

Band Plan

Band Plan

A band plan refers to a voluntary division of a band to avoid interference between incompatible modes.

Resources

- [Sharing arrangements](#)
- [Detailed packet frequencies](#) [PDF]
- [Phone patch, autopatch and HF/VHF/UHF operating guidelines](#)
- ["Considerate Operator's Frequency Guide"](#)

2200 and 600 - meter bands

General, Advanced and Amateur Extra class licensees are authorized to use these Amateur Bands

Amateurs wishing to operate on either 2,200 or 630 meters must first register with the Utilities Technology Council online at <https://utc.org/plc-database-amateur-notification-process/>. You need only register once for each band.

135.7 – 137.8 1 W EIRP maximum

472 - 479 KHz: 5 W EIRP maximum, except in Alaska within 496 miles of Russia where the power limit is 1 W EIRP.

160 Meters (1.8-2.0 MHz)

1.800 - 2.000 CW

1.800 - 1.810 Digital Modes

1.810 CW QRP

1.843-2.000 SSB, SSTV and other wideband modes

1.910 SSB QRP

1.995 - 2.000 Experimental

1.999 - 2.000 Beacons

80 Meters (3.5-4.0 MHz)

3.590 RTTY/Data DX

3.570-3.600 RTTY/Data

3.790-3.800 DX window

3.845 SSTV

3.885 AM calling frequency

60 Meters (5 MHz channels)

*Only one signal at a time is permitted on any channel

*Maximum effective radiated output is 100 W PEP

5330.5 USB phone¹ and CW/RTTY/data²

5346.5 USB phone¹ and CW/RTTY/data²

5357.0 USB phone¹ and CW/RTTY/data²

5371.5 USB phone¹ and CW/RTTY/data²

5403.5 USB phone¹ and CW/RTTY/data²

1. USB is limited to 2.8 kHz

2. CW and digital emissions must be centered 1.5 kHz above the channel frequencies indicated in the above chart

40 Meters (7.0-7.3 MHz)

7.040 RTTY/Data DX

7.080-7.125 RTTY/Data

7.171 SSTV

7.290 AM calling frequency

30 Meters (10.1-10.15 MHz)

10.130-10.140 RTTY

10.140-10.150 Packet

20 Meters (14.0-14.35 MHz)

14.070-14.095 RTTY

14.095-14.0995 Packet

14.100 NCDXF Beacons

14.1005-14.112 Packet

14.230 SSTV

14.286 AM calling frequency

17 Meters (18.068-18.168 MHz)

18.100-18.105 RTTY
18.105-18.110 Packet

15 Meters (21.0-21.45 MHz)

21.070-21.110 RTTY/Data
21.340 SSTV

12 Meters (24.89-24.99 MHz)

24.920-24.925 RTTY
24.925-24.930 Packet

10 Meters (28-29.7 MHz)

28.000-28.070 CW
28.070-28.150 RTTY
28.150-28.190 CW
28.200-28.300 Beacons
28.300-29.300 Phone
28.680 SSTV
29.000-29.200 AM
29.300-29.510 Satellite Uplinks or Downlinks
29.520-29.590 Repeater Inputs
29.600 FM Simplex
29.610-29.700 Repeater Outputs

6 Meters (50-54 MHz)

50.0-50.1	CW, beacons
50.060-50.080	beacon subband
50.1-50.3	SSB, CW
50.10-50.125	DX window
50.125	SSB calling
50.3-50.6	All modes
50.6-50.8	Nonvoice communications
50.62	Digital (packet) calling
50.8-51.0	Radio remote control (20-kHz channels)
51.0-51.1	Pacific DX window

51.12-51.48	Repeater inputs (19 channels)
51.12-51.18	Digital repeater inputs
51.5-51.6	Simplex (six channels)
51.62-51.98	Repeater outputs (19 channels)
51.62-51.68	Digital repeater outputs
52.0-52.48	Repeater inputs (except as noted; 23 channels)
52.02, 52.04	FM simplex
52.2	TEST PAIR (input)
52.5-52.98	Repeater output (except as noted; 23 channels)
52.525	Primary FM simplex
52.54	Secondary FM simplex
52.7	TEST PAIR (output)
53.0-53.48	Repeater inputs (except as noted; 19 channels)
53.0	Remote base FM simplex
53.02	Simplex
53.1, 53.2, 53.3, 53.4	Radio remote control
53.5-53.98	Repeater outputs (except as noted; 19 channels)
53.5, 53.6, 53.7, 53.8	Radio remote control
53.52, 53.9	Simplex

