

Ham Radio & Band Plans



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Jerry, VE6TL

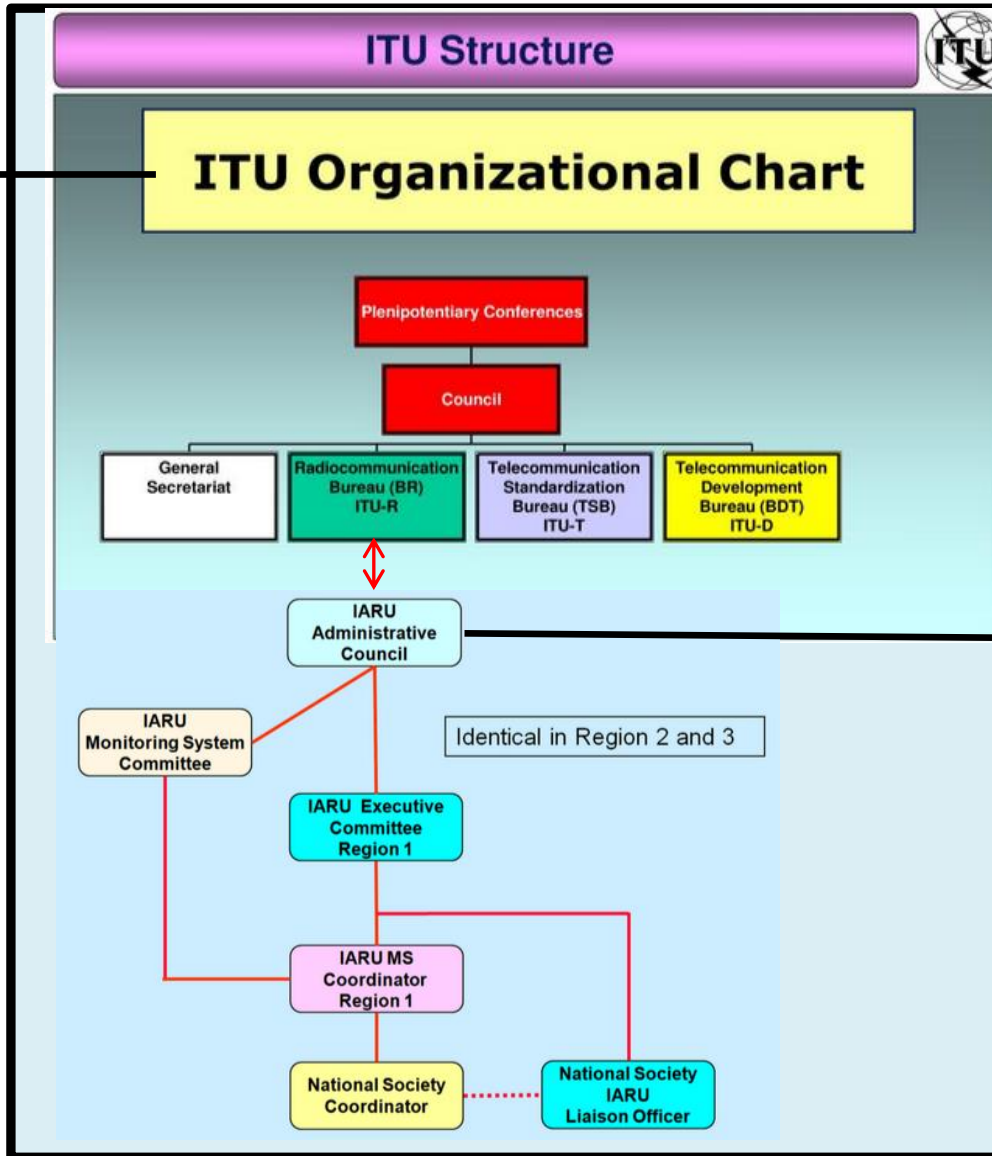
Ham Radio & Band Plans

Outline

- Definition
- ITU and IARU
- Regional Band Plans
- Canadian Band Plan
- US Band Plan
- Rules of Thumb
- The Considerate Operator's Frequency Guide

