

New License? Now It Is Time to Buy a VHF Radio ...

Inspired by the Elmer Night Discussion 1/21/09 ... de W6WTI

Last Wednesday evening at our Elmer Night, the question came up 'What sort of radio should I get?'. While it has been awhile since I bought my first radio (OK, decades!), we discussed a number of considerations that may be of help to new Hams and perhaps more experienced ones.

OK, I have a Technician License, and I live on the coast ... what should I get?

Our two local repeaters are on 2 meters. Our emergency net meets on 2 meters. We do practice simplex operations (transmit and receive on the same frequency) on two meters. It is pretty easy to conclude that a first radio should be one designed for 2 meters. This provides an opportunity to get on the air, talk to folks, and become familiar with the basic operation of a two meter, FM transceiver.

Which is better for me, an HT (Handheld Transceiver/HandiTalky) or a Mobile Radio?

Often new hams are attracted to an HT ... smaller, cheaper, with seemingly oodles of memories, bells and whistles. They are 'self contained' ... you can get on the air almost right out of the box. But what are the differences? Let's look at them, but first a word of explanation ... 'mobile' radios are larger, but they are **NOT ONLY** for mobile use. Many, if not most, see service as part of a primary home station as well as in the family vehicle.

	HT	Mobile
Power Output	5 Watts (lower power selectable)	50 to 70 watts (lower power levels selectable.)
Option for External 12 Volts DC?	Many do - make sure it allows full Receive <u>and Transmit</u> from external 12 VDC source. Many Offer adapters for cigarette lighters in car.	Not an issue, needs 12VDC to operate. AC to 12VDC Power Supply or Deep Cycle battery for Home use, car battery for mobile.
Built in Battery?	Yes (NiMH, NiCad, Alkaline. Check <u>changes in output</u> with Different battery packs.	No.External 12 volts required. (A 20 Amp supply or heavy deep cycle/marine battery and charger needed)
Built in Antenna?	Yes, BUT for coastal operations You'll NEED an external antenna.	Needs external antenna for mobile Use or fixed station.
Memories?	Lots of memories, even low end Ones feature 40 plus memories.	Lots of memories, even low end Ones feature over 40 memories.
DTMF Pad?	Yes (avoid ones that don't) Needed for auto-patch use.	Yes (usually on the microphone) Needed for auto-patch use.
FM or Multimode	Repeaters and Simplex use FM. Leave other modes like SSB for later.	Repeaters and Simplex use FM Leave other modes like SSB for later.

OK, What sort of external antenna should I be considering?

Since the ‘rubber duck’ antenna isn’t very efficient, and our distances are greater and the topography is challenging, many start with an ‘J-Pole’ antenna. KE6WC makes a good solid copper pipe version for nominal cost. That and a suitable coaxial feedline to the roof mounted antenna will get you on the air with a reasonable signal from an HT or Mobile type radio.

Operating mobile also places a demand on your antenna needs. A good quality 5/8 wave 2 meter magnetic mount antenna is important so that you can radiate an optimum signal whether you are running 5 watts or 50. Using a 5 watt rubber duck in a car is a recipe for failure ... much of your RF stays in the car. The mobile antenna is essential if you wish to try using an HT in your car.

How about other features I should look for?

All of the common HT and Mobile type radios provide the ability to tune the full 2 meter band. Some allow wide-range receive (no transmit) to allow monitoring of NOAA Weather, Aircraft control frequencies, local VHF channels used by Fire Departments, County police/fire dispatch, CalFire and others.

So, where should I start ?

The three major amateur radio equipment manufacturers all market a solid, basic, 2 Meter HT and Mobile Radio: ICOM, Kenwood and Yaesu all make good solid radios. You really can’t go wrong. They are price competitive and a good value. In general, though, at our Elmer Night conversation it was strongly encouraged to start with a mobile type radio ...

- can be used at home, and in the car.
- with suitable battery and/or power supply, you can monitor without worrying about batteries running down at an inopportune time.
- with more power output and an external antenna, you’re more likely to enjoy sold copy QSOs with your friends and neighbors. It’s pretty frustrating to be told that they can ‘tell you’re in there, but can’t hear what you’re saying’.

Examples of good basic 2 meter FM Transceivers:

	Mobile	HT
ICOM	IC-2200H	IC-V85
Kenwood	TM-271a	TH-K2AT
Yaesu	FT-2800M	VX-150

Will one radio be enough?

I’d be kidding if I thought you’d only ever have one radio. But, if I could only afford one 2 meter mobile radio, any one of these mobile radios would satisfy my needs. But, eventually I might want to try a hand held radio. I might want one at home and one in my car (or cars). I might upgrade to a general license and want to get on HF radio.

Cost ?

Basic HT’s are available from under \$150. A Mobile Type Radio, with a suitable power supply, and external antenna typically will run to about \$300. These are based on ‘new prices’.

Buying Used?

Good deals on used equipment show up from time to time. Comparison shopping can also result in savings. A local previously owned radio may represent a good value. If you like the challenge of finding one on-line, auction-site, or whatever, you might want to consult with an experienced club member for assistance.

Manuals and Information?

Most manufacturers support web sites which allow the downloading of brochures and operating manuals for the current and past models of radio. Before you purchase a new radio, it may be helpful to download the manual and review the basic operations. While you may not have read many manuals, some differences in organization and language may communicate better for you than others. For links to manufacturers and equipment retailers check out www.abarc.net.

Why not a dual band radio ?

There are a lot of dual-band, tri-band and even quad-band radios manufactured today. The basic simplicity of a 2 meter radio makes it a good choice to start. There isn't too much 50 MHz, 220 MHz and 440 MHz activity on the Coast let alone the higher bands. The multiple band capability is significantly more expensive than the basic 2 meter transceiver.

There are a couple of 440 repeaters in the area (one in Timber Cove, another inland of Pt. Arena) but there is an ongoing controversy about 440 that may make it a little risky at this point. PAVE PAWS radar at Beale AFB over by Marysville is experiencing interference by amateur transmissions which are a secondary use authorization. Military is the primary service in the 440 band. Waiting until the dust settles may be a prudent course.

Purchasing 440 equipment for use in Northern California may be questionable, unless you expect to spend time outside the area. There is a lot of 440 activity nationally, particularly in urban areas.

More and more High Frequency (HF) transceivers are being made which *also* cover 50, 144, 440 and even 1.2 Ghz bands. These a) aren't cheap, b) are bigger and bulkier, and c) don't make a lot of sense until you have upgraded to a General Class license and wish to exercise your HF privileges. Even then, you will likely find a use for the dedicated 2 Meter Mobile radio.

Why do I need a radio with DTMF key pad ?

Telephone interfaces with repeaters are called auto-patches. In order to utilize this repeater function, to call for police, fire, vehicle assistance, or just to order a Pizza, your radio needs to be able to generate the numbers to place a telephone call. DTMF tones are also used to communicate with the repeater's controller in order to turn special functions on and off. You may not utilize these right away, but it is a good idea to have them, even on your first VHF radio.

For more information see the [ARRL Handbook for Radio Communications](#).

And ... www.abarc.net