



# Exploring the 70 cm Band

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WA7IGI

June 17, 2020

FREQUENCY	DESCRIPTION
30 GHz – 300 GHz	Extremely high frequency (EHF)
3 GHz – 30 GHz	Super high frequency (SHF)
300 MHz – 3 GHz	Ultrahigh frequency (UHF)
30 MHz – 300 MHz	Very high frequency (VHF)
3 MHz – 30 MHz	High frequency (HF)
300 kHz – 3 MHz	Medium frequency (MF)
30 kHz – 300 kHz	Low frequency (LF)
3 kHz – 30 kHz	Very low frequency (VLF)
300 Hz – 3 kHz	Voice frequency
up to 300 Hz	Extremely low frequency (ELF)

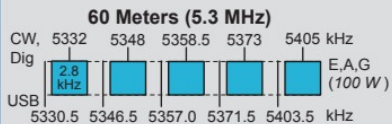
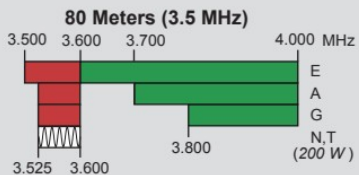
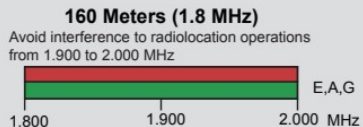
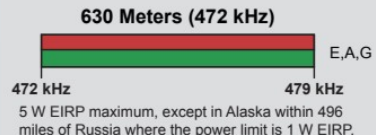
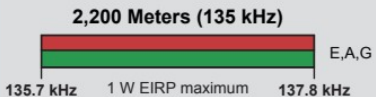
# US Amateur Radio Bands



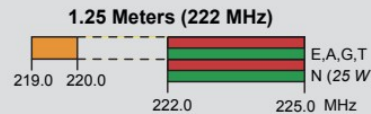
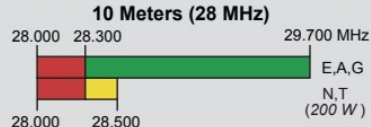
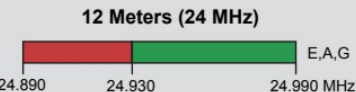
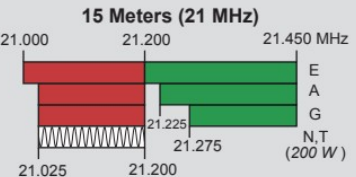
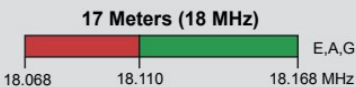
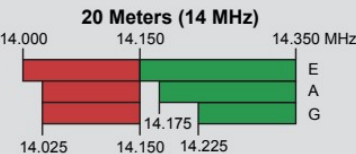
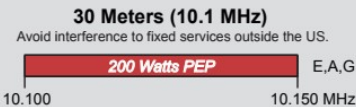
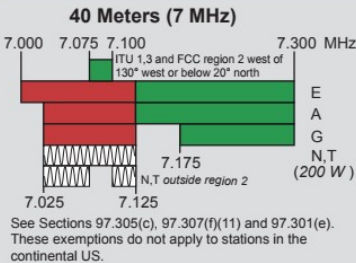
## US AMATEUR POWER LIMITS

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.

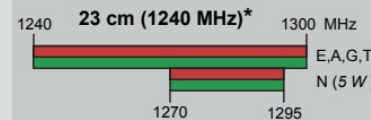
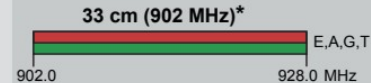
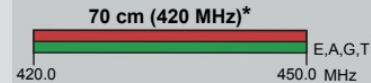
Amateurs wishing to operate on either 2,200 or 630 meters must first register with the Utilities Technology Council online at <https://utc.org/plc-database-amateur-notification-process/>. You need only register once for each band.



General, Advanced, and Amateur Extra licensees may operate on these five channels on a secondary basis with a maximum effective radiated power (ERP) of 100 W PEP relative to a half-wave dipole. Permitted operating modes include upper sideband voice (USB), CW, RTTY, PSK31 and other digital modes such as PACTOR III. Only one signal at a time is permitted on any channel.



\*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](http://www.arrl.org) for detailed band plans.

