

I thought that would get your attention. Anyone who has contacted G3ZPF in recent years will be aware that the W3DZZ clone that I use for an aerial has 7.1MHz traps that are not the usual coil + capacitor arrangement. They are formed from coils of coax wrapped around 32mm white poly-pipe. They are larger than conventional traps, but much lighter, so they don't bob around in the wind as much. But the main attraction is that if you happen to have about 4 metres of RG58U lying around, they are absolutely free ☺

While searching for information on an entirely different article for OTN, I stumbled across the source of the information that enabled me to make these traps. They are to a design by VK5BI, which was published in the "Technical Topics" section of RadCom in 1986.

FIG 1 shows the way the coax is connected to form a trap. The inner of one end is connected to the braid of the other. The remaining connections are those used to connect it to the aerial wire. The coax is wrapped around a 110mm length of 32mm polypipe. The kind used for internal plumbing. I would imagine that anyone who has plumbed in a waste pipe for a washing machine, or new sink, will have a length of this somewhere in their shed.

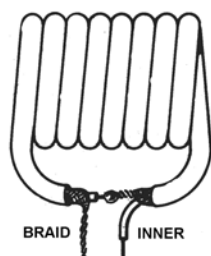


