development of such apparatus or the rendition of such service would serve the public interest.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[28 FR 13706, Dec. 14, 1963, as amended at 49 FR 32583, Aug. 15, 1984]

§ 74.112 Supplementary statement with application for construction permit.

A supplementary statement shall be filed with, and made a part of, each application for construction permit for any experimental broadcast station confirming the applicant's understanding:

(a) That all operation upon the frequency requested is for experimental purposes only.

(b) That the frequency requested may not be the best suited to the particular experimental work to be carried on.

(c) That the frequency requested need not be allocated for any service that may be developed as a result of the experimental operation.

(d) That any frequency which may be assigned is subject to change without advance notice or hearing.

(e) That any authorization issued pursuant to the application may be cancelled at any time without notice or hearing, and will expire as a matter of law if the station fails to transmit broadcast signals for any consecutive 12-month period, notwithstanding any provision, term, or condition of the license to the contrary.

(f) That if approval of the experimental broadcast station may have a significant environmental impact, see § 1.1307 of this chapter, submission of an environmental assessment, under § 1.1311 of this chapter, and compliance with the Commission's environmental rules contained in part 1 of this chapter is required.

(Sec. 319, 48 Stat. 1089, as amended; 47 U.S.C. 319; secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[28 FR 13706, Dec. 14, 1963, as amended at 49 FR 32583, Aug. 15, 1984; 55 FR 20398, May 16, 1990; 61 FR 28767, June 6, 1996]

§ 74.113 Supplementary reports with application for renewal of license.

(a) A report shall be filed with each application for renewal of experimental broadcast station license which shall include a statement of each of the following:

- (1) Number of hours operated.
- (2) Full data on research and experimentation conducted including the types of transmitting and studio equipment used and their mode of operation.
- (3) Data on expense of research and operation during the period covered.
- (4) Power employed, field intensity measurements and visual and aural observations and the types of instruments and receivers utilized to determine the station service area and the efficiency of the respective types of transmissions.
- (5) Estimated degree of public participation in reception and the results of observations as to the effectiveness of types of transmission.
- (6) Conclusions, tentative and final.
- (7) Program of further developments in broadcasting.
- (8) All developments and major changes in equipment.

(9) Any other pertinent developments.

(b) Special or progress reports shall be submitted from time to time as the Commission shall direct.

(Sec. 308, 48 Stat. 1084, as amended; 47 U.S.C. 308; secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[28 FR 13706, Dec. 14, 1963, as amended at 49 FR 32583, Aug. 15, 1984]

§ 74.131 Licensing requirements, necessary showing.

(a) An applicant for a new experimental broadcast station, change in facilities of any existing station, or modification of license is required to make a satisfactory showing of compliance with the general requirements of the Communications Act of 1934, as amended, as well as the following:

(1) That the applicant has a definite program of research and experimentation in the technical phases of broadcasting which indicates reasonable promise of substantial contribution to the developments of the broadcasting art.

(2) That upon the authorization of the proposed station the applicant can and will proceed immediately with its program of research and experimentation.

(3) That the transmission of signals by radio is essential to the proposed program of research and experimentation.

(4) That the program of research and experimentation will be conducted by qualified personnel.

(b) A license of an experimental broadcast station will not authorize exclusive use of any frequency. In case interference would be caused by simultaneous operation of stations licensed experimentally, such licensees shall endeavor to arrange satisfactory time division. If such agreement cannot be reached, the FCC will determine and specify the time division.

(c) A license for an experimental broadcast station will be issued only on the condition that no objectionable interference to the regular program transmissions of broadcast stations will result from the transmissions of the experimental stations.

§ 74.132

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[28 FR 13706, Dec. 14, 1963, as amended at 49 FR 32583, Aug. 15, 1984]

§ 74.132 Power limitations.

The license for experimental broadcast stations will specify the maximum authorized power. The operating power shall not be greater than necessary to carry on the service and in no event more than 5 percent above the maximum power specified. Engineering standards have not been established for these stations. The efficiency factor for the last radio stage of transmitters employed will be subject to individual determination but shall be in general agreement with values normally employed for similar equipment operated within the frequency range authorized.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32583, Aug. 15, 1984]

§ 74.133 Emission authorized.

In case emission of a different type than that specified in the license is necessary or desirable in carrying on any phases of experimentation, application setting out fully the needs shall be made by informal application.

[28 FR 13706, Dec. 14, 1963]

§ 74.134 Multiple ownership.

No persons (including all persons under common control) shall control, directly or indirectly, two or more experimental broadcast stations unless a showing is made that the program of research requires a licensing of two or more separate stations.

[49 FR 32584, Aug. 15, 1984]

§ 74.151 Equipment changes.

The licensee of an experimental broadcast station may make any changes in the equipment that are deemed desirable or necessary provided:

(a) That the operating frequency is not permitted to deviate more than the allowed tolerance;

(b) That the emissions are not permitted outside the authorized band;

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(c) That the power output complies with the license and the regulations governing the same; and

(d) That the transmitter as a whole or output power rating of the transmitter is not changed.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[28 FR 13706, Dec. 14, 1963, as amended at 49 FR 32584, Aug. 15, 1984]

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§ 74.161 Frequency tolerances.

The departure of the carrier frequency or frequencies of an experimental broadcast station must not exceed the tolerance specified in the instrument of authorization. For modes of transmission that do not have a resting or center carrier frequency, the occupied bandwidth of the station transmissions may not exceed that specified in the instrument of authorization.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32584, Aug. 15, 1984]

§ 74.162 Frequency monitors and measurements.

The licensee of an experimental broadcast station shall provide the necessary means for determining that the frequency of the station is within the allowed tolerance. The date and time of each frequency check, the frequency as measured, and a description or identification of the method employed shall be entered in the station log. Sufficient observations shall be made to insure that the assigned carrier frequency is maintained within the prescribed tolerance.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32584, Aug. 15, 1984]

§ 74.163 Time of operation.

(a) Unless specified or restricted hours of operation are shown in the station authorization, experimental broadcast stations may be operated at any time and are not required to adhere to a regular schedule of operation.

(b) The FCC may limit or restrict the periods of station operation in the

event interference is caused to other broadcast or nonbroadcast stations.

(c) The FCC may require that an experimental broadcast station conduct such experiments as are deemed desirable and reasonable for development of the type of service for which the station was authorized.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32584, Aug. 15, 1984]

§ 74.165 Posting of station license.

The instrument of authorization or a clearly legible photocopy thereof shall be available at the transmitter site.

[60 FR 55482, Nov. 1, 1995]

§ 74.181 Station records.

(a) The licensee of each experimental broadcast station must maintain adequate records of the operation, including:

(1) Information concerning the nature of the experimental operation and the periods in which it is being conducted.

(2) Information concerning any specific data requested by the FCC.

(b) Station records must be retained for a period of two years.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32584, Aug. 15, 1984]

§ 74.182 Program service and charges.

(a) The licensee of an experimental broadcast station may transmit program material only when necessary to the experiments being conducted, and no regular program service may be broadcast unless specifically authorized.

(b) The licensee of an experimental broadcast station may make no charges nor ask for any payment, directly or indirectly, for the production or transmission of any programming or information used for experimental broadcast purposes.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32584, Aug. 15, 1984]

§ 74.183 Station identification.

Each experimental broadcast station shall make aural or visual announcements of its call letters and location at the beginning and end of each period of operation, and at least once every hour during operation.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32584, Aug. 15, 1984]

§ 74.184 Rebroadcasts.

(a) The term *rebroadcast* means reception by radio of the programs or other transmissions of a broadcast station, and the simultaneous or subsequent retransmission of such programs or transmissions by a broadcast station.

(1) As used in this section, the word "program" includes any complete program or part thereof.

(2) The transmission of a program from its point of origin to a broadcast station entirely by common carrier facilities, whether by wire line or radio, is not considered a rebroadcast.

(3) The broadcasting of a program relayed by a remote broadcast pickup station is not considered a rebroadcast.

(b) No licensee of an experimental broadcast station may retransmit the program of another U.S. broadcast station without the express authority of the originating station. A copy of the written consent of the licensee originating the program must be kept by the licensee of the experimental broadcast station retransmitting such program and made available to the FCC upon request.

(Secs. 4, 303, 48 Stat., as amended, 1066, 1032; 47 U.S.C. 158, 303)

[49 FR 32584, Aug. 15, 1984]

Subparts B—C [Reserved]

Subpart D—Remote Pickup Broadcast Stations

§ 74.401 Definitions.

Associated broadcasting station(s). The broadcasting station or stations with which a remote pickup broadcast station or system is licensed as an auxiliary and with which it is principally used.

Authorized bandwidth. The occupied or necessary bandwidth, whichever is greater, authorized to be used by a station.

Automatic relay station. A remote pickup broadcast base station which is actuated by automatic means and is used to relay transmissions between remote pickup broadcast base and mobile stations, between remote pickup broadcast mobile stations and from remote pickup broadcast mobile stations to broadcasting stations. (Automatic operation is not operation by remote control.)

Carrier power. The average power at the output terminals of a transmitter (other than a transmitter having a suppressed, reduced or controlled carrier) during one radio frequency cycle under conditions of no modulation.

Mean power. The power at the output terminals of a transmitter during normal operation, averaged over a time sufficiently long compared with the period of the lowest frequency encountered in the modulation. A time of 1/10 second during which the mean power is greatest will be selected normally.

Necessary bandwidth. For a given class of emission, the minimum value of the occupied bandwidth sufficient to ensure the transmission of information at the rate and with the quality required for the system employed, under specified conditions. Emissions useful for the good functioning of the receiving equipment, as for example, the emission corresponding to the carrier of reduced carrier systems, shall be included in the necessary bandwidth.

Occupied bandwidth. The frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Operational communications. Communications concerning the technical and programming operation of a broadcast station and its auxiliaries.

Remote control operation. Operation of a base station by a properly designated person on duty at a control position from which the transmitter is not visible but that position is equipped with suitable controls so that essential functions can be performed therefrom.

Remote pickup broadcast base station. A remote pickup broadcast station authorized for operation at a specified location.

Remote pickup broadcast mobile station. A remote pickup broadcast station authorized for use while in motion or during halts at unspecified locations. (As used in this subpart, mobile stations include hand-carried, pack-carried and other portable transmitters.)

Remote pickup broadcast stations. A term used in this subpart to include both remote pickup broadcast base stations and remote pickup broadcast mobile stations.

Remote pickup mobile repeater unit. A vehicular receiver-transmitter repeater used to provide extended communications range for a low-power hand-carried or pack-carried transmitter.

Station. As used in this subpart, each remote pickup broadcast transmitter, and its associated accessory equipment necessary to the radio communication function, constitutes a separate station.

Studio. Any room or series of rooms equipped for the regular production of broadcast programs of various kinds. A broadcasting booth at a stadium, convention hall, church, or other similar place is not considered to be a studio.

Systems. A complete remote pickup broadcast facility consisting of one or more mobile stations and/or one or more base stations authorized pursuant to a single license.

[41 FR 29686, July 19, 1976, as amended at 42 FR 14728, Mar. 16, 1977; 47 FR 28388, June 30, 1982; 47 FR 54448, Dec. 3, 1982; 51 FR 4601, Feb. 6, 1986]

§ 74.402 Frequency assignment.

(a) The following frequencies may be assigned for use by remote broadcast pickup stations and broadcast network-entities. Frequencies between 450.025–450.975 and 455.025–455.975 MHz may also be assigned for use by cable network-entities.

- (1) *Group A* (kHz): 1606,¹ 1622, 1646.

¹ Subject to the condition that no harmful interference is caused to the reception of standard broadcasting stations.

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(2) *Group D* (MHz): 25.87,² 26.15, 26.25, 26.35.

Group E (MHz): 25.91,² 26.17, 26.27, 26.37.

Group F (MHz): 25.95;² 26.19; 26.29; 26.39.

Group G (MHz): 25.99;² 26.21; 26.31; 26.41.

Group H (MHz): 26.03;² 26.23; 26.33; 26.43.

(3) *Group I* (MHz): 26.07;² 26.11; 26.45.

Group J (MHz): 26.09;² 26.13; 26.47.

(4) *Group K*₁ (MHz): 152.873, 152.933, 152.993, 153.053, 153.113, 153.173, 153.233, 153.293, 153.353.

*Group K*₂ (MHz): 161.645; 161.675; 161.705; 161.735; 161.765.

(5) *Group L* (MHz): 166.25⁴.

Group M (MHz): 170.15⁴.

(6) *Group N*₁ (MHz): 450.050; 450.150; 450.250; 450.350; 450.450; 450.550; 455.050; 455.150; 455.250; 455.350; 455.450; 455.550.

*Group N*₂ (MHz): 450.0875; 450.1125; 450.1875; 450.2125; 450.2875; 450.3125; 450.3875; 450.4125; 450.4875; 450.5125; 450.5875; 450.6125; 455.0875; 455.1125; 455.1875; 455.2125; 455.2875; 455.3125; 455.3875; 455.4125; 455.4875; 455.5125; 455.5875; 455.6125.

² Subject to the condition that no harmful interference is caused to stations in the broadcasting service.

³ Subject to the condition that no harmful interference is caused to stations operating in accordance with the Table of Frequency Allocations set forth in Part 2 of the Commission's Rules and Regulations. Applications for licenses to use frequencies in this group must include statements showing what procedures will be taken to insure that interference will not be caused to stations in the Industrial/Business Pool.

⁴ Operation on the frequencies 166.25 MHz and 170.15 MHz is not authorized (i) within the area bounded on the west by the Mississippi River, on the north by the parallel of latitude 37°30' N., and on the east and south by the arc of the circle with center at Springfield, Ill., and radius equal to the airline distance between Springfield, Ill., and Montgomery, Alabama, subtended between the foregoing west and north boundaries; (ii) within 241.4 kilometers (150 miles) of New York City; and (iii) in Alaska or outside the continental United States; and is subject to the condition that no harmful interference is caused to government radio stations in the band 162-174 MHz.

(7) *Group P* (MHz): 450.01⁶, 450.02⁶; 450.986; 450.996; 455.016; 455.026; 455.986; 455.996.

(8) *Group R* (MHz): 450.650, 450.700, 450.750, 450.800, 450.850, 455.650, 455.700, 455.750, 455.800, 455.850.

Group S (MHz): 450.925, 455.925.

(b) The following frequencies are allocated for assignment to remote pickup broadcast stations in Puerto Rico and the Virgin Islands only:

160.89 MHz, 160.95 MHz, 160.01 MHz, 161.07 MHz, 161.13 MHz, 161.19 MHz, 161.25 MHz, 161.31 MHz, 161.37 MHz.

NOTE: These frequencies are shared with the Industrial/Business Pool.

(c) For licensing purposes, a single system will consist of transmitters authorized to use the following combinations of frequency groups in a single area:

(1) Group A.

(2) One group from Groups D, E, F, G, or H; and/or either I or J.

(3) Groups K₁ and K₂, and/or either L or M.

(4) Groups N₁ and R.

(5) Group N₂.

(6) Group P.

(7) Group S.

(d) License applicants shall request assignment of only those frequencies, both in number and channel bandwidth, necessary for satisfactory operation. A licensee may operate a remote pickup broadcast system only if the system is equipped to operate on all assigned frequencies. It is not necessary that each transmitter within a system be equipped to operate on all authorized system frequencies.

(e) Remote pickup broadcast stations or systems will not be granted exclusive frequency assignments. The same frequency or frequencies may be assigned to other licensees in the same

⁵ These frequencies may not be used by remote pickup stations in Puerto Rico or the Virgin Islands. In other areas, certain existing stations in the Public Safety Pool and Industrial/Business Pool have been permitted to continue operation on these frequencies on condition that no harmful interference is caused to remote pickup broadcast stations.

⁶ The use of these frequencies is limited to operational communications, including tones for signalling and for remote control and automatic transmission system control and telemetry.

area. Applicants for licenses should select the frequencies closest to the lower band edges within a group that will meet operational requirements to promote the orderly and efficient use of the allocated frequencies.

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[41 FR 29686, July 19, 1976, as amended at 42 FR 2070, Jan. 10, 1977; 42 FR 14728, Mar. 16, 1977; 43 FR 14661, Apr. 7, 1978; 44 FR 65765, Nov. 15, 1979; 47 FR 24580, June 7, 1982; 50 FR 9036, Mar. 6, 1985; 50 FR 23709, June 5, 1985; 51 FR 4601, Feb. 6, 1986; 62 FR 18844, Apr. 17, 1997]

EFFECTIVE DATE NOTES: 1. At 49 FR 45158, Nov. 15, 1984, § 74.402 was revised in its entirety. However, the effective date for this revision is still pending. For the convenience of the reader, the revised version of § 74.402 is set forth below:

§ 74.402 Authorized frequencies.

Operation on all channels listed in this section (except: 26.07, 26.11, 26.45, 450.01, 450.02, 450.98, 450.99, 455.01, 455.02, 455.98, 455.99 MHz) shall be in accordance with the “priority of use” provisions in § 74.403(b). The channel will be assigned by its center frequency, channel bandwidth, and emission designator. The frequencies listed in this section represent the center of the channel or channel segment.

(a) The following channels (except 1606, 1622, and 1646 kHz) may be assigned for us by broadcast remote pickup stations using any emission (other than single sideband or pulse) that will be in accordance with the provisions of § 74.462. The channels 1606, 1622, and 1646 kHz are limited to A3E emission.

(1) MF Channels: 1606, 1622, and 1646 kHz; Maximum authorized channel bandwidth: 10 kHz; The channel 1606 kHz is subject to the condition listed in subparagraph (e)(1) of this Section.

(2) HF Channels: 25.87, 25.91, 25.95, 25.99, 26.03, 26.07, 26.09, 26.11, 26.13, 26.15, 26.17, 26.21, 26.23, 26.25, 26.27, 26.29, 26.31, 26.33, 26.35, 26.37, 26.39, 26.41, 26.43, 26.45, and 26.47 MHz; Maximum authorized channel bandwidth: 20 kHz, except the channels 25.87–26.03 MHz are 40 kHz; The channels 25.87–26.09 MHz are subject to the condition listed in subparagraph (e)(2) of this Section.

(3) VHF Channels: 166.25 and 170.15 MHz; Maximum authorized channel bandwidth: 25 kHz; These channels are subject to the condition listed in subparagraph (e)(8) of this Section.

(4) UHF Channels: 450.01, 450.02, 450.98, 450.99, 455.01, 455.02, 455.98, 455.99 MHz; Maximum authorized channel bandwidth: 10 kHz; These channels are subject to the condition listed in subparagraph (e)(9) of this Section.

(b) One or more of the following 5 kHz segments may be stacked to form a channel which may be assigned for use by broadcast remote pickup stations using any emission contained within the resultant channel in accordance with the provisions of § 74.462.

(1) VHF segments: 152.8575, 152.8625, 152.8675, 152.8725, 152.8775, 152.8825, 152.9175, 152.9225, 152.9275, 152.9325, 152.9375, 152.9425, 152.9775, 152.9825, 152.9875, 152.9925, 152.9975, 153.0025, 153.0375, 153.0425, 153.0475, 153.0525, 153.0575, 153.0625, 153.0975, 153.1025, 153.1075, 153.1125, 153.1175, 153.1225, 153.1575, 153.1625, 153.1675, 153.1725, 153.1775, 153.1825, 153.2175, 153.2225, 153.2275, 153.2325, 153.2375, 153.2425, 153.2775, 153.2825, 153.2875, 153.2925, 153.2975, 153.3025, 153.3375, 153.3425, 153.3475, 153.3525, 153.3575, and 153.362 MHz; Maximum authorized channel bandwidth: 30 kHz; These channels are subject to the conditions listed in paragraphs (e) (3), (4), and (5) of this section.

(2) VHF segments: 160.8625, 160.8675, 160.8725, 160.8775, 160.8825, 160.8875, 160.8925, 160.8975, 160.9025, 160.9075, 160.9125, 160.9175, 160.9225, 160.9275, 160.9325, 160.9375, 160.9425, 160.9475, 160.9525, 160.9575, 160.9625, 160.9675, 160.9725, 160.9775, 160.9825, 160.9875, 160.9925, 160.9975, 161.0025, 161.0075, 161.0125, 161.0175, 161.0225, 161.0275, 161.0325, 161.0375, 161.0425, 161.0475, 161.0525, 161.0575, 161.0625, 161.0675, 161.0725, 161.0775, 161.0825, 161.0875, 161.0925, 161.0975, 161.1025, 161.1075, 161.1125, 161.1175, 161.1225, 161.1275, 161.1325, 161.1375, 161.1425, 161.1475, 161.1525, 161.1575, 161.1625, 161.1675, 161.1725, 161.1775, 161.1825, 161.1875, 161.1925, 161.1975, 161.2025, 161.2075, 161.2125, 161.2175, 161.2225, 161.2275, 161.2325, 161.2375, 161.2425, 161.2475, 161.2525, 161.2575, 161.2625, 161.2675, 161.2725, 161.2775, 161.2825, 161.2875, 161.2925, 161.2975, 161.3025, 161.3075, 161.3125, 161.3175, 161.3225, 161.3275, 161.3325, 161.3375, 161.3425, 161.3475, 161.3525, 161.3575, 161.3625, 161.3675, 161.3725, 161.3775, 161.3825, 161.3875, 161.3925, and 161.3975 MHz; Maximum authorized channel bandwidth: 30 kHz; These channels are subject to the condition listed in paragraph (e)(6) of this section.

(3) VHF segments: 161.6275, 161.6325, 161.6375, 161.6425, 161.6475, 161.6525, 161.6575, 161.6625, 161.6675, 161.6725, 161.6775, 161.6825, 161.6875, 161.6925, 161.6975, 161.7025, 161.7075, 161.7125, 161.7175, 161.7225, 161.7275, 161.7325, 161.7375, 161.7425, 161.7475, 161.7525, 161.7575, 161.7625, 161.7675, and 161.7725 MHz; Maximum authorized channel bandwidth: 30 kHz; These channels are subject to the conditions listed in paragraphs (e) (4) and (7) of this section.

(4) UHF segments: 450.0275, 450.0325, 450.0375, 450.0425, 450.0475, 450.0525, 450.0575, 450.0625, 450.0675, 450.0725, 450.0775, 450.0825, 450.0875, 450.0925, 450.0975, 450.1025, 450.1075, 450.1125, 450.1175, 450.1225, 450.1275, 450.1325, 450.1375, 450.1425, 450.1475, 450.1525, 450.1575, 450.1625, 450.1675, 450.1725, 450.1775, 450.1825, 450.1875, 450.1925, 450.1975, 450.2025, 450.2075, 450.2125, 450.2175, 450.2225, 450.2275, 450.2325, 450.2375, 450.2425, 450.2475, 450.2525, 450.2575,

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450.2625, 450.2675, 450.2725, 450.2775, 450.2825,
 450.2875, 450.2925, 450.2975, 450.3025, 450.3075,
 450.3125, 450.3175, 450.3225, 450.3275, 450.3325,
 450.3375, 450.3425, 450.3475, 450.3525, 450.3575,
 450.3625, 450.3675, 450.3725, 450.3775, 450.3825,
 450.3875, 450.3925, 450.3975, 450.4025, 450.4075,
 450.4125, 450.4175, 450.4225, 450.4275, 450.4325,
 450.4375, 450.4425, 450.4475, 450.4525, 450.4575,
 450.4625, 450.4675, 450.4725, 450.4775, 450.4825,
 450.4875, 450.4925, 450.4975, 450.5025, 450.5075,
 450.5125, 450.5175, 450.5225, 450.5275, 450.5325,
 450.5375, 450.5425, 450.5475, 450.5525, 450.5575,
 450.5625, 450.5675, 450.5725, 450.5775, 450.5825,
 450.5875, 450.5925, 450.5975, 450.6025, 450.6075,
 450.6125, 450.6175, 450.6225, 455.0275, 455.0325,
 455.0375, 455.0425, 455.0475, 455.0525, 455.0575,
 455.0625, 455.0675, 455.0725, 455.0775, 455.0825,
 455.0875, 455.0925, 455.0975, 455.1025, 455.1075,
 455.1125, 455.1175, 455.1225, 455.1275, 455.1325,
 455.1375, 455.1425, 455.1475, 455.1525, 455.1575,
 455.1625, 455.1675, 455.1725, 455.1775, 455.1825,
 455.1875, 455.1925, 455.1975, 455.2025, 455.2075,
 455.2125, 455.2175, 455.2225, 455.2275, 455.2325,
 455.2375, 455.2425, 455.2475, 455.2525, 455.2575,
 455.2625, 455.2675, 455.2725, 455.2775, 455.2825,
 455.2875, 455.2925, 455.2975, 455.3025, 455.3075,
 455.3125, 455.3175, 455.3225, 455.3275, 455.3325,
 455.3375, 455.3425, 455.3475, 455.3525, 455.3575,
 455.3625, 455.3675, 455.3725, 455.3775, 455.3825,
 455.3875, 455.3925, 455.3975, 455.4025, 455.4075,
 455.4125, 455.4175, 455.4225, 455.4275, 455.4325,
 455.4375, 455.4425, 455.4475, 455.4525, 455.4575,
 455.4625, 455.4675, 455.4725, 455.4775, 455.4825,
 455.4875, 455.4925, 455.4975, 455.5025, 455.5075,
 455.5125, 455.5175, 455.5225, 455.5275, 455.5325,
 455.5375, 455.5425, 455.5475, 455.5525, 455.5575,
 455.5625, 455.5675, 455.5725, 455.5775, 455.5825,
 455.5875, 455.5925, 455.5975, 455.6025, 455.6075,
 455.6125, 455.6175, 455.6225 MHz. Maximum authorized channel bandwidth: 50 kHz.

(c) One or two of the following 25 kHz segments may be stacked to form a channel which may be assigned for use by broadcast remote pickup stations using any emission contained within the resultant channel in accordance with the provisions of § 74.462. Users committed to 50 kHz bandwidths and transmitting program material will have primary use of these channels.

(1) UHF segments: 450.6375, 450.6625, 450.6875, 450.7125, 450.7375, 450.7625, 450.7875, 450.8125, 450.8375, 450.8625, 455.6375, 455.6625, 455.6875, 455.7125, 455.7375, 455.7625, 455.7875, 455.8125, 455.8375, 455.8625 MHz. Maximum authorized channel bandwidth: 50 kHz.

(d) One or two of the following 50 kHz segments may be stacked to form a channel which may be assigned for use by broadcast remote pickup stations using any emission contained within the resultant channel in accordance with the provisions of Section 74.462. Users committed to 100 kHz bandwidths and transmitting program material will have primary use of these channels.

(1) UHF segments: 450.900, 450.950, 455.900, and 455.950 MHz; Maximum authorized channel bandwidth: 100 kHz.

(e) Conditions on Broadcast Remote Pickup Service channel usage as referred to in subparagraphs (a) through (d) above:

(1) Operation is subject to the condition that no harmful interference is caused to the reception of AM broadcast stations.

(2) Operation is subject to the condition that no harmful interference is caused to stations in the broadcast service.

(3) Operation is subject to the condition that no harmful interference is caused to stations operating in accordance with the Table of Frequency Allocations set forth in Part 2 of the Commission's Rules and Regulations. Applications for licenses to use frequencies in this band must include statements showing what procedures will be taken to ensure that interference will not be caused to stations in the Industrial Radio Services.

(4) These frequencies will not be licensed to network entities.

(5) These frequencies will not be authorized to new stations for use on board aircraft.

(6) These frequencies are allocated for assignment to broadcast remote pickup stations in Puerto Rico or the Virgin Islands only.

NOTE: These frequencies are shared with Public Safety and Land Transportation Radio Services.

(7) These frequencies may not be used by broadcast remote pickup stations in Puerto Rico or the Virgin Islands. In other areas, certain existing stations in the Public Safety and Land Transportation Radio Services have been permitted to continue operation on these frequencies on condition that no harmful interference is caused to broadcast remote pickup stations.

(8) Operation on the frequencies 166.25 MHz and 170.15 MHz is not authorized: (i) Within the area bounded on the west by the Mississippi River, on the north by the parallel of latitude 37 degrees 30 minutes N., and radius equal to the air-line distance between Springfield, Ill., and Montgomery, Alabama, subtended between the foregoing west and north boundaries; (ii) Within 150 miles (241 KM) of New York City; and, (iii) In Alaska or outside the continental United States; and is subject to the condition that no harmful interference is caused radio stations in the band 162-174 MHz.

(9) The use of these frequencies is limited to operational communications, including tones for signaling and for remote control and automatic transmission system control and telemetry.

(f) License applicants shall request assignment of only those channels, both in number and bandwidth, necessary for satisfactory operation and for which the system is

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equipped to operate. However, it is not necessary that each transmitter within a system be equipped to operate on all frequencies authorized to that licensee.

(g) Remote pickup stations or systems will not be granted exclusive channel assignments. The same channel or channels may be assigned to other licensees in the same area. When such sharing is necessary, the provisions of § 74.403 shall apply.

(h) Each authorization for a new broadcast remote pickup station or system shall require the use of type accepted equipment.

[49 FR 45158, Nov. 15, 1984, as amended at 51 FR 32089, Sept. 9, 1986]

2. At 62 FR 18843, Apr. 17, 1997, in § 74.402, paragraph (a) was amended by revising the last sentence of footnotes 3 and 5, and the note following paragraph (b). For the convenience of the user, the superseded text is set forth as follows:

§ 74.402 Frequency assignment.

(a) * * *
* * * * Applications for licenses to use frequencies in this group must include statements showing what procedures will be taken to insure that interference will not be caused to stations in the industrial radio services.

* * * * In other areas, certain existing stations in the Public Safety and Land Transportation Radio Services have been permitted to continue operation on these frequencies on condition that no harmful interference is caused to remote pickup broadcast stations.

(b) * * *
NOTE: These frequencies are shared with the Land Transportation Radio Service.

§ 74.403 Frequency selection to avoid interference.

(a) Where two or more remote pickup broadcast station licensees are authorized to operate on the same frequency or group of frequencies in the same area and when simultaneous operation is contemplated, the licensees shall endeavor to select frequencies or schedule operation in such manner as to avoid mutual interference. If mutual agreement to this effect cannot be reached the Commission shall be notified and it will specify the frequency or

frequencies on which each station is to be operated.

(b) The following order of priority of transmissions shall be observed on all frequencies except those listed in § 74.402 (a)(3), (a)(7) and (a)(8):

- (1) Communications during an emergency or pending emergency directly related to the safety of life and property.
(2) Program material to be broadcast.
(3) Cues, orders, and other related communications immediately necessary to the accomplishment of a broadcast.
(4) Operational communications.
(5) Tests or drills to check the performance of stand-by or emergency circuits.

§ 74.431 Special rules applicable to remote pickup stations.

(a) Remote pickup mobile stations may be used for the transmission of material from the scene of events which occur outside the studio back to studio or production center. The transmitted material shall be intended for the licensee's own use and may be made available for use by any other broadcast station or cable system.

(b) Remote pickup mobile or base stations may be used for communications related to production and technical support of the remote program. This includes cues, orders, dispatch instructions, frequency coordination, establishing microwave links, and operational communications. Operational communications are alerting tones and special signals of short duration used for telemetry or control.

(c) Remote pickup mobile or base stations may communicate with any other station licensed under this subpart.

(d) Remote pickup mobile stations may be operated as a vehicular repeater to relay program material and communications between stations licensed under this subpart. Precautions shall be taken to avoid interference to other stations and the vehicular repeater shall only be activated by hand-carried or pack-carried units.

(e) The output of hand-carried or pack-carried transmitter units used with a vehicular repeater is limited to

2.5 watts. The output of a vehicular repeater transmitter used as a talkback unit on an additional frequency is limited to 2.5 watts.

(f) Remote pickup base and mobile stations in Alaska, Guam, Hawaii, Puerto Rico, and the Virgin Islands may be used for any purpose related to the programming or technical operation of a broadcasting station, except for transmission intended for direct reception by the general public.

(g) A broadcast licensee eligible for "short-term operation" under §74.24, may operate RPU base or mobile stations under the authorization of the Part 73 license for an indefinite period upon filing an application for auxiliary operation with the Commission and subject to the conditions of §74.24 (a), (b), (e), (f), (h), (i), and to the conditions set forth below:

(1) The auxiliary station is located within 50 miles (80 km) of the broadcast studio or broadcast transmitter.

(2) The applicant must coordinate the operation with all affected co-channel and adjacent channel licensees in the area of operation. This requirement can be satisfied by coordination with the local frequency committee if one exists.

(3) Such operation shall be suspended immediately upon notification from the Commission or by the Engineer in Charge (EIC) of the Commission's local field office, and shall not be resumed until specific authority is given by the Commission or EIC. When authorized by the EIC, short test operations may be made.

(4) Operation under this provision is not permitted between 152.87 MHz and 153.35 MHz.

(h) In the event that normal aural studio to transmitter circuits are damaged, stations licensed under Subpart D may be used to provide temporary circuits for a period not exceeding 30 days without further authority from the Commission necessary to continue broadcasting.

(i) Remote pickup mobile or base stations may be used for activities associated with the Emergency Broadcast System and similar emergency survival communications systems. Drills and tests are also permitted on these stations, but the priority requirements

of §74.403(b) must be observed in such cases.

[51 FR 4602, Feb. 6, 1986]

§74.432 Licensing requirements and procedures.

(a) A license for a remote pickup station will be issued to: the licensee of an AM, FM, noncommercial FM, TV, international broadcast or low power TV station; broadcast network-entity; or cable network-entity.

(b) Base stations may operate as automatic relay stations on the frequencies listed in §74.402(a) (6) and (8) under the provisions of §74.436, however, one licensee may not operate such stations on more than two frequencies in a single area.

(c) Base stations may use voice communications between the studio and transmitter or points of any intercity relay system on frequencies in Groups I and J.

(d) Base stations may be authorized to establish standby circuits from places where official broadcasts may be made during times of emergency and circuits to interconnect an emergency survival communications system.

(e) In Alaska, Guam, Hawaii, Puerto Rico, and the Virgin Islands, base stations may provide program circuits between the studio and transmitter or to relay programs between broadcasting stations. A base station may be operated unattended in accordance with the following:

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

(2) The station must be equipped with circuits to prevent transmitter operation when no signal is received from the station which it is relaying.

(f) Remote pickup stations may use only those frequencies and bandwidths which are necessary for operation.

(g) An application for a remote pickup broadcast station or system shall specify the broadcasting station or stations (where more than one broadcasting station is specified, all such broadcasting stations shall be licensed to the applicant and to the same community) with which the remote pickup broadcast facility is to be principally used

and the licensed area of operation for a system which includes mobile stations shall be the area considered to be served by the associated broadcasting station or stations. Mobile stations may be operated outside the licensed area of operation pursuant to § 74.431(d). Where the applicant for remote pickup broadcast facilities is the licensee of more than one class of broadcasting station (AM, FM, TV), all licensed to the same community, designation of one or more such stations as the associated broadcasting station or stations will not preclude use of the remote pickup broadcast facilities with those broadcasting stations not included in the designation and such additional use shall be at the discretion of the licensee.

(h) In cases where a series of broadcasts are to be made from the same location, portable or mobile transmitters may be left at such location for the duration of the series of broadcasts: *Provided*, The transmitting apparatus is properly secured so that it may not be operated by unauthorized persons when unattended. Prior Commission authority shall be obtained for the installation of any transmitting antenna which requires notification to the FAA, pursuant to § 17.7 of the Commission's rules and regulations, and which will be in existence for more than 2 days.

(i) The location of each remote pickup broadcast base station will be specified in the station or system license and such stations may not be operated at any other location without prior authority of the Commission.

(j) The license shall be retained in the licensee's files at the address shown on the authorization, posted at the transmitter, or posted at the control point of the station.

(k) In the case of permanent discontinuance of operation of a station or system licensed under this subpart, the licensee shall forward the station or system license to the FCC at Federal Communications Commission, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 for cancellation. For purposes of this section, a station which is not operated for a period of one year is considered to have been permanently discontinued.

NOTE: Licensees of remote pickup broadcast stations licensed prior to August 31, 1976, should not file applications to consolidate individually licensed transmitters under a single system license until the renewal application of the associated broadcast station is filed. Applications filed between August 31, 1976, and the date of filing of the renewal applications to obtain authorization to use additional transmitters or modification of existing stations shall be restricted to a single system application necessary to accomplish the desired change, but may include consolidation of previously-licensed transmitters within the system license. Applications submitted for system licensing prior to the time when renewal applications would normally be filed which are unnecessary for either administrative or operational purposes will be returned as unacceptable for filing.

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[41 FR 29686, July 19, 1976, as amended at 42 FR 2071, Jan. 10, 1977; 47 FR 21496, May 18, 1982; 49 FR 14509, Apr. 12, 1984; 51 FR 4602, Feb. 6, 1986; 58 FR 19775, Apr. 16, 1993; 60 FR 55482, Nov. 1, 1995]

§ 74.433 Temporary authorizations.

(a) Special temporary authority may be granted for remote pickup station operation which cannot be conducted in accordance with § 74.24. Such authority will normally be granted only for operations of a temporary nature. Where operation is seen as likely on a continuing annual basis, an application for a regular authorization should be submitted.

(b) A request for special temporary authority for the operation of a remote pickup broadcast station may be made by informal application, which shall be filed with the Commission at least 10 days prior to the date of the proposed operation: *Provided*, That, an application filed within less than 10 days of the proposed operation may be accepted upon a satisfactory showing of the reasons for the delay in submitting the request.

(c) An informal request for special temporary authority requiring payment of a fee shall be addressed to the FCC at Federal Communications Commission, Broadcast Auxiliary Radio Services, P.O. Box 358700, Pittsburgh, PA 15251-5700. An informal request for

special temporary authority not requiring payment of a fee shall be addressed to the FCC at Federal Communications Commission, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325. All requests must include full particulars including: Licensee's name, call letters of associated broadcast station or stations, name and address of individual designated to receive return authorization, call letters of remote pickup station, if assigned, type and manufacturer of equipment, power output, emission, frequency or frequencies proposed to be used, commencement and termination date, location of operation and purpose for which request is made including any particular justification.

(d) A request for special temporary authority shall specify a frequency or frequencies consistent with the provisions of § 74.402: *Provided*, That, in the case of events of wide-spread interest and importance which cannot be transmitted successfully on these frequencies, frequencies assigned to other services may be requested upon a showing that operation thereon will not cause interference to established stations: *And provided further*, In no case will operation of a remote pickup broadcast station be authorized on frequencies employed for the safety of life and property.

(e) The user shall have full control over the transmitting equipment during the period it is operated.

(f) Special temporary authority to permit operation of remote pickup broadcast stations or systems pending Commission action on an application for regular authority will not normally be granted.

[41 FR 29686, July 19, 1976, as amended at 47 FR 9220, Mar. 4, 1982; 47 FR 55936, Dec. 14, 1982; 50 FR 23709, June 5, 1985; 58 FR 19775, Apr. 16, 1993]

§ 74.434 Remote control operation.

(a) A remote control system must provide adequate monitoring and control functions to permit proper operation of the station.

(b) A 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.

(c) A remote control system must prevent inadvertent transmitter operation caused by malfunctions in the circuits between the control point and transmitter.

[51 FR 4602, Feb. 6, 1986, as amended at 60 FR 55482, Nov. 1, 1995]

§ 74.436 Special requirements for automatic relay stations.

(a) An automatic relay station must be designed, installed, and protected so that the transmitter can only be activated or controlled by persons authorized by the licensee.

(b) An automatic relay station may accomplish retransmission of the incoming signals by either heterodyne frequency conversion or by modulating the transmitter with the demodulated incoming signals.

(c) An automatic relay station transmitter may relay the demodulated incoming signals from one or more receivers.

[51 FR 4602, Feb. 6, 1986, as amended at 60 FR 55483, Nov. 1, 1995]

§ 74.451 Type acceptance of equipment.

(a) Applications for new remote pickup broadcast stations or systems or for changing transmitting equipment of an existing station will not be accepted unless the transmitters to be used have been type accepted by the FCC pursuant to the provisions of this subpart, or have been type accepted for licensing under parts 21 or 90 of the FCC rules and do not exceed the output power limits specified in § 74.461(b).

(b) Any manufacturer of a transmitter to be used in this service may apply for type acceptance for such transmitter following the type acceptance procedure set forth in part 2 of the Commission's rules and regulations. Attention is also directed to part 1 of the Commission's rules and regulations which specifies the fees required when filing an application for type acceptance.

(c) An applicant for a remote pickup broadcast station or system may also apply for type acceptance for an individual transmitter by following the type acceptance procedure set forth in part 2 of the Commission's rules and regulations. Individual transmitters

which are type accepted will not normally be included in the Commission's "Radio Equipment List."

(d) All transmitters marketed for use under this subpart shall be type accepted by the Federal Communications Commission. (Refer to subpart J of part 2 of the Commission's Rules and Regulations.)

(e) Remote pickup broadcast station equipment authorized to be used pursuant to an application accepted for filing prior to December 1, 1977, may continue to be used by the licensee or its successors or assignees: *Provided, however,* If operation of such equipment causes harmful interference due to its failure to comply with the technical standards set forth in this subpart, the Commission may, at its discretion, require the licensee to take such corrective action as is necessary to eliminate the interference.

(f) Each instrument of authority which permits operation of a remote pickup broadcast station or system using equipment which has not been type accepted will specify the particular transmitting equipment which the licensee is authorized to use.

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[41 FR 29686, July 19, 1976, as amended at 42 FR 14728, Mar. 16, 1977; 42 FR 43636, Aug. 30, 1977; 43 FR 14661, Apr. 7, 1978; 45 FR 28142, Apr. 28, 1980]

§ 74.452 Equipment changes.

(a) Prior Commission approval is required for any change in the overall height of an antenna structure, except where notice to the Federal Aviation Administration is specifically not required under § 17.14(b) of the Commission's rules and regulations.

(b) The licensee of a remote pickup broadcast station may, except as set forth in paragraph (d) of this section, make any other changes in the equipment that are deemed desirable or necessary, including replacement with type accepted equipment, without prior Commission approval: *Provided,* The proposed changes will not depart from any of the terms of the station or system authorization or the Commission's technical rules governing this service: *And provided further,* That any changes made to type accepted transmitting equipment shall be in compliance with

the provisions of Part 2 of the Commission's rules and regulations concerning modification to type accepted equipment.