## ARRL We're At Your Service

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 Toll-Free 1-800-326-3942 (860-594-0355)  
 email: [newham@arrl.org](mailto:newham@arrl.org)

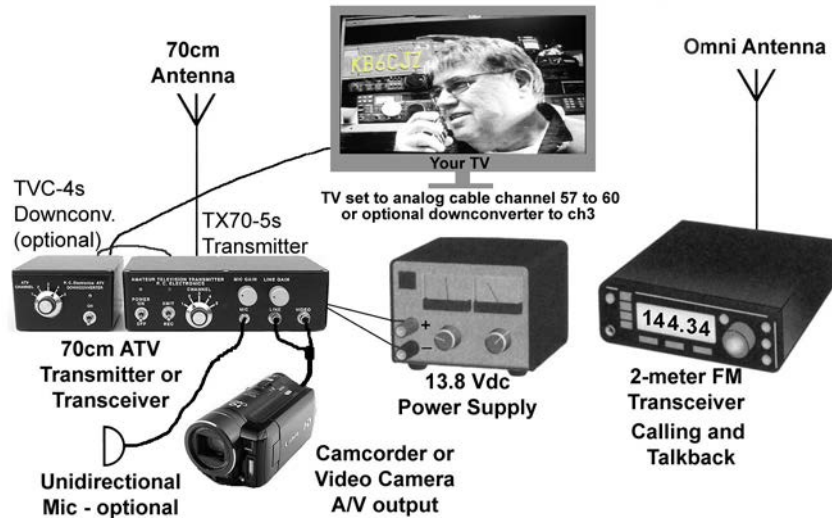
Exams: 860-594-0300 email: [vec@arrl.org](mailto:vec@arrl.org)

## 70 Centimeter Band Plan (420-450 Mhz) ARRL

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)

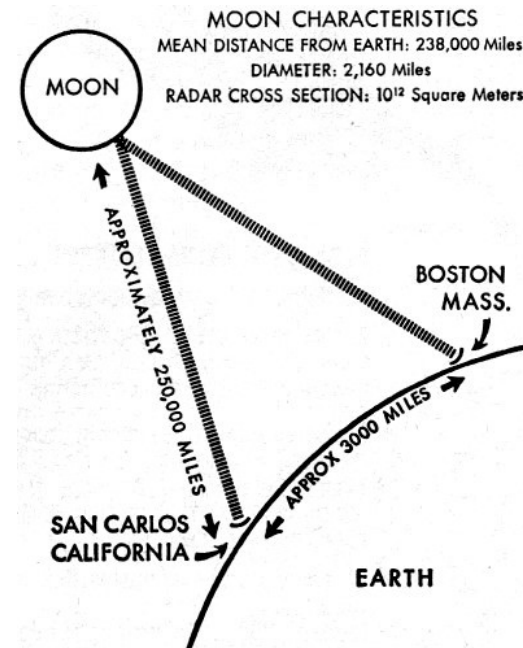
## 70 Centimeter Band Plan (420-450 Mhz)

- 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
- 438.00-444.00 ATV repeater input with 439.250-MHz video carrier frequency and repeater links



## 70 Centimeter Band Plan (420-450 Mhz)

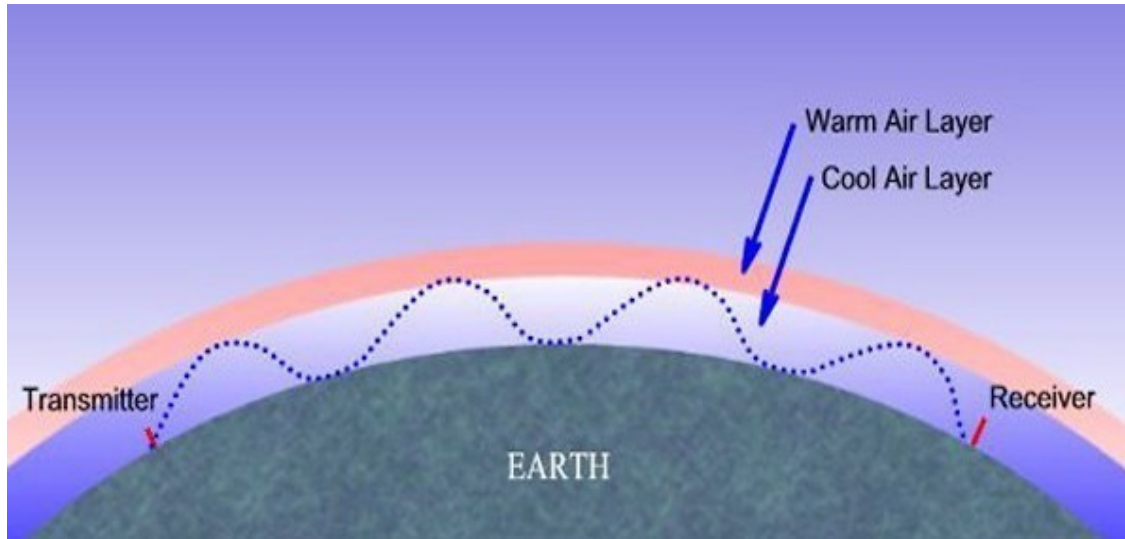
432.00-432.07 EME (Earth-Moon-Earth)



## 70 Centimeter Band Plan (420-450 Mhz)

432.07-432.10	Weak-signal CW
<b>432.10 MHz</b>	National CW/SSB 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