2 Meters (144-148 MHz)

144.00-144.05	EME (CW)
144.05-144.10	General CW and weak signals
144.10-144.20	EME and weak-signal SSB
144.200	National calling frequency
144.200-144.275	General SSB operation
144.275-144.300	Propagation beacons
144.30-144.50	New OSCAR subband
144.50-144.60	Linear translator inputs
144.60-144.90	FM repeater inputs
144.90-145.10	Weak signal and FM simplex (145.01,03,05,07,09 are widely used for packet)
145.10-145.20	Linear translator outputs
145.20-145.50	FM repeater outputs
145.50-145.80	Miscellaneous and experimental modes
145.80-146.00	OSCAR subband
146.01-146.37	Repeater inputs
146.40-146.58	Simplex
146.52	National Simplex Calling Frequency
146.61-146.97	Repeater outputs
147.00-147.39	Repeater outputs

147.42-147.57 Simplex
147.60-147.99 Repeater inputs

Notes: The frequency 146.40 MHz is used in some areas as a repeater input. This band plan has been proposed by the ARRL VHF-UHF Advisory Committee.

1.25 Meters (222-225 MHz)

222.0-222.150 Weak-signal modes
222.0-222.025 EME
222.05-222.06 Propagation beacons
222.1 SSB & CW calling frequency
222.10-222.15 Weak-signal CW & SSB
222.15-222.25 Local coordinator's option; weak signal, ACSB, repeater inputs, control
222.25-223.38 FM repeater inputs only
223.40-223.52 FM simplex
223.52-223.64 Digital, packet
223.64-223.70 Links, control
223.71-223.85 Local coordinator's option; FM simplex, packet, repeater outputs
223.85-224.98 Repeater outputs only

Note: The 222 MHz band plan was adopted by the ARRL Board of Directors in July 1991.

70 Centimeters (420-450 MHz)

420.00-426.00 ATV repeater or simplex with 421.25 MHz video carrier control links and experimental
426.00-432.00 ATV simplex with 427.250-MHz video carrier frequency
432.00-432.07 EME (Earth-Moon-Earth)
432.07-432.10 Weak-signal CW
432.10 70-cm calling frequency
432.10-432.30 Mixed-mode and weak-signal work
432.30-432.40 Propagation beacons
432.40-433.00 Mixed-mode and weak-signal work
433.00-435.00 Auxiliary/repeater links
435.00-438.00 Satellite only (internationally)
438.00-444.00 ATV repeater input with 439.250-MHz video carrier frequency and repeater links
442.00-445.00 Repeater inputs and outputs (local option)
445.00-447.00 Shared by auxiliary and control links, repeaters and simplex (local option)
446.00 National simplex frequency
447.00-450.00 Repeater inputs and outputs (local option)

33 Centimeters (902-928 MHz)

Frequency Range	Mode	Functional Use	Comments
902.000-902.075	FM / other including DV Or CW/SSB	Repeater inputs 25 MHz split paired with those in 927.000-927.075 or Weak signal	12.5 kHz channel spacing Note 2)
902.075-902.100	CW/SSB	Weak signal	
902.100	CW/SSB	Weak signal calling	Regional option
902.100-902.125	CW/SSB	Weak signal	
902.125-903.000	FM/other including DV	Repeater inputs 25 MHz split paired with those in 927.1250-928.0000	12.5 kHz channel spacing
903.000-903.100	CW/SSB	Beacons and weak signal	
903.100	CW/SSB	Weak signal calling	Regional option
903.100-903.400	CW/SSB	Weak signal	
903.400-909.000	Mixed modes	Mixed operations including control links	
909.000-915.000	Analog/digital	Broadband multimedia including ATV, DATV and SS	Notes 3) 4)
915.000-921.000	Analog/digital	Broadband multimedia including ATV, DATV and SS	Notes 3) 4)
921.000-927.000	Analog/digital	Broadband multimedia including ATV, DATV and SS	Notes 3) 4)
927.000-927.075	FM / other including DV	Repeater outputs 25 MHz split paired with those in 902.0000-902.0750	12.5 kHz channel spacing
927.075-927.125	FM / other including DV	Simplex	
927.125-928.000	FM / other including	Repeater outputs 25 MHz split paired with	12.5 kHz channel

Notes:

- 1) Significant regional variations in both current band utilization and the intensity and frequency distribution of noise sources preclude one plan that is suitable for all parts of the country. These variations will require many regional frequency coordinators to maintain band plans that differ in some respects from any national plan. As with all band plans, locally coordinated plans always take precedence over any general recommendations such as a national band plan.
- 2) May be used for either repeater inputs or weak-signal as regional needs dictate
- 3) Division into channels and/or separation of uses within these segments may be done regionally based on needs and usage, such as for 2 MHz-wide digital TV.
- 4) These segments may also be designated regionally to accommodate alternative repeater splits.
- 5) Simplex FM calling frequency 927.500 or regionally selected alternative.
- 6) Additional FM simplex frequencies may be designated regionally.

