

# A handy base for portable antennas

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Many years ago I bought a war disposals signalling lamp with a folding tripod base. I used this base to support a portable centre-loaded quarter wave vertical antenna for holiday operations. The earthing arrangement then consisted of a couple of pieces of copper tubing about 60 cm long which I hammered into the ground below the tripod and connected to the outside shield of the coax. This arrangement worked very well in most locations.

However there were times when it was not easy to find the requisite soft earth into which to hammer the tubing. Sometimes I could use the vehicle or caravan for an earth or string out a radial or two. But the idea eventually occurred to me that the tripod itself could be wired up to form the lower half of the antenna. A couple of metres or more of wire was strung around the tripod legs about 10 cm above the ground. This was connected to an open-wire loading coil mounted under the top of the tripod. Clips were used to tap the coil for various frequencies. Results seemed much the same as before.

There was little point in suggesting to other hams that they get hold of a signalling lamp tripod. I doubt if they exist these days. So I have now built up a similar tripod with material easily available and this article presents, not

so much the same thing that I built, as the general idea. You may find better ways of doing it.

## Tripod construction

Photo 1 shows the erected tripod. The legs are made from 70 x 35 mm dressed pine, 1 metre long. They are attached by hinges to the cap, which is 13 cm square.

You may consider that the legs would look better and be more convenient using shorter lengths of PVC pipe, fitting inside one another and extended for use. They could be length-adjusted by drilling a series of holes through the bottom few centimetres of the top section and the top few centimetres of the bottom section. A pin would then go through both sections to lock them in place.

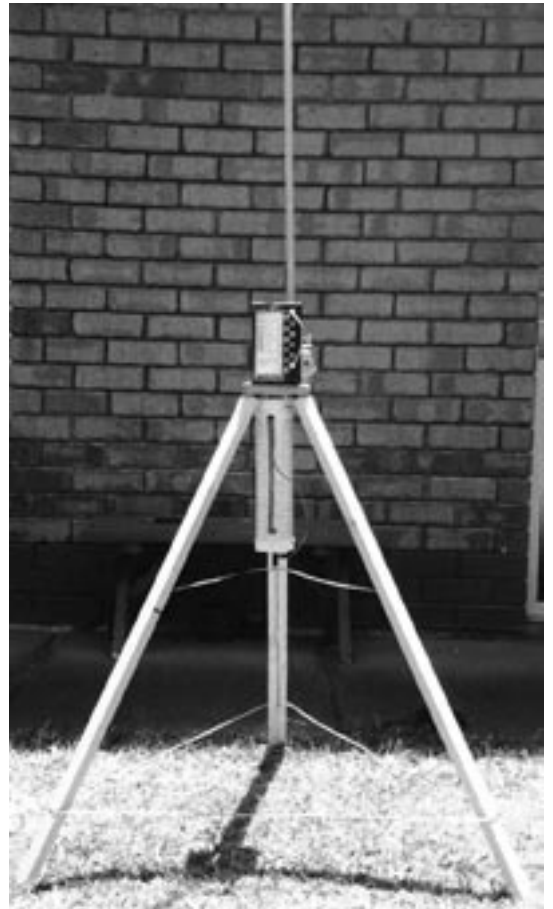


Photo 1. Tripod base, erected

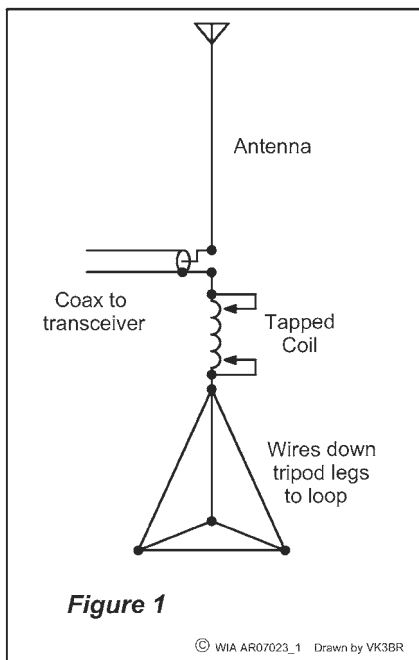


Fig. 1 – Schematic circuit

## The earth system

The earth loop, some 2 metres long, is shown in the photos, strung between the three tripod legs about 10 or 15 cm above ground, and so capacitively coupled to it. There are three leads from the bottom of the loading coil, each running across to a tripod leg then down it to connect to a corner of the earth loop. The electrical system is shown schematically in the circuit of Figure 1.

## The coil

My coil is wound on a PVC tube 30 cm long and about 8 cm outside diameter with caps each end. This material is

available from hardware stores. A slit 1 cm wide runs down each side of the former starting and ending about 2 cm in from the ends. I made saw cuts across this every 5 mm to hold the turns of the bare wire and enable tapping.

The coil has 20 turns close-wound at the top, and 35 turns spaced 5 mm apart below this. I used enamelled copper wire about 0.8 mm diameter for the close-wound section and bare copper wire bought at Cheap as Chips for the lower part, for ease of tapping. It was too thin

so I twisted two lengths together. A lead with an alligator clip at each end of the coil allows the use of however much inductance is needed to get the lowest SWR reading. Of course you can use any type of coil you like so long as it has sufficient inductance for the job.

The coil shown in Photo 1 is an earlier version, comprising only 5-mm spaced windings. It would not tune up on 80 metres without adding a variable capacitor, which is just visible behind the black box. The remedy was to add the additional close-wound section mentioned above.

## Conclusion

What I am suggesting is the general idea of a base for portable antennas, with a built-in earth system. My XYL made a long bag of japara cloth into which everything is stowed, and which lies neatly just inside the boot of the car.

The antenna mounting arrangements can be adapted to suit your own requirements. My system has an SO-239 coax socket mounted under one corner of the tripod cap, with its centre pin connected to the antenna and its body to the top of the loading coil.

In Photo 2, the base is seen in use on the foreshore at Robe in the south-east of South Australia. The antenna here is a larger version of the tapped base-loading model used in my 'Shack in a Brief Case'. In this case, the antenna consists of two one-metre lengths of aluminium tubing, one fitting inside the other, plus a telescopic whip on top. It tunes up on all bands except 160 metres. (For 'Shack in a Briefcase', see AR July 2002 or look it up via the WIA web page ([wia.org.au/armag/2002/AR\\_July02\\_pp4-7-9-10.pdf](http://wia.org.au/armag/2002/AR_July02_pp4-7-9-10.pdf))).

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## Over to you

## Equipment review in August 2007 AR

Much of the material appearing in recent AR magazines has been well written in appropriate style and good English. But ...

I wonder whether there has been a little too much licence given to the reviewers of the Icom IC-756 Pro III?

I work as a professional writer. When I am asked to review an item, I compare the performance of the item with published or industry-standard specifications. This particular review fell a long way short of such. It was little more than a pair of fire-siders wind-bagging. Some of the material was pure marketing waffle - probably taken straight from the manufacturer's material - but most was pure, unsupported and untestable opinion.

Why such a big photo of the microphone, to which two small paragraphs were devoted, while the remaining 4.5 pages were supported by three photos, two of which had insufficient detail to support any of the text, and the other which was accurately described as containing nothing?

What is your editorial policy?

Brian VK2GCE

(Ed: see this month's Editorial Comment)



Photo 2 – Portable base in service

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