Radio Recommendations

I have received a few inquiries about radios, so I thought I'd do a little pre-emptive strike and throw out my opinion, for what it's worth.

I generally recommend a "mobile" radio. This can actually go in a vehicle, or be set up at home (with a power supply and a base station antenna). It is even possible to do both, moving the radio between the two. Most folks find this a royal pain and the set ends up permanently in one spot or the other. This can also prompt a second purchase.

Why a dual-band radio? The most popular band by far is 2-meters. Many hams have no other equipment, and even the seasoned HF operator probably has 2-meters around somewhere, although they may not use it as much. The next most popular band that Technicians can use is 70-cm. The primary activity on both these bands is FM-voice using Repeaters. In this area (Pacific County) a 2-meter-only mobile radio would work, but we have more UHF repeaters than VHF. You can certainly make it work on 2-meters if that is all the budget will allow. Two-meters only makes more sense than 70-cm only. The radio and antenna will be less expensive. Going with a dual-band approach will cost less than twice as much and offer more than twice the potential use.

The other bands offered in popular mobile equipment intended for Technicians are 6-meters, 1.25-meters (222 MHz) and 23-cm (1.2 Ghz). Remember that any additional band will require an antenna. There are popular dual band antennas (both base and mobile). This is less true with some combinations of three bands. None of these represent much bang for the buck.

Six meters has some activity in the area, with a repeater east of Astoria on the Oregon side of the River. There are a few other repeaters in the Seattle and Portland areas. Each band has its own characteristics making it interesting in its own way. If you want to put up with the added expense and complexity, 6-meters might be fun to have.

The 1.25-meter (220) band is not very popular. There is one repeater in Pacific County and it isn't working at the moment. The band has great propagation characteristics, but because there are relatively few repeaters, there are few users. And visa versa.

The 23-cm band is strictly an urban band. These frequencies are basically microwaves and don't travel well through trees and over hills. There is no activity in Pacific County.

There are also complete "soup to nuts" radios out there. The Icom IC-706-mark-2-G is one example, although each manufacturer has a similar model. This is a single mobile style radio that has the HF (160-10 meter) bands, and 6-meters, and 2-meters, AND 70-cm all in one box. Remember that the greater the capabilities, the more complex the controls and commands. This is not really a beginners' rig. It also costs $900. Oh, and remember the antennas are quite complex and the power supply requirements larger.

D-STAR is a new digital voice/data system developed in Japan. It is incompatible with the traditional FM voice we commonly use, requiring D-STAR digital repeaters and radios to function. There are no D-STAR repeaters in or around Pacific County, and no plans to set one up any time soon. My take on this (personal opinion) is that D-STAR will suffer from the same acceptance issues that have plagued the 222-MHz band. My recommendation is NOT to pay extra for a radio to include D-STAR capability.

You can expect a new radio to last ten years. Most continue to work for twice that long. Your HT will require a new battery about every three years. Radios are long-term investments.

Some thought needs to be given to how you will use your radio. Ham radio has been part of my life for over 20 years, so I have a radio in each car and at home. I also have a couple of HT's (Handi-Talkies). We use them all, but the most frequently used radio is the one in the car.

A vehicle-mounted radio has a power supply that still works when the PUD goes out, making it useful in emergencies. It also tends to be wherever you are when you need assistance.

The house-mounted radio has a pair of deep cycle batteries to back it up, but that all evolved over time. We now have a small generator too, and that will power the station (and charge the batteries) when necessary. But then we could just go out to the car to use that radio, too.

The house radio is really useful for Kathleen (N7ONG) and me to talk to each other (car-to-house). In the "Time Before Cell Phones", we used this a lot. We still use it frequently (you

might have noticed the less-than-complete cell coverage in our area) since the ham radio coverage is really pretty good in the county. But we do use the cell phones when they work, too.

Handie Talkies are fun and useful. But they have big limitations. In Ocean Park, with very careful attention to detail, you can make one work. But it will be a challenge. Nobody likes to have people telling them their signal is weak and scratchy all the time.

There are several repeaters surrounding Ocean Park, but none are really close enough that I would recommend a Hand Held radio at this time. Maybe someday we will set up a repeater somewhere near the center of town and HT's will become all the rage. I'm working on it...

In the middle of the Peninsula, unless you happen to be overlooking the Bay, you will find an HT really difficult to use. In Long Beach/Ilwaco/Chinook, Naselle, and South Bend/Raymond we have centrally located repeaters so you can use an HT just about anywhere in town.

Under the best of circumstances, an HT in a vehicle works about ten times worse than standing outside. If you install an outside antenna, the HT will work much better. Be careful with the cable connecting to your HT. The newer handhelds in particular have teeny-tiny antenna connections that are fragile and prone to break if handled roughly.

