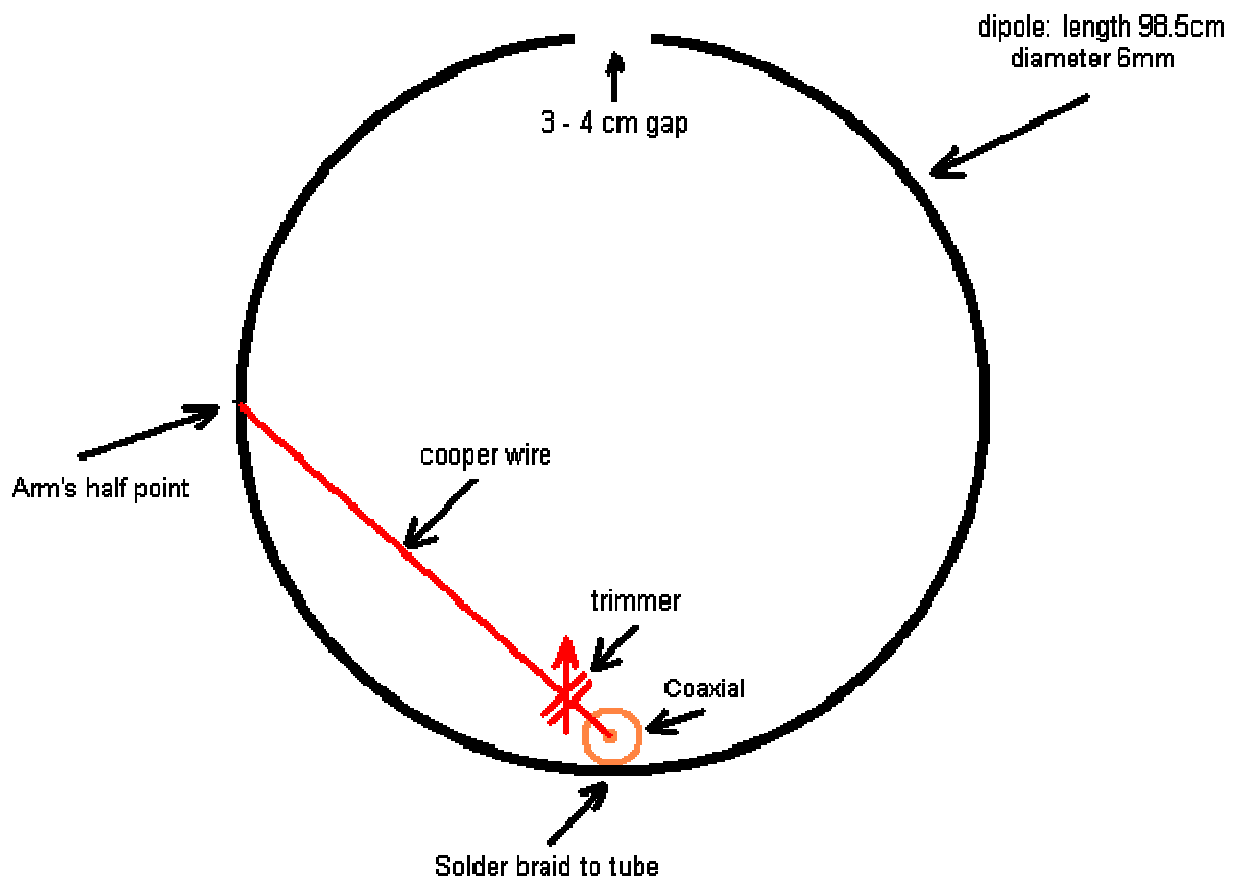


A 144 MHz Halo

This halo antenna was built to have an omnidirectional coverage while working in VHF contests. The idea was to have a small but useful antenna for receiving, but it has demonstrated very capable on TX also.

