6jpole.pcx (2144x3174x2 pcx)

6 Metre "Take-apart" J pole for Field Use

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The concept behind this antenna was the need for a transportable device that was better than the usual 1/4 wave or "2 metre 5/8" that is usually used for 6 metre mobile or portable..
A good look through the "junk box" resulted in the wrong materials needed so the local BBC hardware store was visited. In the handyman section I purchased all of the tubing required from their stock of assorted aluminium sections. Then I required a piece of box section for the base which was finally obtained from ALCAN as none of the local merchants had what I wanted in stock. (There are a number of options for the base but I wanted the antenna to be self supporting.) The next step was to decide on what frequency I wanted.

As I wanted to use it at both ends of the band, 52 Mhz was the decision so 4.326 metres was the required length of active material. (300/52 X 3/4)

I also wanted the antenna to be able to be taken apart for transportation as 4 1/2 metres of antenna wont fit in the car and is a bit big for "mobile" use.

I cut all 4 lengths of tube to size allowing for an overlap of 150mm this being for both mounting in the base and for assembly of the radiator.

Next was the hard bit. The box section base was drilled to clearance on the lowest sections. If you (like me) havent got a 20mm drill bit and a suitable drill press then you have to mark everything, drill as big as you have got, and start filing.

When you have the holes finished mount the two 20mm tubes in the base locking them in position with small self tapping screws through the side of the box section into the tubes. make sure that the tubes measure the correct length from the top of the box. Cut a slot approx. 40mm long down from the top of one tube and fit a hose clamp over the slot.

Cut a slot in one end of the 16mm tubing and fit the "plain" end into the slotted 20mm tube to leave 1/4 wavelength above the 20mm tube. Tighten the hose clamp to lock in place.
Cut a piece of tubing approx 13mm long from the 20mm tubing offcut. Slide this ring down over the 16mm tubing so that it sits against the lower section and hold it in place using a small screw.

Repeat the above step using the 12mm tubing and fit it into the top of the 16mm tube once again leaving 1/4 wave clear. Cut a ring from the 16mm offcut and mount it on the 12mm tube as before.

Fit a hose clamp to the top of the 16mm tube and your antenna is now full size.

Next step is the feed line. Mount a hose clamp on each 20mm tube approx. 315mm from the top of the box base. While fitting these clamps place a solder tag under the nut on each clamp.

Prepare your co-ax by stripping approx 100mm of outer sheath, separate the shield from the inner core, solder the shield to the short side of the antenna and solder the inner core to the long side. fit your co-ax plug on the other end of the co-ax and you are ready for tuning.

Depending on frequency chosen and proximity of other objects you should find the measured VSWR to be fairly close but if necessary adjust by sliding the feedpoint hoseclamps up or down as required for best match. When completed tighten the hose clamps and away you go.

With mine I fitted two U bolts through the box to allow mounting to a mast, but another option is to leave an extra 100-200mm of tubing below the box section and use that for mounting.

This antenna has given me 6 DX countries using 3 Watts SSB and works fine for the FM repeaters.