If you want to have an HT to play with, er... I mean to seriously evaluate, get a mobile radio first, and the HT as a "second radio". This can certainly be a useful arrangement. Of course, I realize that most new hams will buy the HT first (I did) and learn all about the limitations the hard way. Be my guest, but I reserve the right to say, “I told you so”.

Handi-Talkie batteries are one particular weak point. They are happiest if you “use it every day, charge it every night.” The fastest way to permanently kill a rechargeable battery is to leave it in a drawer (or in the charger) for a month. They like to be cycled. The second fastest way to kill a battery is to frequently run it down really flat dead. When the radio starts acting odd, particularly if the LED blinks on transmit, shut the radio off and recharge it at the first opportunity. Be aware that a new battery will not give you full charge performance until it has been cycled a few times.

The "Big Three" manufacturers are Icom, Kenwood and Yaesu. They are all Japanese, but Motorola just bought a controlling interest in Yaesu. The other brand to be aware of is Alinco, a Korean "low cost" brand.

Each of these manufacturers has a broad line that includes what you will be looking for. My recommendation is to select a "Dual Band" radio that works on both "2-meters" and "440" (70-centimeters).

Icom: IC-208H ($255), IC-2820H ($650)
Kenwood: TM-V71 ($400), TM-D710A ($600)
Yaesu: FT-7800R ($250), FT-8800R ($375)

(prices from the latest AES catalog, rounded off)

All of these have slightly different features. Generally the first is a "twin-band" or "duo-band" with a single display. It will operate on either of the two bands, but one frequency at a time. The other ones are "true dual band" and have two displays. The difference is actually minor, and having owned both types, I can say either will work just fine for you. Like with so many things, after you have been around long enough you may be able to appreciate the difference. But if you can't, then don't pay extra for it.

Most of these have a removable faceplate, which allows for much easier vehicular mounting. They require a special cable to tie the two pieces together (a “split kit” or “separation cable”). When you buy your radio, get the separation cable at the same time. You can usually talk them into throwing it in free or nearly free. It is really hard to get one after they discontinue the model a few years down the road, so even if you don’t use it right away, you may want it later.

I have an Icom IC-2720, the predecessor to the IC-2820, in my Subaru, and an FT-8800R in the Prius. I have an IC-207H, the predecessor to the IC-208H, which I carried on ships with me for years, and an ancient Kenwood dual band radio from the 1980's at home. All have served me faithfully.

I should also note that we (N7ONG & I) have two Icom IC-W32A dual band hand held radios (no longer made). I use them a lot, but then I have a repeater network to take care of and would not consider myself an "average user". Our house is on the Bay and I

can literally SEE four of the repeater sites from home. That is pretty much what you need for an HT. Even so, my signal tends to be a bit rough from the couch.

The FT-8800R is a very nice radio. It has several memory features I have not encountered before. I should say it is the first new radio I have bought in about 5 years. The programming is more complicated that any of my previous equipment. It was designed to be loaded from a computer program. Being pig headed, I refused to buy the computer software, and hand loaded all the frequencies. You might want to consider the computer approach, or at least see if you can talk the store into programming some of the frequencies for you...

I attached a Pacific County frequency guide. They are in the most convenient order I have found.

You will need an antenna. For a vehicle there are four options (in order of invasiveness): Magnet Mount, on-the-glass mount, trunk lip mount, permanent mount (drill a hole). You will want a dual-band (2-meters and 70-cm) antenna.

Magnet mounts work well in the middle of the roof. Lead the coax cable in the passenger side rear door; it's the least used and will chafe the cable least. It’s best to run the cable in the DOOR rather than the window. The door usually has a soft rubber seal with enough room for the cable. Always wipe the roof (and the bottom of the magnet) off with a clean rag before sticking the magnet down. The magnet won't scratch your paint, but the dust under the magnet will!

On-the-glass antennas glue onto a window (inside and out) and pass the radio energy through the glass. They have to be on a fixed (not moving) window, away from heater wires. Side or rear windows are best. They can be removed later without a trace.

If the car has a trunk, the lip mount works reasonably well. The cable is routed forward with the tail light wires to the radio. This can also work on hatchbacks. Paint damage is limited to two tiny points on the underside where the setscrews bite.

The best electrical connection is obtained by using a permanent mount, requiring drilling a hole. The hardware won't leak if installed correctly, but can impact the resale value of the car. A trick that sometimes works at resale time is to replace your ham antenna with a cell phone model made for the same base. Then the “bug” becomes a “feature”.

