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TABLE E–12—MAXIMUM ERP (WATTS) FOR BASE TRANSMITTERS

Distance to protected TV station in kilometers (miles)	Antenna height above average terrain in meters (feet)								
	30 (100)	46 (150)	61 (200)	76 (250)	91 (300)	107 (350)	122 (400)	137 (450)	152 (500)
108 (67)	1000	1000	1000	1000	1000	1000	1000	1000	1000
106 (66)	1000	1000	1000	1000	1000	1000	1000	1000	750
105 (65)	1000	1000	1000	1000	1000	1000	825	650	600
103 (64)	1000	1000	1000	1000	1000	775	625	500	400
101 (63)	1000	1000	1000	1000	440	400	350	320	300
100 (62)	1000	1000	1000	525	375	250	200	150	125
98 (61)	1000	700	450	250	200	125	100	75	50
97 (60)	1000	425	225	125	100	75	50	.....	.....

See §22.659(c)(2). This table applies to base transmitters in the New York-Northeastern New Jersey urban areas. This table is for antenna heights of 152 meters (500 feet) or less above average terrain. For antenna heights between those in the table, use the next higher antenna height. For distances between those in the table, use the next lower distance.

[59 FR 59507, Nov. 17, 1994, as amended at 63 FR 68947, Dec. 14, 1998]

Subpart F—Rural Radiotelephone Service

§22.701 Scope.

The rules in this subpart govern the licensing and operation of stations and systems in the Rural Radiotelephone Service. The licensing and operation of these stations and systems is also subject to rules elsewhere in this part that apply generally to the Public Mobile Services. In case of conflict, however, the rules in this subpart govern.

§22.702 Eligibility.

Existing and proposed communications common carriers are eligible to hold authorizations to operate conventional central office, interoffice and rural stations in the Rural Radiotelephone Service. Subscribers are also eligible to hold authorizations to operate rural subscriber stations in the Rural Radiotelephone Service.

[69 FR 75170, Dec. 15, 2004]

§22.703 Separate rural subscriber station authorization not required.

A separate authorization is not required for rural subscriber stations for which the effective radiated power does not exceed 60 Watts and for which FAA notification of construction or alteration of the antenna structure is not required (see criteria in §17.7 of this chapter). Authority to operate such rural subscriber stations is conferred by the authorization of the central office or base station from which they receive service.

§22.705 Rural radiotelephone system configuration.

Stations in the Rural Radiotelephone Service are authorized to communicate as follows:

(a) Rural subscriber stations are authorized to communicate with and through the central office station(s) with which they are associated. However, where the establishment of a central office station in this service is not feasible, rural subscriber stations may be authorized to communicate with and through a base station in the Paging and Radiotelephone Service.

(b) Central office stations may communicate only with rural subscriber stations.

(c) Interoffice stations may communicate only with other interoffice stations.

§22.709 Rural radiotelephone service application requirements.

In addition to information required by Subparts B and D of this part, FCC Form 601 applications for authorization to operate a station in the Rural Radiotelephone Service must contain the applicable supplementary information described in this section.

(a) *Interoffice stations.* Applications for authority to operate a new interoffice station or to add transmitters or points of communications to an existing interoffice station must contain an exhibit demonstrating that the requested facilities would be used only

for interconnecting central office stations and explaining why the use of alternative existing radio or wire facilities is not feasible.

(b) *Technical information required.* For each transmitter in the Rural Radiotelephone Service, the following information is required by FCC Form 601:

(1) Location description: city; county; state; geographic coordinates correct to ±1 second, the datum used (NAD83), site elevation above mean sea level, proximity to adjacent market boundaries and international borders;

(2) Antenna height to tip above ground level, the height of the center of radiation of the antenna above the average terrain, the height of the antenna center of radiation above the average elevation of the terrain along each of the 8 cardinal radials, antenna gain in the maximum lobe, the beamwidth of the maximum lobe of the antenna, a polar plot of the horizontal gain pattern of the antenna, the electric field polarization of the wave emitted by the antenna when installed as proposed;

(3) The center frequency of each channel requested, the maximum effective radiated power, the effective radiated power in each of the cardinal radial directions, any non-standard emission types to be used, including bandwidth and modulation type, the transmitter classification (e.g. central office), and the locations and call signs, if any, of any fixed points of communication.

(c) *No landline facilities.* Each application for a central office station must contain an exhibit showing that it is impracticable to provide the required communication service by means of landline facilities.

(d) *Interference exhibit.* Applications for central office, interoffice and relay stations must include an exhibit identifying co-channel facilities and demonstrating, in accordance with § 22.715 that the proposed station, if authorized, would not cause interference to the service of those co-channel facilities. This exhibit must:

(1) For UHF channels, identify each protected transmitter located within 108 kilometers (67 miles) of the proposed transmitter in directions in which the distance to the interfering contour is 76.4 kilometers (47.5 miles) or less, and within 178 kilometers (111 miles) of the proposed transmitter in directions in which the distance to the interfering contour exceeds 76.4 kilometers (47.5 miles); and identify each protected Basic Exchange Telephone Radio System central office transmitter in the rural Radiotelephone Service within 231 kilometers (144 miles).

(2) For VHF channels, identify each protected transmitter located within 135 kilometers (84 miles) of the proposed transmitter in directions in which the distance to the interfering contour is 93.3 kilometers (58 miles) or less, and within 178 kilometers (111 miles) of the proposed transmitter in directions in which the distance to the interfering contour exceeds 93.3 kilometers (58 miles).

(3) For each protected transmitter identified, show the results of distance calculations indicating that there would be no overlap of service and interfering contours, or alternatively, indicate that the licensee of or applicant for the protected transmitter and/or the applicant, as required, have agreed in writing to accept any interference resulting from operation of the proposed transmitter.

(e) *Blocking probability.* Applications for authority to operate basic exchange telephone radio systems (BETRS) that request more than two channel pairs must include an exhibit containing calculations showing that the number of channels requested is the minimum necessary to achieve the required grade of service (in terms of blocking probability), and that there will be adequate spectrum available in the area to meet realistic estimates of current and future demand for paging, two-way mobile and rural radiotelephone services (see § 22.719(c)). Applications for authority to operate new conventional rural radiotelephone systems that request more than two channel pairs must include a statement explaining why BETRS technology is not being proposed.

(f) *Antenna Information.* Upon request by an applicant, licensee, or the Commission, a part 22 applicant or licensee of whom the request is made shall furnish the antenna type, model, and the

name of the antenna manufacturer to the requesting party within ten (10) days of receiving written notification.

[59 FR 59507, Nov. 17, 1994, as amended at 59 FR 59954, Nov. 21, 1994; 63 FR 68948, Dec. 14, 1998; 64 FR 53240, Oct. 1, 1999]

§ 22.711 Provision of information to applicants.

Licensees in the Rural Radio Service must, upon request by a *bona-fide* prospective applicant, provide to such applicant the information required by § 22.709 regarding the portion of the licensee's operations that potentially could affect, or be affected by, the prospective applicant's proposed station, if such information is not already on file with the FCC. This information must be provided to the *bona-fide* prospective applicant no later than 30 days after receipt of the information request.

[59 FR 59954, Nov. 21, 1994]

§ 22.713 Construction period for rural radiotelephone stations.

The construction period for stations in the Rural Radiotelephone Service is 12 months.

§ 22.715 Technical channel assignment criteria for rural radiotelephone stations.

Channels are assigned in the Rural Radiotelephone Service using the procedures in § 22.567.

§ 22.717 Procedure for mutually exclusive applications in the Rural Radiotelephone Service.

Mutually exclusive applications in the Rural Radiotelephone Service, including those that are mutually exclusive with applications in the Paging and Radiotelephone Service, are processed in accordance with § 22.131 and with this section.

(a) Applications in the Rural Radiotelephone Service may be mutually exclusive with applications in the Paging and Radiotelephone Service if they seek authorization to operate facilities on the same channel in the same area, or the technical proposals are otherwise in conflict. See § 22.567.

(b) A modification application in either service filed on the earliest filing date may cause all later-filed mutually exclusive applications of any type in either service to be ''cut off'' (excluded from a same-day filing group) and dismissed, pursuant to § 22.131(c)(3)(ii) and § 22.131(c)(4).

[59 FR 59956, Nov. 21, 1994, as amended at 62 FR 11636, Mar. 12, 1997]

§ 22.719 Additional channel policy for rural radiotelephone stations.

The rules in this section govern the processing of applications for central office stations that request a rural radiotelephone channel pair when the applicant has applied for or been granted an authorization for other rural radiotelephone channel pairs in the same area. The general policy of the FCC is to promote effective use of the spectrum by encouraging the use of spectrum-efficient technologies (i.e. BETRS) and by assigning the minimum number of channels necessary to provide service.

(a) *Transmitters in same area.* Any central office station transmitter on any channel pair listed in § 22.725 is considered to be in the same area as another central office station transmitter on any other channel pair listed in § 22.725 if the transmitting antennas are located within 10 kilometers (6.2 miles) of each other.

(b) *Initial channel pairs.* The FCC does not assign more than two channel pairs for new central office stations, unless there are more than eight rural subscriber stations to be served. Stations are considered to be new if there are no authorized transmitters on any channel listed in § 22.725 controlled by the applicant in the same geographic area.