(c) The FCC at Federal Communications Commission, Broadcast Auxiliary Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 shall be promptly notified of any equipment changes made pursuant to paragraph (b) of this section.

(d) All transmitters initially installed after November 30, 1977, must be type accepted for use in this service or other services as specified in § 74.451(a).

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[41 FR 29686, July 19, 1976, as amended at 42 FR 14728, Mar. 16, 1977; 42 FR 43636, Aug. 30, 1977; 43 FR 14662, Apr. 7, 1978; 47 FR 54448, Dec. 3, 1982; 58 FR 19775, Apr. 16, 1993]

§ 74.461 Transmitter power.

(a) Transmitter power is the power at the transmitter output terminals and delivered to the antenna, antenna transmission line, or any other impedance-matched, radio frequency load. For the purpose of this Subpart, the transmitter power is the carrier power.

(b) The authorized transmitter power for a remote pickup broadcast station shall be limited to that necessary for satisfactory service and, in any event, shall not be greater than 100 watts, except that a station to be operated aboard an aircraft shall normally be limited to a maximum authorized power of 15 watts. Specific authorization to operate stations on board aircraft with an output power exceeding 15 watts will be issued only upon an adequate engineering showing of need, and of the procedures that will be taken to avoid harmful interference to other licensees.

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[41 FR 29686, July 19, 1976, as amended at 43 FR 14662, Apr. 7, 1978]

§ 74.462 Authorized bandwidth and emissions.

(a) Each authorization for a new remote pickup broadcast station or system issued pursuant to an application accepted after (one year following the

effective date of these rules) shall require the use of type accepted equipment and such equipment shall be operated in accordance with emission specifications included in the type acceptance grant and as prescribed in paragraphs (b), (c), and (d) of this section.

(b) The maximum authorized bandwidth of emissions corresponding to the types of emissions specified below, and the maximum authorized frequency deviation in the case of frequency or phase modulated emission, shall be as follows:

Frequencies (megahertz)	Authorized bandwidth ¹ (kilohertz)	Maximum frequency deviation ² (kilohertz)	Type of emission ^{3,4}
25.87 to 26.03	40	10	A3, F3, F3Y, F9
26.07 to 26.47	20	5	A3, F3, F3Y, F9
152.87 to 153.35 ⁵	30/60	5/10	A3, F3, F3Y, F9
160.89 to 161.37	60	10	A1, A2, A3, F1, F2, F3, F3Y, F9
161.64 to 161.76	30	5	A1, A2, A3, F1, F2, F3, F3Y, F9
166.25 to 170.15	25	5	A1, A2, A3, F1, F2, F3, F3Y, F9
450 to 455.99 (10 kHz channels)	10	1.5	A1, A2, A3, F1, F2, F3, F9
450.0875 to 455.6125 (25 kHz channels)	25	5	A1, A2, A3, F1, F2, F3, F3Y, F9
450.05 to 455.85 (50 kHz channels)	50	10	A1, A2, A3, F1, F2, F3Y, F9
450.925 and 455.925 (100 kHz channels)	100	35	A1, A2, A3, F1, F2, F3, F3Y, F9

¹ Notwithstanding the authorized bandwidths shown in the table, not more than 20 kHz bandwidth will be authorized in the case of F3Y emission.

² Applies where class F1, F2, F3, or F9 emission is used.

³ Stations operating above 450 MHz shall show a need for employing A1, A2, F1, or F2 emission.

⁴ The emission designators shown in the table no longer conform to those contained in subpart C of part 2 of the Commission's Rules and Regulations. They will be so-conformed after necessary modifications to broadcast auxiliary application processing programs are completed. For transmitting equipment which is type accepted, emission designators will appear in the Commission's Radio Equipment List. Equipment approved for emissions contained in subpart C of part 2 may be used by part 74 stations if their emissions are equivalent to the previous emission designators shown in the table.

⁵ New or modified licenses for use of the frequencies will not be granted to utilize transmitters on board aircraft, or to use a bandwidth in excess of 3 kHz and maximum deviation exceeding 5 kHz.

(c) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) On any frequency removed from the assignment frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB;

(2) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB;

(3) On any frequency removed from the assigned frequency by more than 250 percent on the authorized bandwidth; at least 43 plus 10 log₁₀ (mean output power, in watts) dB.

(d) In the event a station's emissions outside its authorized channel cause harmful interference, the Commission may, at its discretion, require the licensee to take such further steps as may be necessary to eliminate the interference.

(e) The maximum authorized bandwidth for stations operating on 1606, 1622, or 1646 kHz shall be 10 kHz and op-

erations on these frequencies shall be limited to A3 emission only.

(f) For those transmitters using the F3Y emission and operating in the frequency range between 25.87 MHz and 170.15 MHz, the power of any emission shall be attenuated below the unmodulated carrier power (P) in accordance with the following schedule:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (F_d in kHz) of more than 5 kHz, up to and including 10 kHz: At least 83 Log₁₀ (F_d/5) decibels;

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (F_d in kHz) of more than 10 kHz, up to and including 250 percent of the authorized bandwidth: At least 29 Log₁₀ ((F_d)exp²/11) decibels or 50 decibels, whichever is the lesser attenuation.

(3) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 plus 10 Log₁₀ (output power in watts) decibels

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or 80 decibels, whichever is the lesser attenuation.

(g) For those transmitters using the F3Y emission and operating in the frequency range between 450.01 MHz and 455.925 MHz, the power of any emission shall be attenuated below the unmodulated carrier power (P) in accordance with the following schedule:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (F_d in kHz) of more than 5 kHz, up to and including 10 kHz: At least $83 \text{ Log}_{10} (F_d/5)$ decibels;

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (F_d in kHz) of more than 10 kHz, up to and including 250 percent of the authorized bandwidth: At least $116 \text{ Log}_{10} (F_d/6.1)$ decibels or 70 decibels, whichever is the lesser attenuation.

(3) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least $43 + 10 \text{ Log}_{10}$ (output power in watts) decibels or 80 decibels, whichever is the lesser attenuation.

NOTE: The measurements of emission power can be expressed in peak or mean values provided they are expressed in the same parameters as the unmodulated transmitter carrier power.

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[41 FR 29686, July 19, 1976, as amended at 41 FR 32429, Aug. 3, 1976; 41 FR 35068, Aug. 19, 1976; 43 FR 14662, Apr. 7, 1978; 43 FR 38391, Aug. 28, 1978; 44 FR 65765, Nov. 15, 1979; 56 FR 28498, June 21, 1991]

§ 74.463 Modulation requirements.

(a) Each new remote pickup broadcast station authorized to operate with a power output in excess of 3 watts shall be equipped with a device which will automatically prevent modulation in excess of the limits set forth in this subpart.

(b) If amplitude modulation is employed, modulation shall not exceed 100 percent on negative peaks.

(c) If frequency modulation is employed, emission shall conform to the requirements specified in § 74.462.

[41 FR 29686, July 19, 1976, as amended at 47 FR 54448, Dec. 3, 1982]

47 CFR Ch. I (10-1-97 Edition)

§ 74.464 Frequency tolerance.

The licensee of a remote pickup broadcast station or system shall maintain the operating frequency of each such station in accordance with the following:

Frequency range	Tolerance (percent)	
	Base station	Mobile station
1.6 to 2 MHz:		
200 W or less	0.01	0.02
Over 200 W ¹ .....	.005	.02
25 to 30 MHz:		
3 W or less .....	.002	.005
Over 3 W .....	.002	.002
30 to 300 MHz:		
3 W or less .....	.0005	.005
Over 3 W .....	.0005	.0005
300 to 500 MHz, all powers .....	.00025	.0005

¹The listing of tolerances for power over 200 W is in accordance with treaty values and shall not be construed as a finding that such power will be authorized.

(Secs. 4, 5, 303, 48 Stat., as amended, 1066, 1068, 1082 (47 U.S.C. 154, 155, 303))

[41 FR 29686, July 19, 1976, as amended at 42 FR 2071, Jan. 10, 1977; 43 FR 38391, Aug. 28, 1978; 44 FR 65765, Nov. 15, 1979]

§ 74.465 Frequency monitors and measurements.

The licensee of a remote pickup station or system shall provide the necessary means to assure that all operating frequencies are maintained within the allowed tolerances.

[51 FR 4603, Feb. 6, 1986]

§ 74.482 Station identification.

(a) Each remote pickup broadcast station shall be identified by the transmission of the assigned station or system call sign, or by the call sign of the associated broadcast station. For systems, the licensee (including a part 73-only licensee where operation takes place pursuant to § 74.24) shall assign a unit designator to each station in the system. The call sign (and unit designator, where appropriate) shall be transmitted at the beginning and end of each period of operation. A period of operation may consist of a single continuous transmission, or a series of intermittent transmissions pertaining to a single event.

(b) In cases where a period of operation is of more than one hour duration identification of remote pickup broadcast stations participating in the

operation shall be made at approximately one-hour intervals. Identification transmissions during operation need not be made when to make such transmissions would interrupt a single consecutive speech, play, religious service, symphony, concert, or any type of production. In such cases, the identification transmissions shall be made at the first interruption in the program continuity and at the conclusion thereof. Hourly identification may be accomplished either by transmission of the station or system call sign and unit designator assigned to the individual station or identification of an associated broadcasting station or network with which the remote pickup broadcast station is being used.

(c) In cases where an automatic relay station is a part of the circuit, the call sign of the relay transmitter may be transmitted automatically by the relay transmitter or by the remote pickup broadcast base or mobile station that actuates the automatic relay station.

(d) Automatically activated equipment may be used to transmit station identification in International Morse Code, provided that the modulation tone is 1200 Hz±800 Hz, the level of modulation of the identification signal is maintained at 40%±10%, and that the code transmission rate is maintained between 20 and 25 words per minute.

(e) For stations using the F3Y emission, identification shall be transmitted in the unscrambled analog (F3) mode or in International Morse Code pursuant to the provisions of (d) of this section at intervals not to exceed 15 minutes. For purposes of rule enforcement, all licensees using F3Y emissions shall provide, upon request by the Commission, a full and complete description of the encoding methodology they currently use.

NOTE: Stations are encouraged to identify using their associated part 73 station call sign.

[41 FR 29686, July 19, 1976, as amended at 47 FR 9220, Mar. 4, 1982; 52 FR 47569, Dec. 15, 1987; 56 FR 28499, June 21, 1991]

Subpart E—Aural Broadcast Auxiliary Stations

§ 74.501 Classes of aural broadcast auxiliary stations.

(a) *Aural broadcast STL station.* A fixed station for the transmission of aural program material between the studio and the transmitter of a broadcasting station other than an international broadcasting station.

(b) *Aural broadcast intercity relay (ICR) station.* A fixed station for the transmission of aural program material between radio broadcast stations, other than international broadcast stations, between FM radio broadcast stations and their co-owned FM booster stations, between noncommercial educational FM radio stations and their co-owned noncommercial educational FM translator stations assigned to reserved channels (Channels 201 to 220), between FM radio stations and FM translator stations operating within the coverage contour of their primary stations, or for such other purposes as authorized in § 74.531.

(c) *Aural broadcast microwave booster station.* A fixed station in the broadcast auxiliary service that receives and amplifies signals of an aural broadcast STL or intercity relay station and retransmits them on the same frequency.

[28 FR 13716, Dec. 14, 1963, as amended at 49 FR 7129, Feb. 27, 1984; 53 FR 4169, Feb. 12, 1988; 55 FR 50692, Dec. 10, 1990; 57 FR 41111, Sept. 9, 1992]

§ 74.502 Frequency assignment.

(a) Except as provided in US 302, broadcast auxiliary stations licensed as of November 21, 1984, to operate in the band 942–944 MHz¹ may continue to operate on a co-equal primary basis to other stations and services operating in the band in accordance with the Table of Frequency Allocations. These stations will be protected from possible

¹NOTE: In addition to this band, stations in Puerto Rico may continue to be authorized on 942.5, 943.0, 943.5, 944.0 MHz in the band 942–944 MHz on a primary basis to stations and services operating in accordance with the Table of Frequency Allocations.

interference caused by new users of the band by the technical standards specified in § 94.63(d)(3).

(b) The frequency band 944–952 MHz is available for assignment to aural STL and ICR stations. AM and FM broadcast stations shall have primary use of the band; however, TV broadcast stations may be licensed on a secondary, noninterference basis. One or more of the following 25 kHz segments may be stacked to form a channel which may be assigned with a maximum authorized bandwidth of 300 kHz except as noted below. The channel, will be assigned by its center frequency, channel bandwidth, and emission designator. The following frequencies are the centers of each segment:

- 944.0125, 944.0375, 944.0625, 944.0875, 944.1125,
- 944.1375, 944.1625, 944.1875, 944.2125, 944.2375,
- 944.2625, 944.2875, 944.3125, 944.3375, 944.3625,
- 944.3875, 944.4125, 944.4375, 944.4625, 944.4875,
- 944.5125, 944.5375, 944.5625, 944.5875, 944.6125,
- 944.6375, 944.6625, 944.6875, 944.7125, 944.7375,
- 944.7625, 944.7875, 944.8125, 944.8375, 944.8625,
- 944.8875, 944.9125, 944.9375, 944.9625, 944.9875,
- 945.0125, 945.0375, 945.0625, 945.0875, 945.1125,
- 945.1375, 945.1625, 945.1875, 945.2125, 945.2375,
- 945.2625, 945.2875, 945.3125, 945.3375, 945.3625,
- 945.3875, 945.4125, 945.4375, 945.4625, 945.4875,
- 945.5125, 945.5375, 945.5625, 945.5875, 945.6125,
- 945.6375, 945.6625, 945.6875, 945.7125, 945.7375,
- 945.7625, 945.7875, 945.8125, 945.8375, 945.8625,
- 945.8875, 945.9125, 945.9375, 945.9625, 945.9875,
- 946.0125, 946.0375, 946.0625, 946.0875, 946.1125,
- 946.1375, 946.1625, 946.1875, 946.2125, 946.2375,
- 946.2625, 946.2875, 946.3125, 946.3375, 946.3625,
- 946.3875, 946.4125, 946.4375, 946.4625, 946.4875,
- 946.5125, 946.5375, 946.5625, 946.5875, 946.6125,
- 946.6375, 946.6625, 946.6875, 946.7125, 946.7375,
- 946.7625, 946.7875, 946.8125, 946.8375, 946.8625,
- 946.8875, 946.9125, 946.9375, 946.9625, 946.9875,
- 947.0125, 947.0375, 947.0625, 947.0875, 947.1125,
- 947.1375, 947.1625, 947.1875, 947.2125, 947.2375,
- 947.2625, 947.2875, 947.3125, 947.3375, 947.3625,
- 947.3875, 947.4125, 947.4375, 947.4625, 947.4875,
- 947.5125, 947.5375, 947.5625, 947.5875, 947.6125,
- 947.6375, 947.6625, 947.6875, 947.7125, 947.7375,
- 947.7625, 947.7875, 947.8125, 947.8375, 947.8625,
- 947.8875, 947.9125, 947.9375, 947.9625, 947.9875,
- 948.0125, 948.0375, 948.0625, 948.0875, 948.1125,
- 948.1375, 948.1625, 948.1875, 948.2125, 948.2375,
- 948.2625, 948.2875, 948.3125, 948.3375, 948.3625,
- 948.3875, 948.4125, 948.4375, 948.4625, 948.4875,
- 948.5125, 948.5375, 948.5625, 948.5875, 948.6125,
- 948.6375, 948.6625, 948.6875, 948.7125, 948.7375,
- 948.7625, 948.7875, 948.8125, 948.8375, 948.8625,
- 948.8875, 948.9125, 948.9375, 948.9625, 948.9875,
- 949.0125, 949.0375, 949.0625, 949.0875, 949.1125,
- 949.1375, 949.1625, 949.1875, 949.2125, 949.2375,
- 949.2625, 949.2875, 949.3125, 949.3375, 949.3625,
- 949.3875, 949.4125, 949.4375, 949.4625, 949.4875,
- 949.5125, 949.5375, 949.5625, 949.5875, 949.6125,

- 949.6375, 949.6625, 949.6875, 949.7125, 949.7375,
- 949.7625, 949.7875, 949.8125, 949.8375, 949.8625,
- 949.8875, 949.9125, 949.9375, 949.9625, 949.9875,
- 950.0125, 950.0375, 950.0625, 950.0875, 950.1125,
- 950.1375, 950.1625, 950.1875, 950.2125, 950.2375,
- 950.2625, 950.2875, 950.3125, 950.3375, 950.3625,
- 950.3875, 950.4125, 950.4375, 950.4625, 950.4875,
- 950.5125, 950.5375, 950.5625, 950.5875, 950.6125,
- 950.6375, 950.6625, 950.6875, 950.7125, 950.7375,
- 950.7625, 950.7875, 950.8125, 950.8375, 950.8625,
- 950.8875, 950.9125, 950.9375, 950.9625, 950.9875,
- 951.0125, 951.0375, 951.0625, 951.0875, 951.1125,
- 951.1375, 951.1625, 951.1875, 951.2125, 951.2375,
- 951.2625, 951.2875, 951.3125, 951.3375, 951.3625,
- 951.3875, 951.4125, 951.4375, 951.4625, 951.4875,
- 951.5125, 951.5375, 951.5625, 951.5875, 951.6125,
- 951.6375, 951.6625, 951.6875, 951.7125, 951.7375,
- 951.7625, 951.7875, 951.8125, 951.8375, 951.8625,
- 951.8875, 951.9125, 951.9375, 951.9625, 951.9875.

(1) A single broadcast station may be authorized up to a maximum of twenty segments (500 kHz total bandwidth) for transmission of program material between a single origin and one or more designations. The station may lease excess capacity for broadcast and other uses on a secondary basis, subject to availability of spectrum for broadcast use. However, an FM station licensed for twelve or fewer segments (300 kHz total bandwidth) or an AM station licensed for eight or fewer segments (200 kHz total bandwidth) may lease excess capacity for broadcast and other uses on a primary basis.

(2) An applicant (new or modification of existing license) may assume the cost of replacement of one or more existing licensees equipment with narrowband equipment of comparable capabilities and quality in order to make available spectrum for its facilities. Existing licensees must accept such replacement without cost to them except upon a showing that the replacement equipment does not meet the capability or quality requirements.

(c) The frequency bands 18,760–18,820 and 19,100–19,160 MHz are available for assignment to aural broadcast STL and intercity relay stations and are shared on a co-primary basis with other fixed services under Parts 21, 78 and 94 of the Commission’s rules.

(1) 5 MHz maximum authorized bandwidth channels:

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Transmit (receive) (MHz)	Receive (transmit) (MHz)
340 MHz Separation	
18762.5	19102.5
18767.5	19107.5
18772.5	19112.5
18777.5	19117.5
18782.5	19122.5
18787.5	19127.5
18792.5	19132.5
18797.5	19137.5
18802.5	19142.5
18807.5	19147.5
18812.5	19152.5
18817.5	19157.5

service outweighs the loss of service due to the interference.

[28 FR 13716, Dec. 14, 1963]

§ 74.531 Permissible service.

(a) An aural broadcast STL station is authorized to transmit aural program material between the studio and transmitter location of a broadcasting station, except an international broadcasting station, for simultaneous or delayed broadcast.

(b) An aural broadcast intercity relay station is authorized to transmit aural program material between broadcasting stations, except international broadcasting stations, for simultaneous or delayed broadcast.

(c) An aural broadcast intercity relay station is authorized to transmit aural program material between noncommercial educational FM radio stations and their co-owned noncommercial educational FM translator stations assigned to reserved channels (Channels 201 to 220) and between FM radio stations and FM translator stations operating within the coverage contour of their primary stations. This use shall not interfere with or otherwise preclude use of these broadcast auxiliary facilities by broadcast auxiliary stations transmitting aural programming between broadcast stations as provided in paragraph (b) of this section.

(d) An aural broadcast STL or intercity relay may be used to transmit material between an FM broadcast radio station and an FM booster station owned, operated, and controlled by the licensee of the originating FM radio station. This use shall not interfere with or otherwise preclude use of these broadcast auxiliary facilities by broadcast auxiliary stations transmitting aural programming between the studio and transmitter location of a broadcast station or between broadcast stations as provided in paragraphs (a) and (b) of this section.

(e) An aural broadcast microwave booster station is authorized to retransmit the signals of an aural broadcast STL or intercity relay station.

(f) Multiplexing of the STL or intercity relay transmitter may be employed to provide additional communication channels for the transmission of aural program material, news-wire

Applicants may use either a two-way link or one frequency of a frequency pair for a one-way link and shall coordinate proposed operations pursuant to the procedures required in § 21.100(d).

(2) [Reserved]

(d) [Reserved]

(e) The use of the frequencies listed in paragraph (b) of this section by aural broadcast intercity relay stations is subject to the condition that no harmful interference is caused to other classes of stations operating in accordance with the Table of Frequency Allocations contained in § 2.106 of this chapter.

[28 FR 13716, Dec. 14, 1963, as amended at 48 FR 50332, Nov. 1, 1983; 49 FR 37777, Sept. 26, 1984; 50 FR 4658, Feb. 1, 1985; 50 FR 7341, Feb. 22, 1985; 50 FR 34150, Aug. 23, 1985; 50 FR 48600, Nov. 26, 1985; 54 FR 10329, Mar. 13, 1989; 54 FR 24905, June 12, 1989; 54 FR 30043, July 18, 1989]

§ 74.503 Frequency selection.

(a) Each application for a new station or change in an existing station shall be specific with regard to frequency. In general, the lowest suitable frequency will be assigned which, on an engineering basis, will not cause harmful interference to other stations operating in accordance with existing frequency allocations.

(b) Where it appears that interference may result from the operation of a new station or a change in the facilities of an existing station, the Commission may require a showing that harmful interference will not be caused to existing stations or that if interference will be caused the need for the proposed

teleprinter signals relaying news to be associated with main channel programming, operational communications, and material authorized to be transmitted over an FM station under a valid Subsidiary Communications Authorization (SCA). An aural broadcast STL or intercity relay station may not be operated solely for the transmission of operational, teleprinter or subsidiary communications. Operational communications include cues, orders, and other communications directly related to the operation of the broadcast station as well as special signals used for telemetry or the control of apparatus used in conjunction with the broadcasting operations.

(g) All program material, including subsidiary communications, transmitted over an aural broadcast STL or intercity relay station shall be intended for use by broadcast stations owned or under common control of the licensee or licensees of the STL or intercity relay station. Other broadcast stations may simultaneously utilize such program material with permission of the STL or intercity relay station licensee.

(h) In any case where multiplexing, is employed on an aural broadcast STL station for the simultaneous transmission of more than one aural channel, the STL transmitter must be capable of transmitting the multiple channels within the channel on which the STL station is authorized to operate and with adequate technical quality so that each broadcast station utilizing the circuit can meet the technical performance standards stipulated in the rules governing that class of broadcasting station. If multiplex operation is employed during the regular operation of the STL station, the additional circuits shall be in operation at the time that the required periodic performance measurements are made of the overall broadcasting system from the studio microphone input circuit to the broadcast transmitter output circuit.

[28 FR 13716, Dec. 14, 1963, as amended at 45 FR 51564, Aug. 4, 1980; 52 FR 31403, Aug. 20, 1987; 55 FR 50693, Dec. 10, 1990; 57 FR 41111, Sept. 9, 1992]

§ 74.532 Licensing requirements.

(a) An aural broadcast STL or an aural broadcast intercity relay station will be licensed only to the licensee or licensees of broadcast stations, other than international broadcast stations, and for use with broadcast stations owned entirely by or under common control of the licensee or licensees. An aural broadcast intercity relay station also will be licensed for use by non-commercial educational FM translator stations assigned to reserved channels (Channels 201–220) and owned and operated by their primary station, by FM translator stations operating within the coverage contour of their primary stations, and by FM booster stations.

(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.

NOTE: Applications for aural broadcast microwave booster stations will not be accepted for filing prior to January 1, 1985.

(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 operation of a station licensed under this subpart, the licensee shall forward the station license to the Federal Communications Commission,

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Broadcast Auxiliary Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 for cancellation.

[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]

§ 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 control 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) for operation in the 944-952 MHz band:

Aural broadcast STL and intercity relay stations will be licensed with a power output not in excess of that necessary to render satisfactory service. The license for these stations will specify the maximum authorized power. The operating power shall not be greater than necessary to carry on the service and in no event more than 5 percent above the maximum power specified. Engineering standards have not been established for these stations. The efficiency factor for the last radio stage of transmitters employed will be subject to individual determination but shall be in general agreement with values normally employed for similar equipment operated within the frequency range authorized.

(b) For stations operating in bands above 17.7 GHz, the transmitter output power shall be limited to that necessary to accomplish the function of the system. Further, the output power of a transmitter on any authorized frequency shall not exceed the following:

(1)

Frequency band (GHz)	Maximum transmitter output power (watts) ¹
17.7 to 19.7	10.0
31.0 to 31.3	0.05

¹ Peak envelope power.

(2)

Frequency band (GHz)	Maximum allowable EIRP (dBW)
17.7 to 18.6	+55.0
18.6 to 18.8	+35.0
18.8 to 19.7	+35.0
31.0 to 31.3	No limit

[50 FR 4658, Feb. 10, 1985, as amended at 50 FR 7341, Feb. 22, 1985]

§ 74.535 Emission and bandwidth.

(a) For frequency modulation, the mean power of emissions shall be attenuated below the mean transmitter power (P) in accordance with the following schedule:

(1) On any frequency removed from the assigned frequency by more than 50% and up to 100% of the authorized bandwidth: at least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 100% and up to 150% of the authorized bandwidth: at least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 150% of the authorized bandwidth: at least 43 + 10 Log(P) dB.

(b) For all emissions except frequency modulation, the peak power of emissions shall be attenuated below the peak envelope transmitter power (P) 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:

$$\text{Attenuation} = 29 \text{ Log} \left(\frac{25}{11} \left(D + 2.5 - \frac{W}{2} \right)^2 \right) \text{ dB}$$

or 50 dB whichever is the lesser attenuation. Where: D is the displacement frequency (kHz) from the center of the authorized bandwidth; and W is the channel bandwidth (kHz).

(2) On any frequency removed from the channel edge by more than 2500 Hz: At least 43+10 Log (P) dB.

(c) In the event a station's emissions outside its authorized channel cause harmful interference, the Commission may require the licensee to take such further steps as may be necessary to eliminate the interference.

(d) For operation in the 18 GHz band: Aural broadcast STL, intercity relay stations and booster stations may be authorized to employ either digital or frequency modulation.

(e) For operation in the 18 GHz band: The mean power of emission shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) When using frequency modulation:

(i) On any frequency removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: At least 25 decibels;

(ii) On any frequency removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: At least 35 decibels;

(iii) On any frequency removed from the assigned frequency by more than 250 percent of the authorized band-

width: At least 43+10 log₁₀ (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(2) When using digital modulation:

(i) In any 1 MHz band, 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.

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

Where:

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

P = Percent removed from the carrier frequency.

B = Authorized bandwidth in MHz.

[Attenuation greater than 56 decibels is not required.]

(ii) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 + 10 log₁₀ (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(f) For operation in the 18 GHz band: When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion require greater attenuation than specified above.

(g) The following limitations apply to the operation of aural broadcast microwave booster stations:

(1) The booster station must receive and amplify the signals of the originating station and retransmit them on the same frequency without significantly altering them in any way. The characteristics of the booster transmitter output signal shall meet the requirements applicable to the signal of the originating station.

(2) The licensee is responsible for correcting any condition of interference that results from the radiation of radio frequency energy outside the assigned channel. Upon notice by the FCC to the station licensee that interference is being caused, operation of the apparatus must be immediately suspended and may not be resumed until the interference has been eliminated or it can be demonstrated that the interference is not due to spurious emissions. However, short term test transmissions may be made during the period of suspended operation to determine the efficacy of remedial measures.

(3) In each instance where suspension of operation is required, the licensee must submit a full report to the FCC after operation is resumed. The report must contain details of the nature of the interference, the source of interfering signals, and the remedial steps taken to eliminate the interference.

[28 FR 13716, Dec. 14, 1963, as amended at 48 FR 50332, Nov. 1, 1983; 49 FR 7130, Feb. 27, 1984; 49 FR 37777, Sept. 26, 1984; 50 FR 48599, Nov. 26, 1985]

§ 74.536 Directional antenna required.

(a) Aural broadcast STL and ICR stations are required to use a directional antenna with the minimum beamwidth necessary, consistent with good engineering practice, to establish the link.

(b) An aural broadcast STL or intercity relay station operating in the 17.7-19.7 GHz band shall employ an antenna that meets the performance standards for Category A, except that in areas not subject to frequency congestion, antennas meeting standards for Category B may be employed. However, the Commission may require the replacement, at the licensee's expense, of any antenna or periscope antenna system of a permanent fixed station that does not meet performance Standard A, which is specified in the table in paragraph (c) of this section, upon a showing that said antenna causes or is likely to cause interference to (or receive interference from) any other authorized or proposed station; provided that an antenna meeting performance Standard A is unlikely to involve such interference.

(c) Licensees shall comply with the antenna standards table shown in this paragraph in the following manner:

(1) With either the maximum beamwidth to 3 dB points requirement or with the minimum antenna gain requirement; and

(2) With the minimum radiation suppression to angle requirement.

ANTENNA STANDARDS

Frequency (GHz)	Category	Maximum beamwidth to 3 dB points ¹ (included angle in degrees)	Minimum antenna gain (dbi)	Minimum radiation suppression to angle in degrees from centerline of main beam in decibels							
				5° to 10°	10° to 15°	15° to 20°	20° to 30°	30° to 100°	100° to 140°	140° to 180°	
17.7 to 19.7	A	2.2	38	25	29	33	36	42	55	55	
	B	2.2	38	20	24	28	32	35	36	36	
31.0 to 31.3 ²	n/a	³ 4.0	38	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

¹ If a licensee chooses to show compliance using maximum beamwidth to 3 dB points, the beamwidth limit shall apply in both the azimuth and the elevation planes.

² Mobile, except aeronautical mobile, stations need not comply with these standards.

³ The minimum front-to-back ratio shall be 38 dBi.

[48 FR 50333, Nov. 1, 1983, as amended at 49 FR 7130, Feb. 27, 1984; 50 FR 48599, Nov. 26, 1985; 51 FR 19840, June 3, 1986; 62 FR 4922, Feb. 3, 1997]

§ 74.537 Temporary authorizations.

(a) Special temporary authority may be granted for aural broadcast STL or intercity relay station operation which cannot be conducted in accordance with § 74.24. Such authority will normally be granted only for operations of a temporary nature. Where operation is seen as likely on a continuing annual basis, an application for a regular authorization should be submitted.

(b) A request for special temporary authorization for the operation of an aural broadcast STL or intercity relay station may be made by informal application which shall be filed with the FCC at least 10 days prior to the date of the proposed operation. However, an application filed within less than 10 days of the proposed operation may be accepted upon a satisfactory showing of the reasons for the delay in submitting the request.

(c) An informal request for special temporary authority requiring payment of a fee shall be addressed to the FCC at Federal Communications Commission, Broadcast Auxiliary Radio Services, P.O. Box 358700, Pittsburgh, PA 15251-5700. An informal request for special temporary authority not requiring payment of a fee shall be addressed to the FCC at Federal Communications Commission, Broadcast Auxiliary Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325. All requests must include full particulars including: licensee's name, call letters of the associated broadcast station(s), name and address of individual designated to receive the return authorization, call letters of the aural broadcast STL or intercity relay station, if assigned, type and manufacturer of equipment, power output, emission, frequency or frequencies proposed for use, commencement and termination date and location of the proposed operation, and purpose for which request is made including any particular justification.

(d) A request for special temporary authorization shall specify a frequency or frequencies consistent with the provisions of § 74.502. However, in the case of events of widespread interest and importance which cannot be transmitted successfully on these frequencies, frequencies assigned to other services

may be requested upon a showing that operation thereon will not cause interference to established stations. In no case will operation of an aural broadcast STL or intercity relay station be authorized on frequencies employed for the safety of life or property.

(e) When the transmitting equipment utilized is not licensed to the user, the user shall nevertheless have full control over the use of the equipment during the period it is operated.

(f) Special temporary authorization to permit operation of aural broadcast STL or intercity relay stations or systems pending FCC action on an application for regular authority will normally not be granted.

[47 FR 9220, Mar. 4, 1982, as amended at 50 FR 23709, June 5, 1985; 58 FR 19775, Apr. 16, 1993]

§ 74.550 Equipment authorization.

Each authorization for aural broadcast STL, ICR, and booster stations shall require the use of notified or type accepted equipment. Equipment which has not been type approved under the equipment authorization program and which was in service prior to July 1, 1993, may be retained solely for temporary uses necessary to restore or maintain regular service provided by approved equipment, because the main or primary unit has failed or requires servicing. Such temporary uses may not interfere with or impede the establishment of other aural broadcast auxiliary links and may not occur during more than 720 cumulative hours per year. Should interference occur, the licensee must take all steps necessary to eliminate it, up to and including cessation of operation of the auxiliary transmitter. All unapproved equipment retained for temporary use must have been in the possession of the licensee prior to July 1, 1993, and may not be obtained from other sources. Requirements for obtaining a grant of equipment authorization are contained in subpart J of part 2 of the Rules. Equipment designed exclusively for fixed operation shall be authorized under notification procedures (see § 2.904(d) of this chapter).

NOTE: Consistent with the note to § 74.502(a), grandfathered equipment in the 942-944 MHz band and STL/ICR users of these frequencies in Puerto Rico are also required

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to come into compliance by July 1, 1993. The backup provisions described above apply to these stations also.

[60 FR 14225, Mar. 16, 1995]

§ 74.551 Equipment changes.

(a) Prior Commission approval, upon appropriate application (FCC Form 313) therefor, is required for any of the following changes:

- (1) A change in the ERP.
- (2) A change in the operating frequency or channel bandwidth.
- (3) A change in the location of the transmitter or transmitting antenna except when relocation of the transmitter is within the same building.
- (4) Any change in the overall height of the antenna structure, except where notice to the Federal Aviation Administration is specifically not required under § 17.14(b) of this chapter.
- (5) Any change in the direction of the main radiation lobe of the transmitting antenna.

(b) Other equipment changes not specifically referred to in this section may be made at the discretion of the licensee, provided that the FCC at Federal Communications Commission, Broadcast Auxiliary Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 is promptly notified in writing upon the completion of such changes, and that the changes are described in the notification.

(c) Any application proposing a change in the height of the antenna structure or its location must also include the Antenna Structure Registration Number (FCC Form 854R) of the antenna structure upon which it will locate its proposed antenna. In the event the antenna structure does not have a Registration Number, either the antenna structure owner shall file FCC Form 854 ("Application for Antenna Structure Registration") in accordance with part 17 of this chapter or the applicant shall provide a detailed explanation why registration and clearance are not necessary.

[28 FR 13716, Dec. 14, 1963, as amended at 38 FR 6827, Mar. 13, 1973; 47 FR 54448, Dec. 3, 1982; 49 FR 7130, Feb. 27, 1984; 50 FR 48599, Nov. 26, 1985; 58 FR 19775, Apr. 16, 1993; 61 FR 4368, Feb. 6, 1996]

§ 74.561 Frequency tolerance.

In the bands above 944 MHz, the operating frequency of the transmitter shall be maintained in accordance with the following table:

Frequency band (MHz)	Tolerance as percentage of assigned frequency
944 to 952	0.005
17,700 to 19,700	0.003
31,000 to 31,300	0.03

[54 FR 30043, July 18, 1989]

§ 74.562 Frequency monitors and measurements.

The licensee shall ensure that the STL, ICR, TVP, or booster transmitter does not exceed the emission limitations of § 74.535. This may be accomplished by appropriate frequency measurement techniques and consideration of the transmitter emissions.

[50 FR 48599, Nov. 26, 1985]

§ 74.564 Posting of station license.

(a) The station license and any other instrument of authorization or individual order concerning the construction of the equipment or manner of operation of the station shall be posted in the room in which the transmitter is located, provided that if the station is operated by remote control pursuant to § 74.533, the station license shall be posted at the operating position.

(b) Posting of the station license and any other instruments of authorization shall be done by affixing the licenses to the wall at the posting location, or by enclosing them in a binder or folder which is retained at the posting location so that the documents will be readily available and easily accessible.

[48 FR 24385, June 1, 1983, as amended at 60 FR 55483, Nov. 1, 1995]

§ 74.582 Station identification.

(a) Each aural broadcast STL or intercity relay station, when transmitting program material or information shall transmit station identification at the beginning and end of each period of operation, and hourly, as close to the hour as feasible, at a natural break in program offerings by one of the following means:

(1) Transmission of its own call sign by aural means or by automatic transmission of international Morse telegraphy.

(2) Aural transmission of the call sign of the radio broadcast station with which it is licensed as an STL or intercity relay station.

(3) Aural transmission of the call sign of the radio broadcast station whose signals are being relayed, or, when programs are obtained directly from network lines and relayed, the network identification.

(b) Station identification transmissions during operation need not be made when to make such transmission would interrupt a single consecutive speech, play, religious service, symphony concert, or other such productions. In such cases, the identification transmission shall be made at the first interruption of the entertainment continuity and at the conclusion thereof.

(c) Where more than one aural broadcast STL or intercity relay station is employed in an integrated relay system, the station at the point of origination may originate the transmission of the call signs of all of the stations in the relay system.

(d) Aural broadcast microwave booster stations will be assigned individual call signs. However, station identification will be accomplished by the retransmission of identification as provided in paragraph (a) of this section.

(e) Voice transmissions shall normally be employed for station identification. However, other methods of station identification may be permitted or required by the Commission.

[28 FR 13716, Dec. 14, 1963, as amended at 42 FR 36830, July 18, 1977; 42 FR 38178, July 27, 1977; 45 FR 26067, Apr. 17, 1980; 49 FR 7130, Feb. 27, 1984]

Subpart F—Television Broadcast Auxiliary Stations

§ 74.600 Eligibility for license.

A license for a station in this subpart will be issued only to a television broadcast station, a television broadcast network-entity, a low power television station, or a television translator station.

[52 FR 7142, Mar. 9, 1987]

§ 74.601 Classes of TV broadcast auxiliary stations.

(a) *TV pickup stations.* A land mobile station used for the transmission of TV program material and related communications from scenes of events occurring at points removed from TV broadcast station studios to TV broadcast or low power TV stations or other purposes as authorized in § 74.631.

(b) *TV STL station (studio-transmitter link).* A fixed station used for the transmission of TV program material and related communications from the studio to the transmitter of a TV broadcast or low power TV station or other purposes as authorized in § 74.631.

(c) *TV relay station.* A fixed station used for transmission of TV program material and related communications for use by TV broadcast and low power TV stations or other purposes as authorized in § 74.631.

(d) *TV translator relay station.* A fixed station used for relaying programs and signals of TV broadcast stations to LPTV, TV translator, and to other communications facilities that the Commission may authorize or for other purposes as permitted by § 74.631.

(e) *TV broadcast licensee.* Licensees and permittees of both TV broadcast and low power TV stations, unless specifically otherwise indicated.

(f) *TV microwave booster station.* A fixed station in the TV broadcast auxiliary service that receives and amplifies signals of a TV pickup, TV STL, TV relay, or TV translator relay station and retransmits them on the same frequency.

[47 FR 21496, May 18, 1982, as amended at 48 FR 17091, Aug. 21, 1983; 49 FR 7130, Feb. 27, 1984]

§ 74.602 Frequency assignment.

(a) The following frequencies are available for assignment to television pickup, television STL, television relay and television translator relay stations. The band segments 17,700–18,580 and 19,260–19,700 MHz are available for broadcast auxiliary stations as described in paragraph (g) of this section. Additionally, the band 38.6–40.0 GHz is available for assignment without channel bandwidth limitation to TV pickup stations on a secondary

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basis to fixed stations. The band segment 6425–6525 MHz is available for broadcast auxiliary stations as described in paragraph (j) of this section.

Broadcast network-entities may also use the 1990–2110, 6425–6525 and 6875–7125 MHz bands for mobile television pick-up only.

Band A MHz	Band B MHz	Band D ¹ GHz			
		Group A channels		Group B channels	
		Designation	Channel boundaries	Designation	Channel boundaries
1990–2008 .....	.....	A01	12.700–12.725	B01	12.7125–12.7375
2008–2025 .....	.....	A02	12.725–12.750	B02	12.7375–12.7625
2025–2042 .....	.....	A03	12.750–12.775	B03	12.7625–12.7875
2042–2059 .....	.....	A04	12.775–12.800	B04	12.7875–12.8125
2059–2076	6875–6900	A05	12.800–12.825	B05	12.8125–12.8375
2076–2093	6900–6925	A06	12.825–12.850	B06	12.8375–12.8625
2093–2110	6925–6950	A07	12.850–12.875	B07	12.8625–12.8875
2450–2467	6950–6975	A08	12.875–12.900	B08	12.8875–12.9125
2467–2483.5	6975–7000	A09	12.900–12.925	B09	12.9125–12.9375
	7000–7025	A10	12.925–12.950	B10	12.9375–12.9625
	7025–7050	A11	12.950–12.975	B11	12.9625–12.9875
	7050–7075	A12	12.975–13.000	B12	12.9875–13.0125
	7075–7100	A13	13.000–13.025	B13	13.0125–13.0375
	7100–7125	A14	13.025–13.050	B14	13.0375–13.0625
		A15	13.050–13.075	B15	13.0625–13.0875
		A16	13.075–13.100	B16	13.0875–13.1125
		A17	13.100–13.125	B17	13.1125–13.1375
		A18	13.125–13.150	B18 ²	13.1375–13.1625
		A19 ²	13.150–13.175	B19 ²	13.1625–13.1875
		A20 ²	13.175–13.200	B20 ²	13.1875–13.2125
		A21	13.200–13.225	B21	13.2125–13.2375
		A22	13.225–13.250		

¹For fixed stations using Band D Channels, applicants are encouraged to use alternate A and B channels such that adjacent R.F. carriers are spaced 12.5 MHz. As example, a fixed station, relaying several channels, would use A01, B01, A02, B02, A03, etc.

²The band 13.15–13.20 GHz is reserved exclusively for the assignment of Television Pickup and CARS Pickup stations on a co-equal basis within a 50 km radius of each of the 100 television markets delineated in Section 76.51. Fixed television auxiliary stations licensed pursuant to applications accepted for filing before Sept. 1, 1979, may continue operation on channels in the 13.15–13.20 GHz band, subject to periodic license renewals.