23 Centimeters (1240-1300 MHz)

Frequency Range	Suggested Emission Types	Functional Use
1240.00-1246.000	ATV	ATV Channel #1
1246.000-1248.000	FM, digital	Point-to-point links paired with 1258.000-1260.000
1248.000-1252.000	Digital	
1252.000-1258.000	ATV	ATV Channel #2
1258.000-1260.000	FM, digital	Point-to-point links paired with 1246.000-1248.000
1240.000-1260.000	FM ATV	Regional option

1260.000- 1270.000	Various	Satellite uplinks, Experimental, Simplex ATV
1270.000- 1276.000	FM, digital	Repeater inputs, 25 kHz channel spacing, paired with 1282.000-1288.000
1270.000- 1274.000	FM, digital	Repeater inputs, 25 kHz channel spacing, paired with 1290.000-1294.000 (Regional option)
1276.000- 1282.000	ATV	ATV Channel #3
1282.000- 1288.000	FM, digital	Repeater outputs, 25 kHz channel spacing, paired with 1270.000-1276.000
1288.000- 1294.000	Various	Broadband Experimental, Simplex ATV
1290.000- 1294.000	FM, digital	Repeater outputs, 25 kHz channel spacing, paired with 1270.000-1274.000 (Regional option)
1294.000- 1295.000	FM	FM simplex
	FM	National FM simplex calling frequency 1294.500
1295.000- 1297.000		Narrow Band Segment
1295.000- 1295.800	Various	Narrow Band Image, Experimental
1295.800- 1296.080	CW, SSB, digital	EME
1296.080- 1296.200	CW, SSB	Weak Signal
	CW, SSB	CW, SSB calling frequency 1296.100

1296.200- 1296.400	CW, digital	Beacons
1296.400- 1297.000	Various	General Narrow Band
1297.000- 1300.000	Digital	

Note: The need to avoid harmful interference to FAA radars may limit amateur use of certain frequencies in the vicinity of the radars.

13 Centimeters (2300-2310 and 2390-2450 MHz)

Frequency Range	Emission Bandwidth	Functional Use
2300.000- 2303.000	0.05 - 1.0 MHz	Analog & Digital, including full duplex; paired with 2390 - 2393
2303.000- 2303.750	< 50 kHz	Analog & Digital; paired with 2393 - 2393.750
2303.75-2304.000		SSB, CW, digital weak-signal
2304.000- 2304.100	3 kHz or less	Weak Signal EME Band
2304.10-2304.300	3 kHz or less	SSB, CW, digital weak-signal (Note 1)
2304.300- 2304.400	3 kHz or less	Beacons
2304.400- 2304.750	6 kHz or less	SSB, CW, digital weak-signal & NBFM
2304.750- 2305.000	< 50 kHz	Analog & Digital; paired with 2394.750 - 2395

2305.000- 2310.000	0.05 - 1.0 MHz	Analog & Digital, paired with 2395 - 2400 (Note 2)
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2310.000-2390.000

NON-AMATEUR

2390.000- 2393.000	0.05 - 1.0 MHz	Analog & Digital, including full duplex; paired with 2300-2303
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2393.000- 2393.750	< 50 kHz	Analog & Digital; paired with 2303 - 2303.750
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2393.750- 2394.750		Experimental
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2394.750- 2395.000	< 50 kHz	Analog & Digital; paired with 2304.750 - 2305
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2395.000- 2400.000	0.05 - 1.0 MHz	Analog & Digital, including full duplex; paired with 2305-2310
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2400.000- 2410.000	6 kHz or less	Amateur Satellite Communications
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2410.000- 2450.000	22 MHz max.	Broadband Modes (Notes 3, 4)
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Notes:

1: 2304.100 is the National Weak-Signal Calling Frequency

2: 2305 - 2310 is allocated on a primary basis to Wireless Communications Services (Part 27). Amateur operations in this segment, which are secondary, may not be possible in all areas.

