

## **Newcomers and Elmers Net: VHF to Microwaves**

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The radio spectrum between 30 and 3000 megahertz is one of the greatest resources available to the radio amateur including rag chewing and experimenters with new modes of emission new antennas and state-of-the-art equipment.

Commercial transceivers or transverters are available for the Bands thru 10 Gigahertz and building your own gear is popular as well.

While propagation conditions can change rapidly and seem unpredictable over time, you can learn to read some of the clues to make the most of the bands.

Each of the VHF and UHF bands is many megahertz wide, which is huge in comparison to any HF band.

Calling frequencies help stations to find each other. By knowing the best frequencies and times to be on the air we can make plenty of contacts working DX digital modes and Morse code.

Besides 2 meters and 440, there are bands such as 222 megahertz 902 megahertz 23 centimeters (1296 MHz) and 13 centimeters (2.3 GHz). You can send images, talk to satellites, and send TV video all in the upper bands.

One of the keys to enjoying these resources is to know how everyone else is using them and follow their lead. Basically this means listening first, and paying attention to what is already in use and following the operating practices that experienced operators are using. This way you won't interfere with the ongoing use of the band by others and you'll fit in right away.

All of the bands between 50 and 1296 megahertz have widely accepted calling frequencies. When there's nothing going on already operators will call CQ.

Many operators will monitor several calling frequencies while doing something else around the shack. This way if someone wants a contact you will already be on the right frequency to hear the call and make a contact

The most important thing to remember about calling frequencies is that they are not used for ragchewing. They are contact frequencies after which you move to a nearby frequency to keep the calling frequency open.

On 6 meters for example a DX window has been established in order to reduce interference to DX stations. The window extends from 50.10 to 50.125 MHz.

One of the important things for you to learn when working VHF and UHF frequencies is your maidenhead grid location. Because contacts are often short depending on the mode, the maidenhead grid location allows for a quick location identification.

For example my grid location is EM79 SC.

The grids are divided up into 1 by 2 degree sections of longitude and latitude represented by the first letter and number pairs. The last two letters further specify location within a couple of miles. You can usually find your maidenhead grid location on qrz.com under your details assuming your address is current with them.

<http://www.arrl.org/band-plan>

Beacons

SSB

Digital modes

Packet modes

Remote Control

FM Simplex

Building Antennas gets easier with higher frequencies (although accuracy in measurements gets more and more important)

Working Satellites with FM Voice and digital modes, as well as APRS

APRS

ATV simplex and repeater

Digital ATV

SSTV and Digital Scan Images

Weak signal work

Propagation Beacons

Digital Voice Modes

Remote Operation

Mesh Networking

23 centimeters/1240-1300 MHz – satellite uplinks, point-to-point links, experimental modes, EME, narrow-band image

13 Centimeters/2300-2310 MHz and 2390-2450 MHz – similar to 23-Centimeters

3300-3500 MHz

5 Centimeters (5650.0-5925.0 MHz)

3 Centimeters (10000.000-10500.000 MHz )