Ham Tips

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A Practical Grab-and-Go VHF-UHF Station

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The complete station consists of a transceiver mounted to an AC power supply equipped with a short adapter cable terminated in a Powerpole connector, a CigBuddy, a pack of spare fuses, the transceiver's DC power cord terminated with a Powerpole connector, an alligator clip battery adapter, the AC power cord, and a small box to hold all the accessories.

This Ham Tip describes a highly functional Amateur Radio station capable of operating on the 2 meter and 70 centimeter FM amateur radio frequencies. The station was designed to be highly portable. It can be easily moved from one venue to another and set up quickly so you can be on the air in minutes.

The station was assembled from commercial-off-the-shelf (COTS) products. The radio is a Yaesu FT-8900R analog FM transceiver and the power supply is a Samlex SEC-1223, both purchased from Ham Radio Outlet (hamradio.com). The short adapter cable for the AC power supply was made from the battery end of the DC power cable supplied with the radio. The cigarette lighter and alligator clip adapter accessories, as well as the extra fuses, were purchased from Powerwerx. (powerwerx.com).

This equipment constellation can be used as a permanent base station, a tactical base station, a mobile station, or a cross-band repeater. Since the station can be powered from several sources — commercial power, the battery in a vehicle, or a storage battery — it's convenient to use in a variety of different situations.

The antenna used will depend on the application. When it's used as a base station, a permanent base station antenna may be used. For a mobile or a tactical base station installation, a dual-band mag-mount antenna is very practical. And, if the coax on the mag-mount is not long enough to reach the radio, a 50 foot length of RG-8X with a PL-258 "barrel" connector on one end is another accessory that's handy to have.

The FM transceiver is mounted directly to the cover of the AC power supply so there is only one unit to carry and stow. When commercial power is available, just plug in the power supply, connect an antenna, and you're on the air.

The transceiver's mounting bracket is bolted to the cover of the power supply using short number 10 machine screws, flat washers, and lock washers. Before drilling the holes, check to make sure the heads of the machine screws will not come in contact with any components in the power supply.

For mobile use, the transceiver's power cord can be plugged into the Powerpole connector on the CigBuddy adapter which plugs into the cigarette lighter socket. This provides an easy way to power the radio from the vehicle's battery; however, you may have to reduce the radio's RF output power (in order to reduce the current drawn by the radio) to avoid blowing the vehicle's fuse. Check your vehicle's owners manual for fuse rating.

When the transceiver is used as a tactical base station it can be powered by a deep cycle battery and full RF output power can be used if necessary. The alligator clips are placed on the battery terminals and the transceiver's power cord plugs into the Powerpole connector. A 30 Amp in-line fuse is used in this adapter for additional protection. An automotive battery can be used instead of a deep cycle battery in a pinch.

Summary

This Ham Tip described the construction of a VHF-UHF station that can be quickly set up as a permanent base station, a portable field station, or a temporary mobile station. Having a variety of power supply cable options available goes a long way toward making this a practical grab-and-go station.

73 from KH6CQ

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