

§ 78.18 Frequency assignments.

(a) The Cable Television Relay Service is assigned the band of frequencies from 12.70 to 13.20 GHz. This band is shared with the Fixed-Satellite Service (earth-to-space) from 12.70 to 12.75 GHz and Television Auxiliary Broadcast Stations from 12.70 to 13.20 GHz. The following channels may be assigned to CARS stations for the propagation of radio waves with the indicated polarization:

(1) For CARS stations using FM transmission:

GROUP A CHANNELS

Designation	Channel boundaries (GHz)
A01 ¹	12.700–12.725
A02 ¹	12.725–12.750
A03 ¹	12.750–12.775
A04 ¹	12.775–12.800
A05 ¹	12.800–12.825
A06 ¹	12.825–12.850
A07 ¹	12.850–12.875
A08 ¹	12.875–12.900
A09 ¹	12.900–12.925
A10 ¹	12.925–12.950
A11 ¹	12.950–12.975
A12 ¹	12.975–13.000
A13 ¹	13.000–13.025
A14 ¹	13.025–13.050
A15 ¹	13.050–13.075
A16 ¹	13.075–13.100
A17 ¹	13.100–13.125
A18 ¹	13.125–13.150
A19 ¹	² 13.150–13.175
A20 ¹	² 13.170–13.200

¹ Appropriate polarization designation:
 H = Horizontally polarized propagated radio wave.
 V = Vertically polarized propagated radio wave.
 R = Right-handed (clockwise) elliptically polarized propagated radio wave.
 L = Left-handed (counter-clockwise) elliptically polarized propagated radio wave.

² See paragraph (l) of this section.
 NOTE: Polarization designations shall be in accordance with IEEE standard 100–1972 as amended.

GROUP B CHANNELS

Designation	Channel boundaries (GHz)
B01 ¹	12.7125–12.7375
B02 ¹	12.7375–12.7625
B03 ¹	12.7625–12.7875
B04 ¹	12.7875–12.8125
B05 ¹	12.8125–12.8375
B06 ¹	12.8375–12.8625
B07 ¹	12.8625–12.8875
B08 ¹	12.8875–12.9125
B09 ¹	12.9125–12.9375
B10 ¹	12.9375–12.9625
B11 ¹	12.9625–12.9875
B12 ¹	12.9875–13.0125
B13 ¹	13.0125–13.0375
B14 ¹	13.0375–13.0625

GROUP B CHANNELS—Continued

Designation	Channel boundaries (GHz)
B15 ¹	13.0625–13.0875
B16 ¹	13.0875–13.1125
B17 ¹	13.1125–13.1375
B18 ¹	² 13.1375–13.1625
B19 ¹	² 13.1625–13.1875

¹ See footnote 1 following GROUP A CHANNELS.
² See paragraph (l) of this section.
 NOTE: Polarization designations shall be in accordance with IEEE standard 100–1972 as amended.

(2) CARS stations using vestigial sideband AM transmission and FM transmission requiring a necessary bandwidth of no more than 6 MHz.

