

## - KDØCA PORTABLE HAM RADIO OPERATIONS -

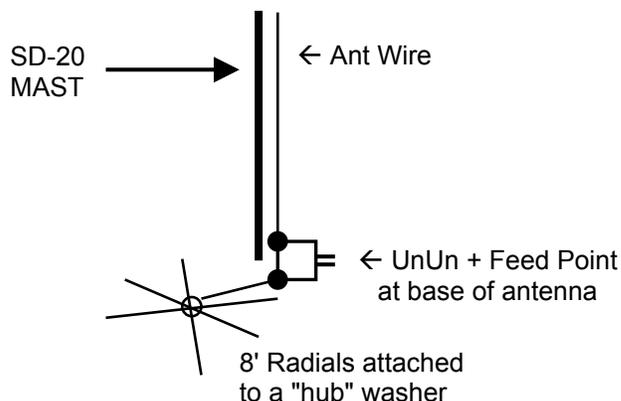
I have enjoyed operating QRP CW & PSK while camping in my Class C motorhome with most of my operations taking place at dining table inside the RV and run the coax out the cab's passenger window. I place a length of slitted foam pipe insulation on the top edge of the glass while it is rolled down a bit. Then I roll the window up tightly against the window gasket, and it seals out bugs and weather, and it holds the feedline from slipping and placing any strain on the rig. Currently my portable rig is the Icom IC-703+ which is rated at 10 watts max in CW & SSB. I power the rig with either the truck battery via the dashboard cigar lighter or an 18 Amp/Hour jump-starter battery set which has cigar lighter access for 12 VDC.

For portable operation, I have found that random length wire vertical or semi-vertical antennas are easier to set up and take down and seem to outperform center fed dipoles and doublets operated at low heights. I usually operate in the daytime on 40, 30, and 20 meters, and always use the IC-703+'s internal autotuner to match the antenna system. I have also found that supporting my antennas with an SD-20 telescoping fiberglass pole is easier and faster than flinging weights and cords over tree limbs. By the way, I secure the antenna wire to the mast using adhesive tape, electrical tape, or rubber bands. (NOTE: Please visit the "Portable Antenna Support" link on this web page to see my PVC base support for the fiberglass pole.)

I found by trial and error that a vertical, non-resonant end fed 20 foot wire tunes up very well on 40 - 10 meters using the auto-tuner in the IC-703 as long as I feed the antenna with a multiband unbalanced-to-unbalanced transformer (UnUn). I built my UnUn transformer inside a small Radio Shack plastic box with an SO-239 in one wall for the coax to the rig, and 2 Banana Jacks in the opposite wall for the Banana Plugs from the Counterpoise and vertical Driven Element.

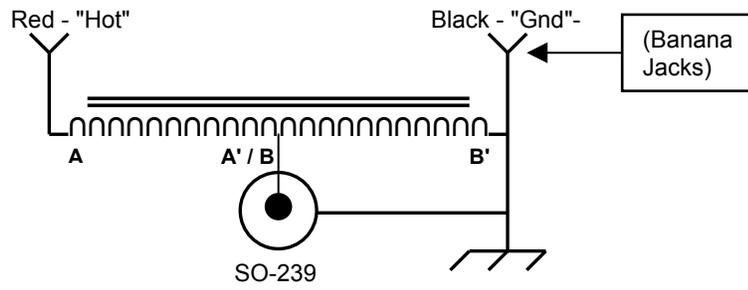
I have had fairly good success using a single 20 - 23 foot insulated wire lying on the ground as the counterpoise, but six 8 foot radials lying on the ground worked MUCH BETTER, yielding more QSO's and stronger received signals. I use a large 2 inch diameter fender washer [it has a rather small hole for such a large washer] as the center connection for the radials. I soldered an alligator clip to each of the radials so they can be very quickly attached to the centrally located washer at the "hub" of the short radials. I also placed an alligator clip on the end a short "ground" connection wire leading back to the UnUn's Black "Ground" Banana Jack. In the summer and fall of 2006, I experimented with running a feeder directly to the bottom of the random vertical where it connected to the bottom of the antenna and directly to the counterpoise connecting "hub" washer. The Red "hot" Banana Jack on the UnUn, of course, connects to the vertical wire antenna to which I soldered a Banana Plug. As long as the coax lengths don't exceed 12 to 20 feet, the line loss is roughly estimated at about 2 dB more than when I used to feed this antenna with 300 ohm line. Remember that 2 dB is **ONLY** 1/3 of an "S" unit.

### Deployment Diagram of a Random Vertical End-Fed Wire:



## Multiband Random Wire UnUn:

Place 15 to 19 Bifilar Turns of Insulated wire on a T-130-2 Core.



© January 2009, Jerry L. Bartachek KDØCA