(1) Frequencies shown above between 2450 and 2500 MHz in Band A are allocated to accommodate the incidental radiations of industrial, scientific, and medical (ISM) equipment, and stations operating therein must accept any interference that may be caused by the operation of such equipment. Fre-

quencies between 2450 and 2500 MHz are also shared with other communication services and exclusive channel assignments will not be made, nor is the channeling shown above necessarily that which will be employed by such other services.

(2) The following notes to the Table of Frequency Allocations contained in § 2.106 apply to the shared use of the frequency bands shown above:

NG 123 Television pickup stations may be authorized to use frequencies in the band 38.6–40 GHz on a secondary basis to stations operating in the fixed services.

US90 In the band 2025–2120 MHz earth-to-space transmissions in the space research and earth exploration satellite services by Government and non-Government stations as specific locations may be authorized subject to such conditions as may be applied on a case-by-case basis.

US111 In the band 1990–2120 MHz, Government space research earth station may be authorized to use specific frequencies at specific locations for earth-to-space transmissions. Such authorizations shall be secondary to non-Government use of this band and subject to such other conditions as may be applied on a case-by-case basis.

Corpus Christi, Tex., 27°39' N., 097°23' W.
 Fairbanks, Alaska, 64°59' N, 147°53' W.
 Goldstone, Calif., 35°18' N, 116°54' W.
 Greenbelt, Md., 39°00' N, 076°50' W.
 Guam, Mariana Islands, 13°19' N, 144°44' E.
 Kanai, Hawaii, 22°08' N, 159°40' W.
 Meritt Island, Fla., 28°29' N, 080°35' W.
 Rosman, N.C., 35°12' N, 082°52' W.
 Wallops Island, Va., 37°57' N, 075°28' W.

US219 In the band 2025–2110 MHz, Government Earth resources satellite Earth stations in the Earth exploration-satellite service may be authorized to use the frequency 2106.4 MHz for Earth-to-space transmissions for tracking, telemetry, and telecommand at the sites listed below. Such transmissions shall not cause harmful interference to non-Government operations.

US222 In the band 2025–2035 MHz geostationary operational environmental satellite Earth stations in the space research and Earth exploration-satellite services may be authorized on a coequal basis for Earth-to-space transmission for tracking, telemetry, and telecommand at the sites listed below:

Wallops Is., Va. 37°50' 48" N., 75°27' 33" W.
 Seattle, Wash. 47°34' 15" N., 122°33' 10" W.
 Honolulu, Hawaii 21°21' 12" N., 157°52' 36" W.

NG147 Stations in the broadcast auxiliary service and private radio services licensed as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, may continue to operate on a primary basis to the radiodetermination satellite service.

(b) Subject to the conditions of paragraph (a) of this section, frequency assignments will normally be made as requested, provided that the frequency

selection provisions of § 74.604 have been followed and that the frequency requested will cause no interference to existing users in the area. The Commission reserves the right to assign frequencies other than those requested if, in its opinion, such action is warranted.

(c) Fixed link stations will be authorized to operate on one channel only.

(d) Community antenna relay stations may be assigned channels in Band D between 12,700 and 13,200 MHz subject to the condition that no harmful interference is caused to TV STL and TV relay stations authorized at the time of such grants. Similarly, new TV STL and TV relay stations must not cause harmful interference to community antenna relay stations authorized at the time of such grants. The use of channels between 12,700 and 13,200 MHz by TV pickup stations is subject to the condition that no harmful interference is caused to community antenna relay, TV STL and TV relay stations, except as provided for in § 74.602(a) Note 2. Band D channels are also shared with certain Private Operational Fixed Stations, see § 74.638.

(e) Communication common carriers in the Local Television Transmission Service (Part 21) may be assigned frequencies available to television broadcast station licensees and broadcast network entities for the purpose of providing service to television broadcast stations and broadcast network—entities, respectively.

(f) TV auxiliary stations licensed to low power TV stations and translator relay stations will be assigned on a secondary basis, i.e., subject to the condition that no harmful interference is caused to other TV auxiliary stations assigned to TV broadcast stations, or to community antenna relay stations (CARS) operating between 12,700 and 13,200 MHz. Auxiliary stations licensed to low power TV stations and translator relay stations must accept any interference caused by stations having primary use of TV auxiliary frequencies.

(g) The following frequencies are available for assignment to television STL, television relay stations and television translator relay stations. The provisions of Section 74.604 do not

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apply to the use of these frequencies. These frequencies are shared on a co-equal basis with other stations in the fixed service (see Parts 21, 78 and 94). Applicants may use either a two-way link or one or both frequencies of a frequency pair for a one-way link and shall coordinate proposed operations pursuant to procedures required in §21.100(d).

(1) 2 MHz maximum authorized bandwidth channel:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
18141.0	n/a

(2) 6 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
216 MHz Separation	
18145.0	n/a
18151.0	18367.0
18157.0	18373.0
18163.0	18379.0
18169.0	18385.0
18175.0	18391.0
18181.0	18397.0
18187.0	18403.0
18193.0	18409.0
18199.0	18415.0
18205.0	18421.0
18211.0	18427.0
18217.0	18433.0
18223.0	18439.0
18229.0	18445.0
18235.0	18451.0
18241.0	18457.0
18247.0	18463.0
18253.0	18469.0
18259.0	18475.0
18265.0	18481.0
18271.0	18487.0
18277.0	18493.0
18283.0	18499.0
18289.0	18505.0
18295.0	18511.0
18301.0	18517.0
18307.0	18523.0
18313.0	18529.0
18319.0	18535.0
18325.0	18541.0
18331.0	18547.0
18337.0	18553.0
18343.0	18559.0
18349.0	18565.0
18355.0	18571.0
18361.0	18577.0

(3) 10 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 MHz Separation	
17705.0	19265.0
17715.0	19275.0
17725.0	19285.0
17735.0	19295.0
17745.0	19305.0
17755.0	19315.0
17765.0	19325.0
17775.0	19335.0
17785.0	19345.0
17795.0	19355.0
17805.0	19365.0
17815.0	19375.0
17825.0	19385.0
17835.0	19395.0
17845.0	19405.0
17855.0	19415.0
17865.0	19425.0
17875.0	19435.0
17885.0	19445.0
17895.0	19455.0
17905.0	19465.0
17915.0	19475.0
17925.0	19485.0
17935.0	19495.0
17945.0	19505.0
17955.0	19515.0
17965.0	19525.0
17975.0	19535.0
17985.0	19545.0
17995.0	19555.0
18005.0	19565.0
18015.0	19575.0
18025.0	19585.0
18035.0	19595.0
18045.0	19605.0
18055.0	19615.0
18065.0	19625.0
18075.0	19635.0
18085.0	19645.0
18095.0	19655.0
18105.0	19665.0
18115.0	19675.0
18125.0	19685.0
18135.0	19695.0

(4) 20 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 MHz Separation	
17710.0	19270.0
17730.0	19290.0
17750.0	19310.0
17770.0	19330.0
17790.0	19350.0
17810.0	19370.0
17830.0	19390.0
17850.0	19410.0
17870.0	19430.0
17890.0	19450.0
17910.0	19470.0
17930.0	19490.0
17950.0	19510.0
17970.0	19530.0
17990.0	19550.0

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Transmit (receive) (MHz)	Receive (transmit) (MHz)
18010.0	19570.0
18030.0	19590.0
18050.0	19610.0
18070.0	19630.0
18090.0	19650.0
18110.0	19670.0
18130.0	19690.0

(5) 40 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 MHz Separation	
17720.0	19280.0
17760.0	19320.0
17800.0	19360.0
17840.0	19400.0
17880.0	19440.0
17920.0	19480.0
17960.0	19520.0
18000.0	19560.0
18040.0	19600.0
18080.0	19640.0
18120.0	19680.0

(6) 80 MHz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 MHz Separation	
17740.0	19300.0
17820.0	19380.0
17900.0	19460.0
17980.0	19540.0
18060.0	19620.0

(h) TV STL and TV relay stations may be authorized, on a secondary basis and subject to the provisions of Subpart G of this chapter, to operate fixed point-to-point service on the UHF-TV channels 14-69. These stations must not interfere with and must accept interference from current and future full-power UHF-TV stations, LPTV stations, translator stations. They will also be secondary to current land mobile stations (in areas where land mobile sharing is currently permitted and contingent on the decision reached in the pending Dockets No. 85-172 and No. 84-902).

(i) 6425 to 6525 MHz—Mobile Only. Paired and un-paired operations permitted. Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable dis-

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tribution is not permitted. This band is co-equally shared with mobile stations licensed pursuant to Parts 21, 78 and 94 of the Commission's Rules. The following channel plans apply.

(1) 1 MHz maximum authorized bandwidth channels.

Transmit (or receive MHz)	Receive (or transmit) (MHz)
6425.5	6475.5
6450.5	6500.5

(2) 8 MHz maximum authorized bandwidth channels.

Transmit (or receive MHz)	Receive (or transmit) (MHz)
6430.0	6480.0
6438.0	6488.0
6446.0	6596.0
6455.0	6505.0
6463.0	6513.0
6471.0	6521.0

(3) 25 MHz maximum authorized bandwidth channels.

Transmit (or receive MHz)	Receive (or transmit) (MHz)
6437.5	6487.5
6462.5	6512.5

(Secs. 4, 5, 303, 48 Stat., as amended, 1066, 1068, 1082; 47 U.S.C. 154, 155, 303)

[28 FR 13718, Dec. 14, 1963]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 74.602, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 74.603 Sound channels.

(a) The frequencies listed in § 74.602(a) may be used for the simultaneous transmission of the picture and sound portions of TV broadcast programs and for cue and order circuits, either by means of multiplexing or by the use of a separate transmitter within the same channel. When multiplexing of a TV STL station is contemplated, consideration should be given to the requirements of § 73.687 of this Chapter regarding the overall system performance requirements. Applications for new TV pickup, TV STL, TV relay and TV translator relay stations shall clearly indicate the nature of any mutliplexing proposed. Multiplexing equipment may be installed on licensed equipment without authority of the FCC, provided the installation of such apparatus on a

TV STL station shall not result in degradation of the overall system performance of the TV broadcast station below that permitted by § 73.687 of this chapter.

(b) The aural portion of television broadcast program material may be transmitted over an aural broadcast STL or intercity relay station licensed under the provisions of Subpart E of this part, but only on a secondary, non-interference basis to the programming of aural broadcast stations. A TV station licensee may continue such operation until the channel assigned to its Subpart E station is requested by an aural broadcast licensee after a showing that no other vacant channels are available or satisfactory. Upon Commission concurrence with the aural broadcast licensee request, the TV station licensee will be required to discontinue operation on the requested frequency. In areas where only a portion of the Subpart E frequencies used by TV station licensees are required by aural broadcast licensees, the Commission will assist all affected parties in arriving at an equitable solution. The provisions of this paragraph do not preclude continued use of Subpart E facilities for relay of TV sound where the facilities are authorized to an aural broadcast licensee and the primary purpose of the station is to relay aural broadcast programming.

(c) Aural STL or intercity relay stations licensed as of July 10, 1970, to operate in the frequency band 942-947 MHz, may continue to so operate pending a decision as to their disposition through a future rule making proceeding.

(d) Remote pickup broadcast stations may be used in conjunction with television pickup stations for the transmission of the aural portion of television programs or events that occur outside a television studio and for the transmission of cues, orders, and other related communications necessary thereto. The rules governing remote pickup broadcast stations are contained in Subpart D of this part.

[28 FR 13718, Dec. 14, 1963, as amended at 47 FR 55936, Dec. 14, 1982; 48 FR 24385, June 1, 1983]

§ 74.604 Interference avoidance.

(a) Because the Commission does not undertake frequency coordination, applicants for new TV broadcast auxiliary authorizations are responsible for selecting the frequency assignments that are least likely to result in mutual interference with other licensees in the same area. Applicants may consult local coordination committees, where they exist, for information on frequencies available in the area. In selecting frequencies, consideration should be given to the relative locations of receiving points, normal transmission paths, and the nature of the contemplated operation.

(b) Where two or more licensees are assigned a common channel for TV pickup, TV STL, or TV relay purposes in the same area and simultaneous operation is contemplated, they shall take such steps as may be necessary to avoid mutual interference, including consultation with the local coordination committee, if one exists. If a mutual agreement to this effect cannot be reached, the Commission must be notified and it will take such action as may be necessary, including time sharing arrangements, to assure an equitable distribution of available frequencies.

(c) For those interference disputes brought to the Commission for resolution, TV broadcast auxiliary channels will have the following priority for purposes of interference protection:

(1) All fixed links for full service broadcast stations and cable systems.

(2) TV and CARS pickup stations.

(3) Fixed or mobile stations serving translator or low power TV stations.

(4) Backup facilities; TV pickup stations used outside a licensee's local service area.

(5) Any transmission, pursuant to § 74.631(f), that does not involve the delivery of program material to a licensee's associated TV broadcast station.

(d) Interference between two stations having the same priority shall be resolved in favor of the station licensed first on a particular path.

[48 FR 17091, Apr. 21, 1983]

§ 74.631 Permissible service.

(a) The licensee of a television pickup station authorizes the transmission

of program material, orders concerning such program material, and related communications necessary to the accomplishment of such transmissions, from the scenes of events occurring in places other than a television studio, to its associated television broadcast station, to such other stations as are broadcasting the same program material, or to the network or networks with which the television broadcast station is affiliated. Television pickup stations may be operated in conjunction with other television broadcast stations not aforementioned in this paragraph: *Provided*, That the transmissions by the television pickup station are under the control of the licensee of the television pickup station and that such operation shall not exceed a total of 10 days in any 30-day period. Television pickup stations may be used to provide temporary studio-transmitter links or intercity relay circuits consistent with § 74.632 without further authority of the Commission: *Provided, however*, That prior Commission authority shall be obtained if the transmitting antenna to be installed will increase the height of any natural formation or man-made structure by more than 6.1 meters (20 feet) and will be in existence for a period of more than 2 consecutive days.

NOTE: As used in this subpart, "associated television broadcast station" means a television broadcast station licensed to the licensee of the television auxiliary broadcast station and with which the television auxiliary station is licensed as an auxiliary facility.

(b) A television broadcast STL station is authorized to transmit visual program material between the studio and the transmitter of a television broadcast station for simultaneous or delayed broadcast.

(c) A TV relay station is authorized to transmit visual program material between TV broadcast stations for simultaneous or delayed broadcast, or may be used to transmit visual program material from a remote pickup receiver site of a single station.

(d) The transmitter of an STL, TV relay station or TV translator relay station may be multiplexed to provide additional communication channels. A TV broadcast STL or TV relay station

will be authorized only in those cases where the principal use is the transmission of television broadcast program material for use by its associated TV broadcast station. However, STL or TV relay stations so licensed may be operated at any time for the transmission of multiplexed communications whether or not visual program material is being transmitted, provided that such operation does not cause harmful interference to TV broadcast pickup, STL or TV relay stations transmitting television broadcast program material.

(e) Except as provided in paragraphs (a), (d), (f) and (j) of this section, all program material transmitted over a TV pickup, STL, or TV relay station shall be used by or intended for use by a TV broadcast station owned by or under the common control of the licensee of the TV pickup, STL, or TV relay station. Program material transmitted over a TV pickup, STL or TV relay station and so used by the licensee of such facility may, with the permission of the licensee of the broadcast auxiliary facility, be used by other TV broadcast stations and by non-broadcast closed circuit educational TV systems operated by educational institutions.

(f) A TV broadcast pickup, STL, or TV relay station may be used for the transmission of material to be used by others, including but not limited to other broadcast stations, cable television systems, and educational institutions. This use shall not interfere with the use of these broadcast auxiliary facilities for the transmission of programs and associated material intended to be used by the television station or stations licensed to or under common control of the licensee of the TV pickup, STL, or TV relay station. This use of the broadcast auxiliary facilities must not cause harmful interference to broadcast auxiliary stations operating in accordance with the basic frequency allocation, and the licensee of the TV pickup, STL, or TV relay station must retain exclusive control over the operation of the facilities. Prior to operating pursuant to the provisions of this section, the licensee shall, for the intended location or area-of-operation, notify the appropriate

frequency coordination committee or any licensee(s) assigned the use of the proposed operating frequency, concerning the particulars of the intended operation and must provide the name and telephone number of a person who may be contacted in the event of interference.

(g) Except as provided in paragraph (d) of this section, a television translator relay station is authorized for the purpose of relaying the programs and signals of a television broadcast station to television broadcast translator stations for simultaneous retransmission.

(h) A TV microwave booster station is authorized to retransmit the signals of a TV pickup, TV STL, TV relay, or TV translator relay station.

(i) TV broadcast auxiliary stations authorized pursuant to this subpart may additionally be authorized to supply programs and signals of TV broadcast stations to cable television systems or CARS stations. Where the licensee of a TV broadcast auxiliary station supplies programs and signals to cable television systems or CARS stations, the TV auxiliary licensee must have exclusive control over the operation of the TV auxiliary stations licensed to it. Contributions to capital and operating expenses may be accepted only on a cost-sharing, non-profit basis, prorated on an equitable basis among all parties being supplied with program material.

(j) A broadcast network-entity may use television auxiliary service stations to transmit their own television program materials to broadcast stations, other broadcast network-entities, cable systems and cable network-entities: *Provided, however,* that the bands 1990-2110 MHz, 6425-6525 MHz and 6875-7125 MHz may be used by broadcast network-entities only for television pick-up stations.

[28 FR 13718, Dec. 14, 1963, as amended at 29 FR 15524, Nov. 19, 1964; 43 FR 1950, Jan. 13, 1978; 44 FR 32381, June 6, 1979; 47 FR 55937, Dec. 14, 1982; 48 FR 17092, Apr. 21, 1983; 49 FR 7130, Feb. 27, 1984; 52 FR 7142, Mar. 9, 1987]

§ 74.632 Licensing requirements.

(a) Licenses for television pickup, television STL, television microwave booster, or television relay stations

will be issued only to licensees of television broadcast stations, and broadcast network-entities and, further, on a secondary basis, to licensees of low power television stations. A separate application is required for each fixed station and the application shall be specific with regard to the frequency requested. A mobile station license may be issued for any number of mobile transmitters to operate in a specific area or frequency band and the applicant shall be specific with regard to the frequencies requested. In lieu of specifying specific transmitter types, applicants shall certify that the transmitter used or to be used at the requested facility is type accepted, or was manufactured before October 1, 1981. Applications for consolidation of individual mobile station licenses into a system license will be accepted only at the time application is made for renewal of the main (Part 73) station license.

(b) A license for a TV relay station may be issued in any case where the circuit will operate between TV broadcast stations either by means of "off-the-air" pickup and relay or location of the initial relay station at the studio or transmitter of a TV broadcast station.

(c) An application for construction permit for a new TV pickup station shall designate the TV broadcast station with which it is to be operated and specify the area in which the proposed operation is intended. The maximum permissible area of operation will generally be that of a standard metropolitan area, unless a special showing is made that a larger area is necessary.

(d) Licensees who have two or more TV broadcast stations located in different cities shall, in applying for a new TV pickup station, designate the TV broadcast station in conjunction with which it is to be operated principally. Operation in a city which is not the city of license of the associated TV broadcast station is on a secondary, non-interference basis to home-city users.

(e) A license for a TV translator relay station will be issued only to licensees of low power TV and TV translator stations. The application for construction permit shall designate the

television broadcast station to be relayed, the source of the television broadcast station's signals, and the television broadcast translator station with which it is to be operated. *However*, a television translator relay station license may be issued to a cooperative enterprise wholly owned by licensees of television broadcast translators or licensees of television broadcast translators and cable television owners or operators upon a showing that the applicant is qualified under the Communication Act of 1934, as amended.

(f) Licensees of TV pickup, TV STL, TV relay, and TV translator relay stations may be authorized to operate one or more TV microwave booster stations for the purpose of relaying signals over a path that cannot be covered with a single station.

NOTE: Applications for TV microwave booster stations will not be accepted for filing prior to January 1, 1985.

(g) In case of permanent discontinuance of operation of a station licensed under this subpart, the licensee shall forward the station license to the Federal Communications Commission, Broadcast Auxiliary Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325.

[28 FR 13718, Dec. 14, 1963, as amended at 44 FR 32382, June 6, 1979; 47 FR 55937, Dec. 14, 1982; 48 FR 9012, Mar. 3, 1983; 48 FR 17092, Apr. 21, 1983; 48 FR 21486, May 12, 1983; 49 FR 7130, Feb. 27, 1984; 49 FR 10930, Mar. 23, 1984; 52 FR 7142, Mar. 9, 1987; 58 FR 19775, Apr. 16, 1993]

§ 74.633 Temporary authorizations.

(a) Special temporary authority may be granted for TV broadcast auxiliary station operation which cannot be conducted in accordance with § 74.24. Such authority will normally be granted only for operations of a temporary nature. Where operation is seen as likely on a continuing annual basis, an application for a regular authorization should be submitted.

(b) A request for special temporary authority for the operation of a television broadcast auxiliary station may be made by informal application. An informal application for special temporary authority requiring payment of a fee shall be addressed to the FCC at Federal Communications Commission,

Broadcast Auxiliary Radio Services, P.O. Box 358700, Pittsburgh, PA 15251-5700. An informal application for special temporary authority not requiring payment of a fee shall be addressed to the FCC at Federal Communications Commission, Broadcast Auxiliary Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325. Such applications shall be filed with the Commission at least 10 days prior to the date of the proposed operation.

(c) An application for special temporary authority shall set forth full particulars of the purpose for which the request is made, and shall show the type of equipment, power output, emission, and frequency or frequencies proposed to be used, as well as the time, date and location of the proposed operation. In the event that the proposed antenna installation will increase the height of any natural formation, or existing man-made structure, by more than 6.1 meters (20 feet), a vertical plan sketch showing the height of the structure proposed to be erected, the height above ground of any existing structure, the elevation of the site above mean sea level, and the geographic coordinates of the proposed site, shall be submitted with the application.

(d) A request for special temporary authority shall specify a channel or channels consistent with the provisions of § 74.602: *Provided*, That in the case of events of wide-spread interest and importance which cannot be transmitted successfully on these frequencies, frequencies assigned to other services may be requested upon a showing that operation thereon will not cause interference to established stations: *And provided further*, That in no case will a television auxiliary broadcast operation be authorized on frequencies employed for the safety of life and property.

(e) When the transmitting equipment utilized is not licensed to the user, the user shall nevertheless have full control over the use of the equipment during the period it is operated.

(f) Special temporary authority to permit operation of a TV auxiliary broadcast station of any class pending FCC action on an application for regular authority will not normally be granted.

Federal Communications Commission

§ 74.637

(Sec. 318, 48 Stat. 1089, as amended; 47 U.S.C. 318)

[28 FR 13720, Dec. 14, 1963, as amended at 47 FR 9221, Mar. 4, 1982; 47 FR 55937, Dec. 14, 1982; 50 FR 23710, June 5, 1985; 52 FR 10570, Apr. 2, 1987; 58 FR 19775, Apr. 16, 1993]

§ 74.634 Remote control operation.

(a) A TV auxiliary station 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 be designed, installed, and protected so that the transmitter can only be activated or controlled by persons authorized by the licensee.

(2) The remote control equipment must be maintained to ensure proper operation.

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

(b) 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.

[28 FR 13718, Dec. 14, 1963, as amended at, 47 FR 55937, Dec. 14, 1982; 50 FR 48600, Nov. 26, 1985; 60 FR 55483, Nov. 1, 1995]

§ 74.635 Unattended operation.

(a) TV relay stations, TV translator relay stations, TV STL stations, and TV microwave booster stations may be operated unattended under the following conditions:

(1) The transmitter must be provided with adequate safeguards to prevent improper operation.

(2) The transmitter shall be so installed and protected that it is not accessible to other than duly authorized persons;

(3) TV relay stations, TV STL stations, TV translator relay stations, and TV microwave booster stations used with these stations, shall be observed at the receiving end of the microwave circuit as often as necessary to ensure proper station operation by a person designated by the licensee, who must institute measures sufficient to ensure prompt correction of any condition of improper operation. However, an STL

station (and any TV microwave booster station) associated with a TV broadcast station operated by remote control may be observed by monitoring the TV station's transmitted signal at the remote control point. Additionally, a TV translator relay station (and any associated TV microwave booster station) may be observed by monitoring the associated TV translator station's transmitted signal.

(b) 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.

[28 FR 13718, Dec. 14, 1963, as amended at 31 FR 15314, Dec. 7, 1966; 43 FR 1950, Jan. 13, 1978; 47 FR 55937, Dec. 14, 1982; 49 FR 7131, Feb. 27, 1984; 50 FR 32417, Aug. 12, 1985]

§ 74.636 Power limitations.

Transmitter peak output power shall not be greater than necessary, and in any event, shall not exceed the power listed in the table below:

Frequency band (MHz)	Maximum allowable transmitter power		Maximum allowable EIRP	
	Fixed (W)	Mobil (W)	Fixed (dBW)	Mobil (dBW)
1,990 to 2,110	20.0	12.0	.....	.....
2,450 to 2,500	20.0	12.0	.....	.....
6,425 to 6,525 .....	.....	12.0	.....	+35
6,875 to 7,125	20.0	12.0	+55	+35
12,700 to 13,250	5.0	1.5	+55	+45
17,700 to 18,600	10.0	.....	+55	.....
18,600 to 18,800	¹ 10.0	.....	+35	.....
18,800 to 19,700	10.0	.....	+55	.....
31,000 to 31,300	0.05	0.05	.....	.....
38,600 to 40,000 .....	.....	1.5	.....	.....

¹ The power delivered to the antenna is limited to -3 dBW.

[45 FR 78692, Nov. 26, 1980, as amended at 52 FR 7142, Mar. 9, 1987]

§ 74.637 Emissions and emission limitations.

(a) For frequency modulation, the mean power of emissions shall be attenuated below the mean transmitter power (P) in accordance with the following schedule:

(1) On any frequency removed from the assigned frequency by more than 50% and up to 100% of the authorized bandwidth: at least 25 dB.

(2) On any frequency removed from the assigned frequency by more than

100% and up to 150% of the authorized bandwidth: at least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 150% of the authorized bandwidth: at least 43+10 Log(P) dB.

(b) For all emissions except frequency modulation, the peak power of

emissions shall be attenuated below the peak envelope transmitter power (P) 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:

$$\text{Attenuation} = 29 \text{ Log} \left(\frac{25}{11} \left(D + 2.5 - \frac{W}{2} \right)^2 \right) \text{ dB}$$

or 50 dB whichever is the lesser attenuation. Where: D is the displacement frequency (kHz) from the center of the authorized bandwidth; and W is the channel bandwidth (kHz).

(2) On any frequency removed from the channel edge by more than 2500 Hz: At least 43+10 Log (P) dB.

(c) For operation in the bands 6425–6525 MHz, 17,700–19,700 MHz, and 31,000–31,300 MHz: TV broadcast STL, relay and booster stations may be authorized to employ analog or digital modulation in this band. The mean power of any emission shall be attenuated below the mean output power of the transmitter 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;

(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;

(iii) On any frequency removed from the assigned (center) frequency by more than 250% of the authorized bandwidth: At least 43+10 log 10 (mean output power in watts) dB, or 80 dB, whichever is the lesser attenuation.

(2) When using digital modulation:

(i) In any 1 MHz band, the center frequency of which is removed from the assigned frequency by more than 50% up to and including 250% of the authorized bandwidth: As specified by the following equation but in no event less than 11 dB.

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

where:

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

P=Percent removed from the carrier frequency

B=Authorized bandwidth in MHz

[Attenuation greater than 56 decibels is not required.]

(i) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250% of the authorized bandwidth: At least 43=10 log₁₀ (mean output power in watts) dB, or 80 dB, whichever is the lesser attenuation.

(3) Amplitude Modulation.

For vestigial sideband AM video: On any frequency removed from the center frequency of the authorized band by more than 50%: at least 50 dB below peak power of the emission.

(d) In the event that interference to other stations is caused by emissions outside the authorized channel, the FCC may require greater attenuation than that specified in paragraph (b) of this section.

(e) The following limitations also apply to the operation of TV microwave booster stations:

(1) The booster station must receive and amplify the signals of the originating station and retransmit them on the same frequency without significantly altering them in any way. The characteristics of the booster transmitter output signal shall meet the requirements applicable to the signal of the originating station.

(2) The licensee is responsible for correcting any condition of interference that results from the radiation of radio

frequency energy outside the assigned channel. Upon notice by the FCC to the station licensee that interference is being caused, operation of the apparatus must be immediately suspended and may not be resumed until the interference has been eliminated or it can be demonstrated that the interference is not due to spurious emissions. However, short term test transmissions may be made during the period of suspended operation to determine the efficacy of remedial measures.

(3) In each instance where suspension of operation is required, the licensee must submit a full report to the FCC after operation is resumed. The report must contain details of the nature of the interference, the source of interfering signals, and the remedial steps taken to eliminate the interference.

(f) In the event a station's emissions outside its authorized channel cause harmful interference, the Commission may require the licensee to take such further steps as may be necessary to eliminate the interference.

(g) The maximum bandwidth which will be authorized per frequency assignment is set out in the table which follows. Regardless of the maximum authorized bandwidth specified for each frequency band, the Commission reserves the right to issue a license for less than the maximum bandwidth if it appears that less bandwidth would be sufficient to support an applicant's intended communications.

Frequency Band (MHz)	Maximum authorized bandwidth (MHz)
1,990 to 2,110	18
6,425 to 6,525	25
6,875 to 7,125	25
12,700 to 13,250	25
17,700 to 19,700	80
31,000 to 31,300	25 or 50
38,600 to 40,000	

[45 FR 78692, Nov. 26, 1980, as amended at 48 FR 50734, Nov. 3, 1983; 49 FR 7131, Feb. 27, 1984; 49 FR 37778, Sept. 26, 1984; 50 FR 7342, Feb. 22, 1985; 50 FR 34150, Aug. 23, 1985; 50 FR 48600, Nov. 26, 1985; 52 FR 7142, Mar. 9, 1987; 58 FR 51251, Oct. 1, 1993]

§74.638 Frequency coordination.

(a) Channels in Band D are shared with certain Private Operational Fixed

Stations authorized under Part 94, §94.93 after September 9, 1983. After this date all Broadcast Auxiliary use of these bands is subject to coordination using the following procedure:

(1) Before filing an application for new or modified facilities under this part the applicant must perform a frequency engineering analysis to ensure that the proposed facilities will not cause interference to existing or previously applied for stations in this band of a magnitude greater than that specified below.

(2) The general criteria for determining allowable adjacent or co-channel interference protection to be afforded, regardless of system length or type of modulation, multiplexing or frequency band, shall be such that the interfering signal shall not produce more than 1.0 dB degradation of the practical threshold of the protected receiver. Degradation is determined by calculating the ratio in dB between the desired carrier signal and undesired interfering signal (C/I ratio) appearing at the input to the receiver under investigation (the victim receiver). The development of the C/I ratios from the criteria for maximum allowable interference level per exposure and the methods used to perform path calculations shall follow generally acceptable good engineering practices. Procedures as may be developed by the Electronics Industries Association (EIA), the Institute of Electrical and Electronics Engineers, Inc. (IEEE), the American National Standards Institute (ANSI) or any other recognized authority will be acceptable to the FCC.

(3) Where the development of the carrier to interference ratio (C/I) is not covered by generally acceptable procedures or where the applicant does not wish to develop the carrier to interference ratio, the applicant shall employ the following C/I protection ratios.

(i) Co-channel interference: For both sideband and carrier-beat, (applicable to all bands), the previously authorized system shall be afforded a carrier to interfering signal protection ratio of at least 90 dB.

(ii) Adjacent channel interference: The existing or previously authorized system shall be afforded a carrier to

interfering signal protection ratio of at least 56 dB.

(b) Coordination of assignments in the 6425–6525 MHz and 17.7–19.7 GHz bands will be in accordance with the procedure established in §21.100(d) *except* that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree.

[49 FR 50734, Nov. 3, 1983, as amended at 52 FR 7142, Mar. 9, 1987]

§ 74.641 Antenna systems.

(a) For fixed stations operating between 1990 MHz and 31.3 GHz and aeronautical mobile stations operating between 31.0 GHz and 31.3 GHz, the following standards apply:

(1) Fixed TV broadcast auxiliary stations shall use directional antennas that meet the performance standards indicated in the following table. Upon adequate showing of need to serve a larger sector, or more than a single sector, greater beamwidth or multiple antennas may be authorized. Appli-

cants shall request, and authorization for stations in this service will specify, the polarization of each transmitted signal. Booster station antennas having narrower beamwidths and reduced sidelobe radiation may be required in congested areas, or to resolve interference problems.

(i) Stations must employ an antenna that meets the performance standards for Category B. In areas subject to frequency congestion, where proposed facilities would be precluded by continued use of a Category B antenna, a Category A antenna must be employed. The Commission may require the use of a high performance antenna where interference problems can be resolved by the use of such antennas.

(ii) Licensees shall comply with the antenna standards table shown in this paragraph in the following manner:

(A) With either the maximum beamwidth to 3 dB points requirement or with the minimum antenna gain requirement; and

(B) With the minimum radiation suppression to angle requirement.

ANTENNA STANDARDS

Frequency (MHz)	Category	Maximum beamwidth to 3 dB points ¹ (included angle in degrees)	Minimum antenna gain (dbi)	Minimum radiation suppression to angle in degrees from centerline of main beam in decibels						
				5° to 10°	10° to 15°	15° to 20°	20° to 30°	30° to 100°	100° to 140°	140° to 180°
1,990 to 2,110	A	5.0	n/a	12	18	22	25	29	33	39
	B	8.0	n/a	5	18	20	20	25	28	36
6,875 to 7,125	A	1.5	n/a	26	29	32	34	38	41	49
	B	2.0	n/a	21	25	29	32	35	39	45
12,700 to 13,250	A	1.0	n/a	23	28	35	39	41	42	50
	B	2.0	n/a	20	25	28	30	32	37	47
17,700 to 19,700	A	2.2	38	25	29	33	36	42	55	55
	B	2.2	38	20	24	28	32	35	36	36
31,000 to 31,300 ²	n/a	³ 4.0	38	n/a	n/a	n/a	n/a	n/a	n/a	n/a

¹ If a licensee chooses to show compliance using maximum beamwidth to 3 dB points, the beamwidth limit shall apply in both the azimuth and the elevation planes.

² Mobile, except aeronautical mobile, stations need not comply with these standards.

³ The minimum front-to-back ratio shall be 38 dBi.

(2) New periscope antenna systems will be authorized upon a certification that the radiation, in a horizontal plane, from an illuminating antenna and reflector combination meets or exceeds the antenna standards of this section. This provision similarly applies to passive repeaters employed to

redirect or repeat the signal from a station's directional antenna system.

(3) The choice of receiving antennas is left to the discretion of the licensee. However, licensees will not be protected from interference which results from the use of antennas with poorer performance than identified in the table of this section.

(4) [Reserved]

(5) Pickup stations are not subject to the performance standards herein stated. The provisions of this paragraph are effective for all new applications accepted for filing after October 1, 1981.

(b) Any fixed station licensed pursuant to an application accepted for filing prior to October 1, 1981, may continue to use its existing antenna system, subject to periodic renewal until April 1, 1992. After April 1, 1992, all licensees are to use antenna systems in conformance with the standards of this section. TV auxiliary broadcast stations are considered to be located in an area subject to frequency congestion and must employ a Category A antenna when:

(1) A showing by an applicant of a new TV auxiliary broadcast station or Cable Television Relay Service (CARS) station, which shares the 12.7–13.20 GHz band with TV auxiliary broadcast, indicates that use of a category B antenna limits a proposed project because of interference, and

(2) That use of a category A antenna will remedy the interference thus allowing the project to be realized.

(c) As an exception to the provisions of this section, the FCC may approve requests for use of periscope antenna systems where a persuasive showing is made that no frequency conflicts exist in the area of proposed use. Such approvals shall be conditioned to a standard antenna as required in paragraph (a) of this section when an applicant of a new TV auxiliary broadcast or Cable Television Relay station indicates that the use of the existing antenna system will cause interference and the use of a category A or B antenna will remedy the interference.

(d) As a further exception to the provision of paragraph (a) of this section, the Commission may approve antenna systems not conforming to the technical standards where a persuasive showing is made that:

(1) Indicates in detail why an antenna system complying with the requirements of paragraph (a) of this section cannot be installed, and

(2) Includes a statement indicating that frequency coordination as required in § 74.604 (a) was accomplished.

[45 FR 78693, Nov. 26, 1980, as amended at 49 FR 7131, Feb. 27, 1984; 49 FR 37778, Sept. 26, 1984; 50 FR 7342, Feb. 22, 1985; 51 FR 19840, June 3, 1986; 52 FR 7143, Mar. 9, 1987; 55 FR 11587, Mar. 29, 1990; 56 FR 50663, Oct. 8, 1991; 62 FR 4922, Feb. 3, 1997]

§ 74.643 Interference to geostationary-satellites.

These limitations are necessary to minimize the probability of harmful interference to reception in the bands 6425–6525 MHz, 6875–7075 MHz and 12.7–12.75 GHz on board geostationary space stations in the fixed-satellite service (Part 25).

(a) *6425 to 6525 and 6875 to 7075 MHz.* No directional transmitting antenna utilized by a fixed station operating in these bands shall be aimed within 2 degrees of the geostationary-satellite orbit, taking into account atmospheric refraction. However, exception may be made in unusual circumstances upon a showing that there is no reasonable alternative to the transmission path proposed. If there is no evidence that such exception would cause possible harmful interference to an authorized satellite system, said transmission path may be authorized on waiver basis where the maximum value of the equivalent isotropically radiated power (EIRP) does not exceed:

(1) +47 dBW for any antenna beam directed within 0.5 degrees of the stationary satellite orbit or

(2) +47 to +55 dBW, on a linear decibel scale (8 dB per degree) for any antenna beam directed between 0.5 degrees and 1.5 degrees of the stationary orbit.

(b) *12.7 to 12.75 GHz.* No directional transmitting antenna utilized by a fixed station operating in this band shall be aimed within 1.5 degrees of the geostationary-satellite orbit, taking into account atmospheric refraction. However, exception may be made in unusual circumstances upon a showing that there is no reasonable alternative to the transmission path proposed. If there is no evidence that such exception would cause possible harmful interference to an authorized satellite system, said transmission path may be

authorized on waiver basis where the maximum value of the equivalent isotropically radiated power (EIRP) does not exceed +45 dBW for any antenna beam directed within 1.5 degrees of the stationary satellite orbit.

(c) Methods for calculating the azimuths to be avoided may be found in: CCIR Report No. 393 (Green Books), New Delhi, 1970; in "Radio-Relay Antenna Pointing for controlled Interference With Geostationary-Satellites" by C. W. Lundgren and A. S. May, *Bell System Technical Journal*, Vol. 48, No. 10, pp. 3387–3422, December 1969; and in "Geostationary Orbit Avoidance Computer Program" by Richard G. Gould, Common Carrier Bureau Report CC-7201, FCC, Washington, DC, 1972. This latter report is available through the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22151, in printed form (PB-211 500) or source card deck (PB-211 501).

[52 FR 7143, Mar. 9, 1987]

§ 74.644 Minimum path lengths for fixed links.

(a) The distance between end points of a fixed link must equal or exceed the value set forth in the table below or the EIRP must be reduced in accordance with the equation set forth below.

Frequency band (MHz)	Minimum path length (km)
below 1,850	n/a
1,850–2,110	17
6,425–7,125	17
12,200–13,250	5
above 17,700	n/a

(b) For paths shorter than those specified in the Table, the EIRP shall not exceed the value derived from the following equation.

$$EIRP = 30 - 20 \log [A/B], \text{ dBW}$$

where:

EIRP=equivalent isotropic radiated power in dBW.

A=Minimum path length from the Table for the frequency band in kilometers.

B=The actual path length in kilometers.

(c) Upon an appropriate technical showing, applicants and licensees unable to meet the minimum path length requirement may be granted an exception to these requirements.

NOTE: Links authorized prior to April 1, 1987, are excluded from this requirement, except that, effective April 1, 1992, the Commission will require compliance with the criteria where an existing link would otherwise preclude establishment of a new link.

[52 FR 7143, Mar. 9, 1987]

§ 74.651 Equipment changes.

(a) Commission authority, upon appropriate formal application (FCC Form 313) therefor, is required for any of the following equipment changes:

(1) Replacement of a specifically authorized transmitter by a transmitter that is not type accepted or notified for operation under this subpart pursuant to § 74.655(c).

(2) A change in the frequency of the operating channel or the transmitter output power.

(3) A change in the location of the TV broadcast auxiliary station transmitter or transmitting antenna authorized for use at a fixed location except when the relocation of the transmitter is within the same building.

(4) Any change in the overall height of the antenna structure, except where notice to the Federal Aviation Administration is specifically not required under § 17.14(b) of this chapter.

(5) Any change in the direction of the main radiation lobe of the transmitting antenna.

(b) Other equipment changes not specifically referred to in paragraph (a) of this section may be made at the discretion of the licensee provided that the Federal Communications Commission, Broadcast Auxiliary Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 is promptly notified in writing upon the completion of such changes, and that the changes are described in the notification.

(c) Multiplexing equipment may be installed on any licensed TV broadcast STL, TV relay or translator relay station without authority from the Commission.

(d) Any application proposing a change in the height of the antenna or its location must also include the Antenna Structure Registration Number

(FCC Form 854R) of the antenna structure upon which it will locate its proposed antenna. In the event the antenna structure does not have a Registration Number, either the antenna structure owner shall file FCC Form 854 ("Application for Antenna Structure Registration") in accordance with part 17 of this chapter or the applicant shall provide a detailed explanation why registration and clearance are not necessary.

[28 FR 13718, Dec. 14, 1963, as amended at 38 FR 6827, Mar. 13, 1973; 47 FR 54448, Dec. 3, 1982; 47 FR 55938, Dec. 14, 1982; 49 FR 7131, Feb. 27, 1984; 58 FR 19776, Apr. 16, 1993; 61 FR 4368, Feb. 6, 1996]

§ 74.655 Authorization of equipment.

