

Ever wanted to try 160 meters but didn't have the room? AD1B shows us a quick field expedient to turn a G5RV into a 160 meter antenna, with all parts available from your local Radio Shack.

The 160-RV Antenna A G5RV Adapter For 160 Meters

BY THOMAS M. HART*, AD1B

It's a result of having insufficient real estate to hang any sort of half-wave antenna or to install a vertical with proper radials. The size of my house lot, the location of the trees, and the position of the telephone and electrical services have made 160 meter operation impossible for over 25 years.

While strolling at lunch time and day-dreaming about antennas recently, I developed an idea for an adapter that would allow my G5RV antenna to operate against a counterpoise. The price was minimal, and Radio Shack carries all of the necessary hardware. In the event of catastrophic systems and theory failure, the components could be used for some other idea in the future.

The G5RV adapter makes the entire dipole a single element by connecting the tip and braid of the coax together. This works against a quarter-wave radial. My dipole is 102 feet long coupled to a 30 foot section of twin lead and 20 feet of RG-8X coaxial cable. In the interests of safety, I always detach the antenna from the house at an outside connection point and plug the antenna into a ground-rod system whenever it is not in use. I began this practice a number of years ago when a lightning bolt vaporized the center insulator of a W9INN dipole during a storm. That antenna was not connected to the house, but at that time I was not using a grounding system. There was a spectacular strike at 2 AM that I will never forget.

By inserting the adapter into the feed line at the point where the coax exits from the house, I created a perfectly functional, if unusual, 160 meter antenna.

The counterpoise, which is the other half of the antenna, is a 125 foot long insulated piece of #22 stranded wire that I soldered together from a collection of assorted odds and ends of wire spools. I have seen this basic design in print before. However, the examples I have seen are operated against

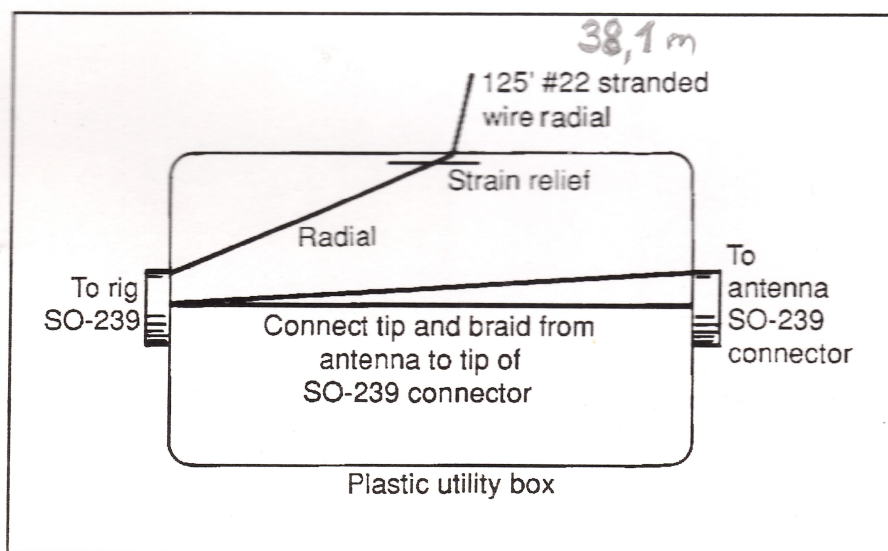


Fig. 1— The simple adapter for a G5RV antenna that will allow 160 meter operation. The adapter must be removed in order to operate the other bands.

a ground rod, with or without buried radials. The 1974 ARRL Antenna Book lists that design as a "T-Antenna"; manufacturers, Antennas West, for example, have called it a "Marconi." Building a good RF ground has proven to be very difficult in my area due to soil conditions. Therefore, I decided to take a different route and used a single radial.

My goal in assembling the 160 meter system was to try to make a few contacts during some of the 160 meter contests. In the course of the December ARRL CW Sweepstakes, for example, I was able to work 136 other stations during a few hours of operation. I managed to make contacts in a total of eighteen different states and Canada. I also worked 4UN1UN, the United Nations club station, during the contest.

My conclusion is that anyone who does not mind a few minutes of setup time but wants to work on 160 meters occasionally might do well to try the G5RV adapter for a

temporary conversion of an 80–10 meter dipole system to a dedicated 160 meter antenna. The counterpoise loops around the yard, sitting on the ground, held in place with a few strategically placed stones. I use an MFJ antenna tuner that covers the 160 through 10 meter bands in order to keep my Kenwood transceiver happy with the system. My experience is that the bandwidth is fairly narrow, and retuning is necessary when moving plus or minus 25 kHz. I was surprised to see that the SWR meter in my tuner does not seem to function well at the 160 meter end; I found myself making a final tuning for peak output. At some future point it would be very interesting to try the adapter with two or more counterpoise elements and see if that makes a difference.

Finally, the antenna must be doing quite a superior job. Every single report that I received during the contest was a resounding "599."

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