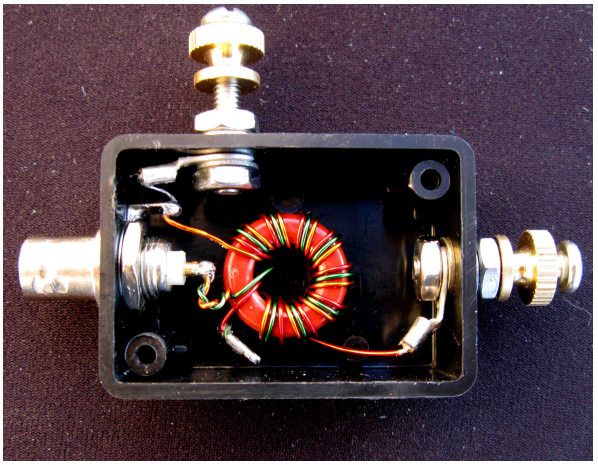
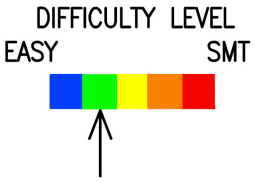
QRPGuys 40m-10m Mini UnUnTenna





First, familiarize yourself with the parts and check for all the components. If a part is missing, please contact us and we will send one. To request a part, please use qrpguys.parts@gmail.com.

Please read all the instructions before starting the assembly.

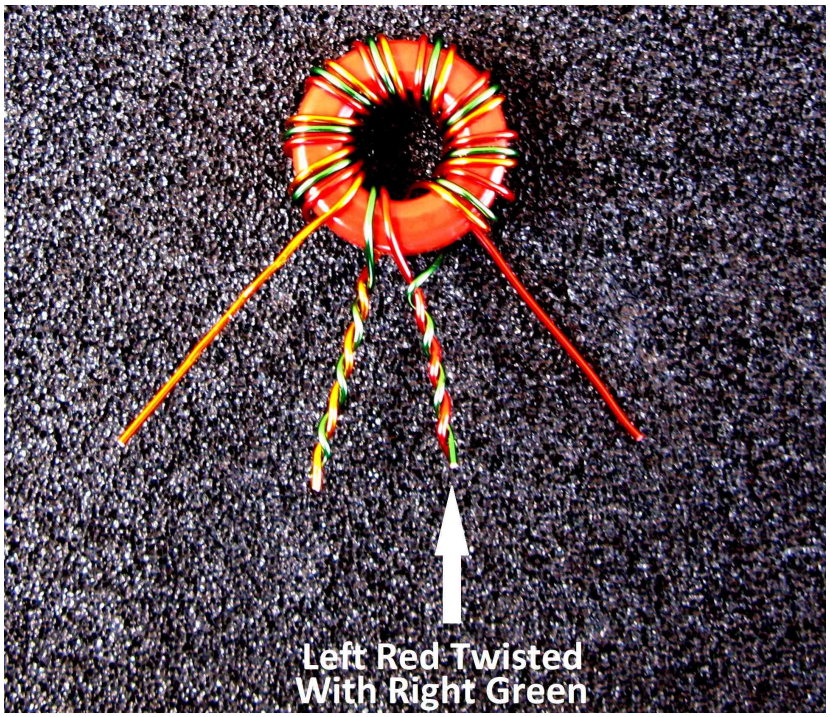
Parts List

1 – T1, T68-2 toroid core (red)
1 – 24” of 22AWG magnet wire (red)
1 – 24” of 22AWG magnet wire (yellow)
1 – 24” of 22AWG magnet wire (green)
1 - BNC PCB through hole connector, w/ mounting hardware
2 – 8-32 x 3/4”L SS Phillips pan head screw
4 – 8-32 SS nut
4 – #8 internal tooth SS lock washer
2 – #8 spade connectors
2 – Brass 8-32 thumb nuts, or S.S. wing nuts
1 – 2.00” x1.38” x .75” plastic case
1 – self adhesive label

You are going to start by winding the transformer with the T68-2 toroid and the three colors of magnet wire. You are winding 9 turns of each color. Every time the wire passes through the center of the core counts as one turn. Take your time and don't trim until the sequence looks like the picture below. If you mess up you can always unwind it and start over if you haven't trimmed the ends. When you are successful trim the ends to 1 3/8" long.

Take the green from the left and twist it with the yellow from the right.

Take the red from the left and twist it with the green from the right.



Using the picture below as a guide scrape the enamel off the plain and twisted wires as follows and tin with solder:

1. Scrape and tin the left Yellow wire 1” from the end.
2. Cut the twisted Yellow and Green to 1/2” long, and scrape and tin the last 3/16”.
3. Cut the twisted Red and Green, to1/4” long, and scrape and tin the last 3/16”.
4. Scrape and tin the last 3/16” of the right Red wire

Use the picture below as a guide. All the soldering, except the center of the BNC takes place before anything is placed inside the plastic case. You can easily damage the case by heating the components.