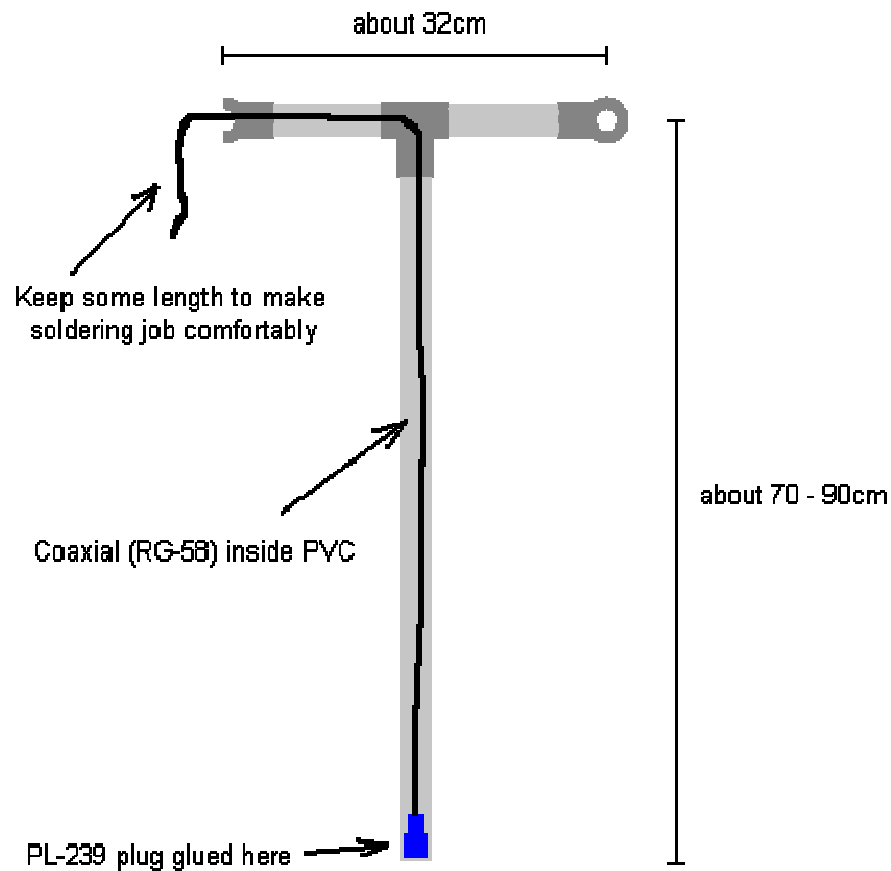
Construction

To construct the antenna, the first thing you need is a cooper or aluminum rod 1 meter long. Cut it at 98.5 cm and round it until you get a 3 - 4cm gap. Your antenna is done. Now you need to connect it to the coaxial cable and make the appropriate matching network, in this case a Gamma match. Connect the braid of the coaxial cable to the center of the rounded dipole and solder a 22, 33 or 47 pF trimmer to the center conductor. Now connect the other side of the trimmer to the center of the dipole arm with a small cooper wire or similar.



Now you have finished the electrical antenna, but you need to make some mounting hardware to make the antenna usable. I made a PVC skeleton to support the antenna and,

at the same time, to mount it over a magnetic mobile mounting. You can do in this way or in any other useful way to you.

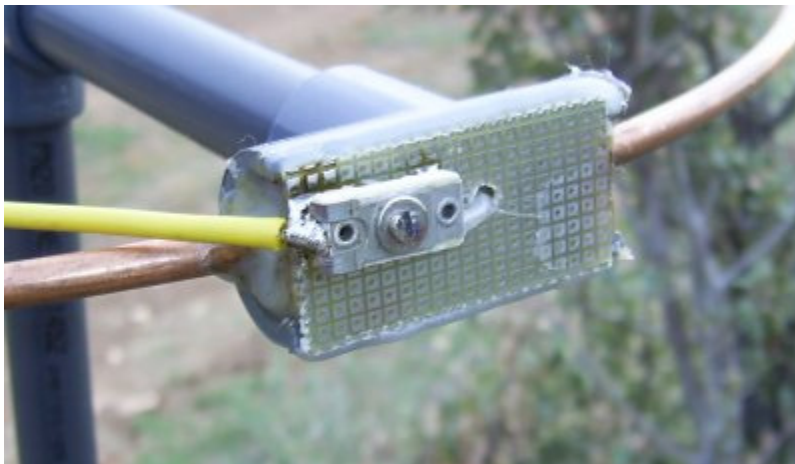


I glue together some pieces of PVC to make the skeleton. I also glued a PL-239 socket at the skeleton bottom end. See the images for details.

Here you can see how the PL-239 plug is glued into the PVC:



And here the trimmer detail, over a small PCB board:



And finally, the antenna in its final form:



Once you have finished the mounting hardware, you need to tune the antenna. Simply put a low power carrier on 144.300 MHz and tune it with the trimmer. You would get easily the SWR 1:1. Bandwidth of the antenna is somewhat narrow. About 600 kHz. Not a problem for the typical SSB/CW work.

Conclusion

This small antenna works well receiving DX signals. It's low gain and omnidirectionality makes it useful to look for other stations, and once located, beam them with the yagi antenna. I have use it also as a stand alone antenna with 50 watts and work well. You will not have problem to work stations in the 400 km range. Of course, more distance can be achieved with some tropo enhancement. I'm really happy with its performance and small size.



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