

filed for issuance of a permanent authorization.

[48 FR 34043, July 27, 1983, as amended at 49 FR 48712, Dec. 14, 1984; 58 FR 44957, Aug. 25, 1993]

Subpart K—Standards for Special Frequencies or Frequency Bands

§ 90.251 Scope.

This subpart sets forth special requirements applicable to the use of certain frequencies or frequency bands.

[54 FR 39740, Sept. 28, 1989]

§ 90.253 Use of frequency 5167.5 kHz.

The frequency 5167.5 kHz may be used by any station authorized under this part to communicate with any other station in the State of Alaska for emergency communications. The maximum power permitted is 150 watts peak envelope power (PEP). All stations operating on this frequency must be located in or within 50 nautical miles (92.6 km) of the State of Alaska. This frequency may also be used by stations authorized in the Alaska-private fixed service for calling and listening, but only for establishing communication before switching to another frequency.

[49 FR 32201, Aug. 13, 1984]

§ 90.255 [Reserved]

§ 90.257 Assignment and use of frequencies in the band 72–76 MHz.

(a) The following criteria shall govern the authorization and use of frequencies within the band 72–76 MHz by fixed stations. (For call box operations see § 90.241).

(1) The following frequencies in the band 72–76 MHz may be used for fixed operations:

MHz:

72.02	72.22
72.04	72.24
72.06	72.26
72.08	72.28
72.10	72.30
72.12	72.32
72.14	72.34
72.16	72.36
72.18	72.38
72.20	72.40

72.42	75.42
72.46	75.46
72.50	75.50
72.54	75.54
72.58	75.58
72.62	75.62
72.64	75.64
72.66	75.66
72.68	75.68
72.70	75.70
72.72	75.72
72.74	75.74
72.76	75.76
72.78	75.78
72.80	75.80
72.82	75.82
72.84	75.84
72.86	75.86
72.88	75.88
72.90	75.90
72.92	75.92
72.94	75.94
72.96	75.96
72.98	75.98.

(2) All authorizations are subject to the condition that no harmful interference will be caused to television reception on Channels 4 and 5.

(3) The applicant must agree to eliminate any harmful interference caused by his operation to TV reception on either Channel 4 or 5 that might develop by whatever means are necessary. Such action must be taken within 90 days of notification by the Commission. If such interference is not eliminated within the 90-day period, operation of the fixed station will be discontinued.

(4) Vertical polarization must be used.

(5) Whenever it is proposed to locate a 72–76 MHz fixed station less than 128 km (80 mi.) but more than 16 km (10 mi.) from the site of a TV transmitter operating on either channel 4 or 5, or from the post office of a community in which such channels are assigned but not in operation, the fixed station shall be authorized only if there are fewer than 100 family dwelling units (as defined by the U.S. Bureau of the Census), excluding units 112 or more km (70 mi.) distant from the TV antenna site, located within a circle centered at the location of the proposed fixed station. The radius shall be determined by use of the following chart entitled, “Chart for Determining Radius From Fixed

Station in 72-76 MHz Band to Interference Contour Along Which 10 Percent of Service From Adjacent Channel Television Station Would Be Destroyed." Two charts are available, one for Channel 4, and one for Channel 5. The Commission may, however, in a particular case, authorize the location of a fixed station within a circle containing 100 or more family dwelling units upon a showing that:

(i) The proposed site is the only suitable location.

(ii) It is not feasible, technically or otherwise, to use other available frequencies.

(iii) The applicant has a plan to control any interference that might develop to TV reception from his operations.

(iv) The applicant is financially able and agrees to make such adjustments in the TV receivers affected as may be necessary to eliminate any interference caused by his operations.

(v) All applications seeking authority to operate with a separation of less than 16 km (10 mi.) will be returned without action.

(b) The following criteria governs the authorization and use of frequencies in the 72-76 MHz band by mobile stations in the Industrial/Business Pool.