Definition

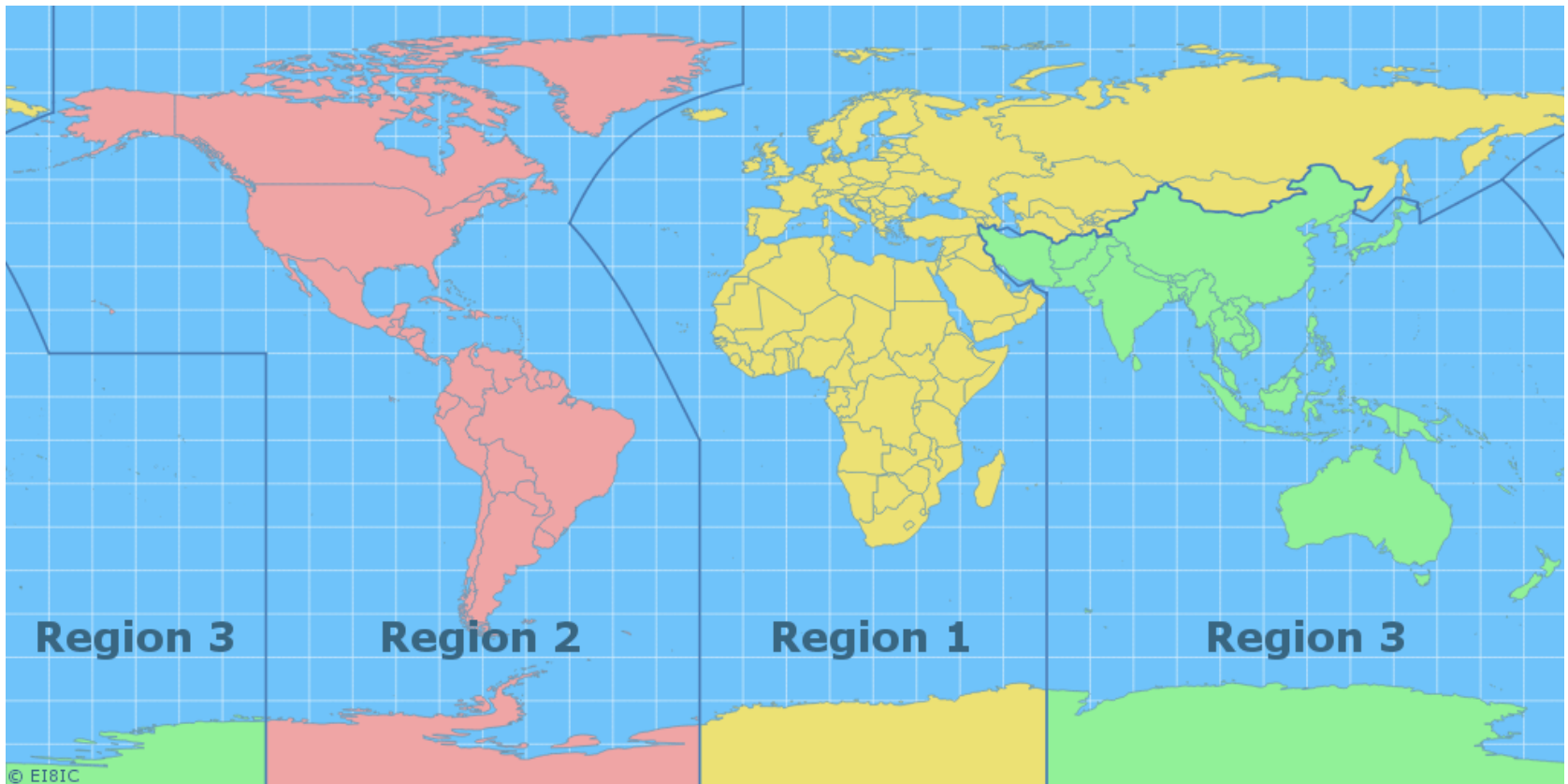
- Simply stated by the ARRL: “A band plan refers to a voluntary division of a band to avoid interference between incompatible modes.”
- “Band plans are voluntary guidelines developed by the amateur radio community to establish best practices for frequency usage within the radio spectrum allocated to amateur radio operators. These plans help to ensure efficient and orderly use of the spectrum by promoting cooperation, minimizing interference, and organizing the allocation of specific frequencies or frequency ranges for different modes of communication, such as voice, Morse code (CW), and digital modes.” – Ham Radio FAQ
- Band plans are developed and maintained by national organizations, such as the RAC, FCC and other IARU member societies, within the three IARU regions.
- Band plans are usually divided into two plans: HF and VHF and higher bands



IARU Workings...

- IARU allocates RF spectrum by issuing the IRR (International Radio Regulations).
- The IRRs are set every four years at a WRC (World Radio Congress)
- The IRRs divide the world into three regions for allocation purposes (the ITU regions are the same as the IARU regions).
- Each region may have different allocations. For example, in Region 1, the 2m band is from 146 – 148 MHz (not from 144 – 148 MHz).
- Some countries impose mode and bandwidth restrictions within the allocation by domestic regulation. For example, operating phone below 14.150 in the US is a breach of its domestic regulations. Other countries do not impose mode and bandwidth regulations domestically. The IARU has worked up voluntary band plans in each region to make the amateur allocation harmonized and useful. The RAC band plan is the same as the IARU region 2 band plan, but it is not “enforceable” by the regulator (or IARU!).
- The history of frequency allocations in each region has had an important impact on present day allocations. In the early 2000s, the IARU lobbied for 40m harmonization between SWL and amateur radio stations. Most SWL broadcasters have moved above 7.200 MHz, but not all. In ITU Region 3, 7.200 – 7.300 MHz is allocated to SWL broadcasting.

IARU Regions



WARC Bands

- The World Administrative Radio Conference (WARC) met in 1979 and allocated three new bands for Amateur Radio use, commencing in the early 1980s.
- These bands consist of 30m (10.1 – 10.15 MHz), 17m (18.068 – 18.168 MHz) and 12m (24.89 – 24.99 MHz).
- Due to their limited bandwidth, it was decided (“gentlemen’s agreement”) not to use these bands for contesting. Some regions have now formally codified this agreement.

12-meter band plan [\[edit\]](#)

IARU Region 1^[5] [\[edit\]](#)

License class	24.89–24.915	24.915-24.925	24.925-24.929	24.929-24.931	24.931-24.94	24.94-24.99
Effective 1 January 2008	CW only	CW, narrow-band digital	CW, narrow-band digital, unattended stations	Beacons	CW, narrow-band digital, unattended stations	All modes

IARU Region 2^[6] [\[edit\]](#)

License class	24.89–24.915	24.915-24.925	24.925-24.929	24.929-24.931	24.931-24.94	24.94-24.99
Effective 1 January 2008	CW only	CW, narrow-band digital	CW, narrow-band digital, unattended stations	Beacons	CW, narrow-band digital, unattended stations	All modes

IARU Region 3^[8] [\[edit\]](#)

License class	24.89–24.92	24.92-24.9295	24.9295-24.9305	24.94-24.99
Effective as of 2009	CW only	CW, narrow-band digital	Beacons	All modes 2 kHz max BW

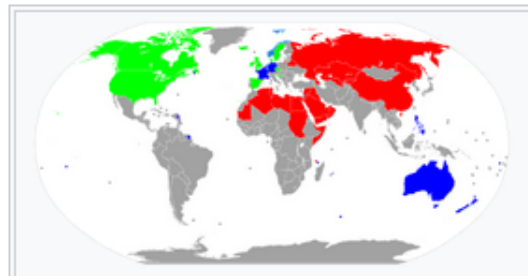
Example showing minor differences among the three regions on 12m band.

2,200m Band

- In 2005, IARU Region 1 defined the 2,200m band between 135.7 to 137.8 kHz
- Canadians received privileges in December, 2009
- The US (FCC) began allowing privileges on in March, 2017.
- Most, but not all countries, allow amateur use on 2,200m.

630m Band

- In January, 2013, WRC-12 allocated 472 – 479 kHz for amateur radio use
- There are various power restrictions in place (typically 1W EIRP – Effective Isotropic Radiated Power).



