

## Pike & Fischer

Communications Regulation

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### Amendment of Part 74 of the Commission's Rules and Regulations to permit the operation of low power FM broadcast translator and booster stations

**20 RR 2d 1538**  
(September 29, 1970)

SHOW DIGESTS

FCC 70-1042

Docket No. 17159, **RM-909**

September 29, 1970, Released; Adopted

September 23, 1970

By the Commission

REPORT AND ORDER

By the Commission:

1. The Commission has before it for consideration its Notice of Inquiry, released February 6, 1967 (FCC 67-152), and its Notice of Proposed Rule Making (FCC 69-33, 34 FR 761, released January 15, 1969), proposing to amend Part 74 of the Commission's rules to authorize FM broadcast translator stations and FM broadcast booster stations. In addition to the parties who filed comments in connection with our Notice of Inquiry, 27 parties filed comments in response to the Notice of Proposed Rule Making. Inasmuch as we noted in the Notice of Proposed Rule Making that we had considered all of the comments filed in response to the Notice of Inquiry, we here consider only those additional comments filed in response to the Notice of Proposed Rule Making. The list of parties responding is attached hereto as Appendix I.

#### 2. Frequency Assignment

We are persuaded that a need has been established for FM broadcast translator stations and FM booster stations to provide FM radio service to areas and populations which are unable to receive satisfactory service by reason of distance or intervening terrain obstructions. Accordingly, we are amending Part 74 of the Commission's rules to add subpart L, authorizing low power FM broadcast translator stations and FM booster stations. Commercial FM broadcast translator stations will be authorized only on Class A channels which are so designated in Sec. 73.206(a)(1) of the Commission's rules; noncommercial educational FM translators will be authorized on the 20 FM channels (Channels 201 through 220, 88.1 MHz through 91.9 MHz) reserved for noncommercial educational use, but will also be authorized on the commercial Class A channels. We will not accept for filing any application proposed for an FM translator to rebroadcast a commercial FM station on a channel reserved for noncommercial educational use. Channels 201 through 260 will not be assigned for FM translator use in Alaska because those frequencies (88.1 MHz through 99.9 MHz) are allocated for government radio services and non-government fixed service in Alaska. Channels 251 through 300 will not be assigned for FM translator use in Hawaii because those frequencies (98.1 MHz through 107.9 MHz) are reserved for non-broadcast use in Hawaii. Assignments will be made for FM translator stations on the designated Class A channels irrespective of whether those channels are assigned

to a community listed in the FM Table of Assignments. Some of the comments received in this proceeding urged that commercial FM translators not be confined to the 20 Class A channels, but we are of the view that, for the time being, these frequencies will be sufficient for FM translators and represent less of a potential for interference. Of course, should experience dictate that additional frequencies be made available, we will give the matter further study with a view toward removing the restrictions by a rule-making proceeding.

### 3. Interference

FM translators, like television translators, will be authorized on a no-interference basis. An FM translator will be authorized subject to the condition that it will not cause interference to off-the-air reception by the public of the signals of any other authorized station. Because of the potential for interference to reception of the signals of television stations or television broadcast translator stations operating on channels 6-13, our rules will be phrased to provide that FM translators shall protect television translator stations against interference to reception of their transmitted signals. Because the sources of aural broadcast signals may be more numerous than television signals, we think it important to make it clear that a television translator station's input signal must be protected against interference by an FM translator station.

### 4. Purpose and permissible service

We do not propose to prohibit the use of FM translators to relay the signals of an FM radio broadcast station or another FM translator station to a more distant FM translator, so long as this is not the sole purpose of the station. We believe that, to the extent a translator station provides a service to the public which it would not otherwise receive, the public benefits and there is no valid reason to preclude a station because its incidental or primary purpose is as a relay. We anticipate that, as in the case of UHF television translators, there may be a problem of financial support for community sponsored FM translator stations and we have, therefore, provided for local origination of voice announcements soliciting or acknowledging local public financial support. We see no need for this practice by station-owned FM translators, but we have imposed no restriction on such use. Where necessary to raise sufficient funds to maintain and operate a community-sponsored FM translator, the announcements may be commercial advertising matter. The translator licensee who seeks to originate local announcements for the purpose of soliciting or acknowledging public financial support need not obtain prior authorization. However, only equipment which has been specifically type-accepted for this purpose may be used.