(c) *Additional channel pairs.* Applications for central office station transmitters to be located in the same area as an authorized central office station controlled by the applicant, but to operate on a different channel pair(s) are considered as requests for additional channel pair(s) for the authorized central office station. The FCC may grant applications for additional channel pairs provided that the need for each additional channel pair (after the first two) is established and fully justified in terms of achieving the required grade of service (blocking probability), and the applicant demonstrates that there will still be adequate spectrum

available in the area to meet realistic estimates of current and future demand for paging, two-way mobile and rural radiotelephone services. In the case of conventional rural radiotelephone central office stations, an explanation must be provided as to why BETRS technology is not being used instead of additional channel pairs.

CONVENTIONAL RURAL RADIOTELEPHONE STATIONS

§ 22.721 Geographic area authorizations.

Eligible persons may apply for a paging geographic area authorization in the Rural Radiotelephone Service, on the channel pairs listed in § 22.725, by following the procedures and requirements set forth in § 22.503 for paging geographic area authorizations.

[62 FR 11636, Mar. 12, 1997]

§ 22.723 Secondary site-by-site authorizations.

Authorizations for new facilities (including new sites and additional channel pairs for existing sites) in the Rural Radiotelephone Service (including BETRS facilities) may be granted after May 12, 1997 only on the condition that such authorizations shall be secondary to any existing or future co-channel paging geographic area authorization in the Paging and Radiotelephone Service or the Rural Radiotelephone Service. If the paging geographic area licensee notifies the Rural Radiotelephone Service licensee that operation of a co-channel secondary facility must be discontinued because it may cause interference to existing or planned facilities, the Rural Radiotelephone Service licensee must discontinue operation of that facility on the particular channel pair involved no later than six months after such notice.

[62 FR 11636, Mar. 12, 1997]

§ 22.725 Channels for conventional rural radiotelephone stations and basic exchange telephone radio systems.

The following channels are allocated for paired assignment to transmitters that provide conventional rural radiotelephone service and to transmitters in basic exchange telephone radio systems. These channels may be assigned for use by central office or rural subscriber stations as indicated, and interoffice stations. These channels may be assigned also for use by relay stations in systems where it would be impractical to provide rural radiotelephone service without the use of relay stations. All channels have a bandwidth of 20 kHz and are designated by their center frequencies in MegaHertz.

Central office	Rural subscriber	Central office	Rural subscriber
VHF Channels			
152.03	158.49	152.57	157.83
152.06	158.52	152.60	157.86
152.09	158.55	152.63	157.89
152.12	158.58	152.66	157.92
152.15	158.61	152.69	157.95
152.18	158.64	152.72	157.98
152.21	158.67	152.75	158.01
152.51	157.77	152.78	158.04
152.54	157.80	152.81	158.07
UHF Channels			
454.025	459.025	454.350	459.350
454.050	459.050	454.375	459.375
454.075	459.075	454.400	459.400
454.100	459.100	454.425	459.425
454.125	459.125	454.450	459.450
454.150	459.150	454.475	459.475
454.175	459.175	454.500	459.500
454.200	459.200	454.525	459.525
454.225	459.225	454.550	459.550
454.250	459.250	454.575	459.575
454.275	459.275	454.600	459.600
454.300	459.300	454.625	459.625
454.325	459.325	454.650	459.650

(a) The channels listed in this section are also allocated for assignment in the Paging and Radiotelephone Service.

(b) In Puerto Rico and the Virgin Islands, channels in the 154.04–154.46 MHz and 161.40–161.85 MHz frequency ranges may be assigned to transmitters providing rural radiotelephone service; channels in these ranges are also allocated for assignment in the International Fixed Public and Aeronautical Fixed radio services.

[59 FR 59507, Nov. 17, 1994; 60 FR 9891, Feb. 22, 1995, as amended at 70 FR 19309, Apr. 13, 2005]

§ 22.727 Power limits for conventional rural radiotelephone transmitters.

The transmitting power of transmitters operating on the channels listed in § 22.725 must not exceed the limits in this section.

(a) *Maximum ERP.* The effective radiated power (ERP) of central office and rural subscriber station transmitters must not exceed the applicable limits in this paragraph under any circumstances.

Frequency range (MHz)	Maximum ERP (watts)
152–153	1400
157–159	150
454–455	3500
459–460	150

(b) *Basic power limit.* Except as provided in paragraph (d) of this section, the ERP of central office station transmitters must not exceed 500 Watts.

(c) *Height-power limits.* Except as provided in paragraph (d) of this section, the ERP of central office station transmitters must not exceed the amount that would result in an average distance to the ''service contour'' of 41.6 kilometers (26 miles) for VHF channels or 30.7 kilometers (19 miles) for UHF channels. The average distance to the ''service contour'' is calculated by taking the arithmetic mean of the distances determined using the procedures specified in § 22.567 for the eight cardinal radial directions, excluding cardinal radial directions for which 90% or more of the distance so calculated is over water.