Regions with an amateur radio allocation near 500 kHz in early 2011. Dark blue indicates official allocations based on WRC-12. Light blue indicates official allocations that are outside the WRC-12 frequencies (e.g. Norway). Green indicates experimental allocations. Operation is prohibited in red regions.

IARU Region 1 HF Band Plan

Effective from 16 OCT 2020

	FREQUENCY SEGMENT (kHz)	MAX. BANDWIDTH (Hz)	PREFERRED MODE AND USAGE		
	135,7 - 137,8	200	CW	CW, QRSS and narrow band digital modes	
	472 - 475	200	CW	CW	(NOTES)
	475 - 479	(#)	Narrow band modes	CW, digimodes	(NOTES)
1,8 MHz	1810 - 1838	200	CW	1836 kHz - CW QRP Centre of Activity	
	1838 - 1840	500	Narrow band modes		
	1840 - 1843	2700	All modes (1)	Digimodes	
	1843 - 2000	2700	All modes (1)		
3,5 MHz	3500 - 3510	200	CW	Priority for inter-continental operation	
	3510 - 3560	200	CW	CW contest preferred	3555 kHz - CW QRS Centre of Activity
	3560 - 3570	200	CW	3560 kHz - CW QRP Centre of Activity	
	3570 - 3580	200	Narrow band modes	Digimodes	
	3580 - 3590	500	Narrow band modes	Digimodes	
	3590 - 3600	500	Narrow band modes	Digimodes, automatically controlled data stations (unattended)	
	3600 - 3620	2700	All modes (1)	Digimodes, automatically controlled data stations (unattended)	
	3600 - 3650	2700	All modes (1)	SSB contest preferred	3630 kHz - Digital Voice Centre of Activity
	3650 - 3700	2700	All modes	3690 kHz - SSB QRP Centre of Activity	
	3700 - 3775	2700	All modes	SSB contest preferred	3735 kHz - Image Centre of Activity 3760 kHz - R1 Emergency Centre of Activity
	3775 - 3800	2700	All modes	SSB contest preferred - Priority for inter-continental operation	
5 MHz	5351,5 - 5354,0	200	CW, Narrow band modes		(NOTES)
	5354,0 - 5366,0	2700	All modes	USB recommended for voice operation (##)	(NOTES)
	5366,0 - 5366,5	20 (!)	Weak signal narrow band modes		(NOTES)

IARU Region 1 HF Band Plan

Effective from 16 OCT 2020

7 MHz	7000 - 7040	200	CW	7030 kHz - CW, QRP Centre of Activity
	7040 - 7047	500	Narrow band modes	Digimodes
	7047 - 7050	500	Narrow band modes	Digimodes, automatically controlled data stations (unattended)
	7050 - 7053	2700	All modes (1)	Digimodes, automatically controlled data stations (unattended)
	7053 - 7060	2700	All modes	Digimodes
	7060 - 7100	2700	All modes	SSB contest preferred 7070 kHz - Digital Voice Centre of Activity 7090 kHz - SSB QRP Centre of Activity
	7100 - 7130	2700	All modes	7110 kHz - Region 1 Emergency Centre
	7130 - 7175	2700	All modes	SSB contest preferred 7165 kHz - Image Centre of Activity
	7175 - 7200	2700	All modes	SSB contest preferred - Priority for inter-continental Activity
10 MHz	10100 - 10130	200	CW	10116 kHz - CW QRP Centre of Activity
	10130 - 10150	500	Narrow band modes	Digimodes
14 MHz	14000 - 14060	200	CW	CW contest preferred 14055 kHz - QRS Centre of Activity
	14060 - 14070	200	CW	14060 kHz - CW QRP Centre of Activity
	14070 - 14089	500	Narrow band modes	Digimodes
	14089 - 14099	500	Narrow band modes	Digimodes, automatically controlled data stations (unattended)
	14099 - 14101		International Beacon Project	Beacons exclusively
	14101 - 14112	2700	All modes	Digimodes, automatically controlled data stations (unattended)
	14112 - 14125	2700	All modes	
	14125 - 14300	2700	All modes	SSB contest preferred 14130 kHz - Digital Voice Centre of Activity 14195 $\pm$ 5 kHz - Priority for DX-peditions 14230 kHz - Image Centre of Activity 14285 kHz - SSB QRP Centre of Activity
	14300 - 14350	2700	All modes	14300 kHz - Global Emergency Centre of Activity

IARU Region 1 HF Band Plan

Effective from 16 OCT 2020

18 MHz	18068 - 18095	200	CW	18086 kHz - CW QRP Centre of Activity
	18095 - 18105	500	Narrow band modes	Digimodes
	18105 - 18109	500	Narrow band modes	Digimodes, automatically controlled data stations (unattended)
	18109 - 18111		International Beacon Project	Beacons exclusively
	18111 - 18120	2700	All modes	Digimodes, automatically controlled data stations (unattended)
	18120 - 18168	2700	All modes	18130 kHz - SSB QRP Centre of Activity 18150 kHz - Digital Voice Centre of Activity 18160 kHz - Emergency Centre of Activity
21 MHz	21000 - 21070	200	CW	21055 kHz - QRS Centre of Activity 21060 kHz - QRP Centre of Activity
	21070 - 21090	500	Narrow band modes	Digimodes
	21090 - 21110	500	Narrow band modes	Digimodes, automatically controlled data stations (unattended)
	21110 - 21120	2700	All modes	Digimodes, automatically controlled data stations (unattended), (not SSB)
	21120 - 21149	500	Narrow band modes	
	21149 - 21151		International Beacon Project	Beacons exclusively
	21151 - 21450	2700	All modes	21180 kHz - Digital Voice Centre of Activity 21285 kHz - SSB QRP Centre of Activity 21340 kHz - Image Centre of Activity 21360 kHz - Global Emergency Centre of Activity
24 MHz	24890 - 24915	200	CW	24906 kHz - CW QRP Centre of Activity
	24915 - 24925	500	Narrow band modes	Digimodes
	24925 - 24929	500	Narrow band modes	Digimodes, automatically controlled data stations (unattended)
	24929 - 24931		International Beacon Project	Beacons exclusively
	24931 - 24940	2700	All modes	Digimodes, automatically controlled data stations (unattended)
	24940 - 24990	2700	All modes	24950 kHz - Centre of Activity SSB QRP 24960 kHz - Digital Voice Centre of Activity

