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Dual Band Half-Wave Flower Pot Antenna

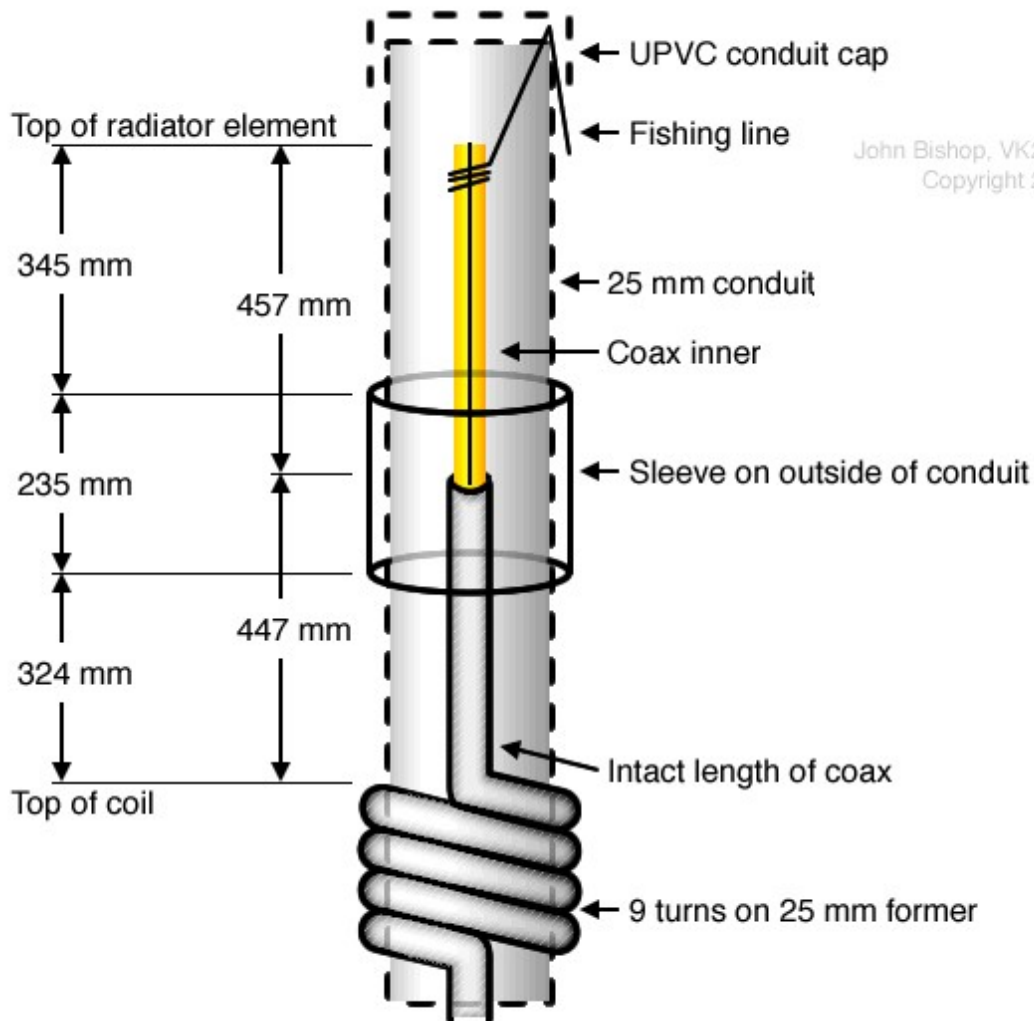
The [basic half wave version](#) of the Flower Pot antenna can be readily modified to dual band the antenna for operation on a band that is the (approximate) third harmonic of the fundamental resonance.

Operation on the third harmonic is achieved by using a sleeve technique so as to form quarter wave phasing sections (at the higher frequency) to end feed two half waves in phase at the third harmonic.

This arrangement provides useful gain (3dBd) on the higher band. The sleeve technique maintains the impedance matching for both bands and (probably fortunately) there is sufficient longitudinal impedance in the choke coil to provide the required isolation at the third harmonic.

The sleeve is applied after the basic antenna has been constructed.

Dimensions shown are for the (basic) 2m half-wave Flower Pot. The modification involves placing a co-ax phasing sleeve around the outside of conduit, positioned as shown.