3: Broadband segment may be used for any combination of high-speed data (e.g. 802.11 protocols), Amateur Television and other high-bandwidth activities. Division into channels and/or separation of uses within this segment may be done regionally based on needs and usage.

4: 2424.100 is the Japanese EME transmit frequency

Note: The following band plans were adopted by the ARRL Board of Directors in 2012.

3300-3500 MHz

Level I - Major Band Divisions	Level II - Sub-Band Divisions	Level III Suggested Specific Emission	Suggested Emission
Frequency Range (MHz)	Frequency Range (MHz)		

From	To	Width	From	To	Freq. Width MHz	Types (Note 1)	B.W. (Note 1)	Functional Use
3300.000	3309.000	9.0				Analog & Digital, including Full Duplex	0.1 - 1.0 MHz	Analog & Digital; paired with 3430.0- 3439.0; 130 MHz Split
3309.000	3310.000	1.0						Experimental
3310.000	3330.000	20.0				Analog & Digital, including Full Duplex	>1.0 MHz	Analog & Digital; paired with 3410.0- 3430.0; 100 MHz Split
3330.000	3332.000	2.0						Experimental
3332.000	3339.000	7.0						RADIO ASTRONOMY PROTECTED BAND (Note 4)
3339.000	3345.800	6.8				Analog & Digital, including Full Duplex	0.1 - 1.0 MHz	Analog & Digital; paired with 3439.0- 3445.8; 100 MHz Split
3345.800	3352.500	6.7						RADIO ASTRONOMY PROTECTED BAND (Note 4)
3352.500	3355.000	2.5				Analog & Digital, including Full Duplex	0.05 - 0.2 MHz	Analog & Digital; paired with 3452.5- 3455.0; 100 MHz Split
3355.000	3357.000	2.0						Experimental
3357.000	3360.000	3.0				Analog & Digital, including Full Duplex	50 kHz or less	Analog & Digital; paired with 3457.0- 3460.0
3360.000	3400.000	40.0				OFDM, others	22 MHz max.	Broadband Modes (Note 3)
			3360.000	3380.000	20.0	ATV		Amateur Television of all authorized modulation standards/formats at local option
3400.000	3410.000	10.0				CW, SSB, NBFM	6 kHz or less	Amateur Satellite Communications
			3400.000	3400.300	0.3	CW, SSB, Digital	3 kHz or less	Weak Signal EME Band
			3400.300	3401.000	0.7	CW, SSB, Digital	3 kHz or less	Terrestrial Weak Signal Band - Future (Note 2)
					3400.100	CW, SSB, Digital		EME Calling Frequency
3410.000	3430.000	20.0				Analog &	>1.0 MHz	Analog & Digital;

			Digital, including Full Duplex		paired with 3310.0- 3330.0; 100 MHz Split	
3430.000	3439.000	9.0	Analog & Digital, including Full Duplex	0.1 - 1.0 MHz	Analog & Digital; paired with 3300.0- 3309.0; 130 MHz Split	
3439.000	3445.800	6.8	Analog & Digital, including Full Duplex	0.1 - 1.0 MHz	Analog & Digital; paired with 3339.0- 3345.8; 100 MHz Split	
3445.800	3452.500	6.7			Experimental	
3452.500	3455.000	2.5	Analog & Digital, including Full Duplex	0.05 - 0.2 MHz	Analog & Digital; paired with 3352.5- 3355.0; 100 MHz Split	
3455.000	3455.500	0.5		100 kHz or less	Crossband linear translator (input or output)	
3455.500	3457.000	1.5	CW, SSB, NBFM, Digital	6 kHz or less	Terrestrial Weak Signal Band - Legacy (Note 2)	
				3456.100	6 kHz or less	Weak Signal Terrestrial Calling Frequency
	3456.300	3457.000	0.1	CW, Digital	1 kHz or less	Propagation Beacons
3457.000	3460.000	3.0	Analog & Digital, including Full Duplex	50 kHz or less	Analog & Digital; paired with 3357.0- 3360.0; 100 MHz Split	
3460.000	3500.000	40.0	OFDM, others	22 MHz max.	Broadband Modes (Note 3)	
	3460.000	3480.000	20.0	ATV		Amateur Television of all authorized modulation standards/formats at local option

9 cm Band Plan Notes

Note 1 – Includes all other emission modes authorized in the 9 cm amateur band whose necessary bandwidth does not exceed the suggested bandwidths listed.

Note 2 – Weak Signal Terrestrial legacy users are encouraged to move to 3400.3 to 3401.0 MHz as time and resources permit.