IARU Region 1 HF Band Plan

Effective from 16 OCT 2020

28 MHz	28000 - 28070	200	CW	28055 kHz - QRS Centre of Activity 28060 kHz - QRP Centre of Activity
	28070 - 28120	500	Narrow band modes	Digimodes
	28120 - 28150	500	Narrow band modes	Digimodes, automatically controlled data stations (unattended)
	28150 - 28190	500	Narrow band modes	
	28190 - 28199		International Beacon Project	Regional time shared beacons, exclusively
	28199 - 28201		International Beacon Project	Worldwide time shared beacons, exclusively
	28201 - 28225		International Beacon Project	Continuous duty beacons, exclusively
	28225 - 28300	2700	All modes	Beacons
	28300 - 28320	2700	All modes	Digimodes, automatically controlled data stations (unattended)
	28320 - 29000	2700	All modes	28330 kHz - Digital Voice Centre of Activity 28360 kHz - SSB QRP Centre of Activity 28680 kHz - Image Centre of Activity
	29000 - 29100	(unrestricted)	All modes	
	29100 - 29200	(unrestricted)	All modes	FM simplex - 10 kHz channels
	29200 - 29300	(unrestricted)	All modes	Digimodes, automatically controlled data stations (unattended)
	29300 - 29510	(unrestricted)	Satellite Links	
	29510 - 29520		Guard Channel	
	29520 - 29590	6000	All modes	FM Repeater input (RH1- RH8)
	29600	6000	All modes	FM Calling channel
	29610	6000	All modes	FM Simplex Repeater (parrot, input + output)
	29620 - 29700	6000	All modes	FM Repeater output (RH1- RH8)

IARU Region 2 HF Band Plan

MF – MEDIUM FREQUENCIES

630 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
472 - 479	500	CW, DM	(1)

Footnotes

1 – ACDS can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point and DX communications.

2 – Band is allocated on a Secondary basis in Region 2. Primary users are Maritime Mobile stations

160 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
1800-1810	500	DM	
1810-1830	200	CW	CW QRP Center of Activity 1812 kHz
1830-1839	200	CW	CW Priority for intercontinental operation (DX window)
1839-1840	200	CW, DM	CW Priority for intercontinental operation (DX window), ACDS (1)
1840-1843	2700	CW, SSB, DM (2)	SSB Priority for intercontinental operation (DX window)
1843-1850	2700	CW, SSB	SSB Priority for intercontinental operation (DX window)
1850-2000	2700 (*)	All modes	SSB QRP Center of Activity 1910 kHz

IARU Region 2 HF Band Plan

HF – HIGH FREQUENCIES

80 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
3500-3510	200	CW	Priority for intercontinental operation (DX window)
3510-3560	200	CW	CW QRS Center of Activity 3555 kHz, CW contest preferred
3560-3570	200	CW	CW QRP Center of Activity 3560 kHz
3570-3580	200	CW, DM	
3580-3590	500	CW, DM	
3590-3600	500	CW, DM	ACDS
3600-3625	2700 (*)	All modes	ACDS
3600-3650	2700	All modes	SSB contest preferred
3650-3700	2700	All modes	SSB QRP Center of Activity 3690 kHz
3700-3775	2700	All modes	SSB contest preferred, Image Center of Activity 3735 kHz, Emergency Center of Activity 3750 kHz
3775-3800	2700	All modes	Priority for intercontinental operation (DX window)
3800-3875	2700	All modes	
3875-3900	2700 (*)	All modes	Image Center of Activity 3845 kHz, AM Center of Activity 3885 kHz
3900-4000	2700	All modes	Emergency Center of Activity 3985 kHz

Footnotes

1 – Band is allocated on a Primary basis in Region 2. Note that shortwave broadcast stations in Regions 1 and 3 may be encountered above 3800 kHz however, and some countries in Region 2 do not permit use of the entire band.

(*) DSB AM phone is allowed with maximum 6 kHz BW.

IARU Region 2 HF Band Plan

60 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
5351.5 - 5354	500	CW, DM	
5354 - 5366	2700	All Modes	
5366 - 5366.5	20	CW, DM	ACDS

Footnotes

1 – The band should be avoided for local nets, instead make use of adjacent amateur bands or alternative 5 MHz domestic channels (where available under ITU RR Article 4.4).

2 – Band is allocated on a Secondary basis in Region 2. Fixed and Mobile (except Aeronautical Mobile) stations are the Primary users. Not all countries in Region 2 have approved operations in this band yet, and some specify different frequencies than this band plan.

40 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
7000-7025	200	CW	Priority for intercontinental operation (DX window)
7025-7040	200	CW	QRP Center of Activity 7030 kHz
7040-7047	500	CW, DM	
7047-7050	500	CW, DM	ACDS
7050-7053	2700	All modes	ACDS
7053-7060	2700	All modes	R2 Emergency Center of Activity 7060 kHz
7060-7100	2700	All modes	SSB contest preferred, DV Center of Activity 7070 kHz, SSB QRP Center of Activity 7090 kHz
7100 - 7130	2700 (*)	All modes	
7130 - 7200	2700 (*)	All modes	SSB contest preferred, Image Center of Activity 7165 kHz
7200 - 7300	2700 (*)	All modes	R2 Emergency Center of Activity 7240 kHz, R2 Emergency Center of Activity 7275 kHz, SSB QRP Center of Activity 7285 kHz, AM Center of Activity 7290 kHz

Footnotes

(*) DSB AM phone is allowed with maximum 6 kHz BW.

1 – Band is allocated on a Primary basis in Region 2, except use of the band 7200-7300 kHz in Region 2 by the Amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3.

IARU Region 2 HF Band Plan

30 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
10100 - 10130	200	CW	CW QRP Center of Activity 10116 kHz
10130 - 10140	500	CW, DM	ACDS
10140 - 10150	2700	CW, DM	

Footnotes

1 – CW Beacons should be avoided.