### 5. Eligibility and licensing requirements

Our new rules provide that more than one FM translator will be authorized to the same party whether or not the translators will serve the same area, upon an appropriate showing of the need for the additional station or stations. The need will be presumed where the translators will rebroadcast different primary stations; a showing of need will be required only where the same programming would be provided to substantially the same area or where the question of need is raised by a party in interest who objects to grant of the application and makes a prima facie showing of the lack of need for the proposed new FM translator.

6. Some of the comments indicated a belief that commercial FM translators should not be restricted to the area within the primary station's predicted one mv/m field strength contour. Because we recognize that community - sponsored FM translators will be requested only where there is a real public demand, we will impose no restriction on the location of the areas they will serve. FM translators may not, however, be used by FM station licensees as a competitive means to expand a primary station's service area and, for this reason, we believe that areas to be served by station-owned FM translators must be confined to the predicted one mv/m field strength contour of the primary station and used as a "fill-in" service. The same considerations do not exist with respect to areas beyond a primary station's predicted one mv/m field strength contour where there is no other predicted FM radio service. Of course, no similar restrictions will be imposed in the location of FM translators rebroadcasting noncommercial educational FM broadcast stations. The one mv/m field strength contour will be the predicted contour as determined by the procedures set forth in Sec. 73.313 of the Commission's rules and, for the purpose of determining whether an FM translator station or booster station will serve an area located within its primary station's one mv/m field strength contour, alternative methods will not be permitted. In short, the contour, for this purpose, will be the predicted contour without regard to any terrain-limiting factors. <sup>1</sup>

7. In the Notice of Proposed Rule Making, we proposed to adopt Sec. 74.1232(e) which would provide that the Commission will not act upon applications for new stations in this service or for changes in existing translators where such changes will result in an increase in signal range in any horizontal direction until 30 days after the Commission gives public notice of the acceptance of such an application for filing. We have decided not to adopt this part of the proposed rules because our experience in television translators indicates that it is not necessary. The Commission is prohibited by Section 309(b) of the Communications Act from granting an application for a new broadcast station less than 30 days after the Commission gives public notice of the acceptance of the application for filing. With respect to a modification application which would extend signal range in any horizontal direction, we have found that there are seldom any objections and, in any event, the number of pending applications has prevented action on such applications in less than 30 days. Should the situation be different with respect to FM translators or boosters, we would not hesitate to amend the rules accordingly.

#### 8. Power

Several comments were addressed to the matter of power limitations on FM translators. After reviewing these comments, we are of the view that there is merit in the arguments that power in excess of one watt would represent a more efficient use of frequencies, subject to certain geographical restrictions discussed below. We have decided to allow FM boosters with transmitter power output of up to 10 watts nationwide and FM translators with transmitter power output of up to 10 watts west of the Mississippi River except for Zone 1-A. East of the Mississippi River and in Zone 1-A, power will be limited to one watt. There will be no limit on effective radiated power which may be obtained by the use of directive transmitting antennas. One of the reasons for limiting power to 10 watts is that we do not visualize translators as devices to provide wide area coverage and regular FM radio stations are available for higher power service. East of the Mississippi and in Zone 1-A, the frequency congestion is such that we believe it necessary to restrict power in order to avoid a multitude of interference problems. FM translators proposed within 20 miles of the Canadian border are subject to coordination with the Canadian government. Until an agreement can be reached with the Government of Mexico, no application for an FM translator will be accepted for filing which proposes to serve an area within 200 miles of the Mexican border or, if inadvertently accepted for filing, will not be granted. Applicants seeking FM translators with power of 10 watts will be expected to make thorough frequency searches to ascertain the possibility of interference to any authorized broadcast or licensed non-broadcast service (including government stations), and be prepared to demonstrate, in their applications, the extent of such frequency searches. The same limitations will be applicable to FM booster stations.

9. We have provided for the use of multiple output amplifiers with FM translators and boosters, provided, however, that each 10-watt amplifier and, east of the Mississippi River and in Zone 1-A, each one-watt amplifier, must be used to serve a separate community or area. The transmitting antennas must be so designed and installed as to prevent reinforcement of the radiated signals to achieve effective radiated power in any direction in excess of that which could be achieved with a single antenna of the same design fed by a radio frequency amplifier with power output not in excess of 10 watts west of the Mississippi River (except for Zone 1-A) or not in excess of one-watt east of the Mississippi River and in Zone 1-A. A one-watt FM translator or booster, using a multiple output amplifier, which serves an area west of the Mississippi outside of Zone 1-A will not be restricted by this rule if the combination of all of its outputs could not exceed ten watts. Thus, we do not mean to impose these limits on one-watt stations west of the Mississippi outside of Zone 1-A.

#### 10. Equipment

The transmitting apparatus to be employed by an FM translator must be type accepted. An application specifying transmitting apparatus which is not type accepted will not be accepted for filing, as of the effective date of these rules. No change may be made in type accepted transmitting apparatus without grant of authority to make the change. Our rules with respect to the changes in equipment for which authority must be sought by formal application will conform to the television translator rules and are set forth in Sec. 74.1251.

#### 11. Time of operation

Translators are not, of course, expected to adhere to any regular schedule of operation. Each station, however, is expected to provide a dependable service and licensees will be held responsible for

unwarranted interruptions of service. License renewal applications will contain a question requiring the applicant to account for time that the translator has been inoperative during the prior license period, whether for reasons within the licensee's control or for reasons beyond the licensee's control. If an FM translator is inoperative for a period in excess of ten days, whatever the reason, the licensee must notify the Engineer in Charge of the radio district <sup>2</sup> in which the translator is located, in writing, describing the cause of inoperation and the steps being taken to place the station back into regular operation. The licensee must notify the Engineer in Charge promptly upon resumption of operation. In the event that a translator station is inoperative for 30 days, except for causes beyond the licensee's control, such inoperation shall be deemed evidence of discontinuance of operation and the license of the station will be cancelled and its call letter deleted. Evidence of continued equipment failure or unsatisfactory service for any reason shall be cause for the Commission to require immediate remedial measures or suspension of operation until satisfactory operation can be resumed with the assurance of satisfactory service thereafter.

## 12. Operator requirements

Section 318 of the Communications Act requires that the operation of every broadcast station, with the specific exception of television broadcast stations engaged solely in rebroadcasting, be placed in charge of a licensed operator. The Commission cannot, of course, waive this statutory requirement, although we are now preparing a proposal for submission to Congress to amend the statute to allow a similar exception for FM translators. Until Congress changes the law, a licensed radiotelephone operator is required. As indicated in our Notice of Proposed Rule Making (paragraphs 14-16), a person holding a valid restricted radiotelephone operator permit will satisfy this requirement. We proposed that this operator observe the operation of the translator at least every six hours, beginning at 8:00 a. m. or when the primary station commences operation, whichever is later, and ending at 10:00 p. m. In the event of malfunction, the operator would be required to discontinue operation of the translator until it can be placed in proper operating condition.

13. The National Association of Broadcasters expressed the view that these requirements are wholly unrealistic because what is being asked of the licensed operator is to perform a listening function, a function which will be performed, in any event, by thousands of ordinary listeners and if there is malfunction, ordinary listeners are likely to make the condition known. NAB believes that the requirement for observation at specified times may deter the employment of persons holding restricted permits because these persons would have other regular employment and may also impede the use and development of FM translators. NAB suggests, therefore, that the rule require only that a person holding a restricted permit make observations as frequently as necessary to assure that the station is functioning properly.

14. The observations of the operation of the translator and booster stations which the rules would require do not necessarily involve on-site inspection of the transmitting equipment. We believe that the requirements of the Communications Act will be satisfied by aural monitoring by use of a conventional FM broadcast receiver. Accordingly, our rules will provide that an operator holding a Restricted Radiotelephone Operator Permit or higher grade license will monitor the operation of the FM translator or booster at least once every six hours beginning at 8:00 a. m. or when the primary station commences operation whichever is later, and ending at 10:00 p. m. These requirements are expected to be temporary and will be removed if the Communications Act is amended to provide an exception for FM translators as is now provided for television translators.