[ ] Dissemble the BNC hardware and slip the solder lug onto the left yellow wire.

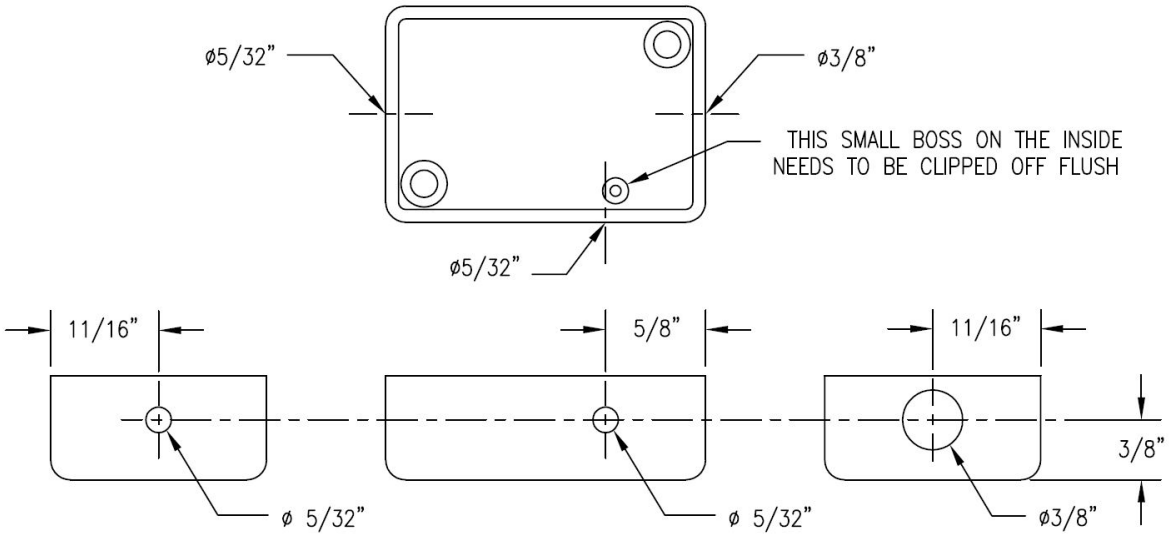
[ ] Solder one of the #8 solder lugs to the very end of the left yellow wire.

[ ] Solder the BNC lug about 5/8” away from the spade lug and solder it to the wire.

[ ] Solder the remaining #8 lug to the end of the right red wire. Bend the tab of the BNC lug 45º as shown below, and bend the two sets of twisted wires straight up. Set this assembly aside as we prepare the case.

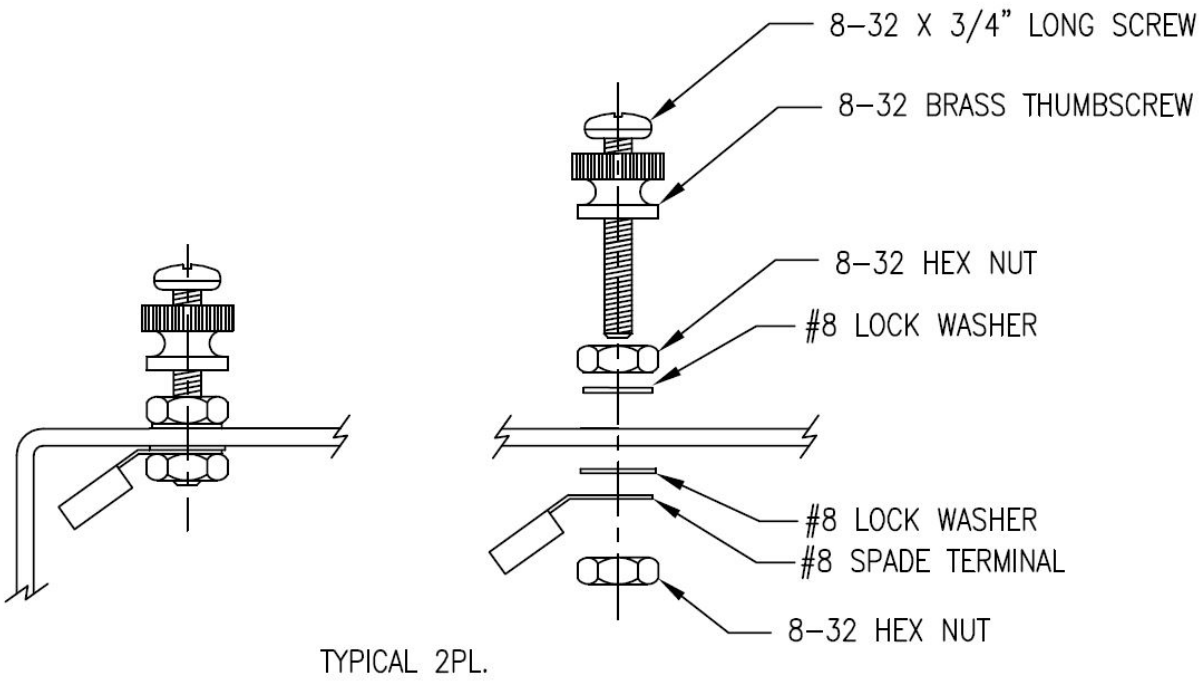
Case preparation

The plastic box is easily drilled with a step drill or from a pilot hole and tapered hand reamer. Either method is acceptable. A pilot hole is easily done with a hot soldering iron with a small point. Just mark the locations as shown below with a pencil and either drill or ream the locations shown. Clip the boss shown below on the inside of the box.



