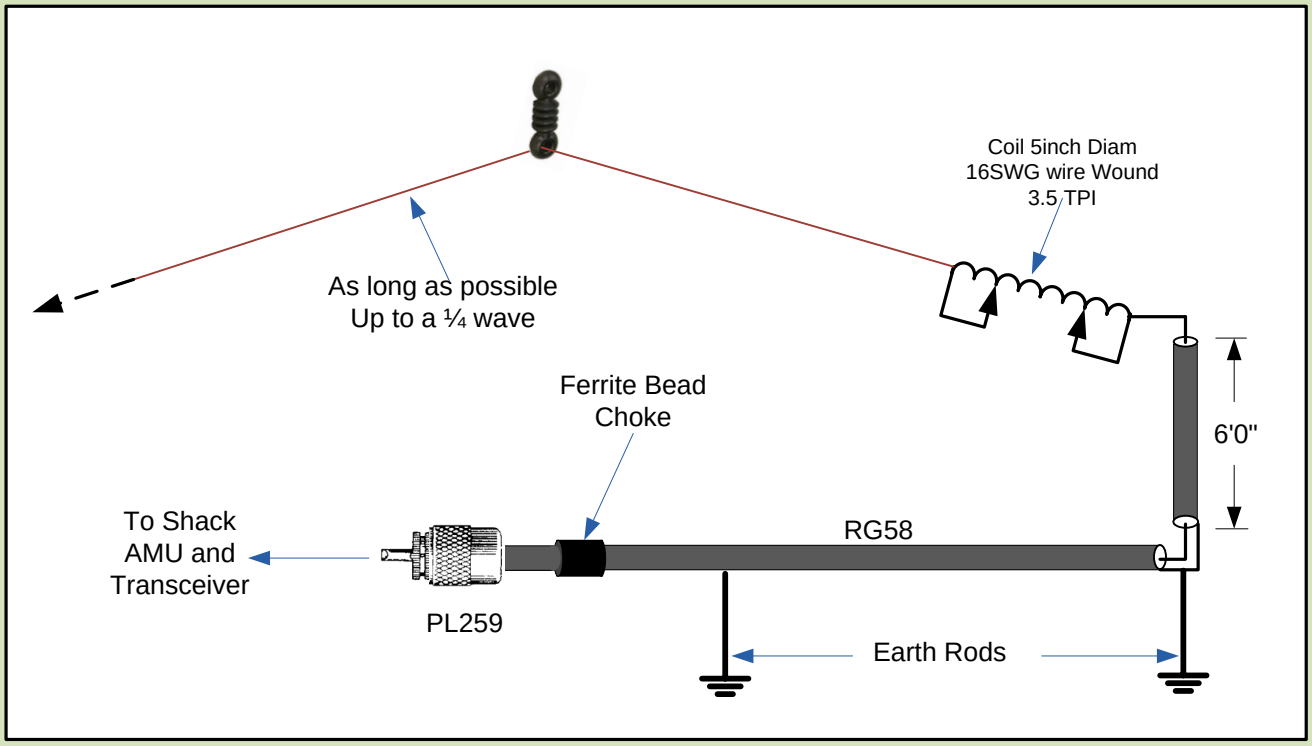
G3YEU End-Fed 160m Top Band Antenna

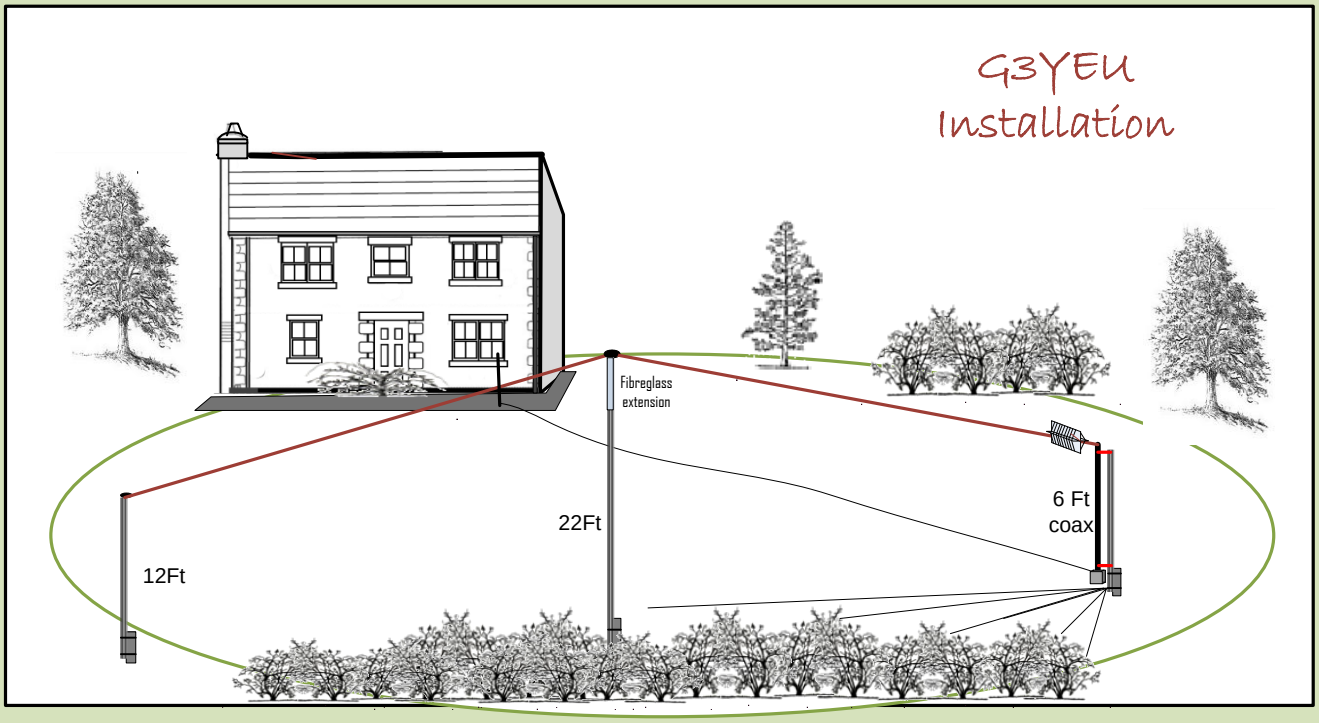


G3YEU Notes:-

The 100ft end-fed has a 22ft central support and a 12ft end support. With this length of wire a coil of 11 turns is required, resonating the antenna on 1.950MHz with an SWR of 1.5:1. The SWR was adjusted using the tapping point on the coil near the feeder. The central support is aluminium tube with top 1 metre fibreglass extension.

The coil is basically a square section solenoid, which is made from two intersecting pieces of acrylic sheet with shallow saw cuts for the copper wire at 3.5TPI. An SWR analyzer (e.g.MFJ-259B) is useful for adjusting the coil's tapping points.

DON'T expect to work masses of DX. NVIS theory suggests no more than 400 miles, but it is only theory.



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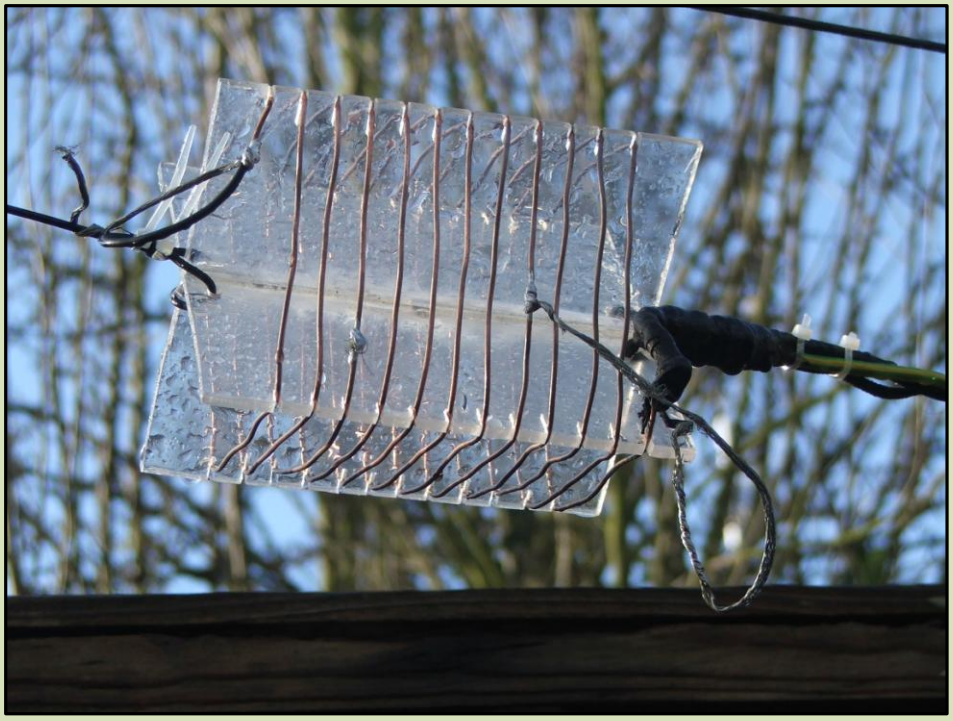
The Square Section Top Band Loading Coil



Coil Details:-

5" Diameter. 16 SWG bare copper wire. Wound at 3.5 TPI

Number of turns depends on the length of the antenna. I used 3.5 TPI to make tapping easier and to keep the losses down, 11 turns were sufficient.

The two taps on the coil will need to be soldered, and the end of the coax waterproofed.

Installation Notes :-

The outer of the coax is connected to second earth rod (about 8ft from the rig in my shack) and a ferrite choke is employed to keep the RF out of the shack. The choke is simply a number of large ferrite beads (n.b. RG58 external diameter is 5mm).

Since constructing the antenna a few more earth rods and radials have been laid around the weed patch, this has reduced the resonant frequency slightly, but not enough to make it worthwhile to mess around with the loading coil. An SWR of 1:1 can still be obtained using an antenna matching unit. (AMU).

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