(1) Mobile operation on frequencies in the 72-76 MHz band is subject to the condition that no interference is caused to the reception of television stations operating on Channel 4 or 5. Interference will be considered to occur whenever reception of a regularly used television signal is impaired by signals radiated by stations operating under these rules in the 72 to 76 MHz band regardless of the quality of such reception or the strength of the signal used. In order to minimize the hazard of such interference, it shall be the duty of the licensee to determine whether interference is being caused to television re-

ception, wherever television receivers other than those under the control of the licensee, are located within 31 m. (100 ft.) of any point where the stations licensed under these rules may be operated. In any case, it shall be the responsibility of the licensee to correct, at its own expense, any such interference and if the interference cannot be eliminated by the application of suitable techniques, the operation of the offending transmitter shall be suspended. If the complainant refuses to permit the licensee to apply remedial techniques which demonstrably will eliminate the interference without impairment of the original reception, the licensee is absolved of further responsibility.

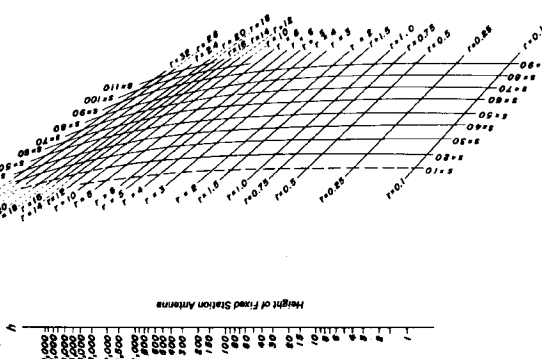
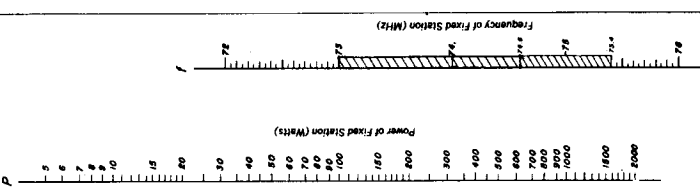
(2) The maximum transmitter output power that will be authorized is 1 watt; and each station authorized will be classified and licensed as a mobile station. Any units of such a station, however, may be used to provide the operational functions of a base or fixed station. The antennas of transmitters operating on these frequencies must be directly mounted or installed upon the transmitting unit: Except that when permanently installed aboard a vehicle, antenna and transmitter may be separated as required for convenience in mounting. Horizontal polarization will not be allowed; and the gain of antennas employed shall not exceed that of a halfwave dipole. The maximum bandwidth that will be authorized is 20 kHz. Tone control transmissions are permitted.

(c) Radio remote control of models is permitted on frequencies 10 kHz removed from these frequencies authorized for fixed and mobile operations in the 72-76 MHz band. Remote control operations are secondary to operation of fixed and mobile stations as provided for in this section.

FOR CHANNEL 4

CHART FOR DETERMINING RADIUS FROM FIXED STATION IN 72-76 MHz BAND TO INTERFERENCE CONTOUR ALONG WHICH 10% OF SERVICE FROM ADJACENT TELEVISION STATION WOULD BE DESTROYED

Effective Radiated Power of TV Station 100 W
 Television Transmitting Antenna Height 500 ft.



EXPLANATION OF SCALE HEADINGS:

P—effective radiated power of fixed 72-76 MHz station in watts
h—height in feet of the transmitting antenna above the transmission line loss and antenna gain. Its symbol is P_{eff} where P_{eff} is the effective radiated power in watts
G—transmission line efficiency, %
h—height in feet of the antenna with respect to a half wave dipole antenna
 For a directional antenna use the power in the main lobe.
h—height in feet of the center of the transmitting antenna array of the fixed 72-76 MHz station with respect to the average level of the terrain between *r* and 10 miles from such antenna in the direction of the TV station. This height is the same as the height in explained in detail in the TV Roadcast Rules.
S—separation in miles between the television station antenna and the 72-76 MHz fixed station antenna.
r—distance in miles from the 72-76 MHz fixed station antenna to the contour at which the TV service area is reduced by 10%. This distance is measured from the 72-76 MHz antenna in the direction of the TV antenna.
f—frequency in MHz of 72-76 MHz fixed station.
 NOTE: Frequencies included in cross hatched area are not suitable for assignment.