## 15. Other rule changes

As indicated in our Notice of Proposed Rule Making, other changes in the rules will be necessary to effectuate the new FM translator service. The rule changes are shown in the attached Appendix II, but some of the changes require some discussion.

### A. Section 74.15

This section of the rules will be amended to provide that the licenses of FM translator stations will expire in each state on the same dates as those of television translator stations in the same states. A list of license expiration dates is attached as Appendix III.

### B. Sections 1.533, 1.536, and 1.539

These sections of the rules are concerned with application forms. The existing forms now used by applicants for television translator stations will be modified to enable them to be used by applicants for FM translator stations. Section 1.533(a)(8), Sec. 1.536(a)(7), and Sec. 1.539(d)(7) will be amended to include FM translators; Sec. 1.533(a)(9), Sec. 1.536(a)(8), and Sec. 1.539(d)(8) will be added to provide for application forms for FM broadcast booster stations.

#### C. Section 1.573(a)(1)

This section of the rules defines a major change in FM broadcast stations. It will be amended to add the following immediately preceding the proviso:

"in the case of FM translator stations authorized under Part 74 of this chapter, it is any change in frequency (output channel), primary station, or principal community or communities".

Any change other than the specified changes will be a minor change, including a change in input channel where no change in primary station is involved.

#### D. Section 74.1202(b)(3)

The proposed new rules concerning frequency assignment are to be designated as Sec. 74.1202. Subsection (b) of this rule is concerned with channels on which FM translators will be permitted to operate, as discussed in paragraph 2, *supra*. We will add a subsection (b)(3) to restrict the use of channels in Alaska and Hawaii for FM translator use as discussed in paragraph 2, *supra*. Channel assignment and use by FM translators and boosters will, of course, be subject to the outcome of the proceedings in Docket No. 14185, proposing a Table of Assignments for noncommercial educational FM broadcast stations, and will also be subject to the outcome of negotiations being conducted with the governments of Mexico and Canada concerning FM broadcast stations in close proximity to the borders of these nations.

#### E. Section 1.580

Those subsections of Sec. 1.580 which are concerned with the requirement of publication of local public notice of the filing of an application for a new television broadcast translator station or for a major change in an existing television translator station will be amended to include FM translators and boosters. Subsections (c) and (d) contain publication and broadcast provisions relating to various types of applications and each contains an exception for television broadcast translator stations; subsection (g), which sets forth what is required to be contained in the local public notice, is presently applicable only to television translator stations. Finally, subsection (h) requires the filing of proof of publication in triplicate. Our experience with television translator stations has shown that only one copy is necessary and we will, therefore, take this opportunity to amend that subsection to require only one copy of proof of publication in connection with TV and FM translators and FM boosters.

#### F. Sections 1.526(a); 1.594(a), (b), and (f); 1.597(a)(1)

Because there is a separate section of the rules governing publication requirements for translators, these sections of the rules contain certain specific exceptions for television translator stations. Each will be amended to include exceptions for FM translators and boosters, except that Sec. 1.597(a)(1) will be amended to add boosters only.

#### G. Section 74.1283

In our Notice of Proposed Rule Making, we proposed to authorize FM translators and boosters with transmitter power output not to exceed one watt. For this reason, we did not believe that we should require that FM translators or boosters be identified. In view of the fact that our new rules will permit FM translators and boosters of up to 10 watts, we find it necessary to add a new section to the rules which will be concerned with station identification. We think that, to the extent possible, station identification rules for FM translators should conform closely to the recently revised rules for identification of TV translator stations (Report and Order in Docket No. 18568, [20 FCC 2d 858](#), [17 RR 2d 1699](#)). Accordingly, the new rules will provide that FM translator stations operating with transmitter power output of one watt will not be required to be identified, although we would urge that identification be accomplished on a voluntary basis