(d) *Encompassed interfering contour areas.* Central office station transmitters are exempt from the basic power and height-power limits of this section if the area within their interfering contours is totally encompassed by the interfering contours of operating co-channel central office station transmitters controlled by the same licensee. For the purpose of this paragraph, operating transmitters are authorized transmitters that are providing service to subscribers.

(e) *Adjacent channel protection.* The ERP of central office station transmitters must not exceed 500 Watts if they transmit on channel 454.025 MHz and are located less than 7 kilometers (4.3 miles) from any Private Radio Services station receiving on adjacent channel 454.000 MHz.

[59 FR 59507, Nov. 17, 1994, as amended at 70 FR 19309, Apr. 13, 2005]

§ 22.731 Emission limitations.

Upon application for multichannel operation, the FCC may authorize emission bandwidths wider than those specified in § 22.357, provided that spectrum utilization is equal to or better than that achieved by single channel operation.

§ 22.733 Priority of service.

Within the Rural Radiotelephone Service, the channels listed in § 22.725 are intended primarily for use in rendition of public message service between rural subscriber and central office stations and to provide radio trunking facilities between central offices. The channels may also be used, however, for the rendition of private leased-line communication service provided that such usage would not reduce or impair the extent or quality of communication service that would be available, in the absence of private leased-line service, to the general public receiving or subsequently requesting public message service from a central office.

§ 22.737 Temporary fixed stations.

The FCC may, upon proper application therefor, authorize the construction and operation of temporary fixed stations. Temporary fixed stations are to be used as rural subscriber, interoffice, or central office stations when those stations are unavailable or when service from those stations is disrupted by storms or emergencies.

(a) *Six month limitation.* If it is necessary for a temporary fixed station to remain at the same location for more than six months, the licensee of that station must apply for authorization to operate the station at the specific location at least 30 days before the end of the six month period.

(b) *International communications.* Communications between the United States and Canada or Mexico must not be carried using a temporary fixed station without prior authorization from the FCC. Licensees desiring to carry

such communications should apply sufficiently in advance to allow for the time necessary to coordinate with Canada or Mexico.

BASIC EXCHANGE TELEPHONE RADIO SYSTEMS

§ 22.757 Channels for basic exchange telephone radio systems.

The channels listed in § 22.725 are also allocated for paired assignment to transmitters in basic exchange telephone radio systems.

[70 FR 19309, Apr. 13, 2005]

§ 22.759 Power limit for BETRS.

The effective radiated power of central office and rural subscriber station transmitters used in basic exchange telephone radio systems must not exceed the limits in this section.

(a) *Maximum ERP.* The effective radiated power (ERP) of central office and rural subscriber station transmitters in BETRS must not exceed the applicable limits in this paragraph under any circumstances.

Frequency range (MHz)	Maximum ERP (watts)
152–153	1400
157–159	150
454–455	3500
459–460	150

(b) *Height-power limit.* The ERP of central office stations in BETRS must not exceed the amount calculated as follows:

$ERP_w = 557{,}418 \div h_m 2$

where ERP_w is the effective radiated power in Watts

h_m is the average (eight cardinal radial) antenna height above average terrain in meters

Subpart G—Air-Ground Radiotelephone Service

§ 22.801 Scope.

The rules in this subpart govern the licensing and operation of air-ground stations and systems. The licensing and operation of these stations and systems is also subject to rules elsewhere in this part and in part 1 of this chapter that generally apply to the Public Mobile Services. In case of conflict, however, the rules in this subpart govern.

[70 FR 19309, Apr. 13, 2005]

GENERAL AVIATION AIR-GROUND STATIONS

§ 22.805 Channels for general aviation air-ground service.

The following channels are allocated for the provision of radiotelephone service to airborne mobile subscribers in general aviation aircraft. These channels have a bandwidth of 20 kHz and are designated by their center frequencies in MegaHertz.

SIGNALLING CHANNEL PAIR

Ground	Airborne mobile
454.675	459.675

COMMUNICATION CHANNEL PAIRS

Ground	Airborne mobile
454.700	459.700
454.725	459.725
454.750	459.750
454.775	459.775
454.800	459.800
454.825	459.825
454.850	459.850
454.875	459.875
454.900	459.900
454.925	459.925
454.950	459.950
454.975	459.975

(a) Channel 454.675 MHz is assigned to each and every ground station, to be used only for automatically alerting airborne mobile stations of incoming calls.

(b) All airborne mobile channels are assigned for use by each and every airborne mobile station.

§ 22.807 General aviation air-ground application requirements.

In addition to the information required by subparts B and D of this part, FCC Form 601 applications for authorization to operate a general aviation air-ground station must contain the applicable supplementary information described in this section.

(a) *Administrative information.* The following information is required by FCC Form 601.

(1) The number of transmitter sites for which authorization is requested.