DIRECTIONS FOR USING THIS CHART:

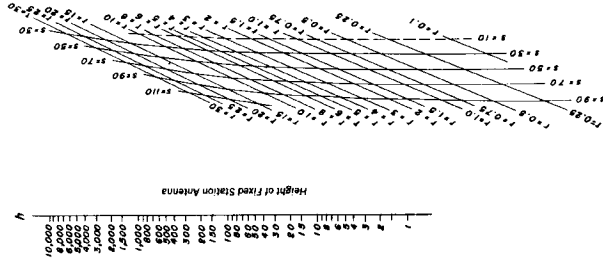
1. Draw a straight line connecting *P* and *h* for the 72-76 MHz fixed station and continue to the *Q* axis.
2. From the intersection of the *P-h* line and the *Q* axis, draw another straight line to *f*.
3. Where the second line intersects the *S-r* curves, read the value of *r* for the appropriate value of *S*.

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FOR CHANNEL 5

CHART FOR DETERMINING RADIUS FROM FIXED STATION IN 72-76 MHz BAND TO INTERFERENCE CONTOUR WHICH 10% OF SERVICE FROM ADJACENT TELEVISION STATION WOULD BE DESTROYED

Effective Radiated Power of TV Station 100 kw.
 Television Transmitting Antenna Height 500 ft.



EXPLANATION OF SCALE HEADINGS:

P = effective radiated power of fixed 72-76 MHz station, in watts
 P_{adj} = adjusted power of fixed station, in watts
 G = gain of antenna with respect to a half wave dipole, in db
 L = transmission line efficiency, %
 where P_{adj} = output of transmitter in watts
 $P = P_{adj} \times G \times L$

For a directional antenna use the power in the main lobe.

h = height in feet of the center of the transmitting antenna array of the fixed 72-76 MHz station with respect to the average level of the ground surface between the fixed station and the TV station. This height is explained in detail in the TV Broadcast Rules.

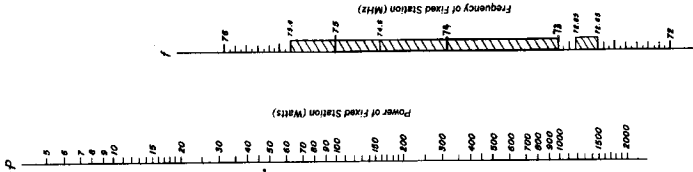
s = separation in miles between the television station antenna and the 72-76 MHz fixed station antenna.

r = distance in miles from the 72-76 MHz fixed station antenna to the contour at which the TV service area is reduced by 10%. This distance is measured from the 72-76 MHz antenna in the direction of the TV station.

f = frequency in MHz of 72-76 MHz fixed station.
 NOTED: The 10% service area not available for assignment.

DIRECTIONS FOR USING THIS CHART:

- Draw a straight line connecting P and h for the 72-76 MHz fixed station and continue to the Q axis.
- From the intersection of the P-h line and the Q axis, draw another straight line to f.
- Where the second line intersects the S-r curves, read the value of r for the appropriate value of S.



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[43 FR 54791, Nov. 22, 1978; 44 FR 32219, June 5, 1979, as amended at 47 FR 51879, Nov. 18, 1982; 49 FR 41249, Oct. 22, 1984; 54 FR 38681, Sept. 20, 1989; 58 FR 30129, May 26, 1993; 60 FR 37268, July 19, 1995; 62 FR 18928, Apr. 17, 1997]