(a) Except as provided in paragraph (b), all transmitting equipment first marketed for use under this subpart or placed into service after October 1, 1981, must be type accepted or notified, as detailed in paragraph (g) of this section. Equipment which is used at a station licensed prior to October 1, 1985, which is not type accepted or notified, as detailed in paragraph (g) of this section, may continue to be used by the licensee or its successors or assignees, provided that if operation of such equipment causes harmful interference due to its failure to comply with the technical standards set forth in this subpart, the FCC may, at its discretion, require the licensee to take such corrective action as is necessary to eliminate the interference. However, such equipment may *not* be further marketed or reused under Part 74 after October 1, 1985. Transmitters designed for use in the 31.0 to 31.3 GHz band shall be authorized under the notification procedure.

(b) Type acceptance or notification is not required for transmitters used in conjunction with TV pickup stations operating with a peak output power not greater than 250 mW. Pickup stations operating in excess of 250 mW licensed pursuant to applications accepted for filing prior to October 1, 1980 may continue operation subject to periodic renewal. If operation of such equipment causes harmful interference the FCC may, at its discretion, require the licensee to take such corrective ac-

tion as is necessary to eliminate the interference.

(c) The license of a TV auxiliary station may replace transmitting equipment with type accepted or notified equipment, as detailed under paragraph (g) of this section, without prior FCC approval, provided the proposed changes will not depart from any of the terms of the station or system authorization or the Commission's technical rules governing this service, and also provided that any changes made to type accepted or modified transmitting equipment is in compliance with the provisions of Part 2 of the FCC Rules concerning modifications to authorized equipment.

(d) Any manufacturer of a transmitter to be used in this service may apply for type acceptance or notification following the procedures set forth in Part 2 of the FCC Rules.

(e) An applicant for a TV broadcast auxiliary station may also apply for type acceptance or notification, as specified in paragraph (f) of this section, for an individual transmitter by following the procedures set forth in Subpart J of Part 2 of the FCC Rules and Regulations. Individual transmitters which are authorized will not normally be included in the FCC's Radio Equipment List.

(f) As of March 5, 1984, transmitters designed to be used exclusively for a TV STL station, a TV intercity relay station, a TV translator relay station, or a TV microwave booster station, shall be authorized under the notification procedure. All other transmitters will be authorized under the type acceptance procedure. Transmitters authorized under type acceptance are acceptable for use in all TV broadcast auxiliary stations (see § 2.904(d) of this chapter).

[49 FR 4000, Feb. 1, 1984, as amended at 49 FR 7131, Feb. 27, 1984; 49 FR 8253, Mar. 6, 1984; 49 FR 20504, May 15, 1984; 50 FR 7343, Feb. 22, 1985; 50 FR 32417, Aug. 12, 1985; 51 FR 26251, July 22, 1986]

§ 74.661 Frequency tolerance.

Stations in this service shall maintain the carrier frequency of each authorized transmitter to within the following percentage of the assigned frequency.

Frequency band (MHz)	Frequency Tolerance	
	Fixed (%)	Mobile (%)
1,990 to 2,110	± 0.005	0.005
6,425 to 6,525 .....	.....	0.005
6,875 to 7,125	± 0.005	0.005
12,700 to 13,250	± 0.005	0.005
17,700 to 18,820	0.003	.....
18,920 to 19,700	0.003	.....
31,000 to 31,300	0.03	0.03
38,600 to 40,000	± 0.005	± 0.005

¹ For transmitters with an output power of 50 mW or less, the frequency tolerance need only be 0.05%
² Television translator relay stations shall maintain a frequency tolerance of 0.002%.

[52 FR 7143, Mar. 9, 1987]

§ 74.662 Frequency monitors and measurements.

The licensee of a television broadcast auxiliary station must provide means for measuring the operating frequency in order to ensure that the emissions are confined to the authorized channel.

[48 FR 38482, Aug. 24, 1983]

§ 74.663 Modulation limits.

If amplitude modulation is employed, negative modulation peaks shall not exceed 100%.

[45 FR 78694, Nov. 26, 1980]

§ 74.664 Posting of station license.

(a) The station license and any other instrument of authorization or individual order concerning the construction of the equipment or manner of operation of the station shall be posted in the room in which the transmitter is located.

(b) Posting of the station license and any other instruments of authorization shall be done by affixing the license to the wall at the posting location, or by enclosing it in a binder or folder which is retained at the posting location so that the document will be readily available and easily accessible.

[28 FR 13718, Dec. 14, 1963, as amended at 48 FR 24385, June 1, 1983; 49 FR 29070, July 18, 1984; 50 FR 40015, Oct. 1, 1985]

§ 74.682 Station identification.

(a) Each television broadcast auxiliary station operating with a transmitter output power of 1 watt or more must, when actually transmitting programs, transmit station identification

at the beginning and end of each period of operation, and hourly, as close to the hour as feasible, at a natural break in program offerings by one of the following means:

(1) Transmission of its own call sign by visual or aural means or by automatic transmission in international Morse telegraphy.

(2) Visual or aural transmission of the call sign of the TV broadcast station with which it is licensed as an auxiliary.

(3) Visual or aural transmission of the call sign of the TV broadcast station whose signals are being relayed or, where programs are obtained directly from network lines and relayed, the network identification.

(b) Identification transmissions during operation need not be made when to make such transmission would interrupt a single consecutive speech, play, religious service, symphony concert, or any type of production. In such cases, the identification transmission shall be made at the first interruption of the entertainment continuity and at the conclusion thereof.

(c) During occasions when a television pickup station is being used to deliver program material for network distribution it may transmit the network identification in lieu of its own or associated TV station call sign during the actual program pickup. However, if it is providing the network feed through its own associated TV broadcast station it shall perform the station identification required by paragraph (a) of this section at the beginning and end of each period of operation.

(d) A period of operation is defined as a single uninterrupted transmission or a series of intermittent transmissions from a single location or continuous or intermittent transmission from a television pickup station covering a single event from various locations, within a single broadcast day.

(e) Regardless of the method used for station identification it shall be performed in a manner conducive to prompt association of the signal source with the responsible licensee. In exercising the discretion provided by this rule, licensees are expected to act in a

responsible manner to assure that result.

(f) TV microwave booster stations will be assigned individual call signs. However, station identification will be accomplished by the retransmission of identification as provided in paragraph (a) of this section.

[31 FR 15488, Dec. 8, 1966; 32 FR 452, Jan. 17, 1967, as amended at 42 FR 36830, July 18, 1977; 43 FR 1951, Jan. 13, 1978; 44 FR 36041, June 20, 1979; 49 FR 7131, Feb. 27, 1984]

Subpart G—Low Power TV, TV Translator, and TV Booster Stations

§ 74.701 Definitions.

(a) *Television broadcast translator station.* A station in the broadcast service operated for the purpose of retransmitting the programs and signals of a television broadcast station, without significantly altering any characteristic of the original signal other than its frequency and amplitude, for the purpose of providing television reception to the general public.

(b) *Primary station.* The analog television broadcast station (TV broadcast) or digital television station (DTV) which provides the programs and signals being retransmitted by a television broadcast translator station.

(c) *VHF translator.* A television broadcast translator station operating on a VHF television broadcast channel.

(d) *UHF translator.* A television broadcast translator station operating on a UHF television broadcast channel.

(e) *UHF translator signal booster.* A station in the broadcasting service operated for the sole purpose of retransmitting the signals of the UHF translator station by amplifying and reradiating such signals which have been received directly through space, without significantly altering any characteristic of the incoming signal other than its amplitude.

(f) *Low power TV station.* A station authorized under the provisions of this subpart that may retransmit the programs and signals of a TV broadcast station and that may originate programming in any amount greater than 30 seconds per hour and/or operates a subscription service. (See § 73.641 of part 73 of this chapter.)

(g) *Program origination.* For purposes of this part, program origination shall be any transmissions other than the simultaneous retransmission of the programs and signals of a TV broadcast station. Origination shall include locally generated television program signals and program signals obtained via video recordings (tapes and discs), microwave, common carrier circuits, or other sources.

(h) *Local origination.* Program origination if the parameters of the program source signal, as it reaches the transmitter site, are under the control of the low power TV station licensee. Transmission of TV program signals generated at the transmitter site constitutes local origination. Local origination also includes transmission of programs reaching the transmitter site via TV STL stations, but does not include transmission of signals obtained from either terrestrial or satellite microwave feeds or low power TV stations.

(i) *Television broadcast booster station.* A station in the broadcast service operated by the licensee or permittee of a full service television broadcast station for the purpose of retransmitting the programs and signals of such primary station without significantly altering any characteristic of the original signal other than its amplitude. A television broadcast booster station may only be located such that its entire service area is located within the protected contour of the primary station it retransmits. For purposes of this paragraph, the service area of the booster and the protected contour of the primary station will be determined by the methods prescribed in § 74.705(c).

[28 FR 13722, Dec. 14, 1963, as amended at 43 FR 1951, Jan. 13, 1978; 47 FR 21497, May 18, 1982; 48 FR 21486, May 12, 1983; 52 FR 7422, Mar. 11, 1987; 52 FR 31403, Aug. 20, 1987; 62 FR 26720, May 14, 1997]

§ 74.702 Channel assignments.

(a) An applicant for a new low power TV or TV translator station or for changes in the facilities of an authorized station shall endeavor to select a channel on which its operation is not likely to cause interference. The applications must be specific with regard to

the channel requested. Only one channel will be assigned to each station.

(1) Any one of the 12 standard VHF Channels (2 to 13 inclusive) may be assigned to a VHF low power TV or TV translator station. Channels 5 and 6 assigned in Alaska shall not cause harmful interference to and must accept interference from non-Government fixed operation authorized prior to January 1, 1982.

(2) Any one of the UHF Channels from 14 to 69, inclusive, may be assigned to a UHF low power TV or TV translator station. In accordance with § 73.603(c) of part 73, Channel 37 will not be assigned to such stations.

(3) Application for new low power TV or TV translator stations or for changes in existing stations, specifying operation above 806 MHz will not be accepted for filing. License renewals for existing TV translator stations operating on channels 70 (806–812 MHz) through 83 (884–890 MHz) will be granted only on a secondary basis to land mobile radio operations.

(b) Changes in the TV Table of Allotments or Digital Television Table of Allotments (§§ 73.606(b) and 73.622(a), respectively, of part 73 of this chapter), authorizations to construct new TV broadcast analog or DTV stations or to authorizations to change facilities of existing such stations, may be made without regard to existing or proposed low power TV or TV translator stations. Where such a change results in a low power TV or TV translator station causing actual interference to reception of the TV broadcast analog or DTV station, the licensee or permittee of the low power TV or TV translator station shall eliminate the interference or file an application for a change in channel assignment pursuant to § 73.3572 of this chapter.

(c) A television broadcast booster station will be authorized on the channel assigned to its primary station.

[47 FR 21497, May 18, 1982, as amended at 47 FR 30068, July 12, 1982; 47 FR 35590, Aug. 18, 1982; 52 FR 7423, Mar. 11, 1987; 52 FR 31403, Aug. 20, 1987; 62 FR 26721, May 14, 1997]

§ 74.703 Interference.

(a) An application for a new low power TV, TV translator, or TV booster station or for a change in the facili-

ties of such an authorized station will not be granted when it is apparent that interference will be caused. Except where there is a written agreement between the affected parties to accept interference, or where it can be shown that interference will not occur due to terrain shielding and/or Longley-Rice terrain dependent propagation methods, the licensee of a new low power TV, TV translator, or TV booster shall protect existing low power TV and TV translator stations from interference within the protected contour defined in § 74.707. Such written agreement shall accompany the application. Guidance on using the Longley-Rice methodology is provided in *OET Bulletin No. 69*. Copies of *OET Bulletin No. 69* may be inspected during normal business hours at the: Federal Communications Commission, 1919 M St., N.W., Dockets Branch (Room 239), Washington, DC 20554. This document is also available through the Internet on the *FCC Home Page* at <http://www.fcc.gov>.

(b) It shall be the responsibility of the licensee of a low power TV, TV translator, or TV booster station to correct at its expense any condition of interference to the direct reception of the signal of any other TV broadcast analog station and DTV station operating on the same channel as that used by the low power TV, TV translator, or TV booster station or an adjacent channel which occurs as a result of the operation of the low power TV, TV translator, or TV booster station. Interference will be considered to occur whenever reception of a regularly used signal is impaired by the signals radiated by the low power TV, TV translator, or TV booster station, regardless of the quality of the reception or the strength of the signal so used. If the interference cannot be promptly eliminated by the application of suitable techniques, operation of the offending low power TV, TV translator, or TV booster station shall be suspended and shall not be resumed until the interference has been eliminated. If the complainant refuses to permit the low Power TV, TV translator, or TV booster station to apply remedial techniques that demonstrably will eliminate the interference without impairment of the original reception, the licensee of the

low power TV, TV translator, or TV booster station is absolved of further responsibility. TV booster stations will be exempt from the provisions of this paragraph to the extent that they may cause limited interference to their primary stations' signal subject to the conditions of paragraph (g) of this section.

(c) It shall be the responsibility of the licensee of a low power TV, TV translator, or TV booster station to correct any condition of interference which results from the radiation of radio frequency energy outside its assigned channel. Upon notice by the FCC to the station licensee or operator that such interference is caused by spurious emissions of the station, operation of the station shall be immediately suspended and not resumed until the interference has been eliminated. However, short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures.

(d) When a low power TV or TV translator station causes interference to a CATV system by radiations within its assigned channel at the cable headend or on the output channel of any system converter located at a receiver, the earlier user, whether cable system or low power TV or TV translator station, will be given priority on the channel, and the later user will be responsible for correction of the interference. When a low power TV or TV translator station causes interference to an MDS or ITFS system by radiations within its assigned channel on the output channel of any system converter located at a receiver, the earlier user, whether MDS system or low power TV or TV translator station, will be given priority on the channel, and the later user will be responsible for correction of the interference.

(e) Low power TV and TV translator stations are being authorized on a secondary basis to existing land mobile uses and must correct whatever interference they cause to land mobile stations or cease operation.

(f) In each instance where suspension of operation is required, the licensee shall submit a full report to the FCC in Washington, DC, after operation is resumed, containing details of the nature

of the interference, the source of the interfering signals, and the remedial steps taken to eliminate the interference.

(g) A TV booster station may not disrupt the existing service of its primary station nor may it cause interference to the signal provided by the primary station within the principal community to be served.

[47 FR 21497, May 18, 1982, as amended at 48 FR 21487, May 12, 1983; 52 FR 31403, Aug. 20, 1987; 53 FR 4169, Feb. 12, 1988; 60 FR 55483, Nov. 1, 1995; 62 FR 26721, May 14, 1997]

§ 74.705 TV broadcast analog station protection.

(a) The TV broadcast station protected contour will be its Grade B contour signal level as defined in § 73.683 and calculated from the authorized maximum radiated power (without depression angle correction), the horizontal radiation pattern, height above average terrain in the pertinent direction, and the appropriate chart from § 73.699.

(b)(1) An application to construct a new low power TV or TV translator station or change the facilities of an existing station will not be accepted if it specifies a site which is within the protected contour of a co-channel or first adjacent channel TV broadcast station.

(2) Due to the frequency spacing which exists between TV Channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, adjacent channel protection standards shall not be applicable to these pairs of channels. (See § 73.603(a) of part 73 of this chapter.)

(3) A UHF low power TV or TV translator construction permit application will not be accepted if it specifies a site within the UHF TV broadcast station's protected contour and proposes operation on a channel either 14 or 15 channels above the channel in use by the TV broadcast station.

(4) A UHF low power TV or TV translator construction permit application will not be accepted if it specifies a site less than 100 kilometers from the transmitter site of a UHF TV broadcast analog station operating on a channel which is the seventh channel above the requested channel, unless it

can demonstrate that the service area of the low power TV or TV translator station as established in § 74.707(a) is not located in an area where the TV broadcast analog station is regularly viewed.

(5) An application for a new UHF low power TV or TV translator construction permit, a change of channel, or a major change in facilities pursuant to § 73.3572 of this chapter proposing a maximum effective radiated power of more than 50 kilowatts will not be accepted if it specifies a site less than 32 kilometers from the transmitter site of a UHF TV broadcast analog station operating on a channel which is the second, third, or fourth channel above or below the requested channel.

(c) The low power TV, TV translator, or TV booster station field strength is calculated from the proposed effective radiated power (ERP) and the antenna height above average terrain (HAAT) in pertinent directions.

(1) For co-channel protection, the field strength is calculated using Figure 9a, 10a, or 10c of § 73.699 (F(50,10) charts) of Part 73 of this chapter.

(2) For low power TV, TV translator, and TV boosters that do not specify the same channel as the TV broadcast station to be protected, the field strength is calculated using Figure 9, 10, or 10b of § 73.699 (F(50,50) charts) of Part 73 of this chapter.

(d) A low power TV, TV translator, or TV booster station application will not be accepted if the ratio in dB of its field strength to that of the TV broadcast station at the protected contour fails to meet the following:

(1) –45 dB for co-channel operations without offset carrier frequency operation or –28 dB for offset carrier frequency operation. An application requesting offset carrier frequency operation must include the following:

(i) A requested offset designation (zero, plus, or minus) identifying the proposed direction of the 10 kHz offset from the standard carrier frequencies of the requested channel. If the offset designation is not different from that of the station being protected, the –45 dB ratio must be used.

(ii) A description of the means by which the low power TV, TV translator, or TV booster station will be

maintained within the tolerances specified in § 74.761 for offset operation.

(2) 6 dB when the protected TV broadcast station operates on a VHF channel that is one channel above the requested channel.

(3) 12 dB when the protected TV broadcast station operates on a VHF channel that is one channel below the requested channel.

(4) 15 dB when the protected TV broadcast station operates on a UHF channel that is one channel above or below the requested channel.

(5) 23 dB when the protected TV broadcast station operates on a UHF channel that is fourteen channels below the requested channel.

(6) 6 dB when the protected TV broadcast station operates a UHF channel that is fifteen channels below the requested channel.

(e) In support of a request for waiver of the interference protection rules, an applicant for a low power TV, TV translator or TV booster may make full use of terrain shielding and Longley-Rice terrain dependent propagation prediction methods to demonstrate that the proposed facility would not be likely to cause interference to TV broadcast stations. Guidance on using the Longley-Rice methodology is provided in *OET Bulletin No. 69*. Copies of *OET Bulletin No. 69* may be inspected during normal business hours at the: Federal Communications Commission, 1919 M St., NW., Dockets Branch (Room 239), Washington, DC 20554. This document is also available through the Internet on the *FCC Home Page* at <http://www.fcc.gov>.

[47 FR 21497, May 18, 1982, as amended at 48 FR 21487, May 12, 1983; 52 FR 31403, Aug. 20, 1987; 62 FR 26721, May 14, 1997]

§ 74.706 Digital TV (DTV) station protection.

(a) For purposes of this section, the DTV station protected service area is the geographic-area in which the field strength of the station's signal exceeds the noise-limited service levels specified in § 73.622(e) of this chapter. The extremity of this area (noise-limited perimeter) is calculated from the authorized maximum radiated power (without depression angle correction), the horizontal radiation pattern, and

height above average terrain in the pertinent direction, using the signal propagation method specified in § 73.625(b) of this chapter.

(b)(1) An application to construct a new low power TV or TV translator station or change the facilities of an existing station will not be accepted if it specifies a site which is located within the noise-limited service perimeter of a co-channel DTV station.

(2) Due to the frequency spacing which exists between TV channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, adjacent channel protection standards shall not be applicable to these pairs of channels.

(c) The low power TV, TV translator or TV booster station field strength is calculated from the proposed effective radiated power (ERP) and the antenna height above average terrain (HAAT) in pertinent directions.

(1) For co-channel protection, the field strength is calculated using Figure 9a, 10a, or 10c of § 73.699 (F(50,10) charts) of part 73 of this chapter.

(2) For adjacent channel protection, the field strength is calculated using Figure 9, 10, or 10b of § 73.699 (F(50,50) charts) of part 73 of this chapter.

(d) A low power TV, TV translator or TV booster station application will not be accepted if the ratio in dB of its field strength to that of the DTV station fails to meet the following:

(1) -21 dB for co-channel operations at the noise-limited perimeter of the DTV station.

(2) +48 dB for adjacent channel operations at:

(i) The DTV noise-limited perimeter if a low power TV, TV translator or TV booster station is located outside that perimeter.

(ii) At all points within the DTV noise-limited area if a low power TV or TV translator is located within the DTV noise-limited perimeter, as demonstrated by the applicant.

[62 FR 26721, May 14, 1997]

§ 74.707 Low power TV and TV translator station protection.

(a)(1) A low power TV or TV translator will be protected from interference from other low power TV or TV translator stations, or TV booster sta-

tions within the following predicted contours:

(i) 62 dBu for stations on Channels 2 through 6;

(ii) 68 dBu for stations on Channels 7 through 13; and

(iii) 74 dBu for stations on Channels 14 through 69.

Existing licensees and permittees that did not furnish sufficient data required to calculate the above contours by April 15, 1983 are assigned protected contours having the following radii:

Up to 0.001 kW VHF/UHF—1 mile (1.6 km) from transmitter site

Up to 0.01 kW VHF; up to 0.1 kW UHF—2 miles (3.2 km) from transmitter site

Up to 0.1 kW VHF; up to 1 kW UHF—4 miles (6.4 km) from transmitter site

New applicants must submit the required information; they cannot rely on this table.

(2) The low power TV or TV translator station protected contour is calculated from the authorized effective radiated power and antenna height above average terrain, using Figure 9, 10, or 10b of § 73.699 (F(50,50) charts) of Part 73 of this chapter.

(b)(1) An application to construct a new low power TV, TV translator, or TV booster station or change the facilities of an existing station will not be accepted if it specifies a site which is within the protected contour of a co-channel or first adjacent channel low power TV, TV translator, or TV booster station, except that a TV booster station may be located within the protected contour of its co-channel primary station.

(2) Due to the frequency spacing which exists between TV Channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, adjacent channel protection standards shall not be applicable to these pairs of channels. (See § 73.603(a) of Part 73 of this chapter.)

(3) A UHF low power TV, TV translator, or TV booster construction permit application will not be accepted if it specifies a site within the UHF low power TV, TV translator, or TV booster station's protected contour and proposes operation on a channel that is 15 channels above the channel in use by the low power TV, TV translator, or TV booster station.

(c) The low power TV, TV translator, or TV booster construction permit application field strength is calculated from the proposed effective radiated power (ERP) and the antenna above average terrain (HAAT) in pertinent directions.

(1) For co-channel protection, the field strength is calculated using Figure 9a, 10a, or 10c of § 73.699 (F(50,10) charts) of Part 73 of this chapter.

(2) For low power TV, TV translator, or TV booster applications that do not specify the same channel as the low power TV, TV translator, or TV booster station to be protected, the field strength is calculated using Figure 9, 10, or 10b of § 73.699 (F(50,50) charts) of Part 73 of this chapter.

(d) A low power TV, TV translator, or TV booster station application will not be accepted if the ratio in dB of its field strength to that of the authorized low power TV, TV translator, or TV booster station at its protected contour fails to meet the following:

(1) –45 dB for co-channel operations without offset carrier frequency operation or –28 dB for offset carrier frequency operation. An application requesting offset carrier frequency operation must include the following:

(i) A requested offset designation (zero, plus, or minus) identifying the proposed direction of the 10 kHz offset from the standard carrier frequencies of the requested channel. If the offset designation is not different from that of the station being protected, or if the station being protected is not maintaining its frequencies within the tolerance specified in § 74.761 for offset operation, the –45 dB ratio must be used.

(ii) A description of the means by which the low power TV, TV translator, or TV booster station's frequencies will be maintained within the tolerances specified in § 74.761 for offset operation.

(2) 6 dB when the protected low power TV or TV translator station operates on a VHF channel that is one channel above the requested channel.

(3) 12 dB when the protected low power TV or TV translator station operates on a VHF channel that is one channel below the requested channel.

(4) 15 dB when the protected low power TV or TV translator station op-

erates on a UHF channel that is one channel above or below the requested channel.

(5) 6 dB when the protected low power TV or TV translator station operates on a UHF channel that is fifteen channels below the requested channel.

(e) In support of a request for waiver of the interference protection rules, an applicant for a low power TV or TV translator station may make full use of terrain shielding and Longley-Rice terrain dependent propagation prediction methods to demonstrate that the proposed facility would not be likely to cause interference to low power TV, TV translator and TV booster stations. Guidance on using the Longley-Rice methodology is provided in *OET Bulletin No. 69*. Copies of *OET Bulletin No. 69* may be inspected during normal business hours at the: Federal Communications Commission, 1919 M St., NW., Dockets Branch (Room 239), Washington, DC 20554. This document is also available through the Internet on the *FCC Home Page* at <http://www.fcc.gov>.

[47 FR 21498, May 18, 1982, as amended at 47 FR 35990, Aug. 18, 1982; 48 FR 21487, May 12, 1983; 52 FR 31403, Aug. 20, 1987; 62 FR 26722, May 14, 1997]

§ 74.709 Land mobile station protection.

(a) Stations in the Land Mobile Radio Service, using the following channels in the indicated cities will be protected from interference caused by low power TV or TV translator stations, and low power TV and TV translator stations must accept any interference from stations in the land mobile service operating on the following channels:

City	Chan-nels	Coordinates	
		Latitude	Longitude
Boston, MA	14, 16	42°21'24"	071°03'24"
Chicago, IL	14, 15	41°52'28"	087°38'22"
Cleveland, OH	14, 15	41°29'51"	081°41'50"
Dallas, TX	16	32°47'09"	096°47'37"
Detroit, MI	15, 16	42°19'48"	083°02'57"
Houston, TX	17	29°45'26"	095°21'37"
Los Angeles, CA	14, 20	34°03'15"	118°14'28"
Miami, FL	14	25°46'37"	080°11'32"
New York, NY	14, 15	40°45'06"	073°59'39"

City	Chan-nels	Coordinates	
		Latitude	Longitude
Philadelphia, PA	19, 20	39°56'58"	075°09'21"
Pittsburgh, PA	14, 18	40°26'19"	080°00'00"
San Francisco, CA	16, 17	37°46'39"	122°24'40"
Washington, DC	17, 18	38°53'51"	077°00'33"

(b) The protected contours for the land mobile radio service are 130 kilometers from the above coordinates, except where limited by the following:

(1) If the land mobile channel is the same as the channel in the following list, the land mobile protected contour excludes the area within 145 kilometers of the corresponding coordinates from list below. Except if the land mobile channel is 15 in New York or Cleveland or 16 in Detroit, the land mobile protected contour excludes the area within 95 kilometers of the corresponding coordinates from the list below.

(2) If the land mobile channel is one channel above or below the channel in the following list, the land mobile protected contour excludes the area within 95 kilometers of the corresponding coordinates from the list below.

City	Chan-nel	Coordinates	
		Latitude	Longitude
San Diego, CA	15	32°41'48"	116°56'10"
Waterbury, CT	20	41°31'02"	073°01'00"
Washington, DC	14	38°57'17"	077°00'17"
Washington, DC	20	38°57'49"	077°06'18"
Champaign, IL	15	40°04'11"	087°54'45"
Jacksonville, IL	14	39°45'52"	090°30'29"
Ft. Wayne, IN	15	41°05'35"	085°10'42"
South Bend, IN	16	41°36'20"	086°12'44"
Salisbury, MD	16	38°24'15"	075°34'45"
Mt. Pleasant, MI	14	43°34'24"	084°46'21"
Hanover, NH	15	43°42'30"	072°09'16"
Canton, OH	17	40°51'04"	081°16'37"
Cleveland, OH	19	41°21'19"	081°44'24"
Oxford, OH	14	39°30'26"	084°44'09"
Zanesville, OH	18	39°55'42"	081°59'06"
Elmira-Corning, NY	18	42°06'20"	076°52'17"
Harrisburg, PA	21	40°20'44"	076°52'09"
Johnstown, PA	19	40°19'47"	078°53'45"
Lancaster, PA	15	40°15'45"	076°27'49"
Philadelphia, PA	17	40°02'30"	075°14'24"
Pittsburgh, PA	16	40°26'46"	079°57'51"
Scranton, PA	16	41°10'58"	075°52'21"
Parkersburg, WV	15	39°20'50"	081°33'56"
Madison, WI	15	43°03'01"	089°29'15"

(c) A low power TV or TV translator station application will not be accepted if it specifies a site that is within the protected contour of a co-channel

or first adjacent channel land mobile assignment.

(d) The low power TV or TV translator station field strength is calculated from the proposed effective radiated power (ERP) and the antenna height above average terrain (HAAT) in pertinent directions.

(1) The field strength is calculated using Figure 10c of §73.699 (F(50, 10) charts) of Part 73 of this chapter.

(2) A low power TV or TV translator station application will not be accepted if it specifies the same channel as one of the land mobile assignments and its field strength at the land mobile protected contour exceeds 52 dBu.

(3) A low power TV or TV translator station application will not be accepted if it specifies a channel that is one channel above or below one of the land mobile assignments and its field strength at the land mobile protected contour exceeds 76 dBu.

(e) To protect stations in the Off-shore Radio Service, a low power TV or TV translator station construction permit application will not be accepted if it specifies operation on channels 15, 16, 17 or 18 in the following areas. West Longitude and North Latitude are abbreviated as W.L. and N.L. respectively.

(1) On Channel 15: west of 92°00' W.L.; east of 98°30' W.L.; and south of a line extending due west from 30°30' N.L., 92°00' W.L. to 30°30' N.L., 96°00' W.L.; and then due southwest to 28°00' N.L., 98°30' W.L.

(2) On Channel 16: west of 86°40' W.L.; east of 96°30' W.L.; and south of a line extending due west from 31°00' N.L., 86°40' W.L. to 31°00' N.L., 95°00' W.L. and then due southwest to 29°30' N.L., 96°30' W.L.

(3) On Channel 17: west of 86°30' W.L.; east of 96°00' W.L.; and south of a line extending due west from 31°00' N.L., 86°30' W.L. to 31°30' N.L., 94°00' W.L. and then due southwest to 29°30' N.L., 96°00' W.L.

(4) On Channel 18: west of 87°00' W.L.; east of 95°00' W.L.; and south of 31°00' N.L.

[47 FR 21499, May 18, 1982, as amended at 50 FR 12027, Mar. 27, 1985; 50 FR 33942, Aug. 22, 1985]

§ 74.731 Purpose and permissible service.

(a) Television broadcast translator stations and television broadcast booster stations provide a means whereby the signals of television broadcast stations may be retransmitted to areas in which direct reception of such television broadcast stations is unsatisfactory due to distance or intervening terrain barriers.

(b) Except as provided in paragraph (f) of this section, a television broadcast translator station or television broadcast booster station may be used only to receive the signals of a television broadcast station, another television broadcast translator station, a television translator relay station, a television intercity relay station, a television STL station, or other suitable source such as a CARS or common carrier microwave station, for the simultaneous retransmission of the programs and signals of a television broadcast station. Such retransmissions may be accomplished by either:

(1) Reception of the television programs and signals of a television broadcast station directly through space, conversion to a different channel by simple heterodyne frequency conversion and suitable amplification; or,

(2) Modulation and amplification of a video and audio feed, in which case modulating equipment meeting the requirements of § 74.750(d) shall be used.

(c) The transmissions of each television broadcast translator station shall be intended for direct reception by the general public and any other use shall be incidental thereto. A television broadcast translator station shall not be operated solely for the purpose of relaying signals to one or more fixed receiving points for retransmission, distribution, or further relaying.

(d) The technical characteristics of the retransmitted signals shall not be deliberately altered so as to hinder reception on conventional television broadcast receivers.

(e) A television broadcast translator station shall not deliberately retransmit the signals of any station other than the station it is authorized by license to retransmit. Precautions shall

be taken to avoid unintentional retransmission of such other signals.

(f) A locally generated radio frequency signal similar to that of a TV broadcast station and modulated with visual and aural information may be connected to the input terminals of a television broadcast translator or low power station for the purposes of transmitting still photographs, slides and voice announcements. The radio frequency signals shall be on the same channel as the normally used off-the-air signal being rebroadcast. When transmitting originations concerning financial support or public service announcements, connection of the locally generated signals shall be made automatically either by means of a time switch or upon receipt of a control signal from the TV station being rebroadcast designed to actuate the switching circuit. The switching circuit will be so designed that the input circuit will be returned to the off-the-air signal within 30 seconds. The connection for emergency transmissions may be made manually. The apparatus used to generate the local signal which is used to modulate the translator or low power station must be capable of producing a visual or aural signal or both which will provide acceptable reception on television receivers designed for the transmission standards employed by TV broadcast stations. The visual and aural materials so transmitted shall be limited to emergency warnings of imminent danger, to local public service announcements and to seeking or acknowledging financial support deemed necessary to the continued operation of the station. Accordingly, the originations concerning financial support and PSAs are limited to 30 seconds each, no more than once per hour. Acknowledgements of financial support may include identification of the contributors, the size and nature of the contribution and advertising messages of contributors. Emergency transmissions shall be no longer or more frequent than necessary to protect life and property.

(g) Low power TV stations may operate under the following modes of service:

(1) As a TV translator station, subject to the requirements of this part;

(2) For origination of programming and commercial matter as defined in § 74.701(f);

(3) For the transmission of subscription television broadcast (STV) programs, intended to be received in intelligible form by members of the public for a fee or charge subject to the provisions of §§ 73.642(e) and 73.644.

(h) A low power TV station may not be operated solely for the purpose of relaying signals to one or more fixed receiving points for retransmission, distribution or relaying.

(i) Low power TV stations are subject to no minimum required hours of operation and may operate in any of the 3 modes described in paragraph (g) of this section for any number of hours.

(j) Television broadcast booster stations provide a means whereby the licensee of a television broadcast station may provide service to areas of low signal strength in any region within the primary station's Grade B contour. The booster station may not be located outside the predicted Grade B of its primary station nor may the predicted Grade B signal of the television booster station extend beyond the predicted Grade B contour of the primary station. A television broadcast booster station is authorized to retransmit only the signals of its primary station; it shall not retransmit the signals of any other stations nor make independent transmissions. However, locally generated signals may be used to excite the booster apparatus for the purpose of conducting tests and measurements essential to the proper installation and maintenance of the apparatus.

(k) The transmissions of a television broadcast booster station shall be intended for direct reception by the general public. Such stations will not be permitted to establish a point-to-point television relay system.

[28 FR 13722, Dec. 14, 1963, as amended at 43 FR 1951, Jan. 13, 1978; 47 FR 21499, May 18, 1982; 47 FR 40172, Sept. 13, 1982; 48 FR 21487, May 12, 1983; 52 FR 31404, Aug. 20, 1987]

§ 74.732 Eligibility and licensing requirements.

(a) A license for a low power TV or TV translator station may be issued to any qualified individual, organized group of individuals, broadcast station

licensee, or local civil governmental body.

(b) More than one low power TV or TV translator station may be licensed to the same applicant whether or not such stations serve substantially the same area. Low power TV and TV translator stations are not counted for purposes of § 73.3555, concerning multiple ownership.

(c) Only one channel will be assigned to each low power TV or TV translator station. Additional low power or translator stations may be authorized to provide additional reception. A separate application is required for each station and each application must be complete in all respects.

(d) The FCC will not act on applications for new low power TV or TV translator stations, for changes in facilities of existing stations, or for changes in output channel tendered by displaced stations pursuant to § 73.3572(a)(1), when such changes will result in a major change until the applicable time for filing a petition to deny has passed pursuant to § 73.3584(c).

(e) A proposal to change the primary TV station being retransmitted or an application of a licensed translator station to include low power TV station operation, i.e., program origination or subscription service will be subject only to a notification requirement.

(f) Applications for transfer of ownership or control of a low power TV or TV translator station will be subject to petitions to deny.

(g) A television broadcast booster station will be authorized only to the licensee or permittee of the television station whose signals the booster will rebroadcast, to areas within the Grade B contour of the primary station.

(h) No numerical limit is placed on the number of booster stations that may be licensed to a single licensee. A separate license is required for each television broadcast booster station.

[47 FR 21499, May 18, 1982, as amended at 48 FR 21487, May 12, 1983; 49 FR 20504, May 15, 1984; 52 FR 7423, Mar. 11, 1987; 52 FR 10571, Apr. 2, 1987; 52 FR 31404, Aug. 20, 1987]

§ 74.733 UHF translator signal boosters.

(a) The licensee of a UHF television broadcast translator station may be

authorized to operate one or more signal boosters for the purpose of providing reception to small shadowed areas within the area intended to be served by the translator.

(b) The transmitting apparatus shall consist of a simple linear radio frequency amplifier, with one or more amplifying stages, which is capable of receiving, amplifying, and retransmitting the signals of the parent translator without significantly altering any electrical characteristic of the received signal other than its amplitude. The maximum power input to the plate of the final radio frequency amplifier shall not exceed 5 watts.

(c) The amplifier shall be equipped with suitable circuits which will automatically cause it to cease radiating if no signal is being received from the parent translator station. Care shall be taken in the design of the apparatus to insure that out-of-band radiation is not excessive and that adequate isolation is maintained between the input and output circuits to prevent unstable operation.

(d) The installation of the apparatus and its associated receiving and transmitting antennas shall be in accordance with accepted principles of good engineering practice. Either horizontal, vertical, or circular polarization of the electric field of the radiated signal may be employed. If the isolation between the input and output circuits depends in part upon the polarization or directive properties of the transmitting and receiving antennas, the installation shall be sufficiently rugged to withstand the normal hazards of the environment.

(e) The operation of a UHF translator signal booster is subject to the condition that no harmful interference is caused to the reception of any station, broadcast or non-broadcast, other than the parent translator. The licensee of the UHF translator signal booster is expected to use reasonable diligence to minimize interference to the direct reception of the parent translator station.

(f) UHF translator signal boosters may be operated unattended. Repairs and adjustments shall be made by a qualified person. The required quali-

fications are set forth in § 74.750 (g) and (h).

(g) An individual call sign will not be assigned to a UHF translator booster station. The retransmission of the call sign of the parent translator will serve as station identification.

(h) Applications for authority to construct and operate a UHF translator signal booster shall be submitted on FCC Form 346A. No construction of facilities or installation of apparatus at the proposed transmitter site shall be made until a construction permit therefor has been issued by the Commission.

(i) The provisions of § 74.765 concerning posting of station license shall apply to a UHF translator signal booster except that the parent UHF translator call sign, followed by the word "Booster", shall be displayed at the signal booster site.

(j) The provisions of §§ 74.767 and 74.781 concerning marking and lighting of antenna structures and station records, respectively, apply to UHF translator signal boosters.

NOTE: Effective July 11, 1975, no new UHF signal boosters will be authorized. Licensees of such existing boosters may make application for renewal of license or change in facilities on the applicable FCC forms for Television Broadcast Translator Stations (Form 346, for construction permits; 347, for license to cover construction permit; and 303-S, for renewal of license). Report and Order, Docket No. 20372. May 28, 1975.

[28 FR 13722, Dec. 14, 1963, as amended at 40 FR 25022, June 12, 1975; 59 FR 63052, Dec. 7, 1994]

§ 74.734 Attended and unattended operation.

(a) Low power TV, TV translator, and TV booster stations may be operated without a designated person in attendance if the following requirements are met:

(1) If the transmitter site cannot be promptly reached at all hours and in all seasons, means shall be provided so that the transmitting apparatus can be turned on and off at will from a point that readily is accessible at all hours and in all seasons.

(2) The transmitter also shall be equipped with suitable automatic circuits that will place it in a nonradiating condition in the absence of a signal on the input channel or circuit.

(3) The transmitting and the ON/OFF control, if at a location other than the transmitter site, shall be adequately protected against tampering by unauthorized persons.

(4) The FCC shall be supplied with the name, address, and telephone number of a person or persons who may be called to secure suspension of operation of the transmitter promptly should such action be deemed necessary by the FCC. Such information shall be kept current by the licensee.

(5) In cases where the antenna and supporting structure are considered to be a hazard to air navigation and are required to be painted and lighted under the provisions of part 17 of the Rules, the licensee shall make suitable arrangements for the daily observations, when required, and lighting equipment inspections required by §§ 17.37 and 17.38 of the FCC rules.

(b) An application for authority to construct a new low power TV station (when rebroadcasting the programs of another station) or TV translator station or to make changes in the facilities of an authorized station, and that proposes unattended operation, shall include an adequate showing as to the manner of compliance with this section.

[47 FR 21500, May 18, 1982, as amended at 48 FR 21487, May 12, 1983; 60 FR 55483, Nov. 1, 1995]

§ 74.735 Power limitations.

(a) The maximum peak effective radiated power (ERP) of an analog low power TV, TV translator, or TV booster station shall not exceed:

- (1) 3 kW for VHF channels 2-13; and
- (2) 150 kW for UHF channels 14-69.

(b) The maximum ERP of a digital low power TV, TV translator, or TV booster station (average power) shall not exceed:

- (1) 300 watts for VHF channels 2-13; and
- (2) 15 kW for UHF channels 14-69.

(c) The limits in paragraphs (a) and (b) apply separately to the effective radiated powers that may be obtained by

the use of horizontally or vertically polarized transmitting antennas, providing the applicable provisions of §§ 74.705, 74.706, 74.707 and 74.709 are met. For either omnidirectional or directional antennas, where the ERP values of the vertically and horizontally polarized components are not of equal strength, the ERP limits shall apply to the polarization with the larger ERP. Applications proposing the use of directional antenna systems must be accompanied by the following:

(1) Complete description of the proposed antenna system, including the manufacturer and model number of the proposed directional antenna. It is *not* acceptable to label the antenna with only a generic term such as "Yagi" or "Dipole". A specific model number must be provided. In the case of individually designed antennas with no model number, or in the case of a composite antenna composed of two or more individual antennas, the antenna should be described as a "custom" or "composite" antenna, as appropriate. A full description of the design of the antenna should also be submitted.

(2) Relative field horizontal plane pattern (horizontal polarization only) of the proposed directional antenna. A value of 1.0 should be used for the maximum radiation. The plot of the pattern should be oriented so that 0° corresponds to the maximum radiation of the directional antenna or, alternatively in the case of a symmetrical pattern, to the line of symmetry. The 0° on the plot should be referenced to the actual azimuth with respect to true North.

(3) A tabulation of the relative field pattern required in paragraph (c)(2), of this section. The tabulation should use the same zero degree reference as the plotted pattern, and be tabulated at least every 10°. In addition, tabulated values of all maximas and minimas, with their corresponding azimuths, should be submitted.