2 – Band is allocated on a Secondary basis in Region 2. Fixed stations are the primary users.

20 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
14000-14025	200	CW	Priority for intercontinental operation (DX window)
14025-14060	200	CW	CW Contests preferred, CW QRS Center of Activity 14055 kHz
14060-14070	200	CW	CW QRP Center of Activity 14060 kHz
14070-14089	500	CW, DM	
14089-14099	500	CW, DM	ACDS
14099-14101	200	CW	IBP (exclusive)
14101-14112	2700	All Modes	ACDS
14112-14190	2700	All Modes	SSB Contest preferred
14190-14200	2700	All Modes	SSB Priority for intercontinental operation (DX window), SSB Contest preferred
14200-14285	2700	All Modes	SSB Contest preferred, Image Center of Activity 14230 kHz, SSB QRP Center of Activity 14285 kHz
14285-14300	2700 (*)	All Modes	AM Calling QRG 14285 kHz
14300-14350	2700	All Modes	Global Emergency Center of Activity 14300 kHz

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

(*) DSB AM phone is allowed with maximum 6 kHz BW.

IARU Region 2 HF Band Plan

17 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
18068-18095	200	CW	CW QRP Center of Activity 18086 kHz
18095-15105	500	CW, DM	
18105-18109	500	CW, DM	ACDS
18109-18111	200	CW	IBP (exclusive)
18111-18120	2700	All modes	ACDS
18120-18168	2700	All modes	QRP Center of Activity 18130 kHz, Global Emergency Center of Activity 18160 kHz

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

15 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
21000-21070	200	CW	CW QRP Center of Activity 21060 kHz
21070-21090	500	CW, DM	
21090-21110	500	CW, DM	ACDS
21110-21120	2700	CW, DM	ACDS
21120-21149	500	All modes	
21149-21151	200	CW	IBP (exclusive)
21151-21380	2700	All modes	SSB QRP Center of Activity 21285 kHz, Image Center of Activity 21340 kHz, Global Emergency Center of Activity 21360 kHz
21380-21450	2700 (*)	All modes	

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

2 – Amateur Satellite uplink signals are permitted in the subband 21125 to 21450 kHz on a non-exclusive basis. Satellite designers and operators shall avoid causing interference to the International Beacon Project (IBP) transmissions on 21150 kHz.

(*) DSB AM phone is allowed with maximum 6 kHz BW.

IARU Region 2 HF Band Plan

12 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
24890-24915	200	CW	CW QRP Center of Activity 24906 kHz
24915-24925	500	CW, DM	
24925-24929	500	CW, DM	ACDS
24929-24931	200	CW	IBP (exclusive)
24931-24940	2700	All modes	ACDS
24940-24990	2700	All modes	SSB QRP Center of Activity 24950 kHz

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

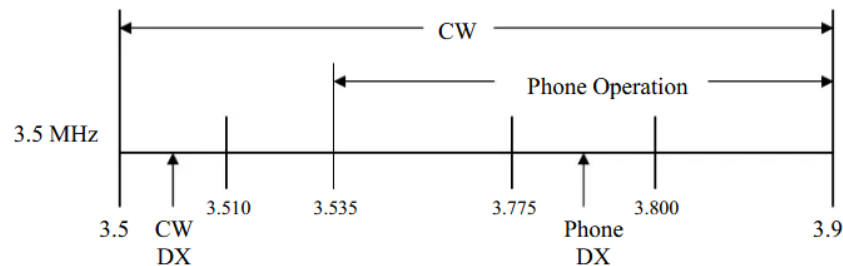
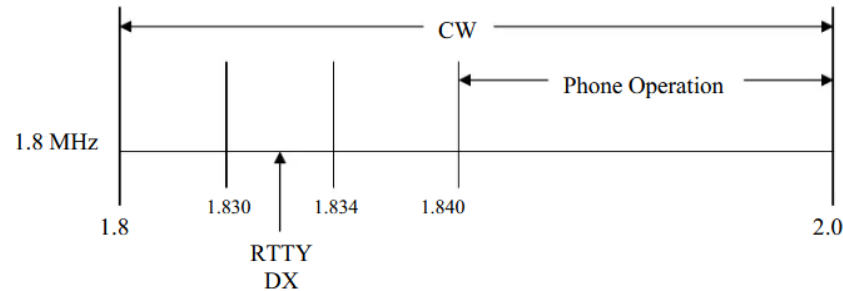
10 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
28000-28070	200	CW	CW QRS Center of Activity 28055 kHz, CW QRP Center of Activity 28060 kHz
28070-28120	500	CW, DM	
28120-28150	500	CW, DM	ACDS
28150-28190	500	CW, DM	
28190-28225	200	CW	Beacons, IBP (exclusive) 28199-28201 kHz
28225-28300	2700	All modes	Beacons
28300-28320	2700	All modes	ACDS
28320-29000	2700	All modes	DV Center of Activity 28330 kHz, SSB QRP Center of Activity 28360 kHz, Image Center of Activity 28680 kHz
29000-29200	6000	All modes	AM preferred
29200-29300	6000	All modes	ACDS
29300-29510	6000	All Modes	Satellite
29510-29520			Guard band, no transmission allowed
29520-29590	6000	FM, DV	Repeater inputs (exclusive) (9 channels of 10 kHz from 29520-29590 kHz)
29590-29620	6000	FM, DV	FM calling QRG 29600 kHz
29620-29700	6000	FM, DV	Repeater outputs (9 channels of 10 kHz from 29620 to 29690 kHz)

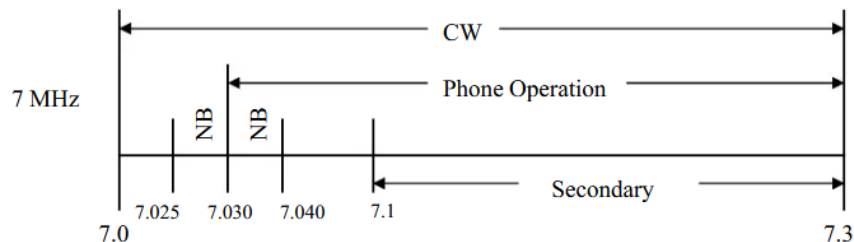
Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