Dimensions for a 2m half-wave Flower Pot

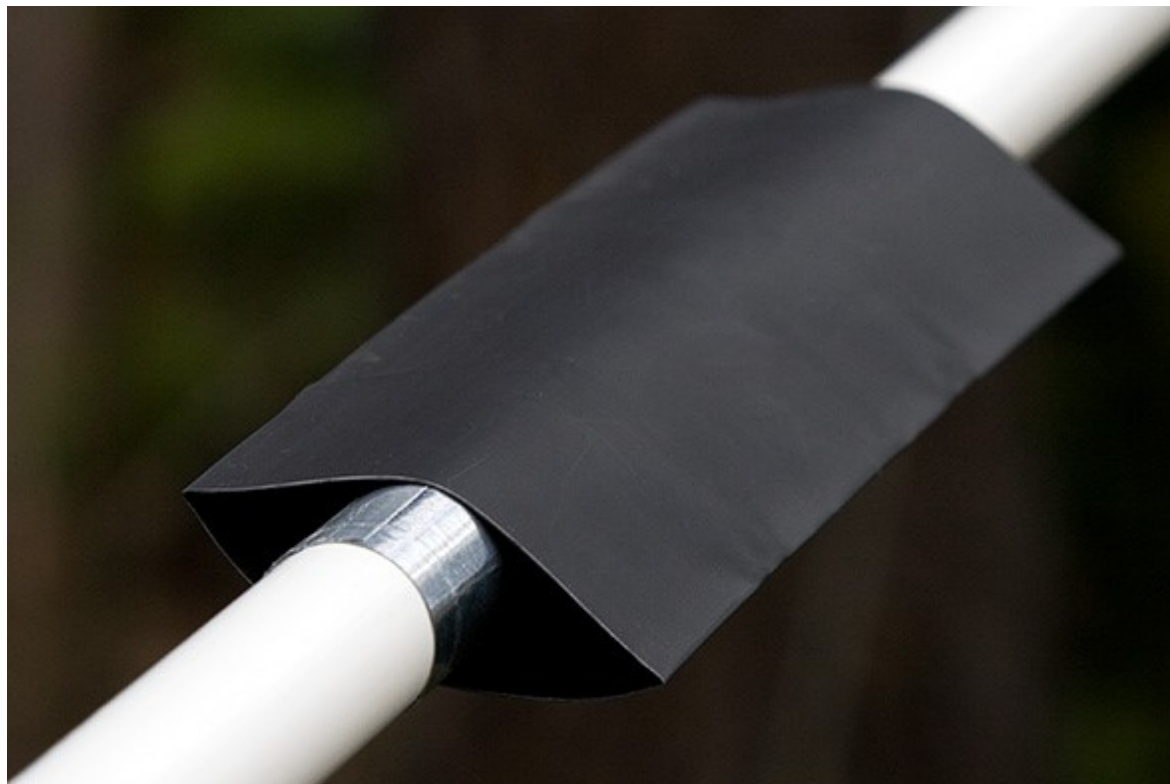
The sleeve material can be aluminium (kitchen) foil, copper foil, brass shim, roof/building alfoil sarking or salvaged co-ax braid.



Before fixing the sleeve in place, check VSWR on 2m. The sleeve should cause little if no change to 2m VSWR although it may appear to very slightly raise the resonant frequency; With the sleeve fitted, the VSWR should not be greater than 1.15:1 across the FM portion of band).

Then check VSWR across the 70cm (430 – 450 MHz) band. Expected VSWR readings will be less than 1.2:1 at band edges and less than 1.1:1 in band centre.

If VSWR is outside these limits, adjust position of sleeve (+/- 5mm max) and, if necessary, trim sleeve length to lower VSWR. When trimming sleeve length (dimension B) adjust dimensions A and C accordingly to keep centre of sleeve adjacent to feedpoint of the inner 2m dipole. However, little, if any, adjustment to the sleeve should be necessary. When satisfied with the VSWR, fix in place and protect the sleeve with UV protected PVC tape or heatshrink.



Methods of dual banding the other versions are being developed and will be added to this website when available.

Articles

- [Half-Wave Flower Pot Antenna](#)
- [Dual Band Half-Wave Flower Pot Antenna](#)
- [Single 5/8 Flower Pot Antenna](#)

- [Double 5/8 Flower Pot Antenna](#)
- [Experimental Dual Band High Gain Flower Pot Antenna](#)

Links

- [Hornsby and Districts Amateur Radio Club](#)
- [Wireless Institute of Australia](#)