(4) All horizontal plane patterns must be plotted to the largest scale possible on unglazed letter-size polar coordinate paper (main engraving approximately 18 cm x 25 cm (7 inches x 10 inches)) using only scale divisions and subdivisions of 1, 2, 2.5 or 5 times 10⁻ⁿth. Values of field strength on any

pattern less than 10% of the maximum field strength plotted on that pattern must be shown on an enlarged scale.

(5) The horizontal plane patterns that are required are the patterns for the complete directional antenna system. In the case of a composite antenna composed of two or more individual antennas, this means that the patterns for the composite antenna composed of two or more individual antennas, not the patterns for each of the individual antennas, must be submitted.

[30 FR 8847, July 14, 1965, as amended at 41 FR 28267, July 9, 1976; 47 FR 21500, May 18, 1982; 48 FR 21487, May 12, 1983; 52 FR 7423, Mar. 11, 1987; 52 FR 31404, Aug. 20, 1987; 58 FR 44951, Aug. 25, 1993; 62 FR 26722, May 14, 1997]

§ 74.736 Emissions and bandwidth.

(a) The license of a low power TV, TV translator, or TV booster station authorizes the transmission of the visual signal by amplitude modulation (A5) and the accompanying aural signal by frequency modulation (F3).

(b) Standard width television channels will be assigned and the transmitting apparatus shall be operated so as to limit spurious emissions to the lowest practicable value. Any emissions including intermodulation products and radio frequency harmonics which are not essential for the transmission of the desired picture and sound information shall be considered to be spurious emissions.

(c) Any emissions appearing on frequencies more than 3 MHz above or below the upper and lower edges, respectively, of the assigned channel shall be attenuated no less than:

(1) 30 dB for transmitters rated at no more than 1 watt power output.

(2) 50 dB for transmitters rated at more than 1 watt power output.

(3) 60 dB for transmitters rated at more than 100 watts power output.

(d) Greater attenuation than that specified in paragraph (c) of this section may be required if interference results from emissions outside the assigned channel.

[28 FR 13722, Dec. 14, 1963, as amended at 33 FR 8677, June 13, 1968; 36 FR 19592, Oct. 8, 1971; 47 FR 21500, May 18, 1982; 52 FR 31404, Aug. 20, 1987]

§ 74.737 Antenna location.

(a) An applicant for a new low power TV, TV translator, or TV booster station or for a change in the facilities of an authorized station shall endeavor to select a site that will provide a line-of-sight transmission path to the entire area intended to be served and at which there is available a suitable signal from the primary station, if any, that will be retransmitted.

(b) The transmitting antenna should be placed above growing vegetation and trees lying in the direction of the area intended to be served, to minimize the possibility of signal absorption by foliage.

(c) A site within 8 kilometers of the area intended to be served is to be preferred if the conditions in paragraph (a) of this section can be met.

(d) Consideration should be given to the accessibility of the site at all seasons of the year and to the availability of facilities for the maintenance and operation of the transmitting equipment.

(e) The transmitting antenna should be located as near as is practical to the transmitter to avoid the use of long transmission lines and the associated power losses.

(f) Consideration should be given to the existence of strong radio frequency fields from other transmitters at the site of the transmitting equipment and the possibility that such fields may result in the retransmissions of signals originating on frequencies other than that of the primary station being rebroadcast.

[47 FR 21500, May 18, 1982, as amended at 52 FR 31404, Aug. 20, 1987]

§ 74.750 Transmission system facilities.

(a) A low power TV, TV translator, or TV booster station shall operate with a transmitter that is either type accepted for licensing under the provisions of this subpart or type notified for use under part 73 of this chapter.

(b) Transmitting antennas, antennas used to receive the signals to be rebroadcast, and transmission lines are not type accepted by the FCC. External preamplifiers also may be used provided that they do not cause improper

operation of the transmitting equipment, and use of such preamplifiers is not necessary to meet the provisions of paragraph (c) of this section.

(c) The following requirements must be met before low power TV and TV translator transmitters will be type accepted by the FCC:

(1) The equipment shall be so designed that the electrical characteristics of a standard television signal introduced into the input terminals will be maintained at the output. The overall response of the apparatus within its assigned channel, when operating at its rated power output and measured at the output terminals, shall provide a smooth curve, varying within limits separated by no more than 4 dB: *Provided, however,* That means may be provided to reduce the amplitude of the aural carrier below those limits, if necessary to prevent intermodulation which would mar the quality of the retransmitted picture or result in emissions outside of the assigned channel.

(2) Radio frequency harmonics of the visual and aural carriers, measured at the output terminals of the transmitter, shall be attenuated no less than 60 dB below the peak visual output power within the assigned channel. All other emissions appearing on frequencies more than 3 megacycles above or below the upper and lower edges, respectively, of the assigned channel shall be attenuated no less than:

(i) 30 dB for transmitters rated at no more than 1 watt power output.

(ii) 50 dB for transmitters rated at more than 1 watt power output.

(iii) 60 dB for transmitters rated at more than 100 watts power output.

(3) When subjected to variations in ambient temperature between minus 30 degrees and plus 50 degrees Centigrade and variations in power main voltage between 85 percent and 115 percent of rated power supply voltage, the local oscillator frequency stability shall maintain the operating frequency within:

(i) 0.02 percent of its rated frequency for transmitters rated at no more than 100 watts peak visual power.

(ii) 0.002 percent of the rated frequency for transmitters rated at more than 100 watts peak visual power.

(iii) Plus or minus 1 kHz of its rated frequency for transmitters to be used at stations employing offset carrier frequency operation.

(4) The apparatus shall contain automatic circuits which will maintain the peak visual power output constant within 2 dB when the strength of the input signal is varied over a range of 30 dB and which will not permit the peak visual power output to exceed the maximum rated power output under any condition. If a manual adjustment is provided to compensate for different average signal strengths, provision shall be made for determining the proper setting for the control, and if improper adjustment of the control could result in improper operation, a label shall be affixed at the adjustment control bearing a suitable warning.

(5) The apparatus must be equipped with automatic controls that will place it in a non-radiating condition when no signal is being received on the input channel, either due to absence of a transmitted signal or failure of the receiving portion of the facilities used for rebroadcasting the signal of another station. The automatic control may include a time delay feature to prevent interruptions caused by fading or other momentary failures of the incoming signal.

(6) The tube or tubes employed in the final radio frequency amplifier shall be of the appropriate power rating to provide the rated power output of the translator. The normal operating constants for operation at the rated power output shall be specified. The apparatus shall be equipped with suitable meters or meter jacks so that appropriate voltage and current measurements may be made while the apparatus is in operation.

(7) The transmitters of over 0.001 kW peak visual power (0.002 kW when circularly polarized antennas are used) shall be equipped with an automatic keying device that will transmit the call sign of the station, in International Morse Code, at least once each hour during the time the station is in operation when operating in the translator mode retransmitting the programming of a TV broadcast station. However, the identification by Morse Code is not required if the licensee of

the low power TV or TV translator station has an agreement with the TV broadcast station being rebroadcast to transmit aurally or visually the low power TV or TV translator station call as provided for in § 74.783. Transmission of the call sign can be accomplished by:

(i) Frequency shift keying; the aural and visual carrier shift shall not be less than 5 kHz or greater than 25 kHz.

(ii) Amplitude modulation of the aural carrier of at least 30% modulation. The audio frequency tone used shall not be within 200 hertz of the Emergency Broadcast System Attention Signal alerting frequencies.

(8) Wiring, shielding, and construction shall be in accordance with accepted principles of good engineering practice.

(d) Low power TV, TV translator and transmitting equipment using a modulation process for either program origination or rebroadcasting TV booster transmitting equipment using a modulation process must meet the following requirements:

(1) The equipment shall meet the requirements of paragraphs (a)(1) and (b)(3) of § 73.687.

(2) The stability of the equipment shall be sufficient to maintain the operating frequency of the aural carrier to 4.5 MHz±1kHz above the visual carrier when subjected to variations in ambient temperature between 30° and +50° centigrade and variations in power main voltage between 85 and 115 percent of rated power supply voltage.

(e) Type acceptance will be granted only upon a satisfactory showing that the apparatus is capable of meeting the requirements of paragraphs (c) and (d) of this section. The following procedures shall apply:

(1) Any manufacturer of apparatus intended for use at low power TV, TV translator, or TV booster stations may request type acceptance by following the procedures set forth in part 2, subpart J, of this chapter. Equipment found to be acceptable by the FCC will be listed in the "Radio Equipment List" published by the FCC. These lists are available for inspection at the FCC headquarters in Washington, DC or at any of its field offices.

(2) Low power TV, TV translator, and TV booster transmitting apparatus

that has been type accepted by the FCC will normally be authorized without additional measurements from the applicant or licensee.

(3) Applications for type acceptance of modulators to be used with existing type accepted TV translator apparatus must include the specifications electrical and mechanical interconnecting requirements for the apparatus with which it is designed to be used.

(4) Other rules concerning type acceptance, including information regarding withdrawal of type acceptance, modification of type accepted equipment and limitations on the findings upon which type acceptance is based, are set forth in part 2, subpart J, of this chapter.

(f) The transmitting antenna system may be designed to produce horizontal, vertical, or circular polarization.

(g) Low power TV, TV translator, or TV booster stations installing new type accepted transmitting apparatus incorporating modulating equipment need not make equipment performance measurements and shall so indicate on the station license application. Stations adding new or replacing modulating equipment in existing low power TV, TV translator, or TV booster station transmitting apparatus must have a qualified person examine the transmitting system after installation. This person must certify in the application for the station license that the transmitting equipment meets the requirements of paragraph (d)(1) of this section. A report of the methods, measurements, and results must be kept in the station records. However, stations installing modulating equipment solely for the limited local origination of signals permitted by § 74.731 need not comply with the requirements of this paragraph.

[28 FR 13722, Dec. 14, 1963, as amended at 33 FR 8677, June 13, 1968; 36 FR 19592, Oct. 8, 1971; 37 FR 25844, Dec. 5, 1972; 41 FR 17552, Apr. 27, 1976; 43 FR 1951, Jan. 13, 1978; 46 FR 35465, July 8, 1981; 47 FR 21500, May 18, 1982; 47 FR 30496, July 14, 1982; 52 FR 31404, Aug. 20, 1987; 60 FR 55483, Nov. 1, 1995; 62 FR 26722, May 14, 1997]

§ 74.751 Modification of transmission systems.

(a) No change, either mechanical or electrical, may be made in apparatus

which has been type accepted by the Commission without prior authority of the Commission. If such prior authority has been given to the manufacturer of type accepted equipment, the manufacturer may issue instructions for such changes citing its authority. In such cases, individual licensees are not required to secure prior Commission approval but shall notify the Commission when such changes are completed.

(b) Formal application (FCC Form 346) is required for any of the following changes:

(1) Replacement of the transmitter as a whole, except replacement with a transmitter of identical power rating which has been type accepted by the FCC for use by low power TV, TV translator, and TV booster stations, or any change which could result in a change in the electrical characteristics or performance of the station.

(2) Any change in the transmitting antenna system, including the direction of radiation, directive antenna pattern, antenna gain, transmission line loss characteristics, or height of antenna center of radiation.

(3) Any change in the overall height of the antenna structure, except where notice to the Federal Aviation Administration is specifically not required under §17.14(b) of this chapter.

(4) Any horizontal change of the location of the antenna structure which would (i) be in excess of 152.4 meters (500 feet), or (ii) require notice to the Federal Aviation Administration pursuant to §17.7 of the FCC's Rules.

(5) A change in frequency assignment.

(6) Any changes in the location of the transmitter except within the same building or upon the same pole or tower.

(7) A change of authorized operating power.

(c) Other equipment changes not specifically referred to in paragraphs (a) and (b) of this section may be made at the discretion of the licensee, provided that the FCC in Washington, DC notified in writing upon completion of such changes.

(d) Upon installation of new or replacement transmitting equipment for which prior FCC authority is not required under the provisions of this sec-

tion, the licensee must place in the station records a certification that the new installation complies in all respects with the technical requirements of this part and the station authorization.

[28 FR 13722, Dec. 14, 1963, as amended at 38 FR 6827, Mar. 13, 1973; 39 FR 38652, Nov. 1, 1974; 45 FR 26067, Apr. 17, 1980; 47 FR 21501, May 18, 1982; 48 FR 41423, Sept. 15, 1983; 50 FR 23710, June 5, 1985; 52 FR 31405, Aug. 20, 1987]

§ 74.761 Frequency tolerance.

The licensee of a low power TV, TV translator, or TV booster station shall maintain the transmitter output frequencies as set forth below. The frequency tolerance of stations using direct frequency conversion of a received signal and not engaging in offset carrier operation as set forth in paragraph (d) of this section will be referenced to the authorized plus or minus 10 kHz offset, if any, of the primary station.

(a) The visual carrier shall be maintained to within 0.02 percent of the assigned visual carrier frequency for transmitters rated at not more than 100 watts peak visual power.

(b) The visual carrier shall be maintained to within 0.002 percent of the assigned visual carrier frequency for transmitters rated at more than 100 watts peak visual power.

(c) The aural carrier of stations employing modulating equipment shall be maintained at 4.5 MHz \pm 1 kHz above the visual carrier frequency.

(d) The visual carrier shall be maintained to within 1 kHz of the assigned channel carrier frequency if the low power TV, TV translator, or TV booster station is authorized with a specified offset designation in order to provide protection under the provisions of §74.705 or §74.707.

[43 FR 1952, Jan. 13, 1978, as amended at 52 FR 31405, Aug. 20, 1987]

§ 74.762 Frequency measurements.

(a) The licensee of a low power TV station, a TV translator, or a TV booster station must measure the carrier frequencies of its output channel as often as necessary to ensure operation within the specified tolerances, and at least once each calendar year at intervals not exceeding 14 months.

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(b) In the event that a low power TV, TV translator, or TV booster station is found to be operating beyond the frequency tolerance prescribed in § 74.761, the licensee promptly shall suspend operation of the transmitter and shall not resume operation until transmitter has been restored to its assigned frequencies. Adjustment of the frequency determining circuits of the transmitter shall be made only by a qualified person in accordance with § 74.750(g).

[52 FR 31405, Aug. 20, 1987]

§ 74.763 Time of operation.

(a) A low power TV, TV translator, or TV booster station is not required to adhere to any regular schedule of operation. However, the licensee of a TV translator or TV booster station is expected to provide service to the extent that such is within its control and to avoid unwarranted interruptions in the service provided.

(b) In the event that causes beyond the control of the low power TV or TV translator station licensee make it impossible to continue operating, the station may discontinue operation for a period of not more than 30 days without further authority from the FCC. Notification must be sent to the FCC in Washington, DC not later than the 10th day of discontinued operation. During such period, the licensee shall continue to adhere to the requirements in the station license pertaining to the lighting of antenna structures. In the event normal operation is restored prior to the expiration of the 30 days period, the licensee will so notify the FCC of this date in writing. If the causes beyond the control of the licensee make it impossible to comply within the allowed period, informal written request shall be made to the FCC no later than the 30th day for such additional time as may be deemed necessary.

(c) Failure of a low power TV, TV translator, or TV booster station to operate for a period of 30 days or more, except for causes beyond the control of the licensee, shall be deemed evidence of discontinuation of operation and the license of the station may be cancelled at the discretion of the FCC. Furthermore, the station's license will expire as a matter of law, without regard to

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any causes beyond control of the licensee, if the station fails to transmit broadcast signals for any consecutive 12-month period, notwithstanding any provision, term, or condition of the license to the contrary.

(d) A television broadcast translator station shall not be permitted to radiate during extended periods when signals of the primary station are not being retransmitted.

[28 FR 13722, Dec. 14, 1963, as amended at 52 FR 7423, Mar. 11, 1987; 52 FR 31405, Aug. 20, 1987; 61 FR 28768, June 6, 1996]

§ 74.765 Posting of station and operator licenses.

(a) The station license and any other instrument of authorization or individual order concerning the construction of the station or manner of operation shall be kept in the station record file so as to be available for inspection upon request of authorized representatives of the FCC.

(b) The call sign of the station, together with the name, address, and telephone number of the licensee or local representative of the licensee, if the licensee does not reside in the community served by the station, and the name and address of the person and place where the station records are maintained, shall be displayed at the transmitter site on the structure supporting the transmitting antenna, so as to be visible to a person standing on the ground. The display shall be maintained in legible condition by the licensee.

[47 FR 21502, May 18, 1982, as amended at 52 FR 7423, Mar. 11, 1987; 60 FR 55483, Nov. 1, 1995]

§ 74.769 Copies of rules.

The licensee or permittee of a station authorized under this subpart shall have a current copy of Volume I and Volume III of the Commission's Rules. Each such licensee or permittee shall be familiar with those rules relating to stations authorized under this subpart. Copies of the Commission's rules may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402.

[60 FR 55483, Nov. 1, 1995]

§ 74.780 Broadcast regulations applicable to translators, low power, and booster stations.

The following rules are applicable to TV translator, low power TV, and TV booster stations:

Section 73.653—Operation of TV aural and visual transmitters.

Section 73.658—Affiliation agreements and network program practices; territorial exclusivity in non-network program arrangements.

Part 73, Subpart G—Emergency Broadcast System (for low power TV stations locally originating programming as defined by § 74.701(h)).

Section 73.1201—Station identification (for low power TV stations locally originating programming as defined by § 74.701(h)).

Section 73.1206—Broadcast of telephone conversations.

Section 73.1207—Rebroadcasts.

Section 73.1208—Broadcast of taped, filmed or recorded material.

Section 73.1211—Broadcast of lottery information.

Section 73.1212—Sponsorship identifications; list retention, related requirements.

Section 73.1216—Licensee conducted contests.

Section 73.1510—Experimental authorizations.

Section 73.1515—Special field test authorizations.

Section 73.1615—Operation during modifications of facilities.

Section 73.1635—Special temporary authorizations (STA).

Section 73.1650—International broadcasting agreements.

Section 73.1680—Emergency antennas.

Section 73.1692—Construction near or installations on an AM broadcast tower.

Section 73.1940—Broadcasts by candidates for public office.

Section 73.2080—Equal employment opportunities (for low power TV stations only).

Section 73.3500—Application and report forms.

Section 73.3511—Applications required.

Section 73.3512—Where to file; number of copies.

Section 73.3513—Signing of applications.

Section 73.3514—Content of applications.

Section 73.3516—Specification of facilities.

Section 73.3517—Contingent applications.

Section 73.3518—Inconsistent or conflicting applications.

Section 73.3519—Repetitious applications.

Section 73.3521—Mutually exclusive applications for low power TV and TV translator stations.

Section 73.3522—Amendment of applications.

Section 73.3525—Agreements for removing application conflicts.

Section 73.3533—Application for construction permit or modification of construction permit.

Section 73.3534—Application for extension of construction permit or for construction permit to replace expired construction permit.

Section 73.3536—Application for license to cover construction permit.

Section 73.3538 (a)(1)(3)(4), (b)(2)—Application to make changes in existing station.

Section 73.3539—Application for renewal of license.

Section 73.3540—Application for voluntary assignment of transfer of control.

Section 73.3541—Application for involuntary assignment or transfer of control.

Section 73.3542—Application for emergency authorization.

Section 73.3544—Application to obtain a modified station license.

Section 73.3545—Application for permit to deliver programs to foreign stations.

Section 73.3550—Requests for new or modified call sign assignments.

Section 73.3561—Staff consideration of applications requiring Commission action.

Section 73.3562—Staff consideration of applications not requiring action by the Commission.

Section 73.3564—Acceptance of applications.

Section 73.3566—Defective applications.

Section 73.3568—Dismissal of applications.

Section 73.3572—Processing of TV broadcast, low power TV, and TV translator station applications.

Section 73.3580—Local public notice of filing of broadcast applications.

Section 73.3584—Petitions to deny.

Section 73.3587—Informal objections.

Section 73.3591—Grants without hearing.

Section 73.3593—Designation for hearing.

Section 73.3594—Local public notice of designation for hearing.

Section 73.3597—Procedures on transfer and assignment applications.

Section 73.3598—Period of construction.

Section 73.3599—Forfeiture of construction permit.

Section 73.3601—Simultaneous modification and renewal of license.

Section 73.3603—Special waiver procedure relative to applications.

Section 73.3612—Annual employment report (for low power TV stations only).

Section 73.3613—Filing of contracts (network affiliation contracts for low power TV stations only).

[52 FR 7423, Mar. 11, 1987, as amended at 52 FR 25867, July 9, 1987; 52 FR 31405, Aug. 20, 1987; 56 FR 28099, June 19, 1991; 59 FR 31557, June 20, 1994; 62 FR 51063, Sept. 30, 1997]

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EFFECTIVE DATE NOTE: At 62 FR 51063, Sept. 30, 1997, § 74.780 was amended by adding the entry "Section 73.1692", effective Dec. 1, 1997.

§ 74.781 Station records.

(a) The licensee of a low power TV, TV translator, or TV booster station shall maintain adequate station records, including the current instrument of authorization, official correspondence with the FCC, contracts, permission for rebroadcasts, and other pertinent documents.

(b) Entries required by § 17.49 of this Chapter concerning any observed or otherwise known extinguishment or improper functioning of a tower light:

(1) The nature of such extinguishment or improper functioning.

(2) The date and time the extinguishment or improper operation was observed or otherwise noted.

(3) The date, time and nature of adjustments, repairs or replacements made.

(c) The station records shall be maintained for inspection at a residence, office, or public building, place of business, or other suitable place, in one of the communities of license of the translator or booster, except that the station records of a booster or translator licensed to the licensee of the primary station may be kept at the same place where the primary station records are kept. The name of the person keeping station records, together with the address of the place where the records are kept, shall be posted in accordance with § 74.765(c) of the rules. The station records shall be made available upon request to any authorized representative of the Commission.

(d) Station logs and records shall be retained for a period of two years.

[48 FR 44806, Sept. 30, 1983, as amended at 52 FR 31405, Aug. 20, 1987]

§ 74.783 Station identification.

(a) Each low power TV and TV translator station not originating local programming as defined by § 74.701(h) operating over 0.001 kw peak visual power (0.002 kw when using circularly polarized antennas) must transmit its station identification as follows:

(1) By transmitting the call sign in International Morse Code at least once

each hour. This transmission may be accomplished by means of an automatic device as required by § 74.750(c)(7). Call sign transmission shall be made at a code speed not in excess of 20 words per minute; or

(2) By arranging for the primary station, whose signal is being rebroadcast, to identify the translator station by transmitting an easily readable visual presentation or a clearly understandable aural presentation of the translator station's call letters and location. Two such identifications shall be made between 7 a.m. and 9 a.m. and 3 p.m. and 5 p.m. each broadcast day at approximately one hour intervals during each time period. Television stations which do not begin their broadcast day before 9 a.m. shall make these identifications in the hours closest to these time periods at the specified intervals.

(b) Licensees of television translators whose station identification is made by the television station whose signals are being rebroadcast by the translator, must secure agreement with this television station licensee to keep in its file, and available to FCC personnel, the translator's call letters and location, giving the name, address and telephone number of the licensee or his service representative to be contacted in the event of malfunction of the translator. It shall be the responsibility of the translator licensee to furnish current information to the television station licensee for this purpose.

(c) A low power TV station shall comply with the station identification procedures given in § 73.1201 when locally originating programming, as defined by § 74.701(h). The identification procedures given in paragraphs (a) and (b) are to be used at all other times.

(d) Call signs for low power TV and TV translator stations will be made up of the initial letter K or W followed by the channel number assigned to the station and two additional letters. The use of the initial letter generally will follow the pattern used in the broadcast service, i.e., stations west of the Mississippi River will be assigned an

initial letter K and those east, the letter W. The two letter combinations following the channel number will be assigned in order and requests for the assignment of the particular combinations of letters will not be considered. The channel number designator for Channels 2 through 9 will be incorporated in the call sign as a 2-digit number, i.e., 02, 03,, so as to avoid similarities with call signs assigned to amateur radio stations.

(e) Low power TV permittees or licensees may request that they be assigned four-letter call signs in lieu of the five-character alpha-numeric call signs described in paragraph (d) of this section. Parties requesting four-letter call signs are to follow the procedures delineated in § 73.3550. Such four-letter call signs shall begin with K or W; stations West of the Mississippi River will be assigned an initial letter K and stations east of the Mississippi River will be assigned an initial letter W. The four-letter call sign will be followed by the suffix “-LP.” A party holding a low power TV construction permit who requests a four-letter call sign must file with that request a certification that the station has been constructed, that physical construction is underway at the transmitter site or that a firm equipment order has been placed.

(f) TV broadcast booster station shall be identified by their primary stations by broadcasting of the primary station's call letters and location in accordance with the provisions of § 73.1201 of this chapter.

[41 FR 17552, Apr. 27, 1976, as amended at 47 FR 21502, May 18, 1982; 52 FR 7424, Mar. 11, 1987; 52 FR 31405, Aug. 20, 1987; 59 FR 31557, June 20, 1994]

§ 74.784 Rebroadcasts.

(a) The term *rebroadcast* means the reception by radio of the programs or other signals of a radio or television station and the simultaneous or subsequent retransmission of such programs or signals for direct reception by the general public.

(b) The licensee of a low power TV or TV translator station shall not rebroadcast the programs of any other TV broadcast station or other station authorized under the provisions of this Subpart without obtaining prior con-

sent of the station whose signals or programs are proposed to be retransmitted. The FCC shall be notified of the call letters of each station rebroadcast and the licensee of the low power TV or TV broadcast translator station shall certify that written consent has been obtained from the licensee of the station whose programs are retransmitted.

(c) A TV translator station may rebroadcast only programs and signals that are simultaneously transmitted by a TV broadcast station.

(d) A TV booster station may rebroadcast only programs and signals that are simultaneously transmitted by the primary station to which it is authorized.

(e) The provisions of § 73.1207 of part 73 of this chapter apply to low power TV stations in transmitting any material during periods of program origination obtained from the transmissions of any other type of station.

(Sec. 325, 48 Stat. 1091; 47 U.S.C. 325)

[28 FR 13722, Dec. 14, 1963, as amended at 47 FR 21502, May 18, 1982; 52 FR 31405, Aug. 20, 1987]

Subpart H—Low Power Auxiliary Stations

§ 74.801 Definitions.

Cable television system operator. A cable television operator is defined in § 76.5(cc) of the rules.

Low power auxiliary station. An auxiliary station authorized and operated pursuant to the provisions set forth in this subpart. Devices authorized as low power auxiliary stations are intended to transmit over distances of approximately 100 meters for uses such as wireless microphones, cue and control communications, and synchronization of TV camera signals.

Motion picture producer. Motion picture producer refers to a person or organization engaged in the production or filming of motion pictures.

Television program producer. Television program producer refers to a person or organization engaged in the production of television programs.

§ 74.802

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)
[42 FR 14729, March 16, 1977, as amended at 43 FR 14662, Apr. 7, 1978; 51 FR 4603, Feb. 6, 1986; 51 FR 9966, Mar. 24, 1986; 54 FR 41842, Oct. 12, 1989]

§ 74.802 Frequency assignment.

(a) Frequencies within the following bands may be assigned for use by low power auxiliary stations:

- 26.100-26.480 MHz
54.000-72.000 MHz
76.000-88.000 MHz
161.625-161.775 MHz (except in Puerto Rico or the Virgin Islands)
174.000-216.000 MHz
450.000-451.000 MHz
455.000-456.000 MHz
470.000-488.000 MHz
488.000-494.000 MHz (except Hawaii)
494.000-608.000 MHz
614.000-806.000 MHz
944.000-952.000 MHz

(b) Operations in the bands allocated for TV broadcasting, listed below, are limited to locations removed from existing co-channel TV broadcast stations by not less than the following distances unless otherwise authorized by the FCC. (See § 73.609 for zone definitions.)

(1) 54.000-72.000 MHz and 76.000-88.000 MHz:

- Zone I 105 km (65 miles)
Zones II and III 129 km (80 miles)

(2) 174.000-216.000 MHz

- Zone I 97 km (60 miles)
Zones II and III 129 km (80 miles)

(3) 480.000-608.000 MHz and 614.000-806.000 MHz

All zones 113 km (70 miles)

(c) Specific frequency operation is required when operating within the bands allocated for TV broadcasting.

(1) The frequency selection shall be offset from the upper or lower band limits by 25 kHz or an integral multiple thereof.

(2) One or more adjacent 25 kHz segments within the assignable frequencies may be combined to form a channel whose maximum bandwidth shall not exceed 200 kHz.

(d) Low power auxiliary licensees will not be granted exclusive frequency assignments.

[52 FR 2535, Jan. 23, 1987]

§ 74.803 Frequency selection to avoid interference.

(a) Where two or more low power auxiliary licensees need to operate in the same area, the licensees shall endeavor to select frequencies or schedule operation in such manner as to avoid mutual interference. If a mutually satisfactory arrangement cannot be reached, the Commission shall be notified and it will specify the frequency or frequencies to be employed by each licensee.

(b) The selection of frequencies in the bands allocated for TV broadcasting for use in any area shall be guided by the need to avoid interference to TV broadcast reception. In these bands, low power auxiliary station usage is secondary to TV broadcasting and land mobile stations operating in the UHF-TV spectrum and must not cause harmful interference. If such interference occurs, low power auxiliary station operation must immediately cease and may not be resumed until the interference problem has been resolved.

[42 FR 14729, Mar. 16, 1977, as amended at 52 FR 2535, Jan. 23, 1987]

§ 74.831 Scope of service and permissible transmissions.

The license for a low power auxiliary station authorizes the transmission of cues and orders to production personnel and participants in broadcast programs and motion pictures and in the preparation therefor, the transmission of program material by means of a wireless microphone worn by a performer and other participants in a program or motion picture during rehearsal and during the actual broadcast, filming, or recording, or the transmission of comments, interviews, and reports from the scene of a remote broadcast. Low power auxiliary stations operating in the 944-952 MHz band may, in addition, transmit synchronizing signals and various control signals to portable or hand-carried TV cameras which employ low power radio signals in lieu of cable to deliver picture signals to the control point at the scene of a remote broadcast.

[42 FR 14729, Mar. 16, 1977, as amended at 51 FR 4603, Feb. 6, 1986]

§ 74.832 Licensing requirements and procedures.

(a) A license authorizing operation of one or more low power auxiliary stations will be issued only to the following:

(1) A licensee of an AM, FM, TV, or International broadcast station or low power TV station. Low power auxiliary stations will be licensed for use with a specific broadcast or low power TV station or combination of stations licensed to the same licensee within the same community.

(2) A broadcast network entity.

(3) A cable television system operator who operates a cable system that produces program material for origination or access cablecasting, as defined in § 76.5(r).

(4) Motion picture producers as defined in § 74.801.

(5) Television program producers as defined in § 74.801.

(6) Licensees and conditional licensees of stations in the Multipoint Distribution Service and Multichannel Multipoint Distribution Service as defined in § 21.2 of this chapter, or entities that hold an executed lease agreement with an MDS or MMDS licensee or conditional licensee or with an Instructional Television Fixed Service licensee or permittee.

(b) An application for a new or renewal of low power auxiliary license shall specify the frequency band or bands desired. Only those frequency bands necessary for satisfactory operation shall be requested.

(c) Licensees of AM, FM, TV, and International broadcast stations; low power TV stations; and broadcast network entities may be authorized to operate low power auxiliary stations in the frequency bands set forth in § 74.802(a).

(d) Cable television operations, motion picture and television program producers may be authorized to operate low power auxiliary stations only in the bands allocated for TV broadcasting.

(e) An application for low power auxiliary stations or for a change in an existing authorization shall specify the broadcast station, combination of such stations, or the network with which the low power broadcast auxiliary fa-

ilities are to be principally used as given in paragraph (h) of this section; or it shall specify the motion picture or television production company or the cable television operator with which the low power broadcast auxiliary facilities are to be solely used. A single application, filed in duplicate on FCC Form 313 may be used in applying for the authority to operate one or more low power auxiliary units. The application must specify the number of units to be operated and the frequency bands which will be used. Motion picture producers, television program producers, and cable television operators are required to attach a single sheet to their application form explaining in detail the manner in which the eligibility requirements given in paragraph (a) of this section are met.

(f) Applications for the use of the bands allocated for TV broadcasting must specify the usual area of operation within which the low power auxiliary station will be used. This area of operation may, for example, be specified as the metropolitan area in which the broadcast licensee serves, or the usual area within which motion picture and television producers are operating. Because low power auxiliary stations operating in these bands will only be permitted in areas removed from existing co-channel TV broadcast stations, licensees have full responsibility to ensure that operation of their stations does not occur at distances less than those specified in § 74.802(b).

(g) Low power auxiliary licenses will specify the minimum and maximum number of units that may be operated as follows: from 1 to 5 stations; from 4 to 12 stations; from 10 to 24 stations; from 20 to 50 stations; 45 or more stations.

(h) For broadcast licensees, low power auxiliary stations will be licensed for use with a specific broadcast station or combination of broadcast stations licensed to the same licensee and to the same community. Licensing of low power auxiliary stations for use with a specific broadcast station or combination of such stations does not preclude their use with other broadcast stations of the same or a different licensee at any location. Operation of low power auxiliary stations outside

the area of operation specified in the authorization, or in other bands is permitted without further authority of the Commission. However, operation of low power auxiliary stations shall, at all times, be in accordance with the requirements of § 74.882 of this subpart. Also, a low power auxiliary station that is being used with a broadcast station or network other than one with which it is licensed, must, in addition to meeting the requirements of § 74.861 of this subpart, not cause harmful interference to another low power auxiliary station which is being used with the broadcast station(s) or network with which it is licensed.

(i) In case of permanent discontinuance of operation of a station licensed under this subpart, the licensee shall forward the station license to the Federal Communications Commission, Broadcast Auxiliary Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 for cancellation.

(j) The license shall be retained in the licensee's files at the address shown on the authorization, posted at the transmitter, or posted at the control point of the station.

[42 FR 14729, Mar. 16, 1977, as amended at 47 FR 9221, Mar. 4, 1982; 47 FR 21503, May 18, 1982; 47 FR 55938, Dec. 14, 1982; 51 FR 4603, Feb. 6, 1986; 51 FR 9966, Mar. 24, 1986; 52 FR 2535, Jan. 23, 1987; 55 FR 46012, Oct. 31, 1990; 58 FR 19776, Apr. 16, 1993]

§ 74.833 Temporary authorizations.

(a) Special temporary authority may be granted for low power auxiliary station operation which cannot be conducted in accordance with § 74.24. Such authority will normally be granted only for operations of a temporary nature. Where operation is seen as likely on a continuing annual basis, an application for a regular authorization should be submitted.

(b) A request for special temporary authority for the operation of a low power auxiliary station may be made by informal application, which shall be filed with the Commission in Washington at least 10 days prior to the date of the proposed operation: *Provided*, That, an application filed within less than 10 days of the proposed operation may be accepted upon a satisfactory showing

of the reasons for the delay in submitting the request.

(c) An informal request for special temporary authority requiring payment of a fee shall be addressed to the FCC at Federal Communications Commission, Broadcast Auxiliary Radio Services, P.O. Box 358700, Pittsburgh, PA 15251-5700. An informal request for special temporary authority not requiring payment of a fee shall be addressed to the FCC at Federal Communications Commission, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325. All requests must include full particulars including: Applicant's name, statement of eligibility, call letters of associated broadcast station or stations, if any, name and address of individual designated to receive the return telegram, type and manufacturer of equipment, power output, emission, frequency or frequencies proposed to be used, commencement and termination date, location of proposed operation, and purpose for which request is made including any particular justification.

(d) A request for special temporary authority shall specify a frequency band consistent with the provisions of § 74.802: *Provided*, That, in the case of events of wide-spread interest and importance which cannot be transmitted successfully on these frequencies, frequencies assigned to other services may be requested upon a showing that operation thereon will not cause interference to established stations: *And provided further*, In no case will operation of a low power auxiliary broadcast station be authorized on frequencies employed for the safety of life and property.

(e) The user shall have full control over the transmitting equipment during the period it is operated.

(f) Special temporary authority to permit operation of low power auxiliary stations pending Commission action on an application for regular authority will not normally be granted.

[42 FR 14729, Mar. 16, 1977, as amended at 47 FR 9221, Mar. 4, 1982; 47 FR 55939, Dec. 14, 1982; 58 FR 19776, Apr. 16, 1993]

§ 74.851 Type acceptance of equipment.

(a) Applications for new low power auxiliary stations will not be accepted

unless the transmitting equipment specified therein has been type accepted for use pursuant to provisions of this subpart.

(b) Any manufacturer of a transmitter to be used in this service may apply for type acceptance for such transmitter following the type acceptance procedure set forth in part 2 of the Commission's Rules and Regulations. Attention is also directed to part 1 of the Commission's Rules and Regulations which specifies the fees required when filing an application for type acceptance.

(c) An applicant for a low power auxiliary station may also apply for type acceptance for an individual transmitter by following the type acceptance procedure set forth in part 2 of the Commission's Rules and Regulations. The application for type acceptance must be accompanied by the proper fees as prescribed in part 1 of the Commission's Rules and Regulations. Individual transmitters which are type accepted will not normally be included in the Commission's "Radio Equipment List."

(d) Low power auxiliary station equipment authorized to be used pursuant to an application accepted for filing prior to December 1, 1977 may continue to be used by the licensee or its successors or assignees: *Provided, however*, If operation of such equipment causes harmful interference due to its failure to comply with the technical standards set forth in this subpart, the Commission may, at its discretion, require the licensee to take such corrective action as is necessary to eliminate the interference.

(e) Each instrument of authority which permits operation of a low power auxiliary station using equipment which has not been type accepted will specify the particular transmitting equipment which the licensee is authorized to use.

(f) All transmitters marketed for use under this subpart shall be type accepted by the Federal Communications Commission for this purpose. (Refer to subpart I of part 2 of the Commission's rules and regulations.)

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[42 FR 14729, Mar. 16, 1977, as amended at 42 FR 43637, Aug. 22, 1977; 43 FR 13576, Mar. 31, 1978]

§ 74.852 Equipment changes.

(a) The licensee of a low power auxiliary station may make any changes in the equipment that are deemed desirable or necessary, including replacement with type accepted equipment, without prior Commission approval: *Provided*, The proposed changes will not depart from any of the terms of the station authorization or the Commission's technical rules governing this service: *And provided further*, That any changes made to type accepted transmitted equipment shall be in compliance with the provisions of part 2 of the Commission's rules and regulations concerning modification of type accepted equipment.

(b) Any equipment changes made pursuant to paragraph (a) of this section shall be set forth in the next application for renewal of license.

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[42 FR 14729, Mar. 16, 1977, as amended at 43 FR 13576, Mar. 31, 1978]

§ 74.861 Technical requirements.

(a) Transmitter power is the power at the transmitter output terminals and delivered to the antenna, antenna transmission line, or any other impedance-matched, radio frequency load. For the purpose of this subpart, the transmitter power is the carrier power.

(b) Each authorization for a new low power auxiliary station shall require the use of type accepted equipment. Such equipment shall be operated in accordance with the emission specifications included in the type acceptance grant and as prescribed in paragraphs (c) through (e) of this section.

(c) Low power auxiliary transmitters not required to operate on specific carrier frequencies shall operate sufficiently within the authorized frequency band edges to insure the emission bandwidth falls entirely within the authorized band.

(d) For low power auxiliary stations operating in the bands other than those allocated for TV broadcasting,

the following technical requirements are imposed.

(1) The maximum transmitter power which will be authorized is 1 watt. Licensees may accept the manufacturer's power rating; however, it is the licensee's responsibility to observe specified power limits.

(2) If a low power auxiliary station employs amplitude modulation, modulation shall not exceed 100 percent on positive or negative peaks.

(3) The occupied bandwidth shall not be greater than that necessary for satisfactory transmission and, in any event, an emission appearing on any discrete frequency outside the authorized band shall be attenuated, at least, $43+10 \log_{10}$ (mean output power, in watts) dB below the mean output power of the transmitting unit.

(e) For low power auxiliary stations operating in the bands allocated for TV broadcasting, the following technical requirements apply:

(1) The power of the measured unmodulated carrier power at the output of the transmitter power amplifier (antenna input power) may not exceed the following:

(i) 54–72, 76–88, and 174–216 MHz bands—50 mW

(ii) 470–608 and 614–806 MHz bands—250 mW

(2) Transmitters may be either crystal controlled or frequency synthesized.

(3) Any form of modulation may be used. A maximum deviation of ± 75 kHz is permitted when frequency modulation is employed.

(4) The frequency tolerance of the transmitter shall be 0.005 percent.

(5) The operating bandwidth shall not exceed 200 kHz.

(6) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(i) On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB;

(ii) On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB;

(iii) On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least $43+10 \log_{10}$ (mean output power in watts) dB.

(f) Unusual transmitting antennas or antenna elevations shall not be used to deliberately extend the range of low power auxiliary stations beyond the limited areas defined in § 74.831.

(g) Low power auxiliary stations shall be operated so that no harmful interference is caused to any other class of station operating in accordance with Commission's rules and regulations and with the Table of Frequency Allocations in part 2 thereof.

(h) In the event a station's emissions outside its authorized frequency band causes harmful interference, the Commission may, at its discretion, require the licensee to take such further steps as may be necessary to eliminate the interference.

(Sec. 5, 48 Stat. 1068; 47 U.S.C. 155)

[43 FR 13576, Mar. 31, 1978, as amended at 52 FR 2535, Jan. 23, 1987]

§ 74.882 Station identification.

Call signs will not be assigned to low power auxiliary stations. In lieu thereof, for transmitters used for voice transmissions and having a transmitter output power exceeding 50 mW, an announcement shall be made at the beginning and end of each period of operation at a single location, over the transmitting unit being operated, identifying the transmitting unit designator, its location, and the call sign of the broadcasting station or name of the licensee with which it is being used. A period of operation may consist of a continuous transmission or intermittent transmissions pertaining to a single event.

[42 FR 14729, Mar. 16, 1977]

Subpart I—Instructional Television Fixed Service

SOURCE: 28 FR 13731, Dec. 14, 1963, unless otherwise noted.

§ 74.901 Definitions.

Attended operation. Operation of a station by a designated person on duty

at the place where the transmitting apparatus is located with the transmitter in the person's plain view.

Equivalent Isotropically Radiated Power (EIRP). The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna radiator. This product may be expressed in watts or dB above 1 watt (dBW).

Instructional television fixed station. A fixed station operated by an educational organization and used primarily for the transmission of visual and aural instructional, cultural, and other types of educational material to one or more fixed receiving locations.