IARU Region 3 HF Band Plan

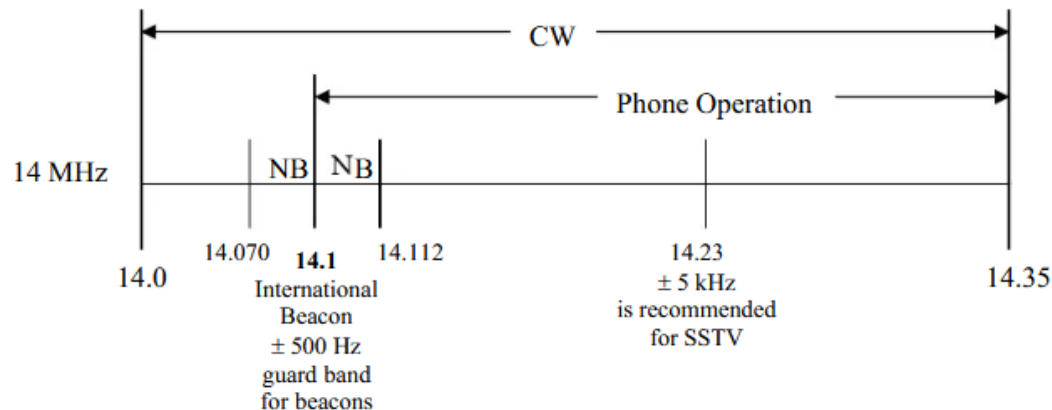
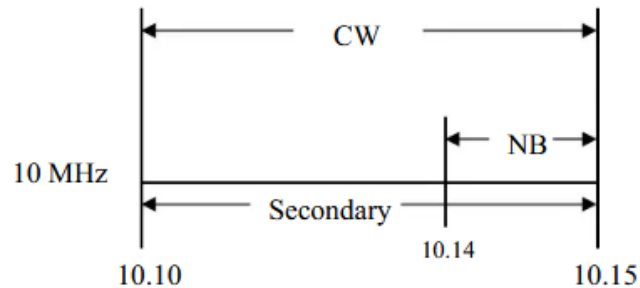


Note: Where the total band available nationally is 100 kHz or less, phone operation may commence at 3.525 MHz.



*NB = "Narrow Band"

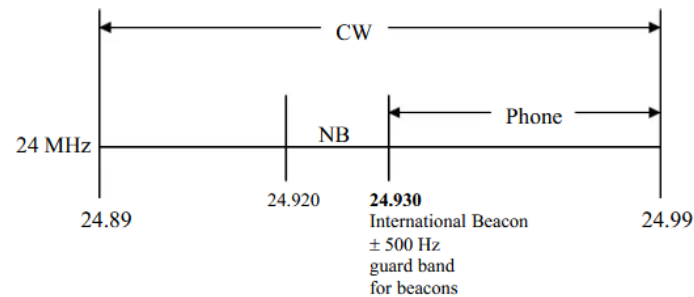
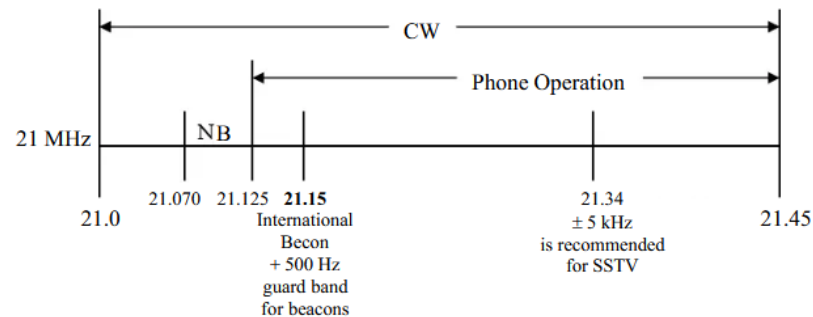
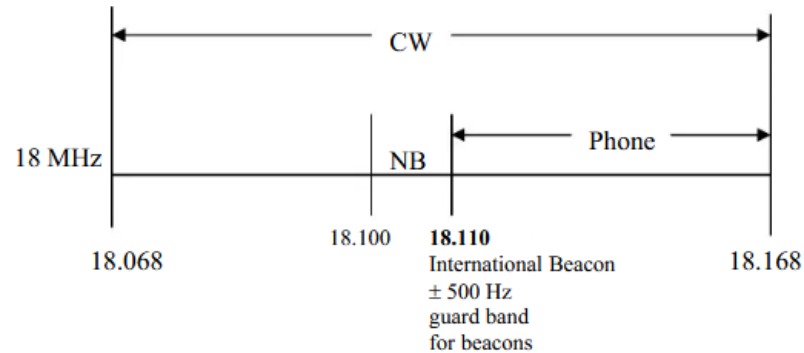
IARU Region 3 HF Band Plan



Note: Considering the dramatic increase in data mode usage on the 20 meter band, it is recommended that the sub-band for these classes of signals be 14.070 MHz to 14.112 MHz (with ± 500 Hz at 14.100 MHz for beacons), and within that data sub-band the current practices of traditional data modes may continue up to 14.095 MHz with 14.095 to 14.112 MHz being reserved for other data modes including Packet.