Note 3 – Broadband segments may be used for any combination of high-speed data (e.g. 802.11 protocols), Amateur Television and other high-bandwidth activities. Division into channels and/or separation of uses within these segments may be done regionally based on need and usage.

Note 4 – Per ITU RR 5.149 from WRC-07, these band segments are also used for Radio Astronomy. Amateur use of these frequencies should be first coordinated with the National Science Foundation (esm@nsf.gov).

5 Centimeters (5650.0-5925.0 MHz)

Frequency Range	Emission Bandwidth	Functional Use
5650.0-5670.0		Amateur Satellite; Up-Link Only
5650.0-5675.0	0.05 - 1.0 MHz	Experimental
5675.0-5750.0	>= 1.0 MHz	Analog & Digital; paired with 5850-5925 MHz (Note 2)
5750.0-5756.0	>= 25 kHz and <1 MHz	Analog & Digital; paired with 5820-5826 MHz
5756.0-5759.0	<= 50 kHz	Analog & Digital; paired with 5826-5829 MHz
5759.0-5760.0	< 6 kHz	SSB, CW, Digital Weak-Signal
5760.0-5760.1	< 3kHz	EME
5760.1-5760.3	< 6 KHz	SSB, CW, Digital Weak-Signal (Note 1)
5760.3-5760.4	< 3 KHz	Beacons
5760.4-5761.0	< 6 KHz	SSB, CW, Digital Weak-Signal
5761.0-5775.0	<=50 kHz	Experimental
5775.0-5800.0	>=100 kHz	Experimental
5800.0-5820.0		Experimental
5820.0-5826.0	>=25 kHz and <1 MHz	Analog & Digital; paired with 5750-5756 MHz

5826.0-5829.0	<=50 kHz	Analog & Digital; paired with 5756-5759 MHz
5829.0-5850.0	0.05-1.0 MHz	Experimental
5830.0-5850.0		Amateur Satellite; Down-Link Only
5850.0-5925.0	>=1.0 MHz	Analog & Digital; paired with 5675-5750 MHz (Note 2)

Note 1: 5760.1 is the National Weak-Signal Calling Frequency

Note 2: Broadband segment may be used for any combination of high-speed data (eg: 802.11 protocols), Amateur Television and other high-bandwidth activities. Division into channels and/or separation of uses within this segment may be done regionally based on needs and usage.

3 Centimeters (10000.000-10500.000 MHz)

Frequency Range	Emission Bandwidth	Functional Use
10000.00 - 10050.000		Experimental
10050.000-10100.000	<=100 kHz	Analog & Digital; paired with 10300-10350
10100.000-10115.000	>=25 kHz and <1 MHz	Analog & Digital; paired with 10350-10365
10115.000-10117.000	<=50 kHz	Analog & Digital; paired with 10365-10367
10117.000-10120.000		Experimental
10120.000-10125.000	<=50 kHz	Analog & Digital; paired with 10370-10375
10125.000-10200.000	>=1 MHz	Analog & Digital; paired with 10375-10450 (Note 2)
10200.000-10300.000		Wideband Gunnplexers
10300.000-10350.000	<=100 kHz	Analog & Digital; paired with 10050-10100
10350.000-10365.000	>=25 kHz and <1 MHz	Analog & Digital; paired with 10100-10115
10365.000-10367.000	<=50 kHz	Analog & Digital; paired with 10115-10117
10367.000-10368.300	6 kHz or less	SSB, CW, Digital Weak-Signal & NBFM (Note 1)
10368.300-10368.400	6 kHz or less	Beacons
10368.400-10370.000	6 kHz or less	SSB, CW, Digital Weak-Signal & NBFM
10370.000-10375.000	<=50 kHz	Analog & Digital; paired with 10120-10125
10375.000-10450.000	>=1 MHz	Analog & Digital; paired with 10125-10200 (Note 2)
10450.000-10500.000		Space, Earth & Telecommand Stations

Note 1: 10368.100 is the National Weak-Signal Calling Frequency

Note 2: Broadband segment may be used for any combination of high-speed data (eg: 802.11 protocols), Amateur Television and other high-bandwidth activities. Division into channels and/or separation of uses within this segment may be done regionally based on needs and usage.

Above 10.50 GHz*

All modes and licensees (except Novices) are authorized Amateur Bands above 10.5 GHz.

* US amateurs must check Sections 97.301, 97.303, 97.305 and 97.307 for sharing requirements before operating.

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