Final Assembly

Shown below is the connection for the counterpoise and antenna wire points. Be sure to follow the sequence to keep from cracking the plastic case.

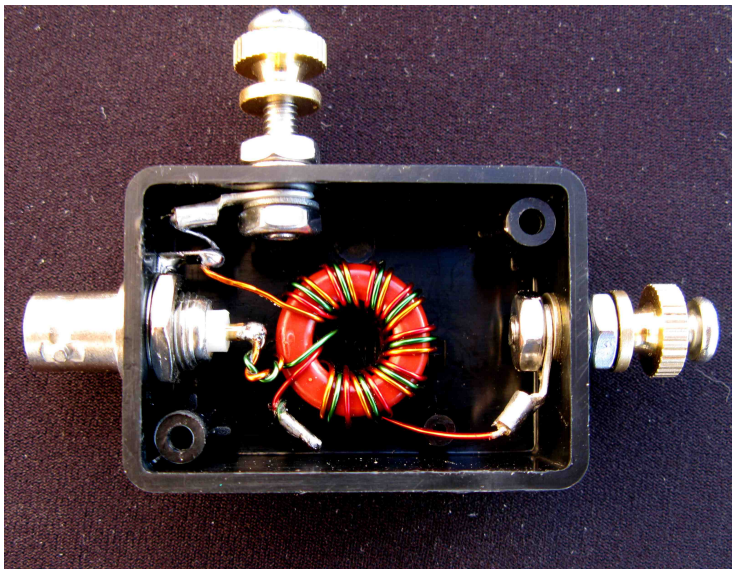


[ ] Using the picture below, connect the red wire to the antenna connection sequence shown on the right first.

[ ] Position the BNC lug on the inside centered on the Ø3/8” hole, and feed the BNC connector through the Ø3/8” hole and through the BNC lug. Place the lock on first, then thread the locking BNC nut onto the BNC threads and secure.

[ ] Secure the #8 lug to the counterpoise wire connection sequence as shown above. Both the ends of the #8 screws should be flush with the nut when everything is tightened up.

[ ] The twisted Yellow and Green wire can now be soldered to the center connection of the BNC. The Green/Red soldered and twisted pair are tucked so they do not contact the core.



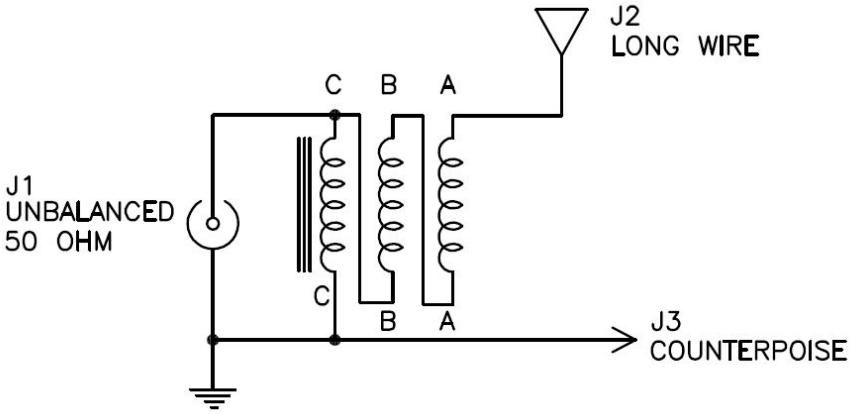
Attach the self adhesive label to the cover, and secure with the two self tapping screws provided.

Using the antenna:

Use all the normal cautions throwing wires up in the air near power lines.

The QRPGuys Mini UnUntenna covers 40m – 10m and must be used with a tuner. The builder supplies the wire for the driven element and counterpoise. You can use 20awg to 26awg depending what you have available for both wires. There is a BNC female connector for the input from your tuner. The autotuners in the Elecraft KX-2, KX-3, Icom IC-703, and our Multi Z Tuner work very well. You can use a 17', 29', 35.5', or 41' long non-resonate length of antenna wire for the driven element for all bands. Position the wire as high as practical, either vertical or on an angle. The counterpoise can just be laid on the ground in a straight line. Theoretically the counterpoise can be 1/4 wavelength, but we have found the length of 35 or 16 feet works well on the ground for all the bands used. The antenna has optimum efficiency at 20m and will be an S unit less in performance at the 40m and 10m ends.

Schematic:



Notes: