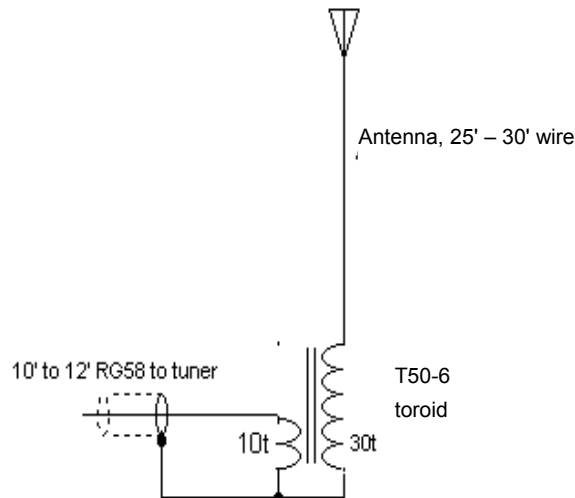


A Handy QRP Short Wire Antenna G3EJS

I noticed that sometimes the signal from my piece of wire going to the garage roof is better than my dipole which is much higher. Probably due to orientation and propagation conditions, but I thought it would be useful to make one for portable use.

It is just a short length of wire (25' – 30') fed by a 3:1 toroidal transformer, through coax to the tuner.

The transformer needs to be fairly robust for portable use.



I used a $\frac{3}{4}$ " length of $1\frac{1}{2}$ " PVC pipe to mount the connections on, then used a couple of "gliders" as a tough housing.



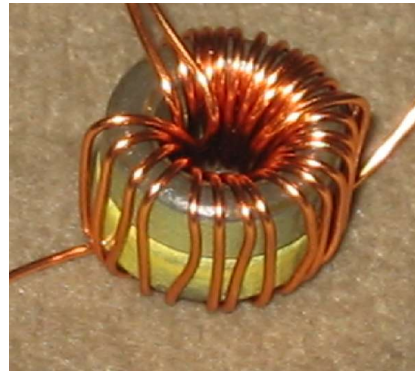
The PVC pipe with the hole cut for the SO239. Notice the chamfer on the "ends" of the pipe.



The SO239 fitted. The "T" piece is used to hold the SO239 while the nut is tightened.



On the opposite side of the pipe to the SO239, two holes are drilled and a terminal fashioned for the wire antenna out of some 16SWG copper wire. The reason the SO239 and the terminal are used instead of going straight into the transformer is to enable the coax to be disconnected and used for another antenna to save the amount of coax carried, and to secure the wire and coax against twisting.



Two T50-6 toroids are lightly sanded on one side than stuck together with super glue. The secondary of 30t is wound on first, then the primary of 10t, the starting points of both windings will be connected to the coax shield.



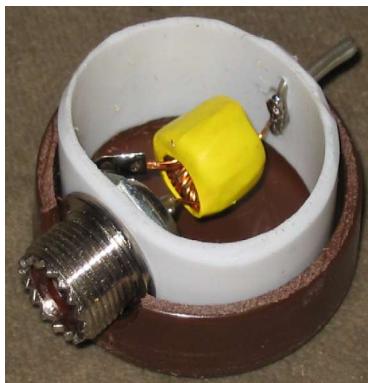
The transformer has had heat shrink tubing put over it, and has been mounted to the wire terminal and the SO239.



Sand the edges of the gliders, as these edges will be glued together.



Clamp the two gliders into a vice and mark out the hole for the coax connection. This hole has to be big enough for the screw on part of a PL259 to go through with a bit of clearance.



Check that everything fits as it should, apply PVC weld glue to the mating surfaces of the two gliders, and to the inside of the gliders and the outside of the PVC pipe where the two will touch, clamp it in the vice for a few hours, and finally cover the completed transformer with a protective piece of heat shrink tube.