GROUP C CHANNELS

Designation	Channel boundaries (GHz) [C channels]	Alternate change boundaries (GHz) [Ca channels]
C01 ¹	12.7005–12.7065	12.7005–12.7065
C02 ¹	12.7065–12.7125	12.7065–12.7125
C03 ¹	12.7125–12.7185	12.7125–12.7185
C04 ¹	12.7185–12.7225 ²	12.7185–12.7245
C05 ¹	12.7225–12.7285	12.7245–12.7305
C06 ¹	12.7285–12.7345	12.7305–12.7365
C07 ¹	12.7345–12.7405	12.7365–12.7425
C08 ¹	12.7405–12.7465	12.7425–12.7485
C09 ¹	12.7465–12.7525	12.7485–12.7545
C10 ¹	12.7525–12.7545 ²	
C11 ¹	12.7545–12.7605	12.7545–12.7605
C12 ¹	12.7605–12.7665	12.7605–12.7665
C13 ¹	12.7665–12.7725	12.7665–12.7725
C14 ¹	12.7725–12.7785	12.7725–12.7785
C15 ¹	12.7785–12.7845	12.7785–12.7845
C16 ¹	12.7845–12.7905	12.7845–12.7905
C17 ¹	12.7905–12.7965	12.7905–12.7965
C18 ¹	12.7965–12.8025	12.7965–12.8025
C19 ¹	12.8025–12.8085	12.8025–12.8085
C20 ¹	12.8085–12.8145	12.8085–12.8145
C21 ¹	12.8145–12.8205	12.8145–12.8205
C22 ¹	12.8205–12.8265	12.8205–12.8265
C23 ¹	12.8265–12.8325	12.8265–12.8325
C24 ¹	12.8325–12.8385	12.8325–12.8385
C25 ¹	12.8385–12.8445	12.8385–12.8445
C26 ¹	12.8445–12.8505	12.8445–12.8505
C27 ¹	12.8505–12.8565	12.8505–12.8565
C28 ¹	12.8565–12.8625	12.8565–12.8625
C29 ¹	12.8625–12.8685	12.8625–12.8685
C30 ¹	12.8685–12.8745	12.8685–12.8745
C31 ¹	12.8745–12.8805	12.8745–12.8805
C32 ¹	12.8805–12.8865	12.8805–12.8865
C33 ¹	12.8865–12.8925	12.8865–12.8925
C34 ¹	12.8925–12.8985	12.8925–12.8985
C35 ¹	12.8985–12.9045	12.8985–12.9045
C36 ¹	12.9045–12.9105	12.9045–12.9105
C37 ¹	12.9105–12.9165	12.9105–12.9165
C38 ¹	12.9165–12.9225	12.9165–12.9225
C39 ¹	12.9225–12.9285	12.9225–12.9285
C40 ¹	12.9285–12.9345	12.9285–12.9345
C41 ¹	12.9345–12.9405	12.9345–12.9405
C42 ¹	12.9405–12.9465	12.9405–12.9465
C43 ¹	12.9465–12.9525	12.9465–12.9525

¹ See footnote 1 following GROUP A CHANNELS.
² For transmission of pilot subcarriers or other authorized narrow band signals.

GROUP D CHANNELS

Designation	Channel boundaries (GHz) [D channels]	Alternate channel boundaries (GHz) [Da channels]
D01 ¹	12.7597–12.7657	12.7597–12.7657
D02 ¹	12.7657–12.7717	12.7657–12.7717
D03 ¹	12.7717–12.7777	12.7717–12.7777
D04 ¹	12.7777–12.7817 ²	12.7777–12.7837
D05 ¹	12.7817–12.7877	12.7837–12.7897
D06 ¹	12.7877–12.7937	12.7897–12.7957
D07 ¹	12.7937–12.7997	12.7957–12.8017
D08 ¹	12.7997–12.8057	12.8017–12.8077
D09 ¹	12.8057–12.8117	12.8077–12.8137
D10 ¹	12.8117–12.8137 ²	N/A
D11 ¹	12.8137–12.8197	12.8137–12.8197
D12 ¹	12.8197–12.8257	12.8197–12.8257
D13 ¹	12.8257–12.8317	12.8257–12.8317
D14 ¹	12.8317–12.8377	12.8317–12.8377
D15 ¹	12.8377–12.8437	12.8377–12.8437
D16 ¹	12.8437–12.8497	12.8437–12.8497
D17 ¹	12.8497–12.8557	12.8497–12.8557
D18 ¹	12.8557–12.8617	12.8557–12.8617
D19 ¹	12.8617–12.8677	12.8617–12.8677
D20 ¹	12.8677–12.8737	12.8677–12.8737
D21 ¹	12.8737–12.8797	12.8737–12.8797
D22 ¹	12.8797–12.8857	12.8797–12.8857
D23 ¹	12.8857–12.8917	12.8857–12.8917
D24 ¹	12.8917–12.8977	12.8917–12.8977
D25 ¹	12.8977–12.9037	12.8977–12.9037
D26 ¹	12.9037–12.9097	12.9037–12.9097
D27 ¹	12.9097–12.9157	12.9097–12.9157
D28 ¹	12.9157–12.9217	12.9157–12.9217
D29 ¹	12.9217–12.9277	12.9217–12.9277
D30 ¹	12.9277–12.9337	12.9277–12.9337
D31 ¹	12.9337–12.9397	12.9337–12.9397
D32 ¹	12.9397–12.9457	12.9397–12.9457
D33 ¹	12.9457–12.9517	12.9457–12.9517
D34 ¹	12.9517–12.9577	12.9517–12.9577
D35 ¹	12.9577–12.9637	12.9577–12.9637
D36 ¹	12.9637–12.9697	12.9637–12.9697
D37 ¹	12.9697–12.9757	12.9697–12.9757
D38 ¹	12.9757–12.9817	12.9757–12.9817
D39 ¹	12.9817–12.9877	12.9817–12.9877
D40 ¹	12.9877–12.9937	12.9877–12.9937
D41 ¹	12.9937–12.9997	12.9937–12.9997
D42 ¹	12.9997–13.0057	12.9997–13.0057
D43 ¹	13.0057–13.0117	13.0057–13.0117

¹ See footnote 1 following GROUP A CHANNELS.

² For transmission of pilot subcarriers or other authorized narrow band signals.

GROUP E CHANNELS

Designation	Channel boundaries (GHz) [E channels]	Alternate channel boundaries (GHz) [Ea channels]
E01 ¹	12.9525–12.9585	12.9525–12.9585
E02 ¹	12.9585–12.9645	12.9585–12.9645
E03 ¹	12.9645–12.9705	12.9645–12.9705
E04 ¹	12.9705–12.9745 ²	12.9705–12.9765
E05 ¹	12.9745–12.9805	12.9765–12.9825
E06 ¹	12.9805–12.9865	12.9825–12.9885
E07 ¹	12.9865–12.9925	12.9885–12.9945
E08 ¹	12.9925–12.9985	12.9945–13.0005
E09 ¹	12.9985–13.0045	13.0005–13.0065
E10 ¹	13.0045–13.0065 ²	N/A
E11 ¹	13.0065–13.0125	13.0065–13.0125
E12 ¹	13.0125–13.0185	13.0125–13.0185
E13 ¹	13.0185–13.0245	13.0185–13.0245
E14 ¹	13.0245–13.0305	13.0245–13.0305
E15 ¹	13.0305–13.0365	13.0305–13.0365
E16 ¹	13.0365–13.0425	13.0365–13.0425
E17 ¹	13.0425–13.0485	13.0425–13.0485
E18 ¹	13.0485–13.0545	13.0485–13.0545
E19 ¹	13.0545–13.0605	13.0545–13.0605
E20 ¹	13.0605–13.0665	13.0605–13.0665

GROUP E CHANNELS—Continued

Designation	Channel boundaries (GHz) [E channels]	Alternate channel boundaries (GHz) [Ea channels]
E21 ¹	13.0665–13.0725	13.0665–13.0725
E22 ¹	13.0725–13.0785	13.0725–13.0785
E23 ¹	13.0785–13.0845	13.0785–13.0845
E24 ¹	13.0845–13.0905	13.0845–13.0905
E25 ¹	13.0905–13.0965	13.0905–13.0965
E26 ¹	13.0965–13.1025	13.0965–13.1025
E27 ¹	13.1025–13.1085	13.1025–13.1085
E28 ¹	13.1085–13.1145	13.1085–13.1145
E29 ¹	13.1145–13.1205	13.1145–13.1205
E30 ¹	13.1205–13.1265	13.1205–13.1265
E31 ¹	13.1265–13.1325	13.1265–13.1325
E32 ¹	13.1325–13.1385	13.1325–13.1385
E33 ¹	13.1385–13.1445	13.1385–13.1445
E34 ¹	13.1445–13.1505 ³	13.1445–13.1505 ³
E35 ¹	13.1505–13.1565 ³	13.1505–13.1565 ³
E36 ¹	13.1565–13.1625 ³	13.1565–13.1625 ³
E37 ¹	13.1625–13.1685 ³	13.1625–13.1685 ³
E38 ¹	13.1685–13.1745 ³	13.1685–13.1745 ³
E39 ¹	13.1745–13.1805 ³	13.1745–13.1805 ³
E40 ¹	13.1805–13.1865 ³	13.1805–13.1865 ³
E41 ¹	13.1865–13.1925 ³	13.1865–13.1925 ³
E42 ¹	13.1925–13.1985 ³	13.1925–13.1985 ³

¹ See footnote 1 following GROUP A CHANNELS.
² For transmission of pilot subcarriers or other authorized narrow band signals.
³ See paragraph (l) of this section.

GROUP F CHANNELS

Designation	Channel boundaries (GHz) [F channels]	Alternate channel boundaries (GHz) [Fa channels]
F01 ¹	13.0125–13.0185	13.0125–13.0185
F02 ¹	13.0185–13.0245	13.0185–13.0245
F03 ¹	13.0245–13.0305	13.0245–13.0305
F04 ¹	13.0305–13.0345 ²	13.0305–13.0365
F05 ¹	13.0345–13.0405	13.0365–13.0425
F06 ¹	13.0405–13.0465	13.0425–13.0485
F07 ¹	13.0465–13.0525	13.0485–13.0545
F08 ¹	13.0525–13.0585	13.0545–13.0605
F09 ¹	13.0585–13.0645	13.0605–13.0665
F10 ¹	13.0645–13.0665 ²	N/A
F11 ¹	13.0665–13.0725	13.0665–13.0725
F12 ¹	13.0725–13.0785	13.0725–13.0785
F13 ¹	13.0785–13.0845	13.0785–13.0845
F14 ¹	13.0845–13.0905	13.0845–13.0905
F15 ¹	13.0905–13.0965	13.0905–13.0965
F16 ¹	13.0965–13.1025	13.0965–13.1025
F17 ¹	13.1025–13.1085	13.1025–13.1085
F18 ¹	13.1085–13.1145	13.1085–13.1145
F19 ¹	13.1145–13.1205	13.1145–13.1205
F20 ¹	13.1205–13.1265	13.1205–13.1265
F21 ¹	13.1265–13.1325	13.1265–13.1325
F22 ¹	13.1325–13.1385	13.1325–13.1385
F23 ¹	13.1385–13.1445	13.1385–13.1445
F24 ¹	13.1445–13.1505 ³	13.1445–13.1505 ³
F25 ¹	13.1505–13.1565 ³	13.1505–13.1565 ³
F26 ¹	13.1565–13.1625 ³	13.1565–13.1625 ³
F27 ¹	13.1625–13.1685 ³	13.1625–13.1685 ³
F28 ¹	13.1685–13.1745 ³	13.1685–13.1745 ³
F29 ¹	13.1745–13.1805 ³	13.1745–13.1805 ³
F30 ¹	13.1805–13.1865 ³	13.1805–13.1865 ³
F31 ¹	13.1865–13.1925 ³	13.1865–13.1925 ³
F32 ¹	13.1925–13.1985 ³	13.1925–13.1985 ³

¹ See footnote 1 following GROUP A CHANNELS.
² For transmission of pilot subcarriers or other authorized narrow band signals.
³ See paragraph (l) of this section.

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(3) For CARS stations using AM and FM transmission requiring a necessary bandwidth of no more than 12.5 MHz.