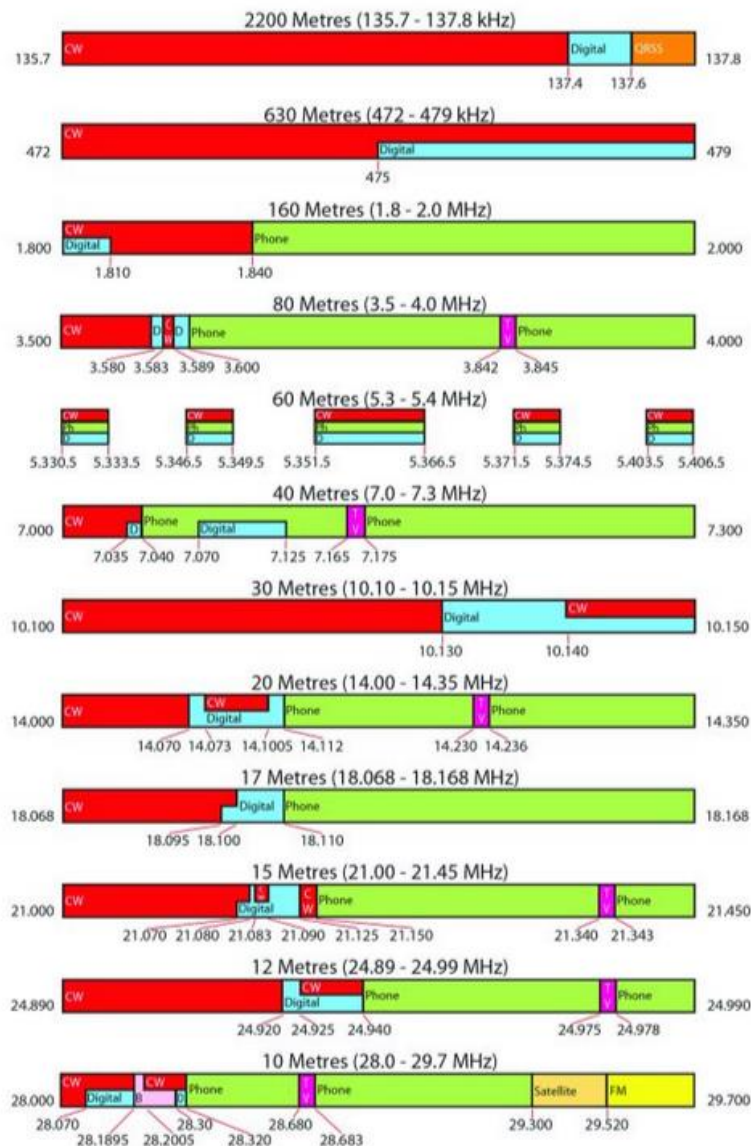
*NB = "Narrow Band"

IARU Region 3 HF Band Plan



*NB = "Narrow Band"

RAC HF Band Plan



Key		
	CW	FM
	CW QRSS	Beacons
	Phone	Digital
		SSTV
		Satellite

RAC 2M Band Plan

Frequency	Modes and Possible Uses
144.000 – 144.100	EME, Narrow Band Digital, CW, Weak Signal Modes. JT65 centred on 144.085 JA Window.
144.100 – 144.180	CW, SSB, Narrow Band Digital, EME, Weak Signal Modes 44.174 FT8, 144.144/144.150 MSK 144 Meteor Scatter, 144.115 – 144.135 Digital EME centred on 144.125 MHz.
144.180 – 144.265	CW, SSB, Narrow Band Digital, EME, Weak Signal and other Narrow Band Modes. Other modes with bandwidths less than 3 kHz, including FAX and SSTV. 144.200 SSB and CW Calling Frequency.
144.265 – 144.270	No transmissions – Guard Band to protect Beacon Network.
144.270 – 144.300	Propagation Beacon Network Exclusive. Note that 144.300 is the IARU Region 1 Calling Frequency and could be used for Transatlantic attempts.
144.300 – 144.310	No transmissions – Guard Band to protect Beacon Network. Note that 144.300 is the IARU Region 1 Calling Frequency and could be used for Transatlantic attempts.
144.310 – 144.500	Wide Band Digital Modes (e.g.: Packet, APRS). 144.340 – National ATV Voice Coordination Frequency FM. 144.390 – National APRS Frequency. 144.450 – National AM Frequency 144.489 – National WSPR Frequency.
144.500 – 144.900	FM / Digital / Linear Repeater Inputs
144.900 – 145.100	Wide Band Digital.
145.100 – 145.500	FM / Digital / Linear Repeater Outputs
145.500 – 145.590	ARISS Links – Space Communication Exclusive.
145.590 – 145.790	Wide Band Digital Modes.
145.790 – 145.800	No transmissions. Guard Band to protect Satellite Sub-band.
145.800 – 146.000	Amateur Satellite Uplink / Downlink and ARISS Exclusive.
146.000 – 146.010	No transmissions. Guard Band to protect Satellite Sub-band.
146.010 – 146.370	FM / Digital / Linear Repeater Inputs
146.400 – 146.595	FM Simplex. 146.520 – National FM Calling Frequency.
146.610 – 147.390	FM / Digital / Linear Repeater Outputs.
147.420 – 147.570	FM Simplex and Digital Hotspots using a 30 kHz raster. Note that Digital channels are interwoven between these FM Simplex channels.
147.435 – 147.585	Wide Band Digital. Note that these Digital channels are interwoven between the FM Simplex channels at 147.420 – 147.570.
147.600 – 147.990	FM / Digital / Linear Repeater Inputs.

FCC HF Band Plan

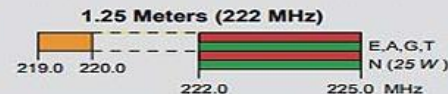
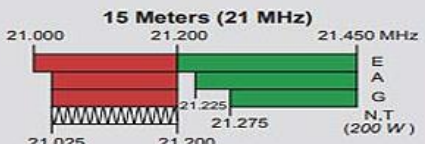
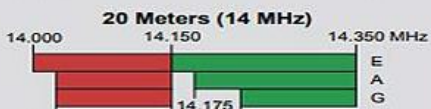
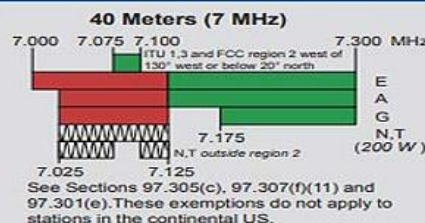
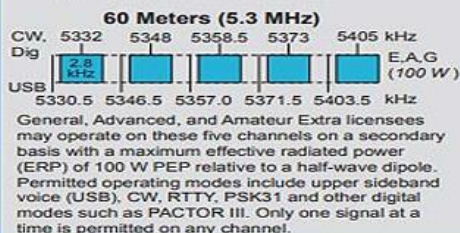
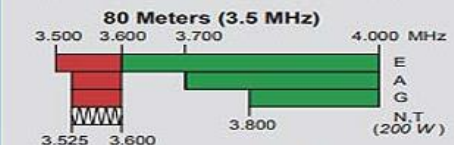
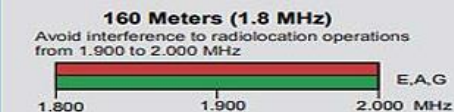
US Amateur Radio Bands

US AMATEUR POWER LIMITS — FCC 97.313 An amateur station must use the minimum transmitter power necessary to carry out the desired communications. (b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

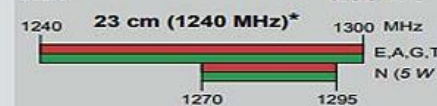
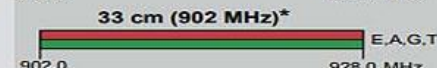


ARRL The national association for AMATEUR RADIO®

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.



