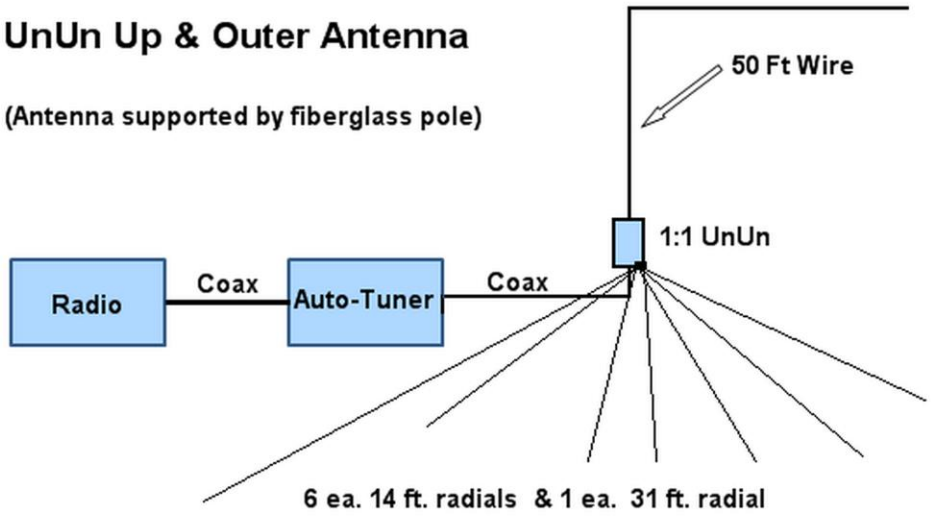
Up and Outer Antenna

By, Edward R Breneiser, WA3WSJ

I think it was during the 2011 ARRL Field Day when Craig, WB3GCK, bought what we now call the Up and outer Antenna. It didn't take much time for him to put the thing up. In fact he used just plain old speaker wire for the whole antenna.

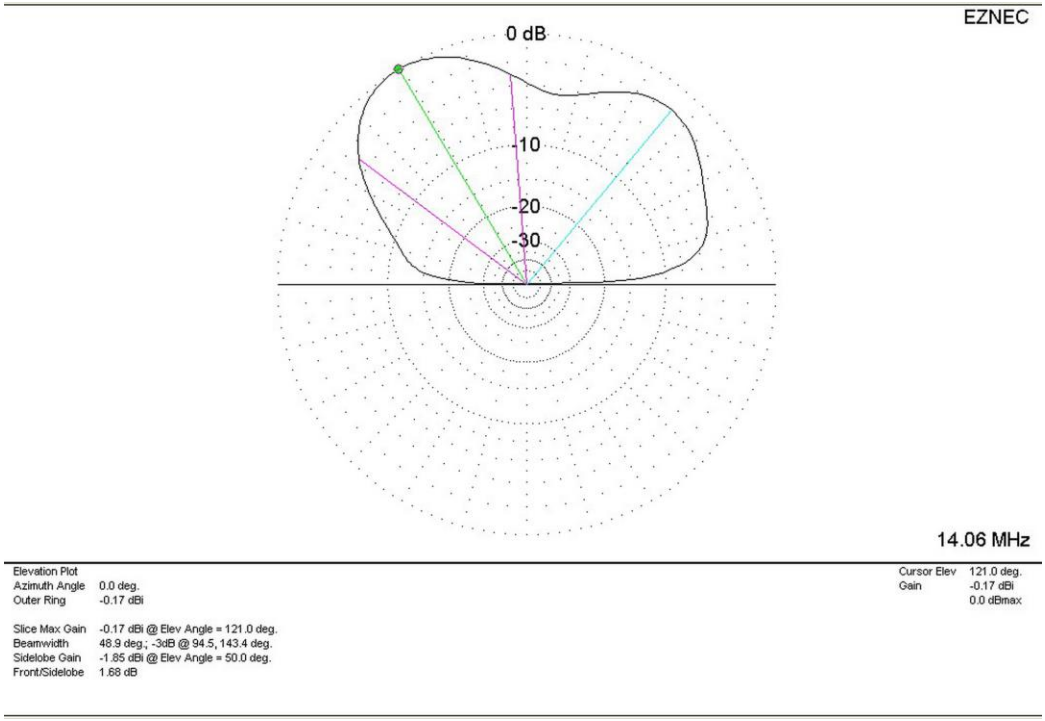
The Up and Outer is actually an inverted-L antenna fed with 50-ohm coax through a 1:1 Unun. He also used a small antenna auto tuner with his Yaesu FT-817. Pictured below is the setup we have used for all our Field Days since that day.