GROUP K CHANNEL

Designation	Channel boundaries (GHz)
K01 ¹	12.7000–12.7125
K02 ¹	12.7125–12.7250
K03 ¹	12.7250–12.7375
K04 ¹	12.7375–12.7500
K05 ¹	12.7500–12.7625
K06 ¹	12.7625–12.7750
K07 ¹	12.7750–12.7875
K08 ¹	12.7875–12.8000
K09 ¹	12.8000–12.8125
K10 ¹	12.8125–12.8250
K11 ¹	12.8250–12.8375
K12 ¹	12.8375–12.8500
K13 ¹	12.8500–12.8625
K14 ¹	12.8625–12.8750
K15 ¹	12.8750–12.8875
K16 ¹	12.8875–12.9000
K17 ¹	12.9000–12.9125
K18 ¹	12.9125–12.9250
K19 ¹	12.9250–12.9375
K20 ¹	12.9375–12.9500
K21 ¹	12.9500–12.9625
K22 ¹	12.9625–12.9750
K23 ¹	12.9750–12.9875
K24 ¹	12.9875–13.0000
K25 ¹	13.0000–13.0125
K26 ¹	13.0125–13.0250
K27 ¹	13.0250–13.0375
K28 ¹	13.0375–13.0500
K29 ¹	13.0500–13.0625
K30 ¹	13.0625–13.0750
K31 ¹	13.0750–13.0875
K32 ¹	13.0875–13.1000
K33 ¹	13.1000–13.1125
K34 ¹	13.1125–13.1250
K35 ¹	13.1250–13.1375
K36 ¹	13.1375–13.1500
K37 ^{1,2}	13.1500–13.1625
K38 ^{1,2}	13.1625–13.1750
K39 ^{1,2}	13.1750–13.1875
K40 ^{1,2}	13.1875–13.2000

¹ See footnote 1 following GROUP A CHANNELS.
² See paragraph (l) of this section.

(4) The Cable Television Relay Service is also assigned the following frequencies in the 17,700–19,700 MHz band. These frequencies are co-equally shared with stations in other services under parts 25, 74, and 101 of this chapter. Cable Television Relay Service stations operating on frequencies in the sub-bands 18.3–18.58 GHz and 19.26–19.3 GHz that were licensed or had applications pending before the Commission as of September 18, 1998 may continue those operations on a shared co-primary basis with other services under parts 25, 74, and 101 of this chapter. Such stations, however, are subject to relocation by licensees in the fixed-satellite service. Such relocation is sub-

ject to the provisions of §§101.85 through 101.97 of this chapter. No new applications for part 78 licenses will be accepted in the 19.26–19.3 GHz band after June 8, 2000, and no new applications for part 78 licenses will be accepted in the 18.3–18.58 GHz band after November 19, 2002.

(i) 2 MHz maximum authorized bandwidth channel:

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

(ii) 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

(iii) 10 MHz maximum authorized bandwidth channels:

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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

(iv) 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
18010.0	19570.0

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

(v) 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

(vi) 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

(5) 6425 to 6525 MHz—Mobile only. Paired and unpaired operations permitted. Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted. This band is co-equally shared with mobile stations licensed pursuant to Parts 74 and 101 of the Commission's Rules. The following channel plans apply.

(i) 1 MHz maximum authorized bandwidth channels.

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

(ii) 8 MHz maximum authorized bandwidth channels.

Transmit (or receive) (MHz)	Receive (or transmit) (MHz)
6430.0	6480.0

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

(iii) 25 MHz maximum authorized bandwidth channels.

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

(6) 1990–2110 MHz—*Mobile only.* (i) Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted. This band is co-equally shared with stations licensed pursuant to parts 74 and 101 of the Commission’s Rules. (Common carriers may use this band pursuant to provisions of §101.803(b)). The following channeling plan applies subject to the provisions of § 74.604.

Frequency Band (MHz)

- 1990–2008
- 2008–2025
- 2025–2042
- 2042–2059
- 2059–2076
- 2076–2093
- 2093–2110

(ii) After a licensee has been relocated in accordance with the provisions of § 78.40, operations will be in the band 2025–2110 MHz. The following channel plan will apply, subject to the provisions of § 74.604 of this part:

Frequency Band (MHz)

- 2025.5–2037.5
- 2037.5–2049.5
- 2049.5–2061.5
- 2061.5–2073.5
- 2073.5–2085.5
- 2085.5–2097.5
- 2097.5–2109.5

(7) 6875–7125 MHz—*Mobile only.* Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted. This band is co-equally shared with stations licensed pursuant to parts 74 and 101 of the Commission’s Rules. (Common carriers may use this band pursuant to provisions of §101.803(b)). The following channeling

plan applies subject to the provisions of § 74.604.