*Geographical and power restrictions may apply to all bands above 420 MHz. See the ARRL Operating Manual for information about your area.



All licensees except Novices are authorized all modes on the following frequencies:

2300-2310 MHz	10.0-10.5 GHz ±	122.25-123.0 GHz
2390-2450 MHz	24.0-24.25 GHz	134-141 GHz
3300-3500 MHz	47.0-47.2 GHz	241-250 GHz
5650-5925 MHz	76.0-81.0 GHz	All above 275 GHz

± No pulse emissions

KEY

Note: CW operation is permitted throughout all amateur bands.

MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz. Test transmissions are authorized above 51 MHz, except for 219-220 MHz.

- █ = RTTY and data
- █ = phone and image
- █ = CW only
- █ = SSB phone
- █ = USB phone, CW, RTTY, and data
- █ = Fixed digital message forwarding systems only

E = Amateur Extra
A = Advanced
G = General
T = Technician
N = Novice

See **ARRLWeb** at www.arrl.org for detailed band plans.

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860-594-0200 (Fax 860-594-0259)
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Getting Started in Amateur Radio:
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email: newham@arrl.org

Exams: 860-594-0300 email: vec@arrl.org

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Rules of Thumb...

- If you are unsure of where to operate in a given band with a given mode, refrain from operating until you have checked out the band plan.
- In general, it is usually safe to operate where other amateur stations can be heard operating with a given mode.
- If you are bothered by a contest on a particular day or weekend, you are encouraged to operate on one or more of the WARC bands.
- Be wary of your mode so that your signal does not extend beyond the band plan edges (especially USB and LSB).
- Be aware of additional (unwritten) rules, such as the CW DX window in a given band, digital modes frequencies (FT8, FT4, WSPR, etc.), Maritime net freq, various mode calling frequencies (146.520 on 2m, for example, etc.)
- For those operating on 2m, please do not have your APRS beacon tuned to any frequency other than those suggested in the 144 MHz portion of the band.

The Considerate Operator's Frequency Guide

The following frequencies are generally recognized for certain modes or activities (all frequencies are in MHz) during normal conditions. These are not regulations and occasionally a high level of activity, such as during a period of emergency response, DXpedition or contest, may result in stations operating outside these frequency ranges.

Nothing in the rules recognizes a net's, group's or any individual's special privilege to any specific frequency. Section 97.101(b) of the Rules states that "Each station licensee and each control operator must cooperate in selecting transmitting channels and in making the most effective use of the amateur service frequencies. No frequency will be assigned for the exclusive use of any station." No one "owns" a frequency.

It's good practice — and plain old common sense — for any operator, regardless of mode, to check to see if the frequency is in use prior to engaging operation. If you are there first, other operators should make an effort to protect you from interference to the extent possible, given that 100% interference-free operation is an unrealistic expectation in today's congested bands.

<i>Frequencies</i>	<i>Modes/Activities</i>	<i>Frequencies</i>	<i>Modes/Activities</i>
1.800-2.000	CW	14.233	D-SSTV
1.800-1.810	Digital Modes	14.236	Digital Voice
1.810	CW QRP calling frequency	14.285	QRP SSB calling frequency
1.843-2.000	SSB, SSTV and other wideband modes	14.286	AM calling frequency
1.910	SSB QRP	18.100-18.105	RTTY/Data
1.995-2.000	Experimental	18.105-18.110	Automatically controlled data stations
1.999-2.000	Beacons	18.110	IBP/NCDXF beacons
		18.162.5	Digital Voice
3.500-3.510	CW DX window	21.060	QRP CW calling frequency
3.560	QRP CW calling frequency	21.070-21.110	RTTY/Data
3.570-3.600	RTTY/Data	21.090-21.100	Automatically controlled data stations
3.585-3.600	Automatically controlled data stations	21.150	IBP/NCDXF beacons
3.590	RTTY/Data DX	21.340	SSTV
3.790-3.800	DX window	21.385	QRP SSB calling frequency
3.845	SSTV		
3.885	AM calling frequency	24.920-24.925	RTTY/Data
3.985	QRP SSB calling frequency	24.925-24.930	Automatically controlled data stations
		24.930	IBP/NCDXF beacons
7.030	QRP CW calling frequency	28.060	QRP CW calling frequency
7.040	RTTY/Data DX	28.070-28.120	RTTY/Data
7.070-7.125	RTTY/Data	28.120-28.189	Automatically controlled data stations
7.100-7.105	Automatically controlled data stations	28.190-28.225	Beacons
7.171	SSTV	28.200	IBP/NCDXF beacons
7.173	D-SSTV	28.385	QRP SSB calling frequency
7.285	QRP SSB calling frequency	28.680	SSTV
7.290	AM calling frequency	29.000-29.200	AM
10.130-10.140	RTTY/Data	29.300-29.510	Satellite downlinks
10.140-10.150	Automatically controlled data stations	29.520-29.580	Repeater inputs
14.060	QRP CW calling frequency	29.600	FM simplex
14.070-14.095	RTTY/Data	29.620-29.680	Repeater outputs
14.095-14.0995	Automatically controlled data stations		
14.100	IBP/NCDXF beacons		
14.1005-14.112	Automatically controlled data stations		
14.230	SSTV		

ARRL band plans for frequencies above 28.300 MHz are shown in *The ARRL Repeater Directory* and on www.arrl.org.



**THE
END**