

Ham 179 - Vhf-uhf station revisited

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Mission: *Establish reliable, lowest technical common denominator communications, locally & regionally, in a HOA.*

Recommendations are based on 1) *performance* 2) *friendly usability by most people* and 3) *price*.

Typically we have two recommendations. 1) preferred for performance or 2) tolerable performance but better price point. If a manual is required for routine operations, it is not friendly usable by most hams. For support and availability in emergency, use devices that others in the group use.

This is ham. Ask an Elmer for any help, including installing or making.

Application. Your ham station may be a base, mobile, or emergency Go-Box. We standardized equipment as much as practical.

Transceiver. The performance choice is easy: Icom 2730A. This is small, but full 50 W, VHF/UHF dual band, dual receivers usable for either band or cross-band, large bright LCD display for outdoor, removable head with mic for separation. Best of class audio. It is simple to use, extremely flexible, and dependable. It is very rugged, exceeding *Mil-Std 810*. Power required is 13.8 Vdc at 13A.

Power supply. *For mobile*, no additional supply is required. Because of heavy current drain, connect to the battery through a relay. Avoid using the cigar lighter.

For base, use a fixed supply at 15A or more. Switched mode are less expensive and much lighter, but can cause noise on HF. That is seldom a problem with FM mode VHF/UHF. The BTEch RPS-30M is US designed with local warranty and support. It is competitively priced with Overheat, Short Circuit, and Amperage Surge Protection. Simply connect with no adjustments required. From Amazon.

For emergency use, batteries are generally used. Gel cell for alarm, lithium ion, or lithium iron phosphate are good. Caution: use only the right charger. Each 10 Amp-hr gives one hour transmit at full power. Reduce power to last longer.

Antenna. The *COMPACTenna* is a paradigm shift design by Dr. Jack Nilsson. The 7.5" may be preferred in a few noisy locations. The 9" performs even better. These are very small, but work phenomenally. Its near-line-of-sight, elliptical pattern is unmatched in hilly, urban, and tree areas. The mount is NMO connector. There is no second choice.

For mobile, select a bracket for hood, trunk, or toolbox mount without poking a hole. Alternately consider a magnetic mount. Opek has many options.

For base, build a simple mount with an electrical box, NMO connector, and two 12" brass rods like the photo. Details are in other articles. This can easily be placed in an attic, or along a wall. Refer to RF exposure tables, if locating near people.

Coax. You will need coax to connect the radio to antenna. If over 25-ft, use RG-213/U coax with PL-259 male plugs. This is large, semi-flexible coax for the high losses of UHF. Less than 25-ft, RG-8X is acceptable with flexibility. Preferred is DX Engineering or HRO. Cable Experts & ABR make very good cable. Avoid Amazon cable because of quality concerns.

Ferrite beads. To isolate the coax shield from the antenna counterpoise, snap at least four Mix31 beads around the coax at the antenna. Use Palomar or Fair-Rite.

Vendors. Ham Radio Outlet; DX Engineering; MTC radio in Paris, TX; and Giga Parts radio are reputable vendors.

Value. The cost may look stout, but with this set-up, it is one time and done. The radio is usually on sale at end of November to Christmas and in May. It is about \$310 - \$350, the power supply about \$100, and the antenna about \$120. Mounting hardware is about \$25 and coax about \$75.

Alternates. A workable radio is the TYT TH-9800D Plus. The trade-offs are its screen is much more difficult to use, sound quality is lower on transmit and receive, and construction is considerably less rugged. It has VHF/UHF at 50 W. It also has 6-m and 10-m FM, usable with a General license. Its cost is about \$240.

A few others are available, but limitations are too great for less technical hams. For example, Yaesu has fair capabilities, but so many tedious menus, it is difficult to use without a manual. Their quality has dropped off. They are a legacy brand but with little incremental value. I have owned several, but no longer recommend. Another legacy brand, Alinco, is user friendly, but now has a limited line. Our goal is research data rather than just tradition or opinion. Have a reason.

Life is good. Enjoy!