by the primary station. FM translators of more than one watt may make arrangements to be identified by the primary station. The licensee's responsibility will be to furnish and keep on file with the primary station current information regarding the translator's or booster's call letters, exact location, and the name, address, and telephone number of the person who may be contacted in an emergency to suspend operation of the station. While our experience with the newly revised television translator identification rules is negligible at this time, we believe that FM translator operators will find identification by primary station to be the simplest method of identification and the instances where self-identification will be necessary are expected to be rare. Where suitable arrangements cannot be made for identification by primary station or where, for any other reason, self-identification becomes necessary, the same alternative methods of identification will be available for FM translators as are now available for television translators, i.e., frequency shift keying (FSK) or amplitude modulation of the FM carrier. Separate identification of FM booster stations will not be required since they will be identified by the primary station when it broadcasts its own call letters.

#### 16. Call signs

Call signs will be assigned to FM translator stations in much the same manner as in the case of television translator stations. FM translator call signs will consist of a single letter designating its location with respect to the Mississippi River, followed by three digits indicating the output channel on which it operates, and this will be followed by two letters assigned in the order in which the station is authorized. For example, an FM translator located west of the Mississippi River will be designated with the letter "K" and one east of the Mississippi River will have the initial letter "W". K221AA would indicate an FM translator west of the Mississippi River operating on Channel 221, the first such station authorized. The next such station operating west of the Mississippi River on Channel 221 would have the call sign K221AB. There is no need to distinguish commercial from non-commercial educational since normally the channel numbers themselves will be sufficient distinction, there being only certain channels which will be used by noncommercial educational FM translators in most cases.

#### 17. FM booster stations

For ease of administration, we have integrated the rules relating to FM booster stations into the new subpart L with the FM translator rules. Except as specifically indicated in the rules, the same rules, procedures and policies will apply to FM boosters as to FM translators. For this reason, we here discuss only those aspects of FM boosters which differ from FM translators.

18. FM booster stations will be authorized only to the licensee or permittee of the FM radio broadcast station whose signals the booster station will rebroadcast. The booster station will operate on the same output frequency as the primary station and the identification requirements will be satisfied when the primary station broadcasts its own call letters; separate identification will not be necessary. Since FM boosters will be available only to the licensees of FM radio broadcast stations, the same restrictions with respect to location within the primary station's predicted one mv/m field strength contour will apply as applies with respect to licensee-owned FM translators, except that an FM booster station will be permitted to serve only an area within its primary station's predicted one mv/m field strength contour. <sup>3</sup> The license of an FM booster will expire on the same date as the license of its primary station.

19. An FM booster station will be permitted to rebroadcast only the signals of its primary station, received directly off the air; an FM booster station will not be permitted to rebroadcast the signals of an FM translator station or another FM booster station. Because the information required of an applicant for an FM booster station will be substantially less than that required of an applicant for an FM translator station, different application forms will be used in connection with FM boosters.

20. It must be recognized that, by the indiscriminate use of an FM broadcast booster, an FM station can actually degrade its own service. This occurs when signals from the primary station and the booster arrive at a receiver with relatively equal amplitudes, but different phases, because of unequal path lengths. Due consideration must be given to the engineering aspects of the booster installation to insure that degraded areas are kept to a minimum. This objective can be aided by the judicious choice of a transmitter location to take advantage of terrain shielding, and the selection of a suitable transmitting antenna with the proper directional qualities to provide radiation toward those areas where service is desired and away from areas where interference would occur.

## 21. Miscellaneous matters

Applications filed pursuant to subpart L of the rules will be subject to the provisions of Sec. 1.70 of the Commission's rules, relating to the location of transmitting apparatus on lands administered by the United States government. Application forms will be revised to provide a section for applicants to indicate compliance with the provisions of that rule.

22. Generally, we have adopted the rules as proposed in the Notice of Proposed Rule Making, with the additions and changes indicated in preceding paragraphs of this document. The proposed wording of many of the rules has, however, been altered to conform them, where applicable, to the existing rules for television broadcast translator stations. Such changes have been made, for example, in Sec. 74.1203 of the new rules, which is concerned with interference.