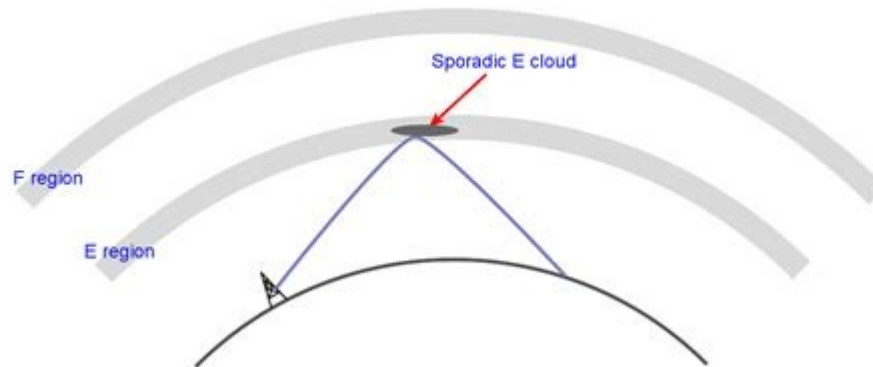
**Tropospheric ducting:** Signal bending in the atmosphere's troposphere.



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**Sporadic E:** Radio signals reflected back towards Earth by highly ionized segments of the ionosphere.

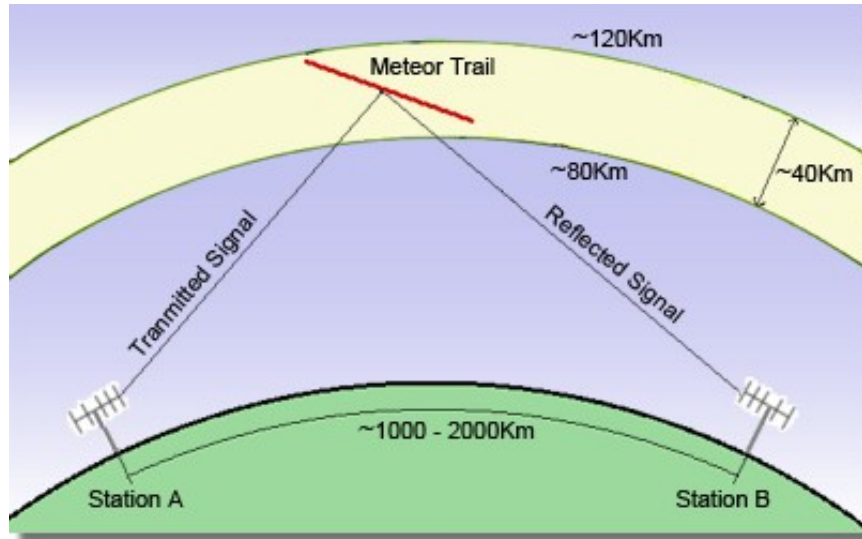




## 70 Centimeter Band Plan (420-450 Mhz)

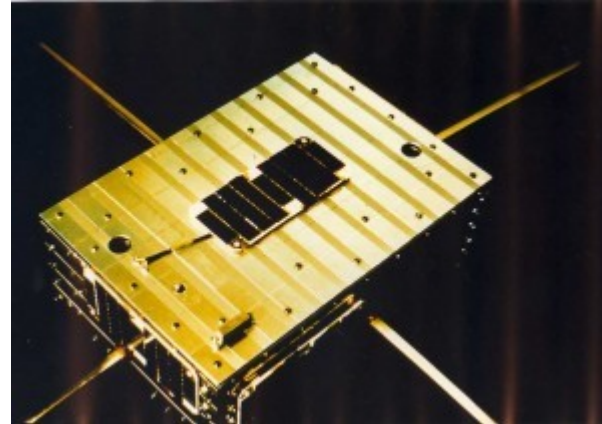
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**Meteor scatter:** Digital data bounced off the ionized gas trail of meteor showers.



## 70 Centimeter Band Plan (420-450 Mhz)

435.00-438.00      Satellite only (internationally)  
                         OSCAR (Orbiting Satellite Carrying Amateur Radio)



## 70 Centimeter Band Plan (420-450 Mhz)

### VVARA 70 cm Repeaters

449.425 (Output) -5.000 = 444.425 (Input)

447.500 (Output) -5.000 = 442.500 (Input)

442.00-445.00 Repeater inputs and outputs  
(note overlap with ATV 438.00-444.00)

445.00-447.00 Shared by auxiliary and control  
links, repeaters and simplex

445.925, 445.950, 445.975, (Simplex)

**446.00 MHz** National FM Simplex Calling

446.025, 446.050, 446.075, (Simplex)

447.00-450.00 Repeater inputs and outputs



Amateur radio enthusiast guide to  
**SOCIAL DISTANCING**

Keep one wavelength apart at 144 MHz