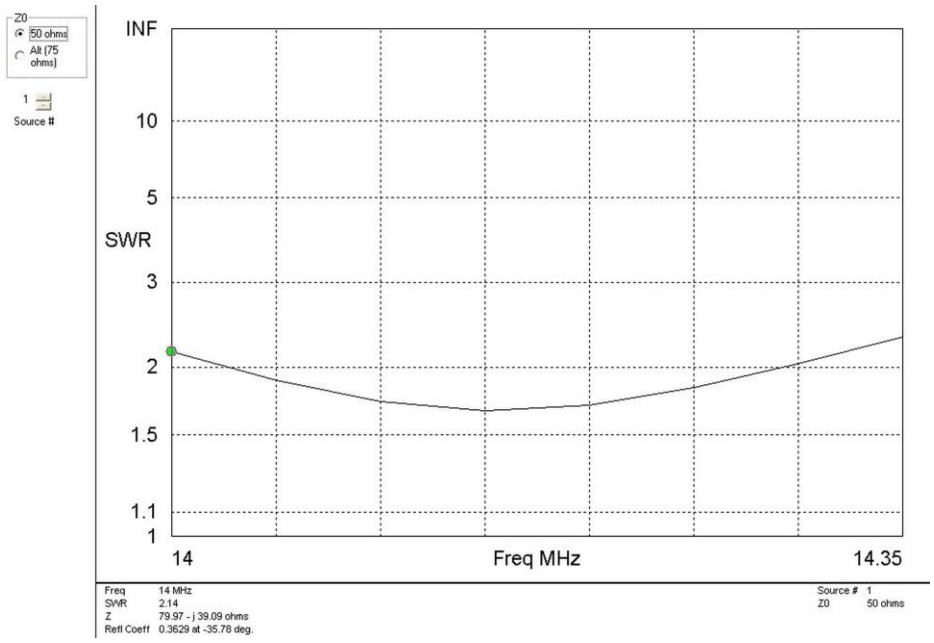
This antenna setup tunes what I like to say, "DC to Daylight!" I have tuned this antenna with my Kenwood TS-480sat on all the HF bands tried to date plus 6m including the WARC Bands. I did add another 31-foot radial for better operation on 80m etc.

Please note: All radials droop to the ground. DO Not use the radials as guy wires.

Here’s what the radation plot looks like. As you might see, it’s pretty much an omni-directional pattern. This is a side view.