23. We find that it is in the public interest to amend Part 74 of the Commission's rules to add Subpart L authorizing FM broadcast translator stations and FM broadcast booster stations. Accordingly, it is ordered, that, pursuant to authority contained in Section 4(i) and Section 303(a) through (g) and (r) of the Communications Act of 1934, as amended, the rule amendments set out in Appendix II hereto, are adopted, effective November 6, 1970, and that this proceeding is terminated. [For amended and new rules, see PP51:526, 51:533, 51:536, 51:539, 51:573, 51:580, 51:594, 51:597, 54:15 and 54:1201-54:1284 in the RR Current Service Volumes.]

## APPENDIX I

## Parties Filing Comments In Response To Notice Of Proposed Rule Making

Bruce F. Elving (WAER-FM)

Palmer A. Greer

National TV Translator Association

Tri City Broadcasting Co. (WAGY-FM)

Paul A. Stewart (WRVB-FM)

Bionic Instruments, Inc.

Bob Jones University (WMUU-FM and WAVO-FM)

Ralph J. Bitzer

Broadcasting Co. of the Carolinas, Inc. (WESC-FM)

Laurens-Clinton Broadcasting Co., Inc. (WLBG-FM)

D. N. Latus & Co., Inc.

Central Missouri State College (KCMW-FM)

Pickens County Broadcasting Co. (WELP-FM)

KCMS-FM

Laramie Plains Antenna TV Association

Colorado Translator Association

Blue Ridge Broadcasting Corporation (WMIT-FM)

National Association of Educational Broadcasters

National Association of Broadcasters

National Association of FM Broadcasters

Pacific FM, Incorporated (KIOI-FM)

McLendon Pacific Corporation (KABL-FM)

Peninsula Broadcasting Corporation (KPGM-FM)

Bonneville International Corporation

Karlo Broadcasting, Ltd. (KMYR-FM)

Association of Maximum Service Telecasters, Inc.

### APPENDIX III

#### Translator Broadcast Station License Expiration Dates

Alabama 8-1-71  
Alaska 4-1-70  
Arizona 12-1-70  
Arkansas 8-1-71  
California 4-1-71  
Colorado 6-1-70  
Connecticut 6-1-71  
Delaware 6-1-71  
District of Columbia 6-1-71  
Florida 8-1-71  
Georgia 8-1-71  
Guam 4-1-70  
Hawaii 4-1-70  
Idaho 10-1-72  
Illinois 8-1-71  
Indiana 8-1-71  
Iowa 2-1-72  
Kansas 12-1-71  
Kentucky 8-1-71  
Louisiana 8-1-71  
Maine 6-1-71  
Maryland 6-1-71  
Massachusetts 6-1-71  
Michigan 8-1-71  
Minnesota 4-1-72  
Mississippi 8-1-71  
Missouri 8-1-71  
Montana 8-1-72  
Nebraska 12-1-71  
Nevada 2-1-71  
New Hampshire 6-1-71  
New Jersey 6-1-71  
New Mexico 8-1-70  
New York 6-1-71  
North Carolina 8-1-71  
North Dakota 4-1-72  
Ohio 6-1-71



Oklahoma 10-1-71  
Oregon 2-1-70  
Pennsylvania 6-1-71  
Puerto Rico 8-1-71  
Rhode Island 6-1-71  
South Carolina 8-1-71  
South Dakota 2-1-72  
Tennessee 8-1-71  
Texas 10-1-71  
Utah 10-1-70  
Vermont 6-1-71  
Virginia 8-1-71  
Virgin Islands 8-1-71  
Washington 12-1-72  
West Virginia 6-1-71  
Wisconsin 8-1-71  
Wyoming 6-1-72

### End Notes

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<sup>1</sup>. In the case of an FM broadcast station authorized with facilities in excess of those specified by Sec. 73.211 of this chapter, an FM booster station will only be authorized within the 1 mv/m contour as predicted on the basis of the maximum powers and heights set forth in that section for the applicable class of FM station concerned.

<sup>2</sup>. The address of the Engineer in Charge of each radio district may be found in Sec. 0.121 of the Commission's rules.

<sup>3</sup>. See footnote 1, *supra*.

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