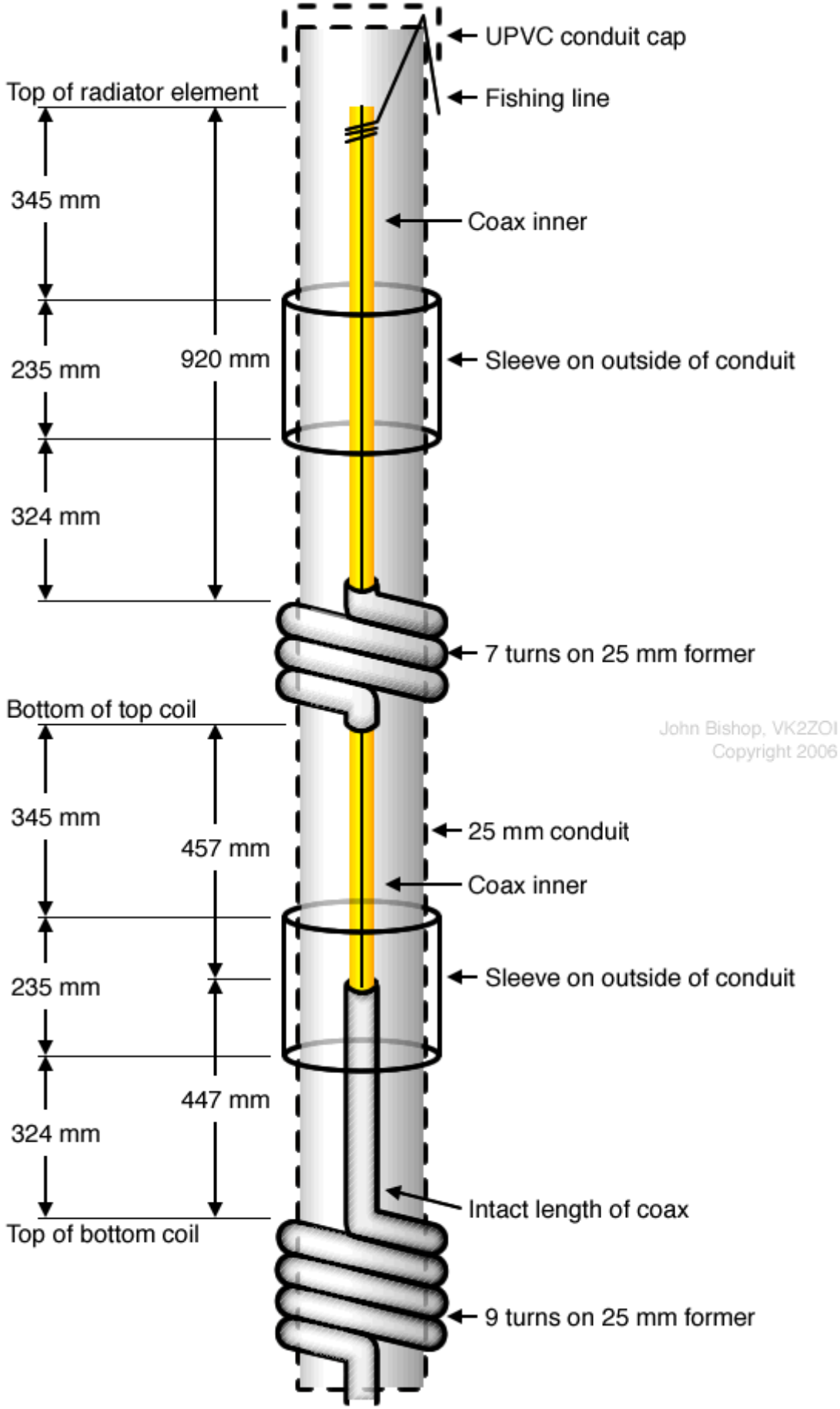
Experimental Dual Band High Gain Flower Pot Antenna

This experimental version is an extension of the basic Half Wave Flower Pot Antenna. Higher gain is achieved by adding an additional half wave element at the fundamental frequency (2m) coupled by a half wave phasing line to drive both half-waves in phase. Theoretically, this should provide an antenna gain of 3dBd at 2m.