As for a base station antenna, investigate the dual-band Diamond antennas (X30A, X50A, X500HNA). These increase in size, gain and price. You get what you pay for. They want to be mounted as high as is practical. If possible, use the roof of your house. The antenna does not have to be mounted on a “tower” or “mast”. It only cares about altitude.

Use half-inch (RG-8/RG-8U or LMR-400) coaxial cable. If you figure the length required, adding a reasonable amount for fiddle-factor, you should be able to order it cut to length. If the supplier wants an arm and a leg to install the connectors, then buy the connectors and I'll install them. The radio usually requires a "PL-259" connector, also called a "UHF" connector. The antenna will also require one unless it specifies another type (commonly "N-type"). You can ask the dealer to include the appropriate connectors; he'll be able to tell what is right.

Ready-made cable lengths can be a good deal. Five or ten extra feet of cable won’t make a difference, but 20 or 30 extra feet will noticeably detract from your signal.

A base station also requires a power supply to convert wall current to 12 volts DC. I recommend the Samlex switching power supply. The SEC-1223 is $100. Some hams prefer a traditional "brute force" supply. Look at Astron for a brand: RS-35A ($150).

Where do I buy this stuff? Amateur Radio is a specialized market. There are two main outfits that distribute nationwide; Ham Radio Outlet (HRO) and Amateur Electronic Supply (AES). The nearest AES store is in Las Vegas, while the nearest HRO is in Portland. If you want to actually handle the goodies, HRO is the place. These two companies are very competitive as far as prices go. You might save a buck here and a buck there if you compare.

They both will sell over the phone or Internet, and they both have on-line catalogs and product information. Neither web site is particularly easy to use. Hams with a wealth of knowledge staff these stores. They are looking for repeat business, knowing that you will be back again and again over the years. They won’t intentionally burn you. Remember that they are in Sales, though. Watch out for the “little bit more”, as in, “that’s a great rig, but for a little bit more you can get…”

==>Ham Radio Outlet; Portland, OR: 1-800-854-6046;
http://www.hamradio.com
==>Amateur Electronic Supply; Las Vegas, NV: 1-800-634-6227;
http://www.aesham.com

Installing a radio in a vehicle is a specialized project. When that time comes, give me a call and we can go over all the mistakes others have made, so you won't have to make them again.

Contact me anytime if I can be of help.

73, Frank, NM7R

Pacific County Frequency Recommendations

Smpx means “Simplex” ie: no offset. All the repeater offsets (except one) are standard, and the radio will probably take care of these for you. CTCSS is the sub-audible tone (“PL”). Your radio should be set up to TRANSMIT the PL tone as indicated, but do not set it up with a PL tone on RECEIVE.

Freq	Offset	CTCSS	Label	Note
146.520	Smpx	none	Smpx 52	National Simplex
145.580	Smpx	none	Smpx 58	Simplex
147.470	Smpx	100.0	IRLP Ab	Aberdeen IRLP
147.570	Smpx	127.3	IRLP Ray	Raymond IRLP
444.925	+5	82.5	IRLP	Chinook/Long Beach
441.675	+5	118.8	KO Pk	KO Peak, Hwy 30, Hwy 6
147.180	+0.6	123.0	Airprt	Warrenton Receiver (covers 101 from Chinook tunnel to Astoria)
444.800	+5	118.8	LB UHF	LB Downtown
147.180	+0.6	82.5	LB VHF	Most of Peninsula, Astoria
147.180	+0.6	114.8	Nas VHF	Naselle Remote Receiver
145.310	+2.47	114.8	Nemah	Odd Offset; best Tx/Rx on 101, Naselle to Bay Center
440.675	+5	118.8	Nas UHF	Naselle
442.675	+5	118.8	SB UHF	South Bend/Raymond
147.340	+0.6	118.8	SB VHF	Bay Center north to Pac Co line on 101, and Peninsula, Ocean Park north
145.390	-0.6	118.8	Cosi	Cosmopolis/Aberdeen
444.950	+5	118.8	OLY	Olympia, Grays Harbor Co and South Sound
444.700	+5	118.8	Neilton	Hwy 101 from Hoquiam north
444.050	+5	118.8	Minot	Hwy 12 Montesano/Chehalis
145.310	-0.6	118.8	N Cove V	North Cove/Tokeland/Grayland
444.400	+5	118.8	N Cove U	North Cove/Tokeland/Grayland
146.860	-0.6	118.8	Ilwaco	Pac Co ARC club Rptr
146.760	-0.6	118.8	AST 76	Nicolai
146.660	-0.6	118.8	AST 66	Wikiup
145.450	-0.6	118.8	AST 45	Megler
146.740	-0.6	118.8	Seaside	Arch Cape
147.200	+0.6	127.3	K7PP KO	Links to Sound
440.925	+5	100.0	N7BAG	