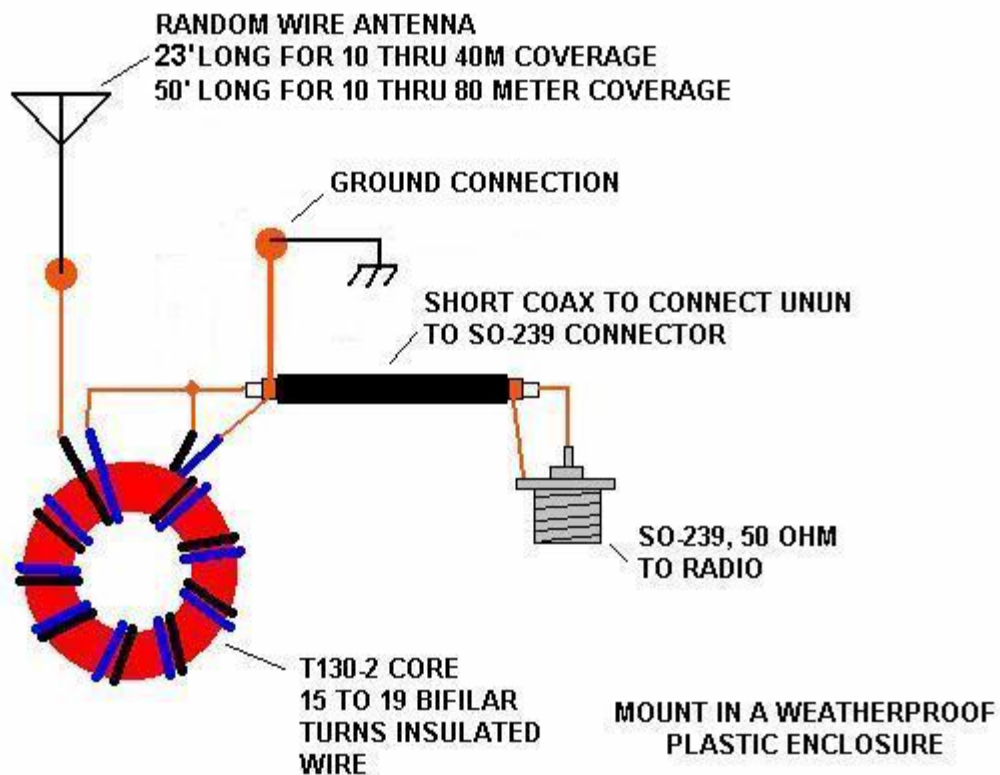


RANDOM WIRE UNUN FOR MULTIBAND USE WITH BUILT IN AUTOTUNERS - THE "UNTENNA"

GET ALL BAND COVERAGE WITH A SINGLE WIRE AND THE ICOM 703

MULTIBAND RANDOM WIRE UNUN (UNBALANCED TO UNBALANCED)
FOR USE WITH RIGS WITH BUILT IN AUTOTUNERS



GREAT FOR QUICK SETUP IN EMERGENCIES !

I just finished making a trial run on an experimental multiband antenna for use with my 703. What I had been wanting was a simple ended wire that I could use with the 703's internal autotuner and get coverage on several bands. I had tried several random lengths of wire alone with the 703 but could only get a few bands at best. Then I tried different lengths with 1:1 and 4:1 baluns between the radio and wire with only slightly improved coverage. I even built and tried a switchable 1:1/4:1 balun so I wouldn't need to

physically change them each time I needed a different ratio. Then I was looking thru my notes and found the diagram for a "UNUN", and since a random ended wire would be an unbalanced load, I figured I would experiment a little with them to see if I could get one to work in the way I wanted it to. The only problem with my notes, was the fact that I had forgot to list the type of core material used to make the Unun with ! I have an FT114-43 core on hand, and tried winding one on it first but could not get the coverage I wanted and even noticed some slight core heating at 10 watts which I figured meant some loss being introduced by core saturation. I tried winding it with several different numbers of turns, but just couldn't get it to work the way I wanted it to. Then I happened to remember a T130-2 powdered iron core I had and decided to try that. So I started by winding the T130-2 core with as many bifilar turns of #20 insulated wire that I could fit on the core figuring I could remove some if needed. I ended up being able to get 18 bifilar windings of the plastic insulated hookup wire on the core and if that wasn't enough I could switch to magnet wire to allow more turns - didn't want to waste the magnet wire unless it worked like I wanted it to. But anyway, I got it all wired up and mounted it in a mint tin similar to an Altoids tin and took it outside to try it out today. I started with a 23' wire connected to the hot side of the Unun and another 23' wire connected to the ground side for the counterpoise wire. Used my 20' crappie pole as a support and connected the far end of the antenna to the top of the pole and set it up far enough away from the radio so that the wire was deployed in sloper fashion with the counterpoise stretched out on the ground under it. Tuned to the low end of 40 meters and hit the tune button and got an instant match with lots of CW signals booming in ! Didn't take the paddles out and didn't want to spend a lot of time out there in the cold breeze, so I tuned up band to the phone portion, hit the tune button and again got a perfect match. Made a couple of quick contacts and gave a couple contesters a contact and got signal reports in exchange. One guy was in Virginia and the other was in Texas with a 55 and a 57 respectively - not too bad for a short wire and 10 watts. Then I went up through the bands to see if I could get a match on any of them. I am happy to report that I got a solid match on every band from 40 meters up to and including 10 meters, and made short contacts on 40, 20, 17, & 15, and could not find anyone on 12 & 10 meters but again got an instant match with the 703's autotuner anywhere I stopped the dial from 40 to 10 - just what I wanted ! I speculate that the Unun will allow me to use a 50' wire 10 thru 80 meters and I'm hoping the 50' wire will do the trick and give me 10 thru 80 meter coverage. When I get time to do it, I plan on trying it all out with the wire low and horizontal for some NVIS action, and may even try longer lengths to see if I can get it to work 160 too. Above, you will notice a diagram showing how to wire up the UNUN. Its fairly easy to do and allows you to use a 23' wire antenna and a 23' counterpoise and get complete 10 thru 40 meter coverage.

UPDATE: I finally got the time to play with this sytem some more, and found that I can use a 50' wire and 50' counterpoise and it will tune to a good match on all bands 10 thru 80 meters. Haven't actually made any contacts with it yet, but at least it will tune anywhere I want it to - even 60 meters ! I had it deployed as an inverted L with the first 20' supported by a 20' fishing pole and the other 30' horizontal and tied to a nearby tree.

As i said, I haven't made any contacts with it yet, but it was hearing signals quite well, so I think it will perform fairly well.



Here's a picture of my UNUN showing just how it is layed out and you can even see the schematic for it pasted inside the lid of the box. The antenna wire connects to the red binding post, and the counterpoise wire connects to the black binding post. Try to get the antenna wire up with as much of it vertical as possible and the rest of it horizontal in an inverted L fashion, or you can use it as a sloper just as I mentioned above.