ITFS response station. A fixed station operated at an authorized location to provide communication by voice and/or data signals to an associated instructional television fixed station.

Main channel: The main channel is that portion of each authorized channel used for the transmission of visual and aural information as set forth in §73.682 of this Chapter and §74.938 of this subpart.

Point-to-point ITFS station. An ITFS station that transmits a highly directional signal from a fixed transmitter location to a fixed receive location.

Remote control. Operation of a station by a designated person at a control position from which the transmitter is not visible but where suitable control and telemetering circuits are provided which allow the performance of the essential functions that could be performed at the transmitter.

Studio to transmitter link (STL). A directional path used to transmit a signal from a station's studio to its transmitter.

Subsidiary channel: A subsidiary channel is any portion of an authorized channel not used for main channel transmissions.

Temporary fixed ITFS station. An ITFS station used for the transmission of material from temporary unspecified points to an ITFS station.

Unattended operation. Operation of a station by automatic means whereby the transmitter is turned on and off

and performs its functions without attention by a designated person.

[28 FR 13731, Dec. 14, 1963, as amended at 35 FR 4705, Mar. 18, 1970; 48 FR 33901, July 26, 1983; 49 FR 32596, Aug. 15, 1984; 55 FR 46013, Oct. 31, 1990; 60 FR 55483, Nov. 1, 1995]

§ 74.902 Frequency assignments.

(a) The following frequencies may be assigned to instructional television fixed stations:

Channel No.	Band limits MHz
GROUP A	
A-1	2500-2506
A-2	2512-2518
A-3	2524-2530
A-4	2536-2542
GROUP B	
B-1	2506-2512
B-2	2518-2524
B-3	2530-2536
B-4	2542-2548
GROUP C	
C-1	2548-2554
C-2	2560-2566
C-3	2572-2578
C-4	2584-2590
GROUP D	
D-1	2554-2560
D-2	2566-2572
D-3	2578-2584
D-4	2590-2596
GROUP E	
E-1	2596-2602
E-2	2608-2614
E-3	2620-2626
E-4	2632-2638
GROUP F	
F-1	2602-2608
F-2	2614-2620
F-3	2626-2632
F-4	2638-2644
GROUP G	
G-1	2644-2650
G-2	2656-2662
G-3	2668-2674
G-4	2680-2686

(b) Instructional Television Fixed Stations authorized to operate on Channels 2650-2656, 2662-2668, and 2674-

2680 MHz as of July 16, 1971, may continue to operate on a coequal basis with other stations operating in accordance with the Table of Frequency Allocations. Requests for subsequent renewals or modification of existing licenses will be considered; however, expansion of systems comprised of such stations will not be permitted except on frequencies allocated for the service.

(c) Channels 2596–2602, 2602–2608, 2608–2614, 2614–2620, 2620–2626, 2626–2632, 2632–2638, and 2638–2644 MHz and the corresponding response channels listed in § 74.939(d) are shared with the Multipoint Distribution Service. No new Instructional Television Fixed Service applications for these channels filed after May 25, 1983 will be accepted. In those areas where Multipoint Distribution Service use of these channels is allowed pursuant to § 21.902, Instructional Television Fixed Service users of these channels will continue to be afforded protection from harmful co-channel and adjacent channel interference from Multipoint Distribution Service stations.

(d)(1) A licensee is limited to the assignment of no more than four channels for use in a single area of operation, all of which should be selected from the same Group listed in paragraph (a) of this section. An area of operation is defined as the area 20 miles or less from the ITFS transmitter. Applicants shall not apply for more channels than they intend to construct within a reasonable time, simply for the purpose of reserving additional channels. The number of channels authorized to an applicant will be based on the demonstration of need for the number of channels requested. The Commission will take into consideration such factors as the amount of use of any currently assigned channels and the amount of proposed use of each channel requested, the amount of, and justification for, any repetition in the schedules, and the overall demand and availability of ITFS channels in the community. For those applicant organizations formed for the purpose of serving accredited institutional or governmental organizations, evaluation of the need will only consider service to those specified receive sites which sub-

mitted supporting documentation pursuant to § 74.932(a)(4).

(2) An applicant leasing excess capacity and proposing a schedule which complies in all respects with the requirements of Section 74.931(e) will have presumptively demonstrated need, in accordance with paragraph (d)(1) of this section, for no more than four channels, all part of the same Group listed in paragraph (a) of this section. This presumption is rebuttable by demonstrating that the application does not propose to comport with our educational programming requirements, that is, to transmit some formal educational programming, as defined in Section 74.931(a), and to transmit the requisite minimum programming of Section 74.931(e) for genuinely educational purposes and to receive sites when students are there.

(e) The same channel may be assigned to more than one station or more than one licensee in the same area if the geometric arrangement of the transmitting and receiving points or the times of operation are such that interference is not likely to occur.

(f) A temporary fixed ITFS station may use any available ITFS channel on a secondary basis. Operation of stations located within 56.3 km (35 miles) of Canada shall be limited by § 74.24(h)(3).

(g) Where adjacent channel operation is proposed in any area, the preferred location of the proposed station's transmitting antenna is at the site of the adjacent channel transmitting antenna. If this is not practicable, the adjacent channel transmitting antennas should be located as close as reasonably possible.

(h) On the E and F-channel frequencies, a point-to-point ITFS station may be involuntarily displaced by an MDS applicant, conditional licensee or licensee, provided that suitable alternative spectrum is available and that the MDS entity bears the expenses of the migration. Suitability of spectrum will be determined on a case-by-case basis; at a minimum, the alternative spectrum must be licensable by ITFS operators on a primary basis (although it need not be specifically allocated to the ITFS service), and must provide a signal that is equivalent to the prior

signal in picture quality and reliability, unless the ITFS licensee will accept an inferior signal. Potential expansion of the ITFS licensee may be considered in determining whether alternative available spectrum is suitable.

(i) If suitable alternative spectrum is located pursuant to paragraph (h) of this section, the initiating party must prepare and file the appropriate application for the new spectrum, and must simultaneously serve a copy of the application on the ITFS licensee to be moved. The initiating party will be responsible for all costs connected with the migration, including purchasing, testing and installing new equipment, labor costs, reconfiguration of existing equipment, administrative costs, legal and engineering expenses necessary to prepare and file the migration application, and other reasonable documented costs. The initiating party must secure a bond or establish an escrow account to cover reasonable incremental increase in ongoing expenses that may fall upon the migrated licensee. The bond or escrow account should also account for the possibility that the initiating party subsequently becomes bankrupt. If it becomes necessary for the Commission to assess the sufficiency of a bond or escrow amount, it will take into account such factors as projected incremental increase in electricity or maintenance expenses, or relocation expenses, as relevant in each case.

(j) The ITFS party to be moved will have a 60-day period in which to oppose the involuntary migration. The ITFS party should state its opposition to the migration with specificity, including engineering and other challenges, and a comparison of the present site and the proposed new site. If involuntary migration is granted, the new facilities must be operational before the initiating party will be permitted to begin its new or modified operations. The migration must not disrupt the ITFS licensee's provision of service, and the ITFS

licensee has the right to inspect the construction or installation work.

[29 FR 7023, May 28, 1964, as amended at 31 FR 10743, Aug. 12, 1966; 36 FR 11587, June 16, 1971; 48 FR 33901, July 26, 1983; 49 FR 32596, Aug. 15, 1984; 50 FR 26758, June 28, 1985; 55 FR 46013, Oct. 31, 1990; 56 FR 57819, Nov. 14, 1991; 58 FR 44951, Aug. 25, 1993; 59 FR 35636, July 13, 1994; 60 FR 20246, Apr. 25, 1995]

§ 74.903 Interference.

(a) Since interference in this service will occur only when an unfavorable desired-to-undesired signal ratio exists at the antenna input terminals of the affected receiver, the directive properties of receiving antennas can be used to minimize the hazard of such interference. Interference may also be controlled through the use of directive transmitting antennas, geometric arrangement of transmitters and receivers, and the use of the minimum power required to provide the needed service. Harmful interference will be considered present when the reference receiving antenna is oriented to receive the maximum desired signal, and a free space calculation determines that the desired-to-undesired signal ratio is less than the value specified for the respective channel under consideration.

(1) Cochannel interference is defined as the ratio of the desired signal to the undesired signal, at the antenna input terminals of the affected receiver, when the ratio is less than 45 dB.

(2) Adjacent channel interference is defined as the ratio of the desired signal to undesired signal present in an adjacent channel, at the output of a reference receiving antenna oriented to receive the maximum desired signal level. Harmful interference will be considered present when a free space calculation determines that this ratio is less than 0 dB. In the alternative, harmful interference will be considered present for an Instructional Television Fixed Service (ITFS) station constructed before May 26, 1983, when a free space calculation determines that this ratio is less than 10 dB, unless the individual receive site under consideration has been subsequently upgraded with up-to-date reception equipment,

in which case the ratio shall be less than 0 dB, or unless the license for an ITFS station is conditioned on the proffer to the affected ITFS station licensee of equipment capable of providing a ratio of 0 dB or more at no expense to the affected ITFS station licensee, and also conditioned, if necessary, on installation of such equipment, absent a showing by the affected ITFS station licensee demonstrating good cause and that the proposed equipment will not provide a ratio of 0 dB or more or that installation of such equipment, at no expense to the ITFS station licensee, is not possible. Absent information presented to the contrary, the Commission will assume that reception equipment installation occurred simultaneously with original station equipment.

(3) For purposes of this section, all interference calculations involving receive antenna performance shall use the reference antenna characteristics shown in Figure 1, of §74.937(a) or, in the alternative, utilize the actual pattern characteristics of the antenna in use at the receive site under study. If the actual receive antenna pattern is utilized, the applicant must submit complete details including manufacturer, model number(s), co-polar and cross-polar gain patterns, and other pertinent data.

(4) If an application can demonstrate that the installation of a receiving antenna at an existing licensee's site with characteristics superior to those of the standard antenna (or, alternatively, the appropriate existing antenna in use at the site) will permit the applicant to provide service without interference to the existing licensee, the application will be considered grantable with the condition that the applicant bears all costs of upgrading the existing licensee's reception equipment at that site(s). Such a showing should include interference calculations for both the existing or reference antenna and the proposed antenna. The manufacturer, model number(s), co-polar and cross-polar gain patterns of the replacement antenna should be supplied as well as an accurate assessment of the expected reimbursement costs.

(5) No receive site more than 35 miles from the transmitter shall be entitled to interference protection.

(b) All applicants for instructional television fixed stations are expected to take full advantage of such directive antenna techniques to prevent interference to the reception of any existing operational fixed, multichannel multipoint distribution, international control or instructional television fixed station at authorized receiving locations. Therefore, all applications for new or major changes must include an analysis of potential interference to all existing and previously proposed stations in accordance with §74.903(a). An applicant for a new instructional television fixed station or for changes in an existing ITFS facility for a construction permit must include the following technical information with the application:

(1) An analysis of the potential for harmful cochannel interference with any authorized or previously proposed station if:

(i) The proposed transmitting antenna has an unobstructed electrical path to receive sites(s) of any other station(s) that utilize(s), or would utilize, the same frequency, or

(ii) The proposed transmitter is within 80.5 km (50 miles) of the coordinates of any such station.

(2) An analysis of the potential for harmful adjacent channel interference with any authorized or previously proposed station(s) if the proposed transmitter is within 80.5 km (50 miles) of the coordinates of any other station(s) that utilize(s), or would utilize, an adjacent channel frequency.

(3) An analysis concerning possible adverse impact upon Mexican and Canadian communications if the station's transmitting antenna is to be located within 80.5 km (50 miles) of the border.

(4) In lieu of the interference analyses required by paragraphs (b)(1) and (b)(2) of this Section for any authorized or previously proposed station(s), an applicant may submit a statement(s) from the affected ITFS licensee(s) or permittee(s) that any resulting interference is acceptable.

(5) An analysis of the potential for harmful interference within the protected service area, as defined in paragraph (d) of this section, of any authorized or previously proposed station(s) described in paragraph (d) of this section.

(c) Existing licensees and prospective applicants are expected to cooperate fully in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

(d) Each authorized or previously-proposed applicant, construction permittee, or licensee who proposes to lease excess capacity to a "wireless cable" operator pursuant to § 74.931(e)(2) must be protected from harmful electrical interference for the hours of such transmissions within a protected service area as defined at § 21.902(d) of this chapter. Alternatively, an applicant, permittee, or licensee may select a 56.33 km (35 mile) circular protected area centered at the geographic latitude and longitude of the transmitting antenna site. Applicants are expected to cooperate fully and in good faith with an authorized or previously-proposed applicant, construction permittee, or licensee who leases or proposes to lease excess capacity to a "wireless cable" operator pursuant to § 74.931(e)(2), in attempting to resolve problems of potential interference to such operations before bringing the matter to the attention of the Commission.

(e) Each ITFS applicant, permittee, or licensee who wishes to claim the protection described at paragraph (d) of this section must request such protection in writing in its initial application for a new station, in an application amendment, or by modification application. Such protection shall be applied solely with regard to applications filed subsequent to the request for a protected service area.

(f) With respect to protected service area proposals, two applications will be regarded as mutually exclusive if they are:

- (1) Submitted during the same filing window;
- (2) Otherwise grantable;
- (3) Mutually exclusive only because either or both applicants request a pro-

TECTED service area. However, if an applicant in such a situation shows that the resulting interference would occur solely over water, the applications will not be considered to be mutually exclusive.

[28 FR 13731, Dec. 14, 1963, as amended at 50 FR 26758, June 28, 1985; 51 FR 9799, Mar. 21, 1986; 55 FR 46013, Oct. 31, 1990; 56 FR 57600, Nov. 13, 1991; 58 FR 44951, Aug. 25, 1993; 60 FR 20246, Apr. 25, 1995; 60 FR 57368, Nov. 15, 1995]

§ 74.910 Part 73 application requirements pertaining to ITFS stations.

The following rules are applicable to ITFS stations.

Sec.

- 73.3500 Application and report forms.
- 73.3511 Applications required.
- 73.3512 Where to file; number of copies.
- 73.3513 Signing in applications.
- 73.3514 Content of applications.
- 73.3517 Contingent applications.
- 73.3519 Repetitious applications.
- 73.3533 Application for construction permit or modification of construction permit.
- 73.3534 Application for extension of construction permit or for construction permit to replace expired construction permit.
- 73.3536 Application for license to cover construction permit.
- 73.3542 Application for temporary or emergency authorization.
- 73.3561 Staff consideration of applications requiring Commission action.
- 73.3562 Staff consideration of applications not requiring action by the Commission.
- 73.3597(c)(2) Procedures on transfer and assignment applications.
- 73.3566 Defective applications.
- 73.3568 Dismissal of applications.
- 73.3587 Procedure for filing objections.
- 73.3598 Period of construction.
- 73.3599 Forfeiture of construction permit.

The applicability of other rules in part 73, where appropriate, is not precluded by this section.

[50 FR 26759, June 28, 1985, as amended at 60 FR 20247, Apr. 25, 1995]

§ 74.911 Processing of ITFS station applications.

(a) Application for ITFS stations are divided into two groups:

- (1) In the first group are applications for new stations or major changes in the facilities of authorized stations. These applications are subject to the provisions of paragraph (c) of this section. A major change for an ITFS station will be any proposal to add new

channels, change from one channel (or channel group) to another, change polarization, increase the EIRP in any direction by more than 1.5dB, increase the transmitting antenna height by 25 feet or more, or relocate a facility's transmitter site by 10 miles or more. However, the Commission may, within 15 days after the acceptance of an application, or 15 days after the acceptance of any other application for modification of facilities, advise the applicant that such application is considered to be one for a major change, and subject to the provisions of paragraph (c) of this section.

(2) The second group consists of applications for licenses and all other changes in the facilities of authorized stations.

(b) A new file number will be assigned to an application for a new station or for major changes in the facilities of an authorized station, when it is amended so as to effect a major change, as defined in paragraph (a)(1) of this Section, or result in a situation where the original party or parties to the application do not retain control of the applicant as originally filed. An application for change in the facilities of any existing station will continue to carry the same file number even though (pursuant to Commission approval) an assignment of license or transfer of control of such licensee or permittee has taken place if, upon consummation, the application is amended to reflect the new ownership.

(c)(1) New and major change applications for ITFS stations will be accepted only on dates specified by the Commission. Filing periods will be designated by the Commission in a Public Notice, to be released not fewer than 60 days before the commencement of the filing period. Qualified parties will have no fewer than 5 business days within which to submit their applications. After termination of the filing period, the Commission shall release a Public Notice with a list of applications filed in the window and provide no fewer than 30 days for the submission of petitions to deny. Uncontested applications that are not mutually exclusive with any other application or licensed facility, and are found to be acceptable, shall be granted. Mutually exclu-

sive applications shall be evaluated pursuant to the comparative selection process set forth in §74.913 as herein amended.

(2) The requirements of this section apply to a wireless cable entity requesting to be licensed on ITFS frequency pursuant to §74.990. The application of such a wireless cable entity shall be included in the Public Notice released after the termination of the filing period.

(d) Those applications, other than mutually exclusive applications, which upon examination meet other pertinent requirements and would serve the public interest, convenience and necessity will be granted. Mutually exclusive applications will be processed pursuant to the provisions in §74.913.

[50 FR 26759, June 28, 1985, as amended at 55 FR 46013, Oct. 31, 1990; 60 FR 20247, Apr. 25, 1995]

§74.912 Petitions to deny.

(a) Any party in interest may file with the Commission a petition to deny any application for new facilities or major changes in the facilities of authorized stations, provided such petitions are filed by the date established pursuant to the cut-off provisions of §74.911(c). In the case of all other applications, except those excluded under section 309(c) of the Communications Act of 1934, as amended, petitions to deny must be filed not later than 30 days after issuance of a public notice of the acceptance for filing of the applications. In the case of applications for renewal of license, petitions to deny may be filed after the issuance of a public notice of acceptance for filing of the applications and up until the first day of the last full calendar month of the expiring license term.

(b) The applicant file an opposition to any petition to deny, and the petitioner a reply to such opposition in which allegations of fact or denials thereof shall be supported by affidavit of a person or persons with personal knowledge thereof. The times for filing such oppositions and replies shall be those provided in §1.45 of this chapter.

(c) Only petitions to deny filed against a tentative selectee (§74.913) will be considered. If the petition does not present substantial and material

questions of fact warranting a hearing, the petition will be denied and the tentative selectee will be granted a license where, upon examination, the Mass Media Bureau finds that other pertinent requirements have been met and the public interest, convenience and necessity would be served. Where necessary, the points of the application will be modified to comport with any findings made as a result of the review. In the event that the tentative selectee's application is denied or its point total reduced, the point system process will be repeated, where necessary, to determine the tentative selectee or applicants qualifying for the random tie-breaker. If, upon examination, a substantial and material question of fact is found and the Bureau is unable to find that the public interest, convenience and necessity will be served by granting the application of the tentative selectee pursuant to the point system, its application will be designated for hearing pursuant to section 309 of the Communications Act of 1934, as amended. Petitions for reconsideration, motions to stay, or applications for review may be submitted at the time the Bureau grants or denies the application of the tentative selectee pursuant to the filing periods specified in § 1.45 of this chapter.

[50 FR 26759, June 28, 1985]

§ 74.913 Selection procedure for mutually exclusive ITFS applications.

(a) If timely filed ITFS applications are determined to be mutually exclusive, such applications will be processed and assessed points to determine the tentative selectee for the particular channels. The tentative selectee will be the applicant with the highest point total under the procedure set forth in this section, unless the provisions of paragraph (c) of this section apply, and will be awarded the requested channels if the Commission concludes that such an award will serve the public interest, convenience and necessity.

(b) Each application will be awarded a predetermined number of points under the criteria listed:

(1) Four points for applicants that are "local," as defined in § 74.932, n.1.

(2) Three points for accredited schools, or their governing bodies applying within their jurisdiction;

(3) Two points for applicants whose request, if granted, would result in the acquisition of four or fewer ITFS channels by that applicant within the particular area;

(4) One point for a proposed weekly schedule of twenty-one or more average hours per channel per week of formal educational programming (§ 74.931(a)), or of forty-one or more average hours per channel per week of other ITFS programming; two points for forty-one or more average hours per channel per week of formal education programming, or for sixty-one or more hours per channel per week of ITFS programming where at least twenty-one of those hours are formal educational programming;

(5) One point for an existing E or F channel licensee seeking to relocate and showing an established need for an expanded service that cannot be accommodated on its grandfathered E or F facilities. The applicant must submit a specific request and adequate supporting documentation.

(c) If the best qualified (highest scoring) two or more applicants have the same point accumulation, they will be given thirty days from the date of release of such decision to notify the Commission of any agreement to divide the use of the channels. If no agreement is reached and advanced to the Commission within that time, the tentative selectee will then be determined through a tie-breaker mechanism.

(d) The tie-breaker will operate as follows: each of the tied applicants will be directed to submit to the Commission a statement of the number of students at its proposed receive locations who are formally enrolled in classes for credit toward an academic degree or diploma, or a legally required certification or license. It must also demonstrate that this claim of students who would benefit from the proposed system is supported by the educational programs proposed in its application. Each applicant will serve its submission(s) on the other tied competing applicant(s), who will have an opportunity to respond to any aspect of the

enrollment submissions. If any applicant's system would reach less than 80% as many students as another applicant's would reach, the application which would result in service to the fewer number of students will be denied. The application(s) of any remaining applicant(s) will be granted. If more than one application is to be granted under this procedure, the channels or channel capacity will be divided evenly among the remaining applicants. At any time during this process, the applicants may advise the Commission that they are negotiating or have reached settlement for disposition of the contested facilities, and the Commission will withhold further comparative processing upon such notification.

(1) Enrollment will be considered as of the last date of the filing window during which the applications were filed, as provided by § 74.911(c). Enrollment figures should be the latest available from a regular term or session prior to that filing date, and must be taken from a statement or submission of data made by the subject school for some other official purpose or function, such as a mid-year or year-end fiscal report, or a budget proposal, and they must represent actual, not projected, student population. Each applicant must identify the source(s) from which its submitted enrollment figures are drawn.

(2) All full- and part-time students formally enrolled in classes for credit toward an academic degree or diploma, or a legally required certification or license, at any school, campus, or other locations listed in the application as a receive site may be counted, except if an applicant's system would serve only students in a particular discipline (or disciplines) or at a particular grade level (or levels), only students in classes and programs within that discipline(s) or grade level(s) may be counted.

(3) For off-campus sites, only students who can be shown to be recipients of formal ITFS educational material may be counted.

(4) Applicants serving students other than their own count only students at schools, campuses, and other receive sites which have submitted a letter indicating their intention to use the pro-

posed service. The validity of such expressions of intention will be judged pursuant to § 74.932 of these rules. If several schools from the same school system are listed as receive sites, a single letter from an appropriate person representing the school board or system will be sufficient to demonstrate the intention to use the proposed service at each of these receive sites if each receive site's participation is specifically acknowledged.

(5) A receive site not receiving interference protection may not be utilized by an applicant for tie-breaking purposes.

NOTE 1: Entities entitled to the accreditation points will include umbrella organizations whose membership is composed of entities which are individually eligible for the points. Also, a state's department of education (or equivalent agency) would qualify, as well as any directly controlled arm of that department if its specific duties include that department's educational function.

NOTE 2: Average hours per channel per week are determined by totaling the number of scheduled hours per week of programming between 8:00 a.m and 10:00 p.m. Monday through Saturday in the subject category, and dividing that total by the number of channels.

NOTE 3: Paragraph (b)(3) of this section does not apply to applications for modification of facilities other than the addition of channels.

NOTE 4: For applications pending as of August 14, 1989, the enrollment which will be counted will be the most recent available up to August 22, 1989, for which receive sites are on file by that date.

[50 FR 26759, June 28, 1985, as amended at 51 FR 9800, Mar. 21, 1986; 51 FR 39536, Oct. 29, 1986; 54 FR 29039, July 11, 1989; 60 FR 20247, Apr. 25, 1995]

§ 74.931 Purpose and permissible service.

(a)(1) Instructional television fixed stations are intended primarily to provide a formal educational and cultural development in aural and visual form, to students enrolled in accredited public and private schools, colleges and universities. Authorized instructional television fixed station channels must be used to transmit formal educational programming offered for credit to enrolled students of accredited schools, with limited exceptions as set forth in

paragraph (e)(9) of this section and Secs. 74.990 through 74.992.

(2) All applicants that do not list accredited schools as receive sites must name the school(s) and the degree(s) or diploma(s) for which the formal programming will be offered and describe the administration of the course(s). They must submit documentation, written or signed by the authorities responsible for the schools' curricula, verifying each of these points.

(b) Such stations may also be used for the additional purpose of transmitting other visual and aural educational, instructional and cultural material to selected receiving locations, including in-service training and instruction in special skills and safety programs, extension of professional training, informing persons and groups engaged in professional and technical activities of current developments in their particular fields, and other similar endeavors.

(c) During periods when the circuits provided by these stations are not being used for the transmission of instructional and cultural material, they may be used for the transmission of material directly related to the administrative activities of the licensee such as the holding of conferences with personnel, distribution of reports and assignments, exchange of data and statistics, and other similar uses. Stations will not be licensed in this service solely for the transmission of administrative traffic.

(d) Stations may be licensed in this service as originating or relay stations to interconnect instructional television fixed stations in adjacent areas, to deliver instructional and cultural material to, and obtain such material from, commercial and noncommercial educational television broadcast stations for use on the instructional television fixed system, and to deliver instructional and cultural material to, and obtain such material from, nearby terminals or connection points of closed circuit educational television systems employing wired distribution systems or radio facilities authorized under other parts of this chapter, or to deliver instructional and cultural material to any CATV system serving a receiving site or sites which would be

eligible for direct reception of ITFS signals under the provisions of paragraphs (a) and (b) of this section.

(e) A licensee may use excess capacity on each channel to transmit material other than the ITFS subject matter specified in paragraphs (a), (b), (c), and (d) of this section subject to the following conditions:

(1) If the time or capacity leased is not to be used for "wireless cable" operations, the licensee must preserve at least 40 hours per week, including at least 6 hours per weekday (Monday through Friday), excluding holidays and vacation days, for ITFS purposes on that channel. The 40-hour preservation may consist of airtime strictly reserved for ITFS use and not used for non-ITFS programming, or of time used for non-ITFS programming but subject to ready recapture by the licensee for ITFS use with no economic or operational detriment of the licensee. At least 20 hours per week of the preserved time on each channel must be used for ITFS programming, including at least 3 hours per weekday, excluding holidays and vacation days, except as provided in paragraph (e)(3) of this section. Only ITFS programming and preserved airtime scheduled between 8 a.m. and 10 p.m. Monday through Saturday, will qualify to meet these requirements.

(2) If the time or capacity leased is to be used for "wireless cable" operations, before leasing excess capacity on any one channel, the licensee must provide at least 20 hours per week of ITFS programming on that channel, except as provided in paragraph (e)(3) of this section. All hours not used for ITFS programming may be leased to a "wireless cable" operator. An additional 20 hours per week per channel must be reserved for recapture by the ITFS licensee for its ITFS programming, subject to one year's advance, written notification by the ITFS licensee to its "wireless cable" lessee. These hours of recapture are not restricted as to time of day or day of the week, but may be established by negotiations between the ITFS licensee and the "wireless cable" lessee.

(3) For the first two years of operation, an ITFS entity may lease excess

capacity if it provides ITSF programming at least 12 hours per channel per week, including up to four hours of ITFS usage per day.

(4) The licensee may schedule the ITFS programming and use automatic channel switching equipment so as to employ channel mapping technology to lease to a “wireless cable” operator. However, an ITFS applicant should request only as many channel as it needs to fulfill its educational requirements.

(5) All of the capacity available on any subsidiary channel of any authorized channel may be used for the transmission of material to be used by others.

(6) When an ITFS licensee makes capacity available on a common carrier basis, it will be subject to common carrier regulation. A licensee operating as a common carrier is required to apply for the appropriate authorization and to comply with all policies and rules applicable to that service. Responsibility for making the initial determination of whether a particular activity is common carriage rests with the ITFS licensee. Initial determinations by the licensee are subject to Commission examination and may be reviewed at the Commission’s discretion.

(7) An ITFS applicant, permittee, or licensee may use an omnidirectional antenna to facilitate the leasing of excess capacity to “wireless cable” operators.

(8) Leasing activity may not cause unacceptable interference to cochannel and adjacent-channel operations.

(9) A licensee may shift its requisite ITFS programming onto fewer than its authorized number of channels, via channel mapping technology or channel loading, so that it can lease full-time channel capacity to a wireless cable operator, subject to the condition that it provide a total average of at least 20 hours per channel per week of ITFS programming on its authorized channels. The licensee also retains the unabridgeable right to recapture, subject to six months’ written notification to the wireless cable operator, an average of an additional 20 hours per channel per week for simultaneous programming on the number of channels for which it is authorized. The licensee may agree to the transmission of this

recapture time on channels not authorized to it, but which are included in the wireless system of which it is a part.

(f) Material transmitted by these stations may be intended for simultaneous reception and display or may be recorded by authorized users for use at another time.

(g) On a secondary basis, an ITFS station may be operated as a temporary fixed station from temporary unspecified points to an ITFS station under the provisions of paragraph (a), (b), (d) or (e) of this section.

(h) Except as specified in paragraphs (i) and (j) of this section, no licensee of a station in this service may lease transmission time or capacity to any cable television company either directly or indirectly through an affiliate owned, operated, controlled by, or under common control with the cable television company, if the ITFS main transmitter station is within 32 km (20 miles) of the cable television company’s franchise area or service area, and if the cable television company is the sole provider of cable television service in the franchise area.

(i)(1) A cable television company shall be exempt from the provisions of paragraph (h) of this section if its franchise area contains none of the following:

(i) Any incorporated place of 2,500 inhabitants or more, or any part thereof;

(ii) Any unincorporated place of 2,500 inhabitants or more, or any part thereof; or

(iii) Any other territory, incorporated or unincorporated, included in an urbanized area.

(2) All population statistics and definitions used in qualifying for this exemption shall be the most recent available from the U.S. Department of Commerce, Bureau of the Census. In no event shall any statistics resulting from censuses prior to 1980 be used. The Census Bureau has defined some incorporated places of 2,500 inhabitants or more as “extended cities.” Such cities consist of an urban part and rural part.

(3) If the cable operator’s franchise area includes a rural part of an extended city, but includes no other territory described in this paragraph, an exemption shall apply.

(j) The provisions of paragraph (h) of this section will not apply to ITFS excess capacity leased directly or indirectly to cable operators or affiliates to provide locally-produced programming to cable headends. Locally-produced programming is programming produced in or near the cable operator's franchise area and not broadcast on a television station available within that franchise area. A cable operator or affiliate will be permitted to lease ITFS excess capacity equivalent to one MDS channel within 32 km (20 miles) of the cable television franchise area or service area for this purpose, and, within 32 km (20 miles) of the cable television franchise area or service area, no more ITFS excess capacity than the equivalent of one MDS channel may be used by a cable television company or affiliate pursuant to this paragraph. The licensee for a cable operator providing local programming pursuant to a lease must include in a notice filed with the Mass Media Bureau a cover letter explicitly identifying its lessee as a local cable operator or affiliate and stating that the lease was executed to facilitate the provision of local programming. The first lease notification for an MDS or ITFS channel in an area filed with the Commission will be entitled to the exemption. The limitations on the equivalent of one MDS channel per party and per area include any cable/ITFS operations grandfathered pursuant to paragraph (k) of this section or any cable/MDS operations grandfathered pursuant to §21.912(f) of this chapter. Local programming service pursuant to a lease must be provided within one year of the date of the lease or one year of the grant of the licensee's application for the leased channel(s), whichever is later.

(k) Lease arrangements between cable and ITFS entities for which a lease or a firm agreement was signed prior to February 8, 1990, will not be subject to the prohibitions of paragraph (h) of this section. Leases between cable television entities and

ITFS entities executed on February 8, 1990, or thereafter, are invalid.

[28 FR 13731, Dec. 14, 1963, as amended at 33 FR 15424, Oct. 17, 1968; 48 FR 33901, July 26, 1983; 49 FR 27151, July 2, 1984; 49 FR 32596, Aug. 15, 1984; 50 FR 26760, June 28, 1985; 51 FR 9800, Mar. 21, 1986; 55 FR 46013, Oct. 31, 1990; 56 FR 57600, Nov. 13, 1991; 56 FR 57819, Nov. 14, 1991; 56 FR 65191, Dec. 16, 1991; 58 FR 34378, June 25, 1993; 58 FR 44951, Aug. 25, 1993; 59 FR 35636, July 13, 1994]

§74.932 Eligibility and licensing requirements.

(a) With certain limited exceptions set forth in §§74.990 through 74.992 of this part, a license for an instructional television fixed station will be issued only to an accredited institution or to a governmental organization engaged in the formal education of enrolled students or to a nonprofit organization whose purposes are educational and include providing educational and instructional television material to such accredited institutions and governmental organizations, and which is otherwise qualified under the statutory provisions of the Communications Act of 1934, as amended.

(1) Only local applicants can file applications and be considered for licenses during the local priority period, which extends for one year from the effective date of these rules.

(i) During this local priority period, the existing of any outstanding application for ITFS channels by a nonlocal applicant will not prevent the filing and/or grant of an application by a local entity for those same channels.

(2) A publicly supported educational institution must be accredited by the appropriate state department of education.

(3) A privately controlled educational institution must be accredited by the appropriate state department of education or the recognized regional and national accrediting organizations.

(4) Those applicant organizations whose eligibility is established by service to accredited institutional or governmental organizations must submit documentation from proposed receive sites demonstrating they will receive

and use the applicant's formal educational programming. In place of this documentation, a state educational television (ETV) commission may demonstrate that the public schools it proposes to serve are required to use its proposed formal educational programming.

(5) Nonlocal applicants, in addition to submitting letters from proposed receive sites, must demonstrate the establishment of a local program committee in each community where they apply.

(b) No numerical limit is placed on the number of stations which may be licensed to a single licensee. However, individual licensees will be governed by the limitations of §§ 74.902 and 74.990(d) of this part as to the number of channels which may be used. A single license may be issued for more than one transmitter if they are to be located at a common site and operated by the same licensee. Applicants are expected to accomplish the proposed operation by the use of the smallest number of channels required to provide the needed service.

(c) An application for a new instructional television fixed station or for changes in the facilities of an existing station shall specify the location of the transmitter, all proposed receiving installations, response transmitters, and any relay transmitters which will be under the control of or will be equipped for reception by the applicant. If reception is also intended at unspecified locations, i.e., if power is deliberately radiated to locations or areas so that voluntary reception will be possible, the applications shall include a complete statement as to the purpose of such additional reception.

(d) In case of permanent discontinuance of operation of a station licensed under this subpart, authority to operate is forfeited and the licensee shall forward the station license to the Commission for cancellation. For the purposes of this section, a station which is not operated for a period of one year is considered to have been permanently discontinued. If use of a channel(s) is discontinued, authority to operate on such channel(s) is forfeited and an application for modification shall be filed to delete such channel(s).

(e) No receive site more than 35 miles from the transmitter site shall be used to establish basic eligibility.

NOTE 1: A "local" licensee (or applicant) is an institution or organization that is physically located in the community, or metropolitan area, where service is proposed. For a college or university, this would include any area where it has a campus. An educational organization will generally be regarded as "local" if the address of the organization's headquarters is located within the area where the facility is sought. An entity created by a state or local government for the purpose of serving formal educational needs will be considered "local" throughout the area within the government's jurisdiction over which its authority is intended to extend. An educational entity located within a state and created by affiliated educational institutions within that state, including hospitals, will be considered "local" in those areas where the member institutions are located.

NOTE 2: Documentation from proposed receive sites which are to establish the eligibility of an entity not serving its own enrolled students for credit should be in letter form, written and signed by an administrator or authority who is responsible for the receive site's curriculum planning. The administrator must indicate that the applicant's program offerings have been viewed and that such programming will be incorporated in the site's curriculum. The letter should discuss the types of programming and hours per week of formal and informal programming expected to be used and the site's involvement in the planning, scheduling and production of programming. If other levels of authority must be obtained before a firm commitment to utilize the service can be made, the nature and extent of such additional authorization(s) must be provided.

NOTE 3: Letters submitted on behalf of a nonlocal entity must confirm that a member of the receive site's staff will serve on the local program committee and demonstrate a recognition of the composition and power of the committee. The letter should show that the staff member will aid in the selection, scheduling and production of the programming received over the system.

[28 FR 13731, Dec. 14, 1963, as amended at 36 FR 8873, May 14, 1971; 49 FR 32596, Aug. 15, 1984; 50 FR 26760, June 28, 1985; 51 FR 9800, Mar. 21, 1986; 56 FR 57819, Nov. 14, 1991; 58 FR 44951, Aug. 25, 1993; 60 FR 20247, Apr. 25, 1995]

§ 74.933 Remote control operation.

Licensed ITFS stations may be operated by remote control without further authority.

[52 FR 3806, Feb. 6, 1987]

§ 74.934 Unattended operation.

Unattended operation of licensed ITFS stations is permitted without further authority.

(a) An unattended relay station may be employed to receive and retransmit signals of another station provided that the transmitter is equipped with circuits which permit it to radiate only when the signal intended to be retransmitted is present at the receiver input terminals.

[52 FR 3806, Feb. 6, 1987]

§ 74.935 Power limitations.

(a) The maximum equivalent isotropically radiated power (EIRP) of a transmitter station in this service shall not exceed 2000 watts (33 dBW) except as provided in paragraph (b) of this section.

(b) If a station uses a transmitting antenna with a non-omnidirectional horizontal plane radiation pattern, the maximum equivalent isotropically radiated power (EIRP) in dBW in a given direction shall be determined by the following formula:

$$\text{EIRP} = 33 \text{ dBW} + 10 \log (360/\text{beamwidth}) \text{ [where } 10 \log (360/\text{beamwidth}) \leq 6 \text{ dB].}$$

Beamwidth is the total horizontal plane beamwidth of the transmitting antenna system in degrees, measured at the half-power points.

(c) An increase in station transmitter power, above currently-authorized or previously-proposed values, to the maximum values provided in paragraphs (a) and (b) of this section, may be authorized, if an applicant demonstrates that the requested power increase will not cause harmful interference to any authorized or previously-proposed co-channel or adjacent-channel station with a transmitter site within 80.5 km (50 miles) of the applicant's transmitter site, or if an applicant demonstrates that:

(1) A station, that must be protected from interference, potentially could suffer interference that would be elimi-

nated by increasing the power of the interfered-with station; and

(2) That the interfered-with station may increase its own power consistent with the rules; and

(3) The applicant requesting authorization of a power increase agrees to pay all expenses associated with the increase in power to the interfered-with station.

(d) For television transmission, the peak power of the accompanying aural signal must not exceed 10 percent of the peak visual power of the transmitter. The Commission may order a reduction in aural signal power to diminish the potential for harmful interference.

[55 FR 46013, Oct. 31, 1990, as amended at 58 FR 44951, Aug. 25, 1993]

§ 74.936 Emissions and bandwidth.

(a) An instructional television fixed station shall normally employ amplitude modulation (A5) for the transmission of the visual signal and frequency modulation (F3) for the transmission of the aural signal.

(b) On or after November 1, 1991, the maximum out-of-band power of a transmitter operating in this service shall be attenuated 38 dB relative to the peak visual carrier at the channel edges and constant slope attenuation from this level to 60 dB relative to the peak visual carrier at 1 MHz below the lower band edge and 0.5 MHz above the upper band edge. All out-of-band emissions extending beyond these frequencies shall be attenuated at least 60 dB below the peak visual carrier power. However, should interference occur as a result of emissions outside the assigned channel, additional attenuation may be required. A transmitter licensed prior to November 1, 1991, that remains at the station site initially licensed, and does not comply with this paragraph, may continue to be used for its life if it does not cause harmful interference to the operation of any other licensee. Any non-conforming transmitter replaced after November 1, 1991, shall be replaced by a transmitter meeting the requirements of this paragraph.

(c) The requirements of § 73.687(c)(2) of this chapter will be considered to be satisfied insofar as measurements of

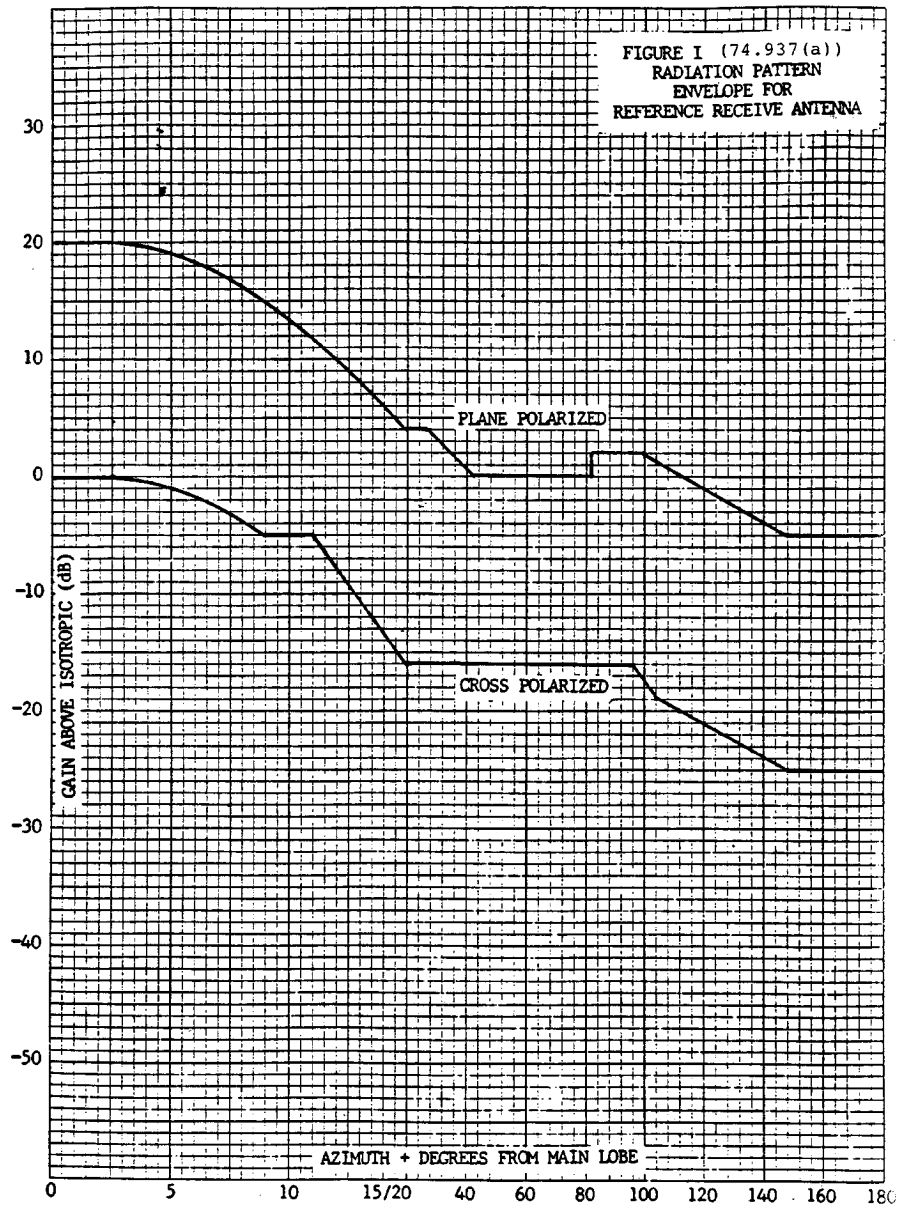
operating power are concerned if the transmitter is equipped with instruments for determining the combined visual and aural operating power. However, licensees are expected to maintain the operating powers within the limits specified in § 74.935 of this part. Measurements of the separate visual and aural operating powers must be made at sufficiently frequent intervals to insure compliance with the rules, and in no event less than once a month.