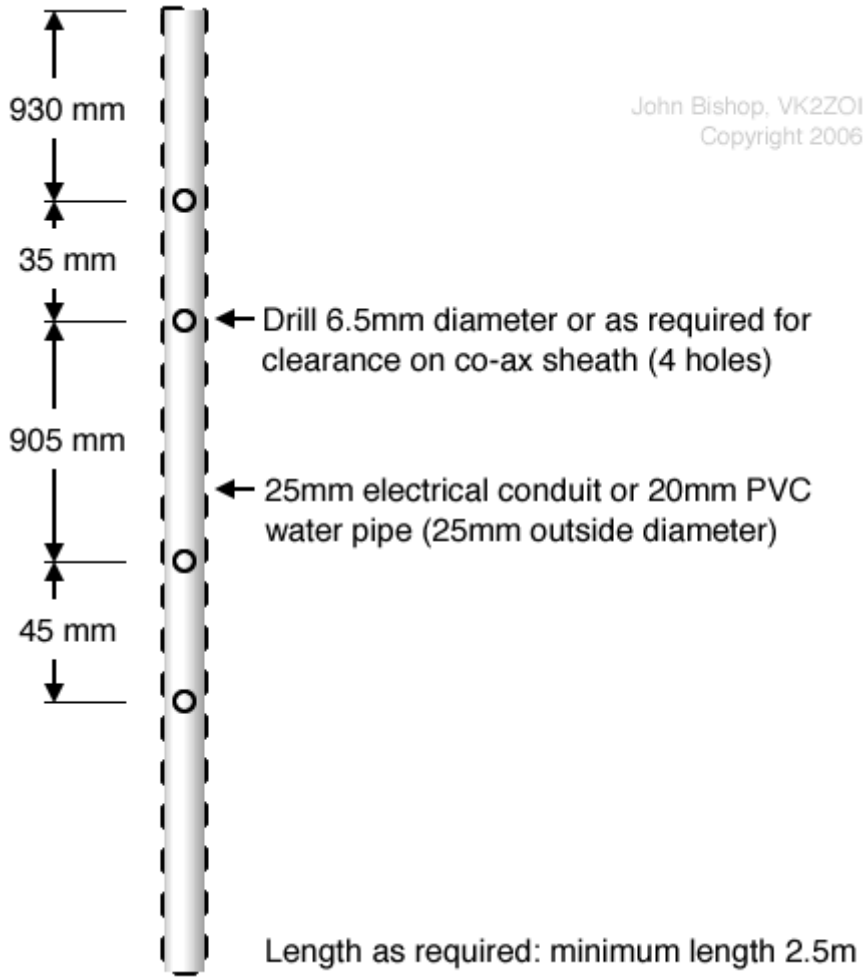
The antenna is dual banded to operate on 70cm using the same sleeve technique as used on the dual-band basic Flower Pot. This results in the antenna operating with four half-waves in phase on 70cm and provides a theoretical antenna gain of 6dBd on 70.

Dimensions shown are for a 1st build prototype from a concept drawing and have yet to be refined. It started out as the 2006 Christmas break project but, unfortunately, I haven’t had time to refine the design. However, several members of my local radio club have built one of these and have reported success.