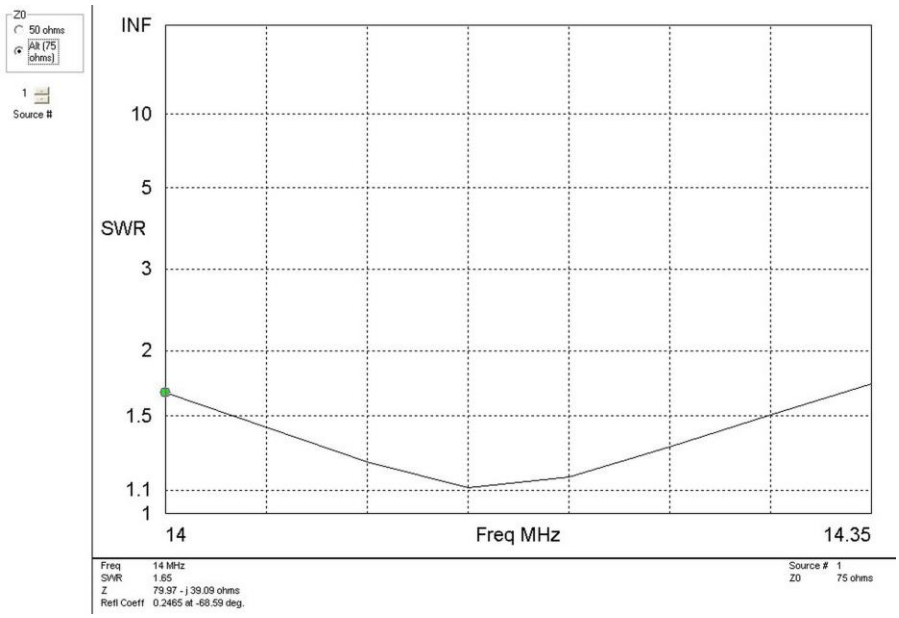


SWR 50-ohm Plot on 20M



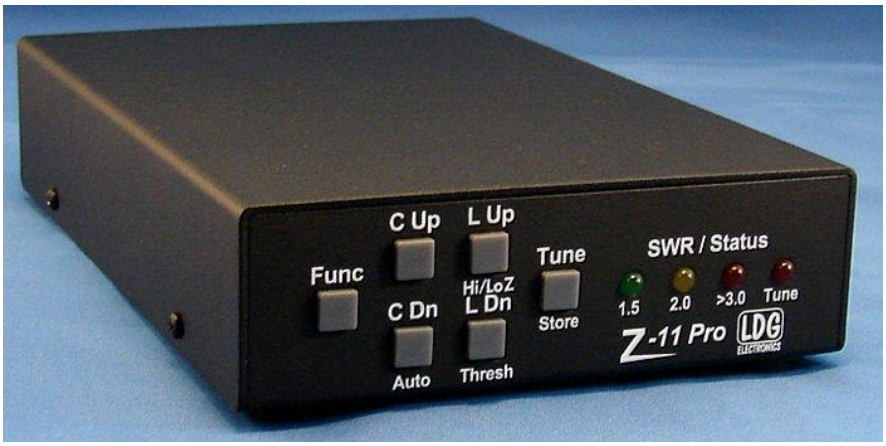
SWR Plot on 20M 75-ohm coax

As you can see, the SWR plot using 75-ohm coax looks better than the 50-ohm SWR plot. But, I use 50-ohm coax all the time with this antenna with great results!

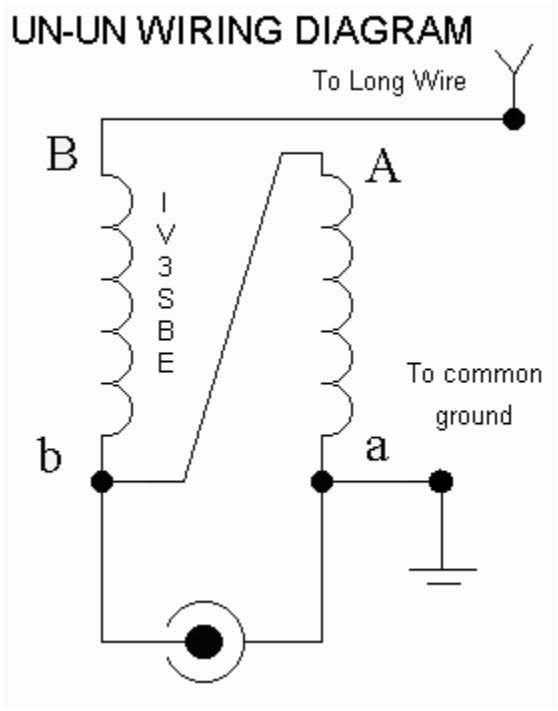


The picture shows WB3GCK's 1:1 Unun attached to a 31-foot telescoping pole. The ground radials are attched to the Unun low side and just droop down to the ground. This entire antenna takes only a few minutes to erect and get it on the air. In fact, I have used this antenna at a Delaware State Park and have worked many DX stations with it. I run QRP, so it must play great. I ran Europe operating at five watts on PSK31 during one of the past summer trips.