Frequency Band (MHz)

- 6875–6900
- 6900–6925
- 6925–6950
- 6950–6975
- 6975–7000
- 7000–7025
- 7025–7050
- 7050–7075
- 7075–7100
- 7100–7125

(b) Television Auxiliary Broadcast Service stations may be assigned channels in the band 12.70–13.20 GHz subject to the condition that no harmful interference is caused to fixed CARS stations authorized at the time of such grants. Translator Relay stations are assigned on a secondary basis. New CARS stations shall not cause harmful interference to television STL and intercity relay stations authorized at the time of such grants. Television pickup stations and CARS pickup stations will be assigned channels in the band on a co-equal basis subject to the conditions that they accept interference from and cause no interference to existing or subsequently authorized television STL, television intercity relay, or fixed CARS stations. Channels in the 13.150–13.200 GHz band will be assigned exclusively to television pickup and CARS pickup stations on a co-equal basis. A cable television system operator will normally be limited in any one area to the assignment of not more than three channels for CARS pickup use: *Provided, however,* That additional channels may be assigned upon a satisfactory showing that additional channels are necessary and are available.

(c) An application for a CARS station shall be specific with regard to the channel or channels requested. Channels shall be identified by the appropriate designations set forth in paragraph (a) of this section.

(d) For CARS Fixed stations using FM transmission with an authorized bandwidth per channel of 25 MHz, to conserve spectrum 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 in the CARS, relaying

several channels, would use A01, B01, A02, B02, A03, etc.

(e) For CARS stations using vestigial sideband AM transmissions, channels from only the Groups C, D, E or F and those frequencies listed in paragraph (a)(4)(ii) of this section normally will be assigned a station, although upon adequate showing variations in the use of channels in Groups C, D, E or F and those frequencies listed in paragraph (a)(4)(ii) of this section may be authorized on a case-by-case basis in order to avoid potential interference or to permit a more efficient use. In situations where the number or the arrangement of channels available in these groups is not adequate, or in order to avoid potential interference, or in order to achieve the required VHF channelization arrangement on the cable television system or for repeated operations, or for two way transmission, or upon the showing of other good cause, the use of channels in the Groups C, D, E or F and those frequencies listed in paragraph (a)(4)(ii) of this section may be authorized. Applicants are encouraged to apply for adjacent channels within each group of channels, except that different channel arrangements may be authorized when required to conform to the required channelization arrangement at VHF on the cable television system, when it is necessary to transmit non-adjacent off-the-air channels or signals intended to fill non-adjacent slots in the spectrum, or to avoid potential interference, or upon other showing of good cause.

(f) For vestigial sideband AM transmission, the assigned visual carrier frequency for each channel listed in Groups C, D, E or F and those frequencies listed in paragraph (a)(4)(ii) of this section shall be 1.25 MHz above the lower channel-edge frequency. The center frequency for the accompanying FM aural carrier in each channel shall be 4.5 MHz above the corresponding visual carrier frequency.

(g) For CARS stations using double sideband AM transmission or FM transmission with authorized bandwidth of no more than 12.5 MHz, Group K channels normally will be assigned to a station, although upon adequate showing variations in the use of channels in Group K may be authorized on

a case-by-case basis in order to avoid potential interference or to permit a more efficient use.

(h) For double sideband AM transmission, the assigned carrier frequency for each channel listed in Group K shall be 6.25 MHz above the lower boundary frequency for each channel, and the sideband frequencies corresponding to the carrier frequency of the accompanying FM aural signal shall be 4.5 MHz above and below the visual carrier frequency.

(i) All stations shall employ no more than a 12.5 MHz authorized bandwidth per channel except in any one or more of the following circumstances:

(1) The station is a CARS pickup station;

(2) The transmission path is more than 16.1 km (10 miles) in length;

(3) The station was authorized or an application was on file therefor prior to July 26, 1973.