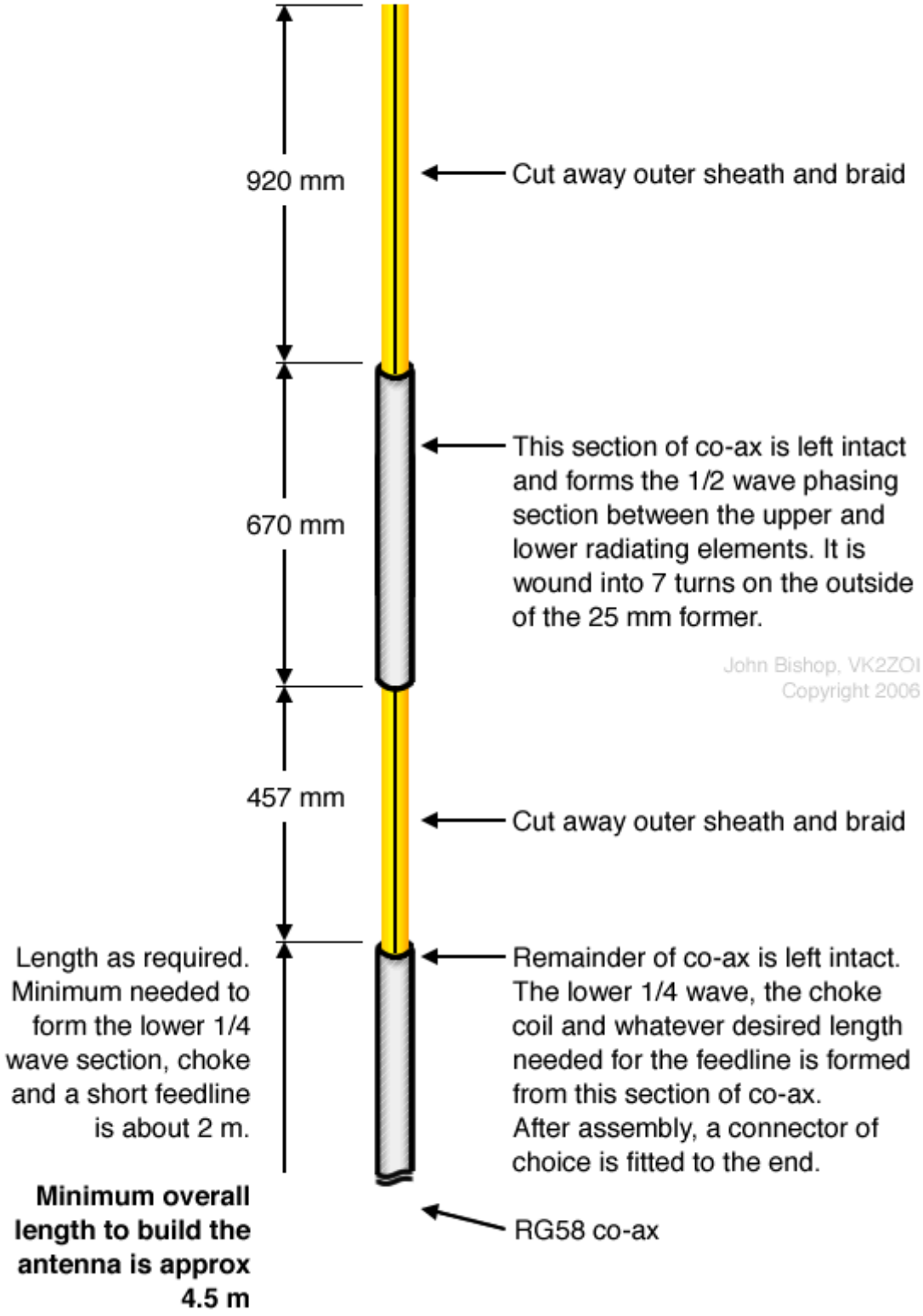
Experimental Dual Band High Gain Flower Pot dimensions

Assembly requires the same approach as used on the basic Flower Pot. The conduit is prepared and drilled as shown below.



Conduit Preparation Details

The co-ax is pre-cut and trimmed prior to assembly as shown below.



Coax pre-Trim Details

The antenna radiating elements are constructed out of RG58 co-ax. It is essential that braided RG58 is used rather than foil-shielded co-ax (like that supplied by some of our local electronic hobbyist shops) as the bends required at the coil entry and exit points will likely damage and split the foil resulting in the antenna failing to perform.

The Sleeves can be made from any available high conductivity material such as aluminium kitchen foil, building (roof) sarking, disposable ‘baking’ trays, copper or brass shim etc. Materials such as steel or stainless steel are not suitable. The sleeves are fixed in place and protected from the weather and mechanical damage by covering them with UV resistant electrical tape or heat-shrink.

See original Flower Pot articles regarding protection of the coils from “White-Cockatoo Attack”.

VSWR as Measured on the Prototype:-

144 MHz	1.1:1
145 MHz	1.2:1
146 MHz	1.1:1
147 MHz	1.2:1
148 MHz	1.2:1
433 MHz	1.05:1
438 MHz	1.1:1
443 MHz	1.1:1
448 MHz	1.05:1