(d) As a further exception to the other requirements of this section, transmitting equipment characteristics may vary from these requirements to the extent necessary to insure that transmitted information is not likely to be received in intelligible form by unauthorized subscribers or licensees, provided such variations permit recovery of the transmitted information without perceptible degradation as compared to the same information transmitted without such variations.

[28 FR 13731, Dec. 14, 1963, as amended at 55 FR 46014, Oct. 31, 1990]

§ 74.937 Antennas.

(a) In order to minimize the hazard of harmful interference from other stations, directive receiving antennas should be used at all receiving locations. The choice of receiving antennas is left to the discretion of the licensee. However, for the purpose of interference calculations, the general characteristics of the reference receiving antenna shown in Figure 1 of this section (i.e., a 0.6 meter (2 foot) parabolic reflector antenna) are assumed to be used in accordance with the provisions of § 74.903(a)(3) unless pertinent data is submitted of the actual antenna in use at the receive site. Licensees may install receiving antennas with general characteristics superior to those of the reference receive antenna. Nevertheless, should interference occur and it can be demonstrated by an applicant that the existing antenna at the receive site is inappropriate, a more suitable yet practical receiving antenna should be installed. In such cases, the modification of the receive site will be in the discretion, and will be the responsibility, of the licensee serving the site.



(b) Directive transmitting antennas shall be used whenever feasible so as to minimize interference to other licensees. The radiation pattern shall be designed to minimize radiation in directions where no reception is intended. When an ITFS station is used for point-to-point service, an appropriate directional antenna must be used.

(c) The use of elevated receiving antennas is preferable to the use of elevated transmitting antennas or greater power to provide the desired service.

(d) The use of vertical or horizontal plane polarization or right-hand or left-hand rotating (circular) polarization may be used to minimize the hazard of harmful interference between systems. The Commission reserves the right to specify the polarization to be used.

(e) The power gain compared to an isotropic antenna and the directive properties of the transmitting and receiving antennas proposed to be employed, as well as the geometric distribution of the transmitting and receiving points, shall be supplied with each application for a new ITFS fixed station or for changes in the antenna facilities of an existing station.

[28 FR 13731, Dec. 14, 1963, as amended at 48 FR 9012, Mar. 3, 1983; 49 FR 32596, Aug. 15, 1984; 50 FR 26761, June 28, 1985; 52 FR 3806, Feb. 6, 1987; 58 FR 44951, Aug. 25, 1993]

§ 74.938 Transmission standards.

The width of an ITFS channel is 6 MHz. ITFS transmitters must be type accepted by the Commission for the particular visual and aural signals that will be employed in actual operation. Either the manufacturer or the licensee must obtain transmitter type acceptance for the transmitter by filing an application for type acceptance with appropriate information concerning the signal waveforms and measurements.

[28 FR 13731, Dec. 14, 1963, as amended at 49 FR 32596, Aug. 15, 1984; 55 FR 46014, Oct. 31, 1990]

§ 74.939 Special rules governing ITFS response stations.

(a) An ITFS response station is authorized to provide communication by voice and/or data signals with its associated instructional television fixed

station for use in instructional or computer-assisted communications. Other communications concerning the technical operation of the system may be carried on when necessary.

(b) An ITFS response station may be operated only by the licensee of an instructional television fixed station and only at an authorized receiving location of the instructional television fixed station with which it communicates. More than one ITFS response station may be operated at the same or different locations by the same licensee. An application for authority to operate a new or modified response station shall be filed with the Commission in Washington, DC, on FCC Form 330, Section VI of that form shall supply the following information for each response station:

(1) The name of the school or other description of the building in which the ITFS response station will be located, the address, and the geographic coordinates of the ITFS response station transmitting antenna.

(2) The manufacturer's name, type number, operating frequency, and power output of the proposed ITFS response station transmitter.

(3) The type of transmitting antenna, power gain, and azimuthal orientation of the major lobe of radiation in degrees measured clockwise from True North.

(4) A sketch giving pertinent details of the ITFS response station transmitting antenna installation including ground elevation of the transmitter site above mean sea level; overall height above ground, including appurtenances, of any ground-mounted tower or mast on which the transmitting antenna will be mounted or, if the tower or mast is or will be located on an existing building or other manmade structure, the separate heights above ground of the building and the tower or mast including appurtenances; the location of the tower or mast on the building; the location of the transmitting antenna on the tower or mast; and the overall height of the transmitting antenna above ground. This can be combined with the sketch for the receiving location if the transmitting antenna is clearly shown.

(c) See Part 17 of this chapter concerning notification to the Federal Aviation Administration of proposed antenna construction or alteration. The provisions of §§ 74.967 and 74.981(a)(5), concerning antenna painting and lighting requirements, apply to ITFS response stations as well as main ITFS stations.

(d) All ITFS response stations communicating with a single instructional television fixed station shall operate on the same frequency. The specified frequency which may be used is determined by the channel assigned to the instructional television fixed station with which it is communicating, as shown in the following table. Operation on other ITFS response channels is prohibited.

ITFS Channel No.	Response Frequency (MHz)
A-1	2686.0625
A-2	2687.0625
A-3	2688.0625
A-4	2689.0625
B-1	2686.1875
B-2	2687.1875
B-3	2688.1875
B-4	2689.1875
C-1	2686.3125
C-2	2687.3125
C-3	2688.3125
C-4	2689.3125
D-1	2686.4375
D-2	2687.4375
D-3	2688.4375
D-4	2689.4375
E-1	2686.5625
E-2	2687.5625
E-3	2688.5625
E-4	2689.5625
F-1	2686.6875
F-2	2687.6875
F-3	2688.6875
F-4	2689.6875
G-1	2686.8125
G-2	2687.8125
G-3	2688.8125
G-4	2689.8125

(e) Transmitter power output will normally be limited to no more than 250 milliwatts. Upon a special showing of need, transmitter power output of up to 2 watts may be permitted.

(f) An ITFS response channel is 125 kHz wide and is centered at the assigned frequency. Either amplitude or frequency modulation can be employed. If amplitude modulation is used, the carrier shall not be modulated in excess of 100%. If frequency modulation is used, the deviation shall not exceed ±25 kHz. Any emissions out-

side the channel including harmonics shall be attenuated at least 60 dB below peak output power. Greater attenuation may be required if interference is caused by out-of-channel emissions.

(g) The unmodulated carrier frequency shall be maintained within 35 kHz of the assigned frequency at all times. Adequate means shall be provided to insure compliance with this rule.

(h) A directive transmitting antenna shall be employed, oriented toward the transmitter site of the associated instructional television fixed station. The beamwidth between half power points shall not exceed 15° and radiation in any minor lobe of the antenna radiation pattern shall be at least 20 dB below the power in the main lobe of radiation.

(i) The transmitter of an ITFS response station may be operated unattended. The overall performance of the ITFS response station transmitter shall be checked as often as necessary to ensure that it is functioning in accordance with the requirements of the Commission's rules. The licensee of an ITFS response station is responsible for the proper operation of the transmitter at all times. The transmitter shall be installed and protected in such manner as to prevent tampering or operation by unauthorized persons.

(j) The transmitting apparatus employed at ITFS response stations shall have received type acceptance in accordance with § 74.952.

(k) An ITFS response station shall be operated only when engaged in communication with its associated instructional television fixed station or for necessary equipment or system tests and adjustments. Radiation of an unmodulated carrier and other unnecessary transmissions are forbidden.

[34 FR 12101, July 18, 1969, as amended at 35 FR 4705, Mar. 18, 1970; 36 FR 11587, June 16, 1971; 48 FR 44807, Sept. 30, 1983; 52 FR 3806, Feb. 6, 1987; 53 FR 36788, Sept. 22, 1988; 60 FR 55483, Nov. 1, 1995]

§ 74.950 Equipment performance and installation.

(a) Except as otherwise provided in this section, the requirements of

§ 73.687 of this chapter regarding the installation and performance of television broadcast transmitters and associated equipment shall apply to instructional television fixed stations.

(b) The overall attenuation characteristics of the transmitter may vary from those specified in § 73.687 of this chapter, provided that the provisions of § 74.936 of this part are met. However, care should be exercised in the adjustment of the transmitter to insure correct overall response of the transmitter for proper transmission of the upper and vestigial lower sideband.

(c) The provisions of § 74.961 in lieu of § 73.687(c)(1) of this chapter apply with respect to the frequency tolerance for the visual carrier.

(d) The provisions of § 74.936 in lieu of § 73.687(i)(1) of this chapter apply with respect to spurious emissions and radio frequency harmonics.

(e) The requirements of § 73.687(c)(2) of this chapter will be considered to be met insofar as measurements of operating power are concerned, if the transmitter is equipped with instruments for determining the combined visual and aural operating power. However, licensees are expected to maintain the operating powers within the limits specified in the rules of this part. Measurements of the separate visual and aural operating powers should be made at sufficiently frequent intervals to ensure compliance with the rules.

(f) Transmitting apparatus (translators and boosters) used solely for relaying signals received from other ITFS stations and operating in the manner described in § 74.934(a)(2) shall meet the following requirements before being type accepted by the Commission.

(1) The frequency converter and associated amplifiers shall be so designed that the electrical characteristics of a standard television signal introduced into the input terminals will not be significantly altered by passage through the apparatus except as to frequency and amplitude. The overall response of the apparatus within its assigned channel when operating at its rated power output and measured at the output terminals, shall provide a smooth curve, varying within limits separated by no more than 4 dB: *Pro-*

vided, however, That means may be provided to reduce the amplitude of the aural carrier below those limits, if necessary to prevent intermodulation which would mar the quality of the retransmitted picture or result in emissions outside of the assigned channel.

(2) The suppression of emissions appearing outside of the assigned channel shall comply with § 74.936(b) and (c).

(3) The local oscillator employed in the frequency converter shall maintain its operating frequency within 0.02 percent of its rated frequency when subjected to variations in ambient temperature between minus 30° and plus 50° centigrade and variations in powerline voltage between 85 percent and 115 percent of the rated supply voltage.

(4) The apparatus shall contain automatic circuits which will maintain peak visual power output constant within 2 dB when the strength of the input signal is varied over a range of 30 dB and which will not permit the peak visual power output to exceed the maximum rated power output under any conditions. If a manual adjustment is provided to compensate for different average signal strengths, provision shall be made for determining the proper setting for the control. If improper adjustment of the control could result in improper operation a label bearing a suitable warning shall be affixed at the adjustment control: *Provided, however,* That apparatus with an output of 50 milliwatts peak visual power per channel or less need not comply with this paragraph, provided the equipment is so designed that the rated output power of the transmitter cannot be exceeded by more than 3 dB by an increase in the input signal.

(5) The apparatus shall be equipped with automatic controls which will place it in a nonradiating condition when no signal is being received on the input channel, either due to absence of a transmitted signal or failure of the receiving portion of the relay transmitter. In the case of equipment (translators or boosters) of 50 milliwatts peak visual power per channel or less relaying more than one channel it shall be turned off in the absence of the last signal to be relayed. The automatic

control may include a time delay feature to prevent interruptions in the operation of the relay transmitter caused by fading or other momentary failures of the incoming signal.

(6) The tube(s) or transistor(s) employed in the final radio frequency amplifier shall be of the appropriate power rating to provide the rated power output of the relay transmitter. The normal operating constants for operation at the rated power output shall be specified. The apparatus shall be equipped with suitable meters or meter jacks so that appropriate voltage and current measurements may be made while the apparatus is in operation.

(7) Boosters used in this service shall comply with all the provisions of this paragraph except with paragraph (f)(3). However, in addition, the isolation between the input and output circuits of the booster, including the receiving and transmitting antenna systems shall be at least 20 dB greater than the maximum overall gain of the booster amplifier. Boosters may use opposite antenna polarization of the input and output antennas.

[28 FR 13731, Dec. 14, 1963, as amended at 36 FR 8873, May 14, 1971; 48 FR 44807, Sept. 30, 1983; 55 FR 46014, Oct. 31, 1990]

§ 74.951 Modification of transmission systems.

Formal application on FCC Form 330 is required for any of the following changes or modifications of the transmission systems:

(a) Replacement of the transmitter as a whole, except replacement with a transmitter of identical power rating which has been type accepted by the FCC for use by instructional TV fixed stations, or any change which could result in a change in the electrical characteristics or performance of the station. Upon the installation or modification of the transmitting equipment for which prior FCC authority is not required under the provisions of this paragraph, the licensee shall place in the station records a certification that the new installation complies in all respects with the technical requirements of this part and the terms of the station authorization.

(b) Any change in the antenna system affecting the direction of radi-

ation, directive radiation pattern, antenna gain, or radiated power.

(c) Any change in the overall height of the antenna structure, except where notice to the Federal Aviation Administration is specifically not required under § 17.14(b) of the FCC Rules.

(d) Any change in the location of the transmission system except a move within the same building or upon the same antenna supporting structure.

(e) A change in frequency assignment.

(f) A change in the operating power.

(g) Any addition of receiving locations or to modify such a location to a receive and response station.

[45 FR 26068, Apr. 17, 1980, as amended at 50 FR 26761, June 28, 1985; 52 FR 3806, Feb. 6, 1987; 53 FR 36788, Sept. 22, 1988]

§ 74.952 Acceptability of equipment for licensing.

Each authorization for a station in this service requires the use of type accepted equipment. Requirements for obtaining a grant of equipment authorization are contained in subpart J of part 2 of the Rules.

(a) An application specifying a transmitter, translator, or booster not type accepted, may be filed by the applicant if the information and measurement data required for type acceptance under subpart J of part 2 of the Rules is submitted with the application. However, if that data has been filed with the Commission in connection with a request for type acceptance, it need not be resubmitted and may be referred to as "on file."

[52 FR 3806, Feb. 6, 1987]

§ 74.961 Frequency tolerance.

(a) Beginning November 1, 1991, the frequency of the visual carrier shall be maintained within ± 1 KHz of the assigned frequency at all times when the station is in operation. Until that date, the frequency of the visual carrier shall be maintained within 60 KHz of the assigned frequency at all times when the station is in operation. A transmitter licensed prior to November 1, 1991, that remains at the station site initially licensed and does not comply with this paragraph may continue to be used for its life if it does not cause

harmful interference to the operation of any other licensee. Any non-conforming transmitter replaced after November 1, 1991, must be replaced by a transmitter meeting the requirements of this paragraph.

(b) For television transmission, the peak power of the accompanying aural signal must not exceed 10 percent of the peak visual power of the transmitter.

(c) Any licensee with transmission equipment conforming to the transmitter tolerance standard of this section can be required to use frequency offset where it is demonstrated to be necessary to avoid harmful interference with another station.

[55 FR 46014, Oct. 31, 1990]

§ 74.962 Frequency monitors and measurements.

Suitable measurements shall be made as often as necessary to ensure that the operating frequencies of the station are within the prescribed tolerances.

[52 FR 3806, Feb. 6, 1987]

§ 74.963 Time of operation.

(a) An instructional television fixed station is not required to adhere to any regular schedule of operation. Unless otherwise specified in the license, the hours of operation are not limited.

(b) Except for purposes of tests and adjustments, the transmitter shall not be permitted to radiate unmodulated carriers or otherwise make unnecessary transmissions for extended periods of time.

§ 74.965 Posting of station license.

(a) The instrument of authorization of a clearly legible photocopy thereof, shall be available at each transmitter.

(b) If a station is operated unattended, the call sign and name of the licensee shall be displayed such that it may be read within the vicinity of the transmitter enclosure or antenna structure.

[52 FR 3807, Feb. 6, 1987]

§ 74.969 Copies of rules.

The licensee of an instructional television fixed station shall have a current copy of Parts 73 and 74 of this

chapter. In cases where aeronautical hazard marking of antennas is required, such licensee shall also have a current copy of Part 17 of this chapter. Each licensee is expected to be familiar with the pertinent rules governing instructional television fixed stations.

[60 FR 55483, Nov. 1, 1995]

§ 74.970 Modulation limits.

(a) *Visual transmitter.* The maximum excursion of the luminance signal in the white direction shall not exceed the value specified in § 73.682(a)(13) of this chapter for the reference white level.

(b) *Aural transmitter.* The maximum frequency deviation of the aural carrier shall not be permitted to exceed ± 75 kHz on peaks of frequent recurrence during any transmission. This is defined as 100% modulation.

[28 FR 13731, Dec. 14, 1963, as amended at 49 FR 32596, Aug. 15, 1984]

§ 74.971 Modulation monitors and measurements.

Suitable means shall be provided to insure that the modulation limits specified in § 74.970 are observed.

§ 74.982 Station identification.

(a) Call signs for instructional television fixed stations will consist of three letters and three digits pursuant to the provisions of § 2.302 of this chapter relating to fixed stations.

(b) Except as otherwise provided in paragraphs (c) and (d) of this section, each instructional television fixed station shall transmit its call sign at the beginning and end of each period of operation and, during operation, on the hour. Visual or aural transmissions shall be employed.

(c) The hourly station identification announcement during operation may be deferred if it would interrupt a single consecutive demonstration, lecture, or other similar discourse or otherwise impair the continuity of a program in progress. In such cases the station identification announcement shall be made at the first normal break in the continuity of the program.

(d) In cases where an instructional television fixed station is operating as a relay for signals originating at some

other station operated by the same licensee, its call sign shall be announced by the originating station at the times and in the manner prescribed in paragraph (b) of this section.

(e) Where an instructional television fixed station is operating as a relay for signals originating at a station operated by some other licensee, its call sign may be transmitted by the originating station, if suitable arrangements can be made with the other licensee, or means shall be provided for the transmission of the call sign by the relay transmitter itself. Low power relay stations, authorized by § 74.950(f)(4) will not be assigned individual call signs. Station identification will be accomplished by the retransmission of the call sign of the primary station.

(f) Temporary fixed ITFS stations shall identify with the call sign of the primary station and a temporary fixed identifier.

[28 FR 13731, Dec. 14, 1963, as amended at 36 FR 8873, May 4, 1971; 38 FR 25991, Sept. 17, 1973; 49 FR 32596, Aug. 15, 1984]

§ 74.984 Retransmissions.

An instructional television fixed station may not retransmit the signals of any class of station without consent of the station originating the signals to be retransmitted.

§ 74.985 Signal booster stations.

(a) Authorizations for Instructional Television Fixed Service (ITFS) booster stations may be granted to an ITFS applicant, permittee or licensee, or to a third party with a fully-executed lease agreement with an ITFS applicant, permittee, or licensee. The eligibility requirements of § 74.932 will not apply to such third-party booster station applicants. A signal booster station may not extend service beyond a registered receive site of the primary ITFS station. No booster station may be authorized for retransmission of signals from an MDS, MMDS, or ITFS station without the written consent of the licensee of the station whose signals are retransmitted.

(b) In addition to the other application requirements of this Part and of Form 330, each application for a signal booster station that would retransmit

an ITFS signal must include a demonstration that the proposed signal booster station will not transmit a signal to a receiver site that is beyond a previously-registered receive site of the primary ITFS station.

(c) In addition to the other application requirements of this part and of Form 330, each application for a signal booster station that would retransmit an ITFS signal must include a demonstration that the power flux density of the ITFS signal does not exceed -75.6 dBW/m² at the edge of a protected service area for the primary ITFS transmitter station, as defined by § 21.902(d) of this chapter.

(d) In addition to the other application requirements of this part and of Forms 494 and 330, each application for a signal booster station must include a demonstration that the proposed signal booster station will cause no harmful interference to cochannel or adjacent-channel, authorized or previously-proposed ITFS, MDS, or MMDS, stations with transmitters within 80.5 km (50 miles) of the proposed booster station's transmitter site.

(e) In addition to the other application requirements of this part and of Forms 494 and 330, each application for a signal booster station must include a written consent statement of the licensee of each MDS, MMDS, and ITFS station whose signal is retransmitted.

(f) The output power of the signal booster transmitter station must not exceed 18 dBW EIRP.

(g) An MDS or ITFS licensee may install and commence operation of a signal booster station that has a maximum power level of -9 dBW EIRP and that does not extend service beyond the boundaries of an MDS station's protected service area or beyond an ITFS licensee's registered receive site, subject to the condition that for sixty (60) days after installation, no objection or petition to deny is filed by an authorized co-channel or adjacent channel ITFS or MDS station with a transmitter within 8 km (5 miles) (8.05 km) of the coordinates of the primary transmitter of the signal booster. An MDS or ITFS licensee seeking to install a signal booster under this rule must, within 48 hours after installation, submit a certification that:

(1) The maximum power level of the signal booster transmitter does not exceed -9 dBW EIRP;

(2) A description of the signal booster technical specifications (including antenna gain and azimuth), the coordinates of the booster and receivers, and the street address of the signal booster;

(3) No registered receiver of an ITFS E or F channel station, constructed prior to May 26, 1983, is located within a 1 mile (1.61 km) radius of the coordinates of the booster, or in the alternative, that a consent statement has been obtained from the affected ITFS licensee;

(4) No environmental assessment location as defined at §1.1307 of this chapter is affected by installation and/or operation of the signal booster;

(5) Each MDS and/or ITFS station licensee with protected service areas or registered receivers within a 8 km (5 mile) (8.05 km) radius of the coordinates of the booster has been given notice of its installation;

(6) Consent has been obtained from each MDS or ITFS station licensee whose signal is repeated by the signal booster;

(7) The signal booster site is within the protected service area of the MDS station, if the signal of an MDS station is repeated;

(8) The power flux density at the edge of the MDS station's protected service area does not exceed -75.6 dBW/m², if the signal of an MDS station is repeated;

(9) The antenna structure will extend less than 6.10 meters (20 feet) above the ground or natural formation or less than 6.10 meters (20 feet) above an existing manmade structure (other than an antenna structure); and

(10) The MDS or ITFS licensee understands and agrees that in the event harmful interference is claimed by the filing of an objection or petition to deny, the licensee must terminate operation within two (2) hours of written notification by the Commission, and must not recommence operation until receipt of written authorization to do so by the Commission.

[56 FR 57601, Nov. 13, 1991, as amended at 58 FR 11799, Mar. 1, 1993; 58 FR 44951, Aug. 25, 1993]

§ 74.986 Involuntary ITFS station modifications.

(a) Parties specified in paragraph (b) of this section may, subject to Commission approval, involuntarily modify the facilities of an existing ITFS licensee in the following situations:

(1) If the initiating party is prevented from invoking the 0 dB interference protection standard (see §21.902(f)(2) of this chapter and §74.903(a)(2) of this part) for projecting its impact on an existing ITFS licensee because of that licensee's pre-May 26, 1983, facilities, the applicant, permittee or licensee may modify the facilities of the pre-existing ITFS station with equipment adequate to perform at that level of interference;

(2) If the initiating party is prevented from operating at a higher transmitter output power or EIRP because such power level will cause harmful interference to an ITFS station and modifying the ITFS station will avoid such harmful interference;

(3) If the initiating party is prevented from installing a signal booster because such installation will cause harmful interference to an ITFS station and modifying the ITFS station will avoid harmful interference;

(4) If an ITFS licensee uses equipment incapable of meeting the aural power standard specified in §74.935(d) and that equipment becomes a source of harmful adjacent-channel interference, and other equipment would avoid such harmful interference.

(5) If an ITFS licensee uses equipment incapable of meeting the transmitter tolerance standard specified in §74.961 of this part and that equipment becomes a source of harmful co-channel interference, and other equipment would avoid the harmful interference;

(6) If an ITFS licensee uses equipment incapable of meeting the out-of-band emissions standard specified in §74.936 of this part and that equipment becomes a source of harmful adjacent-channel interference, and other equipment would avoid the harmful interference; and

(7) If harmful adjacent-channel interference may be avoided by collocation of an ITFS facility with its own facilities.

(b) Involuntary modification may be sought by an MDS, MMDS or ITFS licensee, conditional licensee, permittee or applicant. Opposed applicants do not have authority to seek involuntary collocation. An opposed application is one that faces a competing application(s) or petition(s) to deny. Applicants will be required to confirm their unopposed status after the period for competing applications and petitions to deny has passed. If an initiating application is opposed, the companion ITFS modification application will be returned. It may be refiled when the initial application is again unopposed.

(c) The application for involuntary modification must be prepared, signed and filed by the initiating party. The applicant must submit FCC Form 330 but need not fill out section II (Legal Qualifications), and the application must include a cover letter clearly indicating that the modification is involuntary and identifying the parties involved. A copy of the application must be served on the affected ITFS party on or before the day of filing. The ITFS party to be modified will have a 60-day period in which to oppose the modification application; the opposition should state objections to the modification with specificity, including engineering and other challenges. If the modification includes collocation, the opponent should address the desirability of the present site compared to the proposed new site.

(d) The party initiating the modification will be responsible for all costs connected with the modification, including purchasing, testing and installing new equipment, labor costs, reconfiguration of existing equipment, administrative costs, legal and engineering expenses necessary to prepare and file the modification application, and other reasonable documented costs. The initiating party must secure a bond or establish an escrow account to cover reasonable incremental increase in ongoing expenses that will fall upon the modified ITFS entity and to cover expenses that would inure to the modified ITFS entity in the event the initiating party becomes bankrupt. In establishing a bond or escrow amount, such factors as projected electricity or maintenance expenses, or relocation

expenses must be taken into account, as relevant in each case.

(e) The involuntarily modified facilities must be operational before the initiating party will be permitted to begin its new or modified operations. The modification must not disrupt the ITFS licensee's provision of service, and the ITFS licensee has the right to inspect the construction or installation work.

[56 FR 57820, Nov. 14, 1991]

§ 74.990 Use of available instructional television fixed service frequencies by wireless cable entities.

(a) Notwithstanding the provisions §§ 74.931 and 74.932 of this part, a wireless cable entity may be licensed on instructional television fixed service frequencies in areas where at least eight other instructional television fixed service channels remain available in the community for future ITFS use. Channels will be considered available for future ITFS use if there are no co-channel operators or applicants within 80.5 km (50 miles) of the transmitter site of the proposed wireless cable operation, and if the transmitter site remains available for use at reasonable terms by new ITFS applicants on those channels within three years of commencing operation.

(b) No more than eight instructional television fixed service channels per community may be licensed to wireless cable entities.

(c) To be licensed on instructional television fixed service channels, a wireless cable applicant must hold a conditional license, license or a lease, or must have filed an unopposed application for at least four MDS channels to be used in conjunction with the facilities proposed on the ITFS frequencies. An unopposed application is one that faces no competing application(s) or petition(s) to deny. Applicants will be required to confirm their unopposed status after the period for filing competing applications and petitions to deny has passed. If an MDS or MMDS application is opposed, the companion ITFS application will be returned.

(d) To be licensed on instructional television fixed service channels, a wireless cable applicant must show

that there are no multipoint distribution service or multichannel multipoint distribution service channels available for application, purchase or lease that could be used in lieu of the instructional television fixed service frequencies applied for. A wireless cable entity may apply for instructional television fixed service frequencies at the same time it applies for the related MDS or MMDS frequencies, but if that MDS or MMDS application is opposed by a timely filed mutually exclusive application or petition to deny, the application for ITFS facilities will be returned.

(e) If an instructional television fixed service application and a wireless cable application for available instructional television fixed service facilities are mutually exclusive, as defined at §21.31(a) of this chapter, the instructional television fixed service application will be granted if the applicant is qualified. An instructional television fixed service applicant may not file an application mutually exclusive with a wireless cable application if there are other instructional television fixed service channels available for the proposed instructional television fixed service facility.

(f) The interference protection provided wireless cable applicants and licensees of instructional television fixed service facilities will be that described in §21.902 of this chapter.

[56 FR 57820, Nov. 14, 1991, as amended at 58 FR 44951, Aug. 25, 1993]

§ 74.991 Wireless cable application procedures.

(a) A wireless cable applicant for available instructional television fixed service channels must file sections I and V of FCC Form 330, with a complete FCC Form 494 appended. A wireless cable applicant must include with its application a cover letter clearly indicating that the application is for a wireless cable entity to operate on ITFS channels. A wireless cable application for available instructional television fixed service channels will be subject to §21.914 of this chapter with respect to other wireless cable applicants, and to the ITFS window filing period with respect to instructional television fixed service applications.

All lists of accepted applications for ITFS frequencies, regardless of the nature of the applicant, will be published as ITFS public notices.

(b) Within 30 days of filing its application, a wireless cable applicant for available instructional television fixed service channels must give local public notice of the filing of its application in a newspaper. The local public notice must be made in a daily newspaper of general circulation published in the community in which the proposed station will be located at least twice a week for two consecutive weeks in a three week period. If there is no such daily newspaper, notice must be made in a weekly newspaper of general circulation published in the community once a week for three consecutive weeks in a four week period. If there is no daily or weekly newspaper published in the community, notice must be made in the daily newspaper, wherever published, that has the greatest general circulation in the community twice a week for two consecutive weeks within a three week period.

(c) The public notice required by paragraph (b) of this section shall contain, where applicable, the following information:

(1) The name of the applicant if the applicant is an individual, the names of all partners if the applicant is a partnership, or the names of all officers and directors and of those persons holding 10 percent or more of the capital stock or other ownership interest if the applicant is a corporation or an unincorporated association;

(2) The purpose for which the application will be filed (*i.e.*, for a construction permit for a wireless cable system);

(3) A statement that the channels applied for are ITFS channels normally reserved for educational use, and a list of the specific frequencies or channels on which the proposed station will operate;

(4) The date the application was tendered for filing with the FCC;

(5) The facilities sought, including type and class of station, power, location of studios, transmitter site and antenna height; and

(6) A statement that a copy of the application and related material are on

file for public inspection at a stated address in the community in which the station is located or is proposed to be located.

[56 FR 57821, Nov. 14, 1991, as amended at 60 FR 20247, Apr. 25, 1995]

§ 74.992 Access to channels licensed to wireless cable entities.

(a) An educational institution or entity that would be eligible for ITFS channels that are licensed to a wireless cable entity may be entitled to access to those channels. Requests for access may be made by application to the Commission on FCC Form 330 with a copy simultaneously served on the wireless cable licensee. An applicant for access must fill out sections I, II, III and IV of the ITFS application Form 330. Section I, question 1 should be answered by spelling out, "For access to existing facilities." Section I, question 2b should include the name of the wireless cable licensee or applicant. A cover letter must clearly indicate that the application is for ITFS access to a wireless cable entity's facilities on ITFS channels.

(b) An ITFS entity determined by the Commission to have right of access to wireless cable licensed facilities may have access to a maximum of 40 hours per channel per week. The ITFS entity has the right to designate 20 of those hours as follows:

(1) 3 hours of the ITFS entity's choice each day, Monday through Friday, between 8 a.m. and 10 p.m., excluding weekends, holidays and school vacations; and

(2) The remaining five hours any time of the ITFS entity's choice between 8 a.m. and 10 p.m., Monday through Saturday.

(c) No time-of-day and day-of-week obligations will be imposed on either party with respect to the other 20 hours of access time.

(d) The ITFS user must provide the wireless cable licensee with its planned schedule of use four months in advance. No minimum amount of programming will be required of an ITFS operator seeking access to one channel; for access to a second channel, the ITFS user must use at least 20 hours per week on the first channel from 8 a.m. to 10 p.m., Monday through Satur-

day; for access to a third channel, the ITFS entity must use at least 20 hours per week on the first channel and on the second channel during the hours prescribed above, and so on. Only one educational institution or entity per wireless cable licensed channel will be entitled to access from the wireless cable entity. Access will not be granted to a single entity for more than four channels, unless it can satisfy the waiver provisions of § 74.902(d) of this part.

(e) When an ITFS entity is granted access to an ITFS channel of a wireless cable licensee, the wireless cable licensee will be required to pay half of the cost of five standard receive sites on that channel. The wireless cable entity may, at its option, pay the costs of an application and facility construction for such ITFS entity on other available ITFS channels, including half of the cost of five receive sites per channel.

(f) An instructional television fixed service entity granted access to instructional television fixed service channels licensed to a wireless cable entity will have the interference protection afforded ITFS licensees (see § 74.903 of this part).

(g) After three years of operation, a wireless cable entity licensed to use ITFS channels will not be required to grant new or additional access to such ITFS channels, or provide any alternative facilities to any ITFS entity seeking access to its facilities, if there are suitable ITFS frequencies available for the ITFS entity to build its own system.

(h) The parties may mutually agree to modify any requirements or obligations imposed by these provisions, except for the requirement that an educational entity use at least 20 hours per week on a channel of a wireless cable licensee before requesting access to an additional channel.

[56 FR 57821, Nov. 14, 1991]

§ 74.996 Applicability of cable EEO requirements to ITFS facilities.

Notwithstanding other EEO provisions within §§ 1.815 and 21.307 of this chapter, an entity that uses an owned

or leased MDS, MMDS and/or ITFS facility to provide more than one channel of video programming directly to the public must comply with the equal employment opportunity requirements set forth in part 76, subpart E of this chapter, if such entity exercises control (as defined in part 76, subpart E of this chapter) over the video programming it distributes. With respect to the use of an ITFS facility, the EEO provisions set forth in part 76, subpart E do not apply to an accredited institution or government organization engaged in the formal education of enrolled students or to a nonprofit organization whose purposes are educational and include providing educational and instructional television material to such accredited institutions and governmental organizations.

[58 FR 42250, Aug. 9, 1993]

Subparts J—K [Reserved]

Subpart L—FM Broadcast Translator Stations and FM Broadcast Booster Stations

SOURCE: 35 FR 15388, Oct. 2, 1970, unless otherwise noted.

§ 74.1201 Definitions.

(a) *FM translator*. A station in the broadcasting service operated for the purpose of retransmitting the signals of an FM radio broadcast station or another FM broadcast translator station without significantly altering any characteristics of the incoming signal other than its frequency and amplitude, in order to provide FM broadcast service to the general public.

(b) *Commercial FM translator*. An FM broadcast translator station which rebroadcasts the signals of a commercial FM radio broadcast station.

(c) *Noncommercial FM translator*. An FM broadcast translator station which rebroadcasts the signals of a noncommercial educational FM radio broadcast station.

(d) *Primary station*. The FM radio broadcast station radiating the signals which are retransmitted by an FM broadcast translator station or an FM broadcast booster station.

(e) *FM radio broadcast station*. When used in this Subpart L, the term FM broadcast station or FM radio broadcast station refers to commercial and noncommercial educational FM radio broadcast stations as defined in § 2.1 of this chapter, unless the context indicates otherwise.

(f) *FM broadcast booster station*. A station in the broadcasting service operated for the sole purpose of retransmitting the signals of an FM radio broadcast station, by amplifying and re-radiating such signals, without significantly altering any characteristic of the incoming signal other than its amplitude.

(g) *Translator coverage contour*. The coverage contour for an FM translator providing “fill-in” service is congruent with its parent station: For a fill-in translator for a commercial Class B station it is the predicted 0.5 mV/m field strength contour; for a fill-in translator for a commercial Class B1 station it is the predicted 0.7 mV/m field strength contour; and for a fill-in translator for all other classes of commercial stations as well as all noncommercial educational stations it is the predicted 1 mV/m field strength contour. A fill-in FM translator's coverage contour must be contained within the primary station's coverage contour. The protected contour for an FM translator station is its predicted 1 mV/m contour.

(h) *Fill-in area*. The area where the coverage contour of an FM translator or booster station is within the protected contour of the associated primary station (*i.e.*, predicted 0.5 mV/m contour for commercial Class B stations, predicted 0.7 mV/m contour for commercial Class B1 stations, and predicted 1 mV/m contour for all other classes of stations).

(i) *Other area*. The area where the coverage contour of an FM translator station extends beyond the protected contour of the primary station (*i.e.*, predicted 0.5 mV/m contour for commercial Class B stations, predicted 0.7 mV/m contour for commercial Class B1 stations, and predicted 1 mV/m contour for all other classes of stations).

[35 FR 15388, Oct. 2, 1970, as amended at 45 FR 37842, June 5, 1980; 52 FR 31405, Aug. 20, 1987; 55 FR 50693, Dec. 10, 1990]

§ 74.1202 Frequency assignment.

(a) An applicant for a new FM broadcast translator station or for changes in the facilities of an authorized translator station shall endeavor to select a channel on which its operation is not likely to cause interference to the reception of other stations. The application must be specific with regard to the frequency requested. Only one output channel will be assigned to each translator station.

(b) Subject to compliance with all the requirements of this subpart, FM broadcast translators may be authorized to operate on the following FM channels, regardless of whether they are assigned for local use in the FM Table of Allotments (§73.202(b) of this chapter):

(1) *Commercial FM translators:* Channels 221-300 as identified in §73.201 of this chapter.

(2) *Noncommercial FM translators:* Channels 201-300 as identified in §73.201 of this chapter. Use of reserved channels 201-220 is subject to the restrictions specified in §73.501 of this chapter.

(3) In Alaska, FM translators operating on Channels 201-260 (88.1-99.9 MHz) shall not cause harmful interference to and must accept interference from non-Government fixed operations authorized prior to January 1, 1982.

(c) An FM broadcast booster station will be assigned the channel assigned to its primary station.

[35 FR 15388, Oct. 2, 1970, as amended at 39 FR 12990, Apr. 10, 1974; 47 FR 30068, July 12, 1982; 52 FR 8260, Mar. 17, 1987; 55 FR 50693, Dec. 10, 1990]

§ 74.1203 Interference.

(a) An authorized FM translator or booster station will not be permitted to continue to operate if it causes any actual interference to:

(1) The transmission of any authorized broadcast station; or

(2) The reception of the input signal of any TV translator, TV booster, FM translator or FM booster station; or

(3) The direct reception by the public of the off-the-air signals of any authorized broadcast station including TV Channel 6 stations, Class D (secondary) noncommercial educational FM stations, and previously authorized and

operating FM translators and FM booster stations. Interference will be considered to occur whenever reception of a regularly used signal is impaired by the signals radiated by the FM translator or booster station, regardless of the quality of such reception, the strength of the signal so used, or the channel on which the protected signal is transmitted.

(b) If interference cannot be properly eliminated by the application of suitable techniques, operation of the offending FM translator or booster station shall be suspended and shall not be resumed until the interference has been eliminated. Short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures. If a complainant refuses to permit the FM translator or booster licensee to apply remedial techniques which demonstrably will eliminate the interference without impairment to the original reception, the licensee of the FM translator or booster station is absolved of further responsibility for that complaint.

(c) An FM booster station will be exempted from the provisions of paragraphs (a) and (b) of this section to the extent that it may cause limited interference to its primary station's signal, *provided* it does not disrupt the existing service of its primary station or cause such interference within the boundaries of the principal community of its primary station.

(d) A fill-in FM translator operating on the first, second or third adjacent channel to its primary station's channel will be exempt from the provisions of paragraphs (a) and (b) of this section to the extent that it may cause limited interference to its primary station's signal, *provided* it does not disrupt the existing service of its primary station or cause such interference within the boundaries of the principal community of its primary station.

(e) It shall be the responsibility of the licensee of an FM translator or FM booster station to correct any condition of interference which results from the radiation of radio frequency energy by its equipment on any frequency outside the assigned channel. Upon notice

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by the Commission to the station licensee that such interference is being caused, the operation of the FM translator or FM booster station shall be suspended within three minutes and shall not be resumed until the interference has been eliminated or it can be demonstrated that the interference is not due to spurious emissions by the FM translator or FM booster station; *provided, however*, that short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures.

[55 FR 50693, Dec. 10, 1990, as amended at 60 FR 55484, Nov. 1, 1995]

§ 74.1204 Protection of FM broadcast stations and FM translators.

(a) An application for an FM translator station will not be accepted for filing if the proposed operation would involve overlap of predicted field strength contours with any other authorized station, including commercial and noncommercial educational FM broadcast stations, FM translators and Class D (secondary) noncommercial educational FM stations, as set forth below:

(1) Commercial Class B FM Stations (Protected Contour: 0.5 mV/m)

Frequency separation	Interference contour of proposed translator station	Protected contour of commercial Class B station
Co-channel.	0.05 mV/m (34 dBu)	0.5 mV/m (54 dBu).
200 kHz	0.25 mV/m (48 dBu)	0.5 mV/m (54 dBu).
400 kHz	5.00 mV/m (74 dBu)	0.5 mV/m (54 dBu).
600 kHz	50.0 mV/m (94 dBu)	0.5 mV/m (54 dBu).

(2) Commercial Class B1 FM Stations (Protected Contour: 0.7 mV/m)

Frequency separation	Interference contour of proposed translator station	Protected contour of commercial Class B1 station
Co-channel.	0.07 mV/m (37 dBu)	0.7 mV/m (57 dBu).
200 kHz	0.35 mV/m (51 dBu)	0.7 mV/m (57 dBu).
400 kHz	7.00 mV/m (77 dBu)	0.7 mV/m (57 dBu).
600 kHz	70.0 mV/m (97 dBu)	0.7 mV/m (57 dBu).

(3) All Other Classes of FM Stations (Protected Contour: 1 mV/m)

Frequency separation	Interference contour of proposed translator station	Protected contour of any other station
Co-channel.	0.1 mV/m (40 dBu)	1 mV/m (60 dBu).
200 kHz	0.5 mV/m (54 dBu)	1 mV/m (60 dBu).
400 kHz	10 mV/m (80 dBu)	1 mV/m (60 dBu).
600 kHz	100 mV/m (100 dBu)	1 mV/m (60 dBu).

(b) The following standards must be used to compute the distances to the pertinent contours:

(1) The distances to the protected contours are computed using Figure 1 of § 73.333 [F(50,50) curves] of this chapter.

(2) The distances to the interference contours are computed using Figure 1a of § 73.333 [F(50,10) curves] of this chapter. In the event that the distance to the contour is below 16 kilometers (approximately 10 miles), and therefore not covered by Figure 1a, curves in Figure 1 must be used.

(3) The effective radiated power (ERP) to be used is the maximum ERP of the main radiated lobe in the pertinent azimuthal direction. If the transmitting antenna is not horizontally polarized only, either the vertical component or the horizontal component of the ERP should be used, whichever is greater in the pertinent azimuthal direction.

(4) The antenna height to be used is the height of the radiation center above the average terrain along each pertinent radial, determined in accordance with § 73.313(d) of this chapter.

(c) An application for a change (other than a change in channel) in the authorized facilities of an FM translator station will be accepted even though overlap of field strength contours would occur with another station in an area where such overlap does not already exist, if:

(1) The total area of overlap with that station would not be increased;

(2) The area of overlap with any other station would not increase;

(3) The area of overlap does not move significantly closer to the station receiving the overlap; and,

(4) No area of overlap would be created with any station with which the overlap does not now exist.

(d) The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable.

(e) The provisions of this section will not apply to overlap between a proposed fill-in FM translator station and its primary station operating on a first, second or third adjacent channel, *provided* That such operation may not result in interference to the primary station within its principal community.

(f) An application for an FM translator station will not be accepted for filing even though the proposed operation would not involve overlap of field strength contours with any other station, as set forth in paragraph (a) of this section, if the predicted 1 mV/m field strength contour of the FM translator station will overlap a populated area already receiving a regularly used, off-the-air signal of any authorized co-channel, first, second or third adjacent channel broadcast station, including Class D (secondary) noncommercial educational FM stations and grant of the authorization will result in interference to the reception of such signal.

(g) An application for an FM translator or an FM booster station that is 53 or 54 channels removed from an FM radio broadcast station will not be accepted for filing if it fails to meet the required separation distances set out in § 73.207 of this chapter. For purposes of determining compliance with § 73.207 of this chapter, translator stations will be treated as Class A stations and booster stations will be treated the same as their FM radio broadcast station equivalents. FM radio broadcast station equivalents will be determined in accordance with §§ 73.210 and 73.211 of this chapter, based on the booster station's ERP and HAAT. Provided, however, that FM translator stations and booster stations operating with less than 100 watts ERP will be treated as class D stations and will not be subject to intermediate frequency separation requirements.

(h) An application for an FM translator station will not be accepted for filing if it specifies a location within 320 kilometers (approximately 199 miles) of either the Canadian or Mexican borders and it does not comply with § 74.1235(d) of this part.

(i) FM booster stations shall be subject to the requirement that the signal of any first adjacent channel station must exceed the signal of the booster station by 6 dB at all points within the protected contour of any first adjacent channel station, except that in the case of FM stations on adjacent channels at spacings that do not meet the minimum distance separations specified in § 73.207 of this chapter, the signal of any first adjacent channel station must exceed the signal of the booster by 6 dB at any point within the predicted interference free contour of the adjacent channel station.

(j) FM translator stations authorized prior to June 1, 1991 with facilities that do not comply with the predicted interference protection provisions of this section, may continue to operate, provided that operation is in conformance with § 74.1203 regarding actual interference. Applications for major changes in FM translator stations must specify facilities that comply with provisions of this section.

[55 FR 50694, Dec. 10, 1990, as amended at 56 FR 56170, Nov. 1, 1991; 58 FR 42025, Aug. 6, 1993]

§ 74.1205 Protection of channel 6 TV broadcast stations.

The provisions of this section apply to all applications for construction permits for new or modified facilities for a noncommercial educational FM translator station on Channels 201-220, unless the application is accompanied by a written agreement between the NCE-FM translator applicant and each affected TV Channel 6 broadcast station licensee or permittee concurring with the proposed NCE-FM translator facility.

(a) An application for a construction permit for new or modified facilities for a noncommercial educational FM translator station operating on Channels 201-220 must include a showing that demonstrates compliance with paragraph (b), (c) or (d) of this section

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if it is within the following distances of a TV broadcast station which is authorized to operate on Channel 6.

FM Channel	Distance (kilometers)
201	148
202	146
203	143
204	141
205	140
206	137
207	135
208	135
209	135
210	135
211	135
212	135
213	135
214	134
215	134
216	133
217	133
218	132
219	132
220	131

FM channel	Interference Contour F(50,10) curves (dBu)
201	54
202	56
203	59
204	62
205	64
206	69
207	73
208	73
209	73
210	73
211	73
212	74
213	75
214	77
215	78
216	80
217	81
218	85
219	88
220	90

(b) *Collocated stations.* An application for a noncommercial educational FM translator station operating on Channels 201–220 and located at 0.4 kilometer (approximately 0.25 mile) or less from a TV Channel 6 station will be accepted if it includes a certification that the applicant has coordinated its antenna with the affected TV station.

(c) *Contour overlap.* Except as provided in paragraph (b) of this section, an application for a noncommercial educational FM translator station operating on Channels 201–220 will not be accepted if the proposed operation would involve overlap of its interference field strength contour with any TV Channel 6 station’s Grade B contour, as set forth below.

(1) The distances to the TV Channel 6 station Grade B (47 dBu) field strength contour will be predicted according to the procedures specified in §73.684 of this chapter, using the F(50,50) curves in §73.699, Figure 9 of this chapter.

(2) The distances to the applicable noncommercial educational FM translator interference contour will be predicted according to the procedures specified in §74.1204(b) of this part.

(3) The applicable noncommercial educational FM translator interference contours are as follows:

(d) FM translator stations authorized prior to June 1, 1991 with facilities that do not comply with the predicted interference protection provisions of this section, may continue to operate, provided that operation is in conformance with §74.1203 regarding actual interference. Applications for major changes in FM translator stations must specify facilities that comply with the provisions of this section.

[55 FR 50695, Dec. 10, 1990, as amended at 58 FR 42025, Aug. 6, 1993]

§74.1231 Purpose and permissible service.

(a) FM translators provide a means whereby the signals of FM broadcast stations may be retransmitted to areas in which direct reception of such FM broadcast stations is unsatisfactory due to distance or intervening terrain barriers.

(b) An FM translator may be used for the purpose of retransmitting the signals of a primary FM radio broadcast station or another translator station which have been received directly through space, converted, and suitably amplified. However, an FM translator providing fill-in service may use any terrestrial facilities to receive the signal that is being rebroadcast. An FM booster station or a noncommercial educational FN translator station operating on a reserved channel (Channels 201–220) and owned and operated by

the licensee of the primary non-commercial educational FM station it rebroadcasts may use alternative signal delivery means, including, but not limited to, satellite and terrestrial microwave facilities. *Provided*, however, that an applicant for a non-commercial educational FM translator station operating on a reserved channel (Channel 201-220) and owned and operated by the licensee of the primary noncommercial educational FM station it rebroadcasts complies with either paragraph (b)(1) or (b)(2) of this section:

(1) The applicant demonstrates that:

(i) The transmitter site of the proposed FM translator station is within 80 kilometers of the predicted 1 mV/m contour of the primary station to be rebroadcast; or,

(ii) The transmitter site of the proposed FM translator station is more than 160 kilometers from the transmitter site of any authorized full service noncommercial educational FM station; or,

(iii) The application is mutually exclusive with an application containing the showing as required by § 74.1231(b)(2) (i) or (ii) of this section; or,

(iv) The application is filed after October 1, 1992.

(2) If the transmitter site of the proposed FM translator station is more than 80 kilometers from the predicted 1 mV/m contour of the primary station to be rebroadcast or is within 160 kilometers of the transmitter site of any authorized full service noncommercial educational FM station, the applicant must show that:

(i) An alternative frequency can be used at the same site as the proposed FM translator's transmitter location and can provide signal coverage to the same area encompassed by the applicant's proposed 1 mV/m contour; or,

(ii) An alternative frequency can be used at a different site and can provide signal coverage to the same area encompassed by the applicant's proposed 1 mV/m contour.

NOTE: For paragraphs 74.1231(b) and 74.1231(h) of this section, auxiliary intercity relay station frequencies may be used to deliver signals to FM translator and booster stations on a secondary basis only. Such use

shall not interfere with or otherwise preclude use of these frequencies for transmitting aural programming between the studio and transmitter location of a broadcast station, or between broadcast stations, as provided in paragraphs 74.531 (a) and (b) of this part. Prior to filing an application for an auxiliary intercity relay microwave frequency, the applicant shall notify the local frequency coordination committee, or, in the absence of a local frequency coordination committee, any licensees assigned the use of the proposed operating frequency in the intended location or area of operation.

(c) The transmissions of each FM translator or booster station shall be intended only for direct reception by the general public. An FM translator or booster shall not be operated solely for the purpose of relaying signals to one or more fixed received points for retransmission, distribution, or further relaying in order to establish a point-to-point FM radio relay system.

(d) The technical characteristics of the retransmitted signals shall not be deliberately altered so as to hinder reception on conventional FM broadcast receivers.

(e) An FM translator shall not deliberately retransmit the signals of any station other than the station it is authorized to retransmit. Precautions shall be taken to avoid unintentional retransmission of such other signals.

(f) A locally generated radio frequency signal similar to that of an FM broadcast station and modulated with aural information may be connected to the input terminals of an FM translator for the purpose of transmitting voice announcements. The radio frequency signals shall be on the same channel as the normally used off-the-air signal being rebroadcast. Connection of the locally generated signals shall be made by any automatic means when transmitting originations concerning financial support. The connections for emergency transmissions may be made manually. The apparatus used to generate the local signal that is used to modulate the FM translator must be capable of producing an aural signal which will provide acceptable reception on FM receivers designed for the transmission standards employed by FM broadcast stations.

(g) The aural material transmitted as permitted in paragraph (f) of this section shall be limited to emergency warnings of imminent danger and to seeking or acknowledging financial support deemed necessary to the continued operation of the translator. Originations concerning financial support are limited to a total of 30 seconds an hour. Within this limitation the length of any particular announcement will be left to the discretion of the translator station licensee. Solicitations of contributions shall be limited to the defrayal of the costs of installation, operation and maintenance of the translator or acknowledgements of financial support for those purposes. Such acknowledgements may include identification of the contributors, the size or nature of the contributions and advertising messages of contributors. Emergency transmissions shall be no longer or more frequent than necessary to protect life and property.

(h) FM broadcast booster stations provide a means whereby the licensee of an FM broadcast station may provide service to areas in any region within the primary station's predicted, authorized service contours. An FM broadcast booster station is authorized to retransmit only the signals of its primary station which have been received directly through space and suitably amplified, or received by alternative signal delivery means including, but not limited to, satellite and terrestrial microwave facilities. The FM booster station shall not retransmit the signals of any other station nor make independent transmissions, except that locally generated signals may be used to excite the booster apparatus for the purpose of conducting tests and measurements essential to the proper installation and maintenance of the apparatus.

NOTE: In the case of an FM broadcast station authorized with facilities in excess of those specified by § 73.211 of this chapter, an FM booster station will only be authorized within the protected contour of the class of station being rebroadcast as predicted on the basis of the maximum powers and heights set

forth in that section for the applicable class of FM broadcast station concerned.

[35 FR 15388, Oct. 2, 1970, as amended at 45 FR 37842, June 5, 1980; 52 FR 31406, Aug. 20, 1987; 53 FR 14803, Apr. 26, 1988; 54 FR 35342, Aug. 25, 1989; 55 FR 50695, Dec. 10, 1990; 57 FR 41111, Sept. 9, 1992; 58 FR 42026, Aug. 6, 1993]

§ 74.1232 Eligibility and licensing requirements.

(a) Subject to the restrictions set forth in paragraph (d) of this section, a license for an FM broadcast translator station may be issued to any qualified individual, organized group of individuals, broadcast station licensee, or local civil governmental body, upon an appropriate showing that plans for financing the installation and operation of the translator are sufficiently sound to assure prompt construction of the translator and dependable service.

(b) More than one FM translator may be licensed to the same applicant, whether or not such translators serve substantially the same area, upon an appropriate showing of technical need for such additional stations. FM translators are not counted as FM stations for the purpose of § 73.3555 of this chapter concerning multiple ownership.

NOTE: As used in this section need refers to the quality of the signal received and not to the programming content, format, or transmission needs of an area.

(c) Only one input and one output channel will be assigned to each FM translator. Additional FM translators may be authorized to provide additional reception. A separate application is required for each FM translator and each application shall be complete in all respects.

(d) An authorization for an FM translator whose coverage contour extends beyond the protected contour of the commercial primary station will not be granted to the licensee or permittee of a commercial FM radio broadcast station. Similarly, such authorization will not be granted to any person or entity having any interest whatsoever, or any connection with a primary FM station. Interested and connected parties extend to group owners, corporate parents, shareholders, officers, directors,

employees, general and limited partners, family members and business associates. For the purposes of this paragraph, the protected contour of the primary station shall be defined as follows: the predicted 0.5mV/m contour for commercial Class B stations, the predicted 0.7 mV/m contour for commercial Class B1 stations and the predicted 1 mV/m field strength contour for all other FM radio broadcast stations. The contours shall be as predicted in accordance with §73.313(a) through (d) of this chapter. In the case of an FM radio broadcast station authorized with facilities in excess of those specified by §73.211 of this chapter, a co-owned commercial FM translator will only be authorized within the protected contour of the class of station being rebroadcast, as predicted on the basis of the maximum powers and heights set forth in that section for the applicable class of FM broadcast station concerned. An FM translator station in operation prior to March 1, 1991, which is owned by a commercial FM (primary) station and whose coverage contour extends beyond the protected contour of the primary station, may continue to be owned by such primary station until March 1, 1994. Thereafter, any such FM translator station must be owned by independent parties. An FM translator station in operation prior to June 1, 1991, which is owned by a commercial FM radio broadcast station and whose coverage contour extends beyond the protected contour of the primary station, may continue to be owned by a commercial FM radio broadcast station until June 1, 1994. Thereafter, any such FM translator station must be owned by independent parties.

(e) An FM translator station whose coverage contour goes beyond the protected contour of the commercial primary station shall not receive any support, before or after construction, either directly or indirectly, from the commercial primary FM radio broadcast station. Such support also may not be received from any person or entity having any interest whatsoever, or any connection with the primary FM station. Interested and connected parties extend to group owners, corporate parents, shareholders, officers, direc-

tors, employees, general and limited partners, family members and business associates. Such an FM translator station may, however, receive technical assistance from the primary station to the extent of installing or repairing equipment or making adjustments to equipment to assure compliance with the terms of the translator station's construction permit and license. FM translator stations in operation prior to March 1, 1991 may continue to receive contributions or support from the commercial primary station for the operation and maintenance of the translator station until March 1, 1994. Thereafter, any such FM translator station shall be subject to the prohibitions on support contained in this section. Such an FM translator station may, however, receive technical assistance from the primary station to the extent of installing or repairing equipment or making adjustments to equipment to assure compliance with the terms of the translator station's construction permit and license. FM translator stations in operation prior to June 1, 1991 may continue to receive contributions or support from a commercial FM radio broadcast station for the operation and maintenance of the translator station until June 1, 1994. Thereafter, any such FM translator station shall be subject to the prohibitions on support contained in this section.

NOTE: "Technical assistance" refers to actual services provided by the primary station's technical staff or compensation for the time and services provided by independent engineering personnel. Conversely, such support must not include the supply of equipment or direct funding for the translator's discretionary use. "Technical assistance" must occur after the issuance of the translator's construction permit or license in order to meet expenses incurred by installing, repairing, or making adjustments to equipment.

(f) An FM broadcast booster station will be authorized only to the licensee or permittee of the FM radio broadcast station whose signals the booster station will retransmit, to serve areas within the protected contour of the primary station, subject to Note, §74.1231(h) of this part.

(g) No numerical limit is placed upon the number of FM booster stations

which may be licensed to a single licensee. A separate application is required for each FM booster station. FM broadcast booster stations are not counted as FM broadcast stations for the purposes of § 73.5555 of this chapter concerning multiple ownership.

(h) Any authorization for an FM translator station issued to an applicant described in paragraphs (d) and (e) of this section will be issued subject to the condition that it may be terminated at any time, upon not less than sixty (60) days written notice, where the circumstances in the community or area served are so altered as to have prohibited grant of the application had such circumstances existed at the time of its filing.

[35 FR 15388, Oct. 2, 1970, as amended at 43 FR 14660, Apr. 7, 1978; 52 FR 10571, Apr. 2, 1987; 52 FR 31406, Aug. 20, 1987; 55 FR 50696, Dec. 10, 1990; 58 FR 42026, Aug. 6, 1993]

§ 74.1233 Processing FM translator and booster station applications.

(a) Applications for FM translator and booster stations are divided into two groups:

(1) In the first group are applications for new stations or for major changes in the facilities of authorized stations. In the case of FM translator stations, a major change is any change in frequency (output channel), or change (only the gain should be included in determining amount of change) or increase (but not decrease) in area to be served greater than ten percent of the previously authorized 1 mV/m contour. All other changes will be considered minor. All major changes are subject to the provisions of §§ 73.3580 and 1.1104 of this chapter pertaining to major changes.

(2) In the second group are applications for licenses and all other changes in the facilities of the authorized station.

(b) Applications for FM translator and booster stations will be processed as nearly as possible in the order in which they are filed. Such applications will be placed in the processing line in numerical sequence, and will be drawn by the staff for study, the lowest file number first. In order that those applications which are entitled to be grouped for processing may be fixed

prior to the time processing of the earliest filed application is begun, the FCC will periodically release a Public Notice listing applications which have been accepted for filing and announcing a date (not less than 30 days after publication) on which the listed applications will be considered available and ready for processing and by which all mutually exclusive applications and/or petitions to deny the listed applications must be filed.

(c) In the case of an application for an instrument of authorization, other than a license pursuant to a construction permit, grant will be based on the application, the pleadings filed, and such other matters that may be officially noticed. Before a grant can be made it must be determined that:

(1) There is not pending a mutually exclusive application filed in accordance with paragraph (b) of this section.

(2) The applicant is legally, technically, financially and otherwise qualified;

(3) The applicant is not in violation of any provisions of law, the FCC rules, or established policies of the FCC; and

(4) A grant of the application would otherwise serve the public interest, convenience and necessity.

(d) Applications for FM translator stations proposing to provide fill-in service (within the primary station's protected contour) of the commonly owned primary station will be given priority over all other applications.

(e) Where applications for FM translator stations are mutually exclusive and do not involve a proposal to provide fill-in service of a commonly owned primary station, the FCC may stipulate different frequencies as necessary for the applicants.

(f) Where there are no available frequencies to substitute for a mutually exclusive application, the FCC will base its decision on the following priorities: (1) First full-time aural services; (2) second full-time aural services; and (3) other public interest matters including, but not limited to the number of aural services received in the proposed service area, the need for or lack of public radio service, and other matters such as the relative size of the proposed communities and their growth rate.

(g) Where the procedures in paragraph (d), (e) and (f) of this section fail to resolve the mutual exclusivity, the applications will be processed on a first-come-first-served basis.

[55 FR 50697, Dec. 10, 1990]

§ 74.1234 Unattended operation.

(a) A station authorized under this subpart may be operated without a designated person in attendance if the following requirements are met:

(1) If the transmitter site cannot be reached promptly at all hours and in all seasons, means shall be provided so that the transmitting apparatus can be turned on and off at will from a point which is readily accessible at all hours and in all seasons.

(2) The transmitter shall also be equipped with suitable automatic circuits which will place it in a nonradiating condition in the absence of a signal on the input channel.

(3) The on-and-off control (if at a location other than the transmitter site) and the transmitting apparatus, shall be adequately protected against tampering by unauthorized persons.

(4) The Commission shall be supplied with the name, address, and telephone number of a person or persons who may be contacted to secure suspension of operation of the translator promptly should such action be deemed necessary by the Commission. Such information shall be kept current by the licensee.

(5) Where the antenna and supporting structure are required to be painted and lighted under the provisions of Part 17 of this chapter, the licensee shall make suitable arrangements for the daily inspection and logging of the obstruction lighting and associated control equipment as required by §§ 17.47, 17.48, and 17.49 of this chapter.

(b) An application for authority to construct a new station pursuant to this subpart or to make changes in the facilities of such a station, which proposes unattended operation shall include an adequate showing as to the manner of compliance with this section.

[35 FR 15388, Oct. 2, 1970, as amended at 37 FR 18540, Sept. 13, 1972; 38 FR 25992, Sept. 17, 1973; 60 FR 55484, Nov. 1, 1995]

§ 74.1235 Power limitations and antenna systems.

(a) An application for an FM translator station filed by the licensee or permittee of the primary station to provide fill-in service within the primary station's coverage area will not be accepted for filing if it specifies an effective radiated power (ERP) which exceeds 250 watts.

(b) An application for an FM translator station, other than one for fill-in service which is covered in paragraph (a) of this section, will not be accepted for filing if it specifies an effective radiated power (ERP) which exceeds the maximum ERP (MERP) value determined in accordance with this paragraph. The antenna height above average terrain (HAAT) shall be determined in accordance with § 73.313(d) of this chapter for each of 12 distinct radials, with each radial spaced 30 degrees apart and with the bearing of the first radial bearing true north. Each radial HAAT value shall be rounded to the nearest meter. For each of the 12 radial directions, the MERP is the value corresponding to the calculated HAAT in the following tables that is appropriate for the location of the translator. For an application specifying a nondirectional transmitting antenna, the specified ERP must not exceed the smallest of the 12 MERP's. For an application specifying a directional transmitting antenna, the ERP in each azimuthal direction must not exceed the MERP for the closest of the 12 radial directions.

(1) For FM translators located east of the Mississippi River or in Zone I-A as described in § 73.205(b) of this chapter:

Radial HAAT (meters)	Maximum ERP (MERP in watts)
Less than or equal to 32	250
33 to 39	170
40 to 47	120
48 to 57	80
58 to 68	55
69 to 82	38
83 to 96	27
97 to 115	19
116 to 140	13
Greater than or equal to 141	10

(2) For FM translators located in all other areas:

Radial HAAT (meters)	Maximum ERP (MERP in watts)
Less than or equal to 107	250
108 to 118	205
119 to 130	170
131 to 144	140
145 to 157	115
158 to 173	92
174 to 192	75
193 to 212	62
213 to 235	50
236 to 260	41
261 to 285	34
286 to 310	28
311 to 345	23
346 to 380	19
381 to 425	15.5
426 to 480	13
481 to 540	11
Greater than or equal to 541	10

(c) The effective radiated power of FM booster stations shall be limited such that the predicted service contour of such stations computed in accordance with §73.313, paragraphs (a) through (d) of this chapter, may not extend beyond the area covered by the predicted service contour of the primary station that they rebroadcast and that such FM booster effective radiated power may not exceed 20 percent of the maximum allowable effective radiated power for the primary station's class.

(1) Applications for FM booster stations located within 320 kilometers of the Mexican border will not be accepted for filing if they specify more than 10 watts transmitter power output.

(2) Applications for FM booster stations located within 320 kilometers of the Canadian border will not be accepted for filing where the predicted interference or primary service contour of the proposed booster station would extend beyond the corresponding contour of the primary FM station being rebroadcast.

(d) Applications for FM translator stations located within 320 km of the Canadian border will not be accepted if they specify more than 50 watts effective radiated power in any direction or have a 34 dBu interference contour, calculated in accordance with §74.1204 of this part, that exceeds 32 km. FM translator stations located within 320 kilometers of the Mexican border must be separated from Mexican allotments and assignments in accordance with §73.207(b)(3) of this chapter and are lim-

ited to a transmitter power output of 10 watts or less. For purposes of compliance with that section, FM translators will be considered as Class D FM stations.

(e) In no event shall a station authorized under this subpart be operated with a transmitter power output (TPO) in excess of the transmitter type-accepted rating. A station authorized under this subpart for a TPO that is less than its transmitter type-accepted rating shall determine its TPO in accordance with §73.267 of this chapter and its TPO shall not be more than 105 percent of the authorized TPO.

(f) Composite antennas and antenna arrays may be used where the total ERP does not exceed the maximum determined in accordance with paragraphs (a), (b) or (c) of this section.

(g) Either horizontal, vertical, circular or elliptical polarization may be used provided that the supplemental vertically polarized ERP required for circular or elliptical polarization does not exceed the ERP otherwise authorized. Either clockwise or counterclockwise rotation may be used. Separate transmitting antennas are permitted if both horizontal and vertical polarization is to be provided.

(h) All applications must comply with §73.316, paragraphs (d) and (e) of this chapter.

(i) An application that specifies use of a directional antenna must comply with §73.316, paragraphs (c)(1) through (c)(3) of this chapter. Prior to issuance of a license, the applicant must: (1) Certify that the antenna is mounted in accordance with the specific instructions provided by the antenna manufacturer; and (2) certify that the antenna is mounted in the proper orientation. In instances where a directional antenna is proposed for the purpose of providing protection to another facility, a condition may be included in the construction permit requiring that before program tests are authorized, a permittee: (1) Must submit the results of a complete proof-of-performance to establish the horizontal plane radiation patterns for both the horizontally and vertically polarized radiation components; and, (2) must certify that the relative field strength of neither the measured horizontally nor

vertically polarized radiation component shall exceed at any azimuth the value indicated on the composite radiation pattern authorized by the construction permit.

NOTE: Existing licensees and permittees that do not furnish data sufficient to calculate the contours in conformance with § 74.1204 will be assigned protected contours having the following radii:

Up to 10 watts—1 mile (1.6 km) from transmitter site.

Up to 100 watts—2 miles (3.2 km) from transmitter site.

Up to 250 watts—4 miles (6.5 km) from transmitter site.

(j) FM translator stations authorized prior to June 1, 1991, with facilities that do not comply with the ERP limitation of paragraph (a) or (b) of this section, as appropriate, may continue to operate, provided that operation is in conformance with § 74.1203 regarding interference. Applications for major changes in FM translator stations must specify facilities that comply with paragraph (a) or (b) of this section, as appropriate.

[55 FR 50697, Dec. 10, 1990, as amended at 56 FR 56170, Nov. 1, 1991; 58 FR 42026, Aug. 6, 1993; 62 FR 51063, Sept. 30, 1997]

EFFECTIVE DATE NOTE: At 62 FR 51063, Sept. 30, 1997, § 74.1235 was amended by revising paragraph (h), effective Dec. 1, 1997. For the convenience of the user, the superseded text is set forth as follows:

§ 74.1235 Power limitations and antenna systems.

* * * * *

(h) All applications must comply with § 73.316, paragraphs (d) through (h) of this chapter.

* * * * *

§ 74.1236 Emission and bandwidth.

(a) The license of a station authorized under this subpart allows the transmission of either F3 or other types of frequency modulation (see § 2.201 of this chapter) upon a showing of need, as long as the emission complies with the following:

(1) For transmitter output powers no greater than 10 watts, paragraphs (b), (c), and (d) of this section apply.

(2) For transmitter output powers greater than 10 watts, § 73.317 (a), (b), (c), and (d) apply.

(b) Standard width FM channels will be assigned and the transmitting apparatus shall be operated so as to limit spurious emissions to the lowest practicable value. Any emissions including intermodulation products and radio-frequency harmonics which are not essential for the transmission of the desired aural information shall be considered to be spurious emissions.

(c) The power of emissions appearing outside the assigned channel shall be attenuated below the total power of the emission as follows:

Distance of emission from center frequency	Minimum attenuation below unmodulated carrier
120 to 240 kHz	25 dB
Over 240 and up to 600 kHz	35 dB
Over 600 kHz	60 dB

(d) Greater attenuation than that specified in paragraph (c) of this section may be required if interference results outside the assigned channel.

[35 FR 15388, Oct. 2, 1970, as amended at 52 FR 31406, Aug. 20, 1987; 55 FR 50698, Dec. 10, 1990]

§ 74.1237 Antenna location.

(a) An applicant for a new station to be authorized under this subpart or for a change in the facilities of such a station shall endeavor to select a site which will provide a line-of-sight transmission path to the entire area intended to be served and at which there is available a suitable signal from the primary station. The transmitting antenna should be placed above growing vegetation and trees lying in the direction of the area intended to be served, to minimize the possibility of signal absorption by foliage.

(b) Consideration should be given to accessibility of the site at all seasons of the year and to the availability of facilities for the maintenance and operation of the FM translator.

(c) Consideration should be given to the existence of strong radiofrequency fields from other transmitters at the translator site and the possibility that

such fields may result in the retransmission of signals originating on frequencies other than that of the primary station.

(d) The transmitting antenna of an FM booster station shall be located within the protected contour of its primary station, subject to Note, § 74.1231 (h). The transmitting antenna of a commonly owned commercial FM translator station shall be located within the protected contour of its commercial primary FM station.

(e) A translator or booster station to be located on an AM antenna tower or located within 3.2 km of an AM antenna tower must comply with § 73.1692 of this chapter.

[35 FR 15388, Oct. 2, 1970, as amended at 55 FR 50698, Dec. 10, 1990; 58 FR 42026, Aug. 6, 1993; 62 FR 51063, Sept. 30, 1997]

EFFECTIVE DATE NOTE: At 62 FR 51063, Sept. 30, 1997, § 74.1237 was amended by adding paragraph (e), effective Dec. 1, 1997.

§ 74.1250 Transmitters and associated equipment.

(a) FM translator and booster transmitting apparatus, and exciters employed to provide a locally generated and modulated input signal to translator and booster equipment, used by stations authorized under the provisions of this subpart must be type accepted or notified upon the request of any manufacturer of transmitters in accordance with this section and subpart J of part 2 of this chapter. If acceptable, the apparatus will be included in the FCC's "Radio Equipment List, Equipment Acceptable for Licensing." In addition, FM translator and booster stations may use FM broadcast transmitting apparatus notified or type accepted under the provisions of part 73 of this chapter.

(b) Transmitting antennas, antennas used to receive signals to be rebroadcast, and transmission lines are not subject to the requirement for type acceptance.

(c) The following requirements must be met before translator, booster or exciter equipment will be notified or type accepted in accordance with this section:

(1) Radio frequency harmonics and spurious emissions must conform with

the specifications of § 74.1236 of this part.

(2) The local oscillator or oscillators, including those in an exciter employed to provide a locally generated and modulated input signal to a translator or booster, when subjected to variations in ambient temperature between minus 30 degrees and plus 50 degrees centigrade, and in primary supply voltage between 85 percent and 115 percent of the rated value, shall be sufficiently stable to maintain the output center frequency within plus or minus 0.005 percent of the operating frequency and to enable conformance with the specifications of § 74.1261 of this part.

(3) The apparatus shall contain automatic circuits to maintain the power output in conformance with § 74.1235(e) of this part. If provision is included for adjusting the power output, then the normal operating constants shall be specified for operation at both the rated power output and the minimum power output at which the apparatus is designed to operate. The apparatus shall be equipped with suitable meters or meter jacks so that the operating constants can be measured while the apparatus is in operation.

(4) Apparatus rated for transmitter power output of more than 1 watt shall be equipped with automatic circuits to place it in a nonradiating condition when no input signal is being received in conformance with § 74.1263(b) of this part and to transmit the call sign in conformance with § 74.1283(c)(2) of this part.

(5) For exciters, automatic means shall be provided for limiting the level of the audio frequency voltage applied to the modulator to ensure that a frequency swing in excess of 75 kHz will not occur under any condition of the modulation.

[55 FR 50698, Dec. 10, 1990]

§ 74.1251 Technical and equipment modifications.

(a) No change, either mechanical or electrical, except as provided in § 2.1001 of this chapter, may be made in FM translator or booster apparatus which has been type accepted by the Commission without prior authority of the Commission.

(b) Formal application on FCC Form 349 is required of all permittees and licensees for any of the following changes:

(1) Replacement of the transmitter as a whole, except replacement with a transmitter of identical power rating which has been type accepted by the FCC for use by FM translator or FM booster stations, or any change which could result in the electrical characteristics or performance of the station. Upon the installation or modification of the transmitting equipment for which prior FCC authority is not required under the provisions of this paragraph, the licensee shall place in the station records a certification that the new installation complies in all respects with the technical requirements of this part and the terms of the station authorization.

(2) A change in the transmitting antenna system, including the direction of radiation or directive antenna pattern.

(3) Any change in the overall height of the antenna structure except where notice to the Federal Aviation Administration is specifically not required under § 17.14(b) of this chapter.

(4) Any change in the location of the translator or booster except a move within the same building or upon the same pole or tower.

(5) Any horizontal change in the location of the antenna structure which would (i) be in excess of 152.4 meters (500 feet), or (ii) would require notice to the Federal Aviation Administration pursuant to § 17.7 of the FCC's rules.

(6) Any change of input or output frequency of a translator.

(7) Any change of authorized effective radiated power.

(8) Any change in area being served.

(c) Changes in the primary FM station being retransmitted must be submitted to the FCC in writing.

(d) Any application proposing a change in the height of the antenna structure or its location must also include the Antenna Structure Registration Number (FCC Form 854R) of the antenna structure upon which it proposes to locate its antenna. In the event the antenna structure does not have a Registration Number, either the antenna structure owner shall file FCC

Form 854 ("Application for Antenna Structure Registration") in accordance with part 17 of this chapter or the applicant shall provide a detailed explanation why registration and clearance are not required.

[35 FR 15388, Oct. 2, 1970, as amended at 45 FR 26068, Apr. 17, 1980; 47 FR 24580, June 7, 1982; 50 FR 3525, Jan. 25, 1985; 50 FR 23710, June 5, 1985; 55 FR 50698, Dec. 10, 1991; 61 FR 4368, Feb. 6, 1996]

§ 74.1261 Frequency tolerance.

(a) The licensee of an FM translator or booster station with an authorized transmitter power output of 10 watts or less shall maintain the center frequency at the output of the translator within 0.01 percent of its assigned frequency.

(b) The licensee of an FM translator or booster station with an authorized transmitter power output greater than 10 watts shall maintain the center frequency at the output of the translator or booster station in compliance with the requirement of § 73.1545(b)(1) of this chapter.

[55 FR 50699, Dec. 10, 1990]

§ 74.1262 Frequency monitors and measurements.

(a) The licensee of a station authorized under this subpart is not required to provide means for measuring the operating frequency of the transmitter. However, only equipment having the required stability will be approved for use by an FM translator or booster.

(b) In the event that a station authorized under this subpart is found to be operating beyond the frequency tolerance prescribed in § 74.1261, the licensee shall promptly suspend operation of the station and shall not resume operation until the station has been restored to its assigned frequency. Adjustment of the frequency determining circuits of an FM translator or booster shall be made by a qualified person in accordance with § 74.1250(g).

§ 74.1263 Time of operation.

(a) The licensee of an FM translator or booster station is not required to adhere to any regular schedule of operation. However, the licensee of an FM translator or booster station is expected to provide a dependable service

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to the extent that such is within its control and to avoid unwarranted interruptions to the service provided.

(b) An FM translator or booster station rebroadcasting the signal of a primary station shall not be permitted to radiate during extended periods when signals of the primary station are not being retransmitted.

(c) The licensee of an FM translator or booster station must notify the Commission of its intent to discontinue operations for 30 or more consecutive days. Notification must be made within 10 days of the time the station first discontinues operation and Commission approval must be obtained for such discontinued operation to continue beyond 30 days. The notification shall specify the causes of the discontinued operation and a projected date for the station's return to operation, substantiated by supporting documentation. If the projected date for the station's return to operation cannot be met, another notification and further request for discontinued operations must be submitted in conformance with the requirements of this section. Within 48 hours of the station's return to operation, the licensee must notify the Commission of such fact. All notification must be in writing.

(d) The licensee of an FM translator or booster station must notify the Commission of its intent to permanently discontinue operations at least two days before operation is discontinued. Immediately after discontinuance of operation, the licensee shall forward the station license and other instruments of authorization to the FCC, Washington, DC for cancellation.

(e) Failure of an FM translator or booster station to operate for a period of 30 or more consecutive days, except for causes beyond the control of the licensee or authorized pursuant to paragraph (c) of this section, shall be deemed evidence of discontinuation of operation and the license of the station may be cancelled at the discretion of the Commission. Furthermore, the station's license will expire as a matter of law, without regard to any causes beyond control of the licensee or to any authorization pursuant to paragraph (c) of this section, if the station fails to transmit broadcast signals for any con-

secutive 12-month period, notwithstanding any provision, term, or condition of the license to the contrary.

[55 FR 50699, Dec. 10, 1990, as amended at 61 FR 28768, June 6, 1996]

§ 74.1265 Posting of station license.

(a) The station license and any other instrument of authorization or individual order concerning the construction of the station or the manner of operation shall be kept in the station record file maintained by the licensee so as to be available for inspection upon request to any authorized representative of the Commission.

(b) The call sign of the translator or booster together with the name, address, and telephone number of the licensee or local representative of the licensee if the licensee does not reside in the community served by the translator or booster, and the name and address of a person and place where station records are maintained, shall be displayed at the translator or booster site on the structure supporting the transmitting antenna, so as to be visible to a person standing on the ground at the transmitter site. The display shall be prepared so as to withstand normal weathering for a reasonable period of time and shall be maintained in a legible condition by the licensee.

[35 FR 15388, Oct. 2, 1970, as amended at 40 FR 24901, June 11, 1975]

§ 74.1269 Copies of rules.

The licensee or permittee of a station authorized under this subpart shall have a current copy of Volumes I (parts 0, 1, 2 and 17) and III (parts 73 & 74) of the Commission's Rules and shall make the same available for use by the operator in charge. Each such licensee or permittee shall be familiar with those rules relating to stations authorized under this subpart. Copies of the Commission's Rules may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402.

[55 FR 50699, Dec. 10, 1990]

§ 74.1281 Station records.

(a) The licensee of a station authorized under this Subpart shall maintain adequate station records, including the

current instrument of authorization, official correspondence with the FCC, maintenance records, contracts, permission for rebroadcasts, and other pertinent documents.

(b) Entries required by § 17.49 of this chapter concerning any observed or otherwise known extinguishment or improper functioning of a tower light:

(1) The nature of such extinguishment or improper functioning.

(2) The date and time the extinguishment of improper operation was observed or otherwise noted.

(3) The date, time and nature of adjustments, repairs or replacements made.

(c) The station records shall be maintained for inspection at a residence, office, or public building, place of business, or other suitable place, in one of the communities of license of the translator or booster, except that the station records of a booster or translator licensed to the licensee of the primary station may be kept at the same place where the primary station records are kept. The name of the person keeping station records, together with the address of the place where the records are kept, shall be posted in accordance with § 74.1265(b) of the rules. The station records shall be made available upon request to any authorized representative of the Commission.

(d) Station logs and records shall be retained for a period of two years.

[48 FR 44807, Sept. 30, 1983]

§ 74.1283 Station identification.

(a) The call sign of an FM broadcast translator station will consist of the initial letter K or W followed by the channel number assigned to the translator and two letters. The use of the initial letter will generally conform to the pattern used in the broadcast service. The two letter combinations following the channel number will be assigned in order and requests for the assignment of particular combinations of letters will not be considered.

(b) The call sign of an FM booster station will consist of the call sign of the primary station followed by the letters "FM" and the number of the booster station being authorized, e.g., WFCCFM-1.

(c) A translator station authorized under this subpart shall be identified by one of the following methods.

(1) By arranging for the primary station whose station is being rebroadcast to identify the translator station by call sign and location. Three such identifications shall be made during each day: once between 7 a.m. and 9 a.m., once between 12:55 p.m. and 1:05 p.m. and once between 4 p.m. and 6 p.m. Stations which do not begin their broadcast before 9 a.m. shall make their first identification at the beginning of their broadcast days. The licensee of an FM translator whose station identification is made by the primary station must arrange for the primary station licensee to keep in its file, and to make available to FCC personnel, the translator's call letters and location, giving the name, address and telephone number of the licensee or his service representative to be contacted in the event of malfunction of the translator. It shall be the responsibility of the translator licensee to furnish current information to the primary station licensee for this purpose.

(2) By transmitting the call sign in International Morse Code at least once each hour. Transmitters of FM broadcast translator stations of more than 1 watt transmitter output power must be equipped with an automatic keying device that will transmit the call sign at least once each hour, unless there is in effect a firm agreement with the translator's primary station as provided in § 74.1283(c)(1) of this section. Transmission of the call sign can be accomplished by:

(i) Frequency shifting key; the carrier shift shall not be less than 5 kHz nor greater than 25 kHz.

(ii) Amplitude modulation of the FM carrier of at least 30 percent modulation. The audio frequency tone use shall not be within 200 hertz of the Emergency Broadcast System Attention signal alerting frequencies.

(d) FM broadcast booster stations shall be identified by their primary stations, by the broadcasting of the primary station's call signs and location, in accordance with the provisions of § 73.1201 of this chapter.

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(e) The Commission may, in its discretion, specify other methods of identification.

[55 FR 50699, Dec. 10, 1990]

§ 74.1284 **Rebroadcasts.**

(a) The term *rebroadcast* means the reception by radio of the programs or other signals of a radio station and the simultaneous retransmission of such programs or signals for direct reception by the general public.

(b) The licensee of an FM translator shall not rebroadcast the programs of any FM broadcast station or other FM translator without obtaining prior consent of the primary station whose programs are proposed to be retransmitted. The Commission shall be notified of the call letters of each station rebroadcast and the licensee of the FM translator shall certify that written consent has been received from the licensee of the station whose programs are retransmitted.

(c) An FM translator is not authorized to rebroadcast the transmissions of any class of station other than an FM broadcast station or another FM translator.

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[50 FR 38535, Sept. 23, 1985, as amended at 51 FR 34622, Sept. 30, 1986; 52 FR 37316, Oct. 6, 1987; 52 FR 47569, Dec. 15, 1987]

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