(4) Other good cause has been shown that use of a bandwidth of 12.5 MHz or less per channel would be inefficient, impractical, or otherwise contrary to the public interest.

(j) Should any conflict arise among applications for stations in this band, priority will be based on the filing date of an application completed in accordance with the instructions thereon.

(k) Applicants for Group K channels shall apply for adjacent channels and the requested channels shall overlap the least possible number of Group A channels, except that different channel arrangements may be authorized upon an adequate showing that the foregoing arrangement cannot be used or would be contrary to the public interest, or in order to avoid potential interference or to permit a more efficient use.

(1) The band 13.15–13.20 GHz is reserved for television pickup and CARS pickup stations inside a 50 km radius of the 100 television markets delineated in §76.51 of this chapter. Outside a 50 km radius of the 100 television markets delineated in §76.51 of this chapter, television pickup stations, CARS stations and NGSO FSS gateway earth stations shall operate on a primary co-equal basis. The band 13.20–13.2125 GHz is reserved for television pickup stations on a primary basis and CARS pickup stations on a secondary basis inside a 50

km radius of the 100 television markets delineated in §76.51 of this chapter. Outside a 50 km radius of the 100 markets delineated in §76.51 of this chapter, television pickup stations and NGSO FSS gateway earth stations shall operate on a co-primary basis, CARS stations shall operate on a secondary basis. Fixed television auxiliary stations licensed pursuant to applications accepted for filing before September 1, 1979, may continue operation on channels in the 13.15–13.25 GHz band, subject to periodic license renewals. NGSO FSS gateway uplink transmissions in the 13.15–13.2125 GHz segment shall be limited to a maximum EIRP of 3.2 dBW towards 0 degrees on the radio horizon. These provisions shall not apply to GSO FSS operations in the 12.75–13.25 GHz band.

(m) CARS stations may be authorized for use of the band from 13.20 to 13.25 GHz on a secondary basis to Television Broadcast Auxiliary Stations. CARS stations are also secondary to NGSO FSS gateway earth station uplink operations. Any CARS application seeking authorization for use of the 13.20 to 13.25 GHz band must demonstrate that the applicant has exhausted all spectrum available to it in the 12.70 to 13.20 GHz band. Applications for use of this band must specify whether the channels are 6 MHz, 12.5 MHz, or 25 MHz wide and give the upper and lower boundaries and the polarization for each channel.

[37 FR 3292, Feb. 12, 1972. Redesignated at 37 FR 15926, Aug. 8, 1972]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §78.18, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.fdsys.gov.

§78.19 Interference.

(a) Applications for CARS stations shall endeavor to select an assignable frequency or frequencies which will be least likely to result in interference to other licensees in the same area since the FCC itself does not undertake frequency coordination.

(b) Applicants for CARS stations shall take full advantage of all known techniques, such as the geometric arrangement of transmitters and receivers, the use of minimum power re-

quired to provide the needed service, and the use of highly directive transmitting and receiving antenna systems, to prevent interference to the reception of television STL, television intercity relay, and other CARS stations.

(c)(1) *Radio Astronomy and Radio Research Installations.* In order to minimize harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, W. Va., and at the Naval Radio Research Observatory at Sugar Grove, Pendleton County, W. Va., an applicant for authority to construct a CARS station, except a CARS pickup station, or for authority to make changes in the frequency, power, antenna height, or antenna directivity of an existing station within the area bounded by 39°15' N. on the north, 78°30' W. on the east, 37°30' N. on the south and 80°30' W. on the west shall, at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, Post Office Box No. 2, Green Bank, WV 24944, in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, proposed frequency, type of emission, and power. In addition, the applicant shall indicate in his application to the Commission the date notification was made to the Observatory. After receipt of such application, the Commission will allow a period of 20 days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the 20-day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

(2) Any applicant for a new permanent base or fixed station authorization to be located on the islands of Puerto Rico, Desecheo, Mona, Vieques, and Culebra, or for a modification of an existing authorization which would change the frequency, power, antenna