This antenna works great with an auto-tuner 80m through 6M. I used this antenna while camping at the shore in Delaware and it worked great. I used it with a LDG Z11-Pro II Auto Tuner. I just supply RF to the tuner and it tunes that band! Once I have all the bands tuned, it remembers the tuning on each band.



The 1:1 Unun I built was the design from IV3SBE. I built my own UNUN from plans on the internet. If you want to build your own UNUN just go to the IV3SBE Website and download the plans, pictures etc.



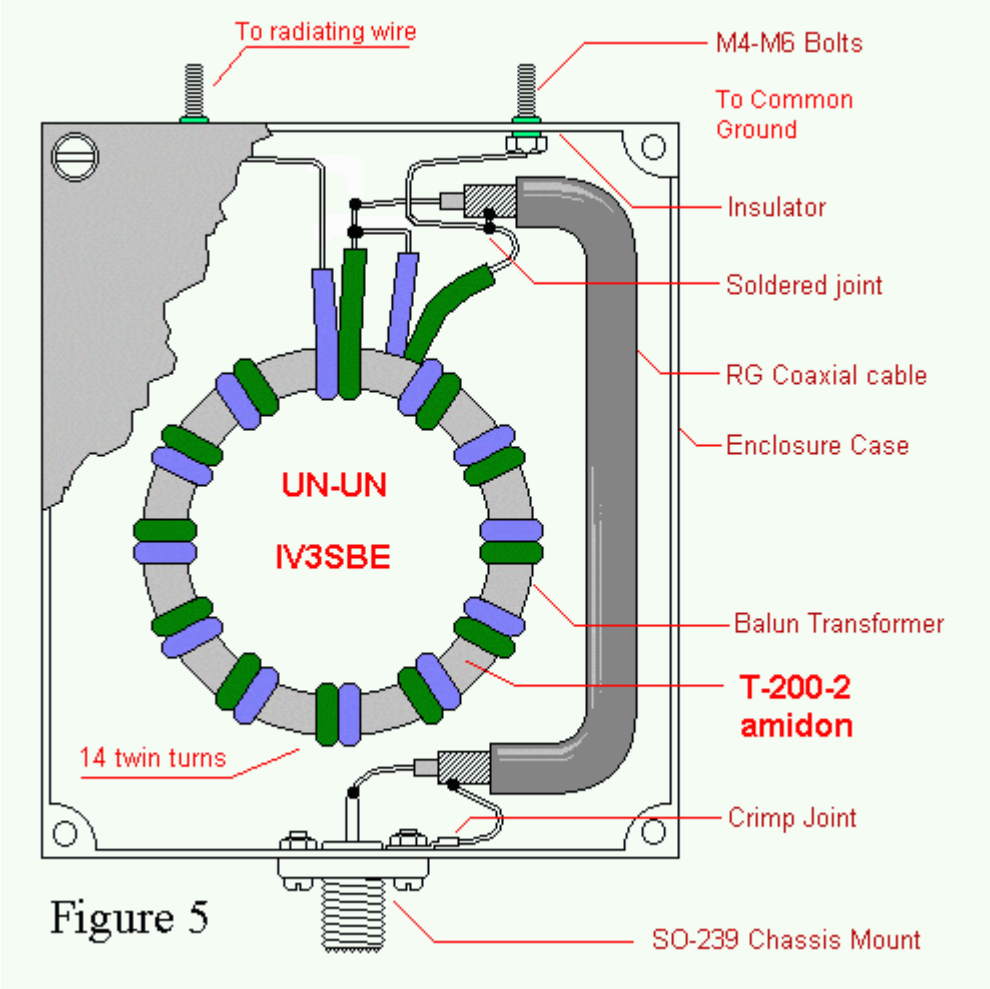


Figure 5

http://www.iv3sbe.webfundis.net/html/UNUN.htm

You can also purchase UNUNs from a number of places on the internet.

If you want a simple antenna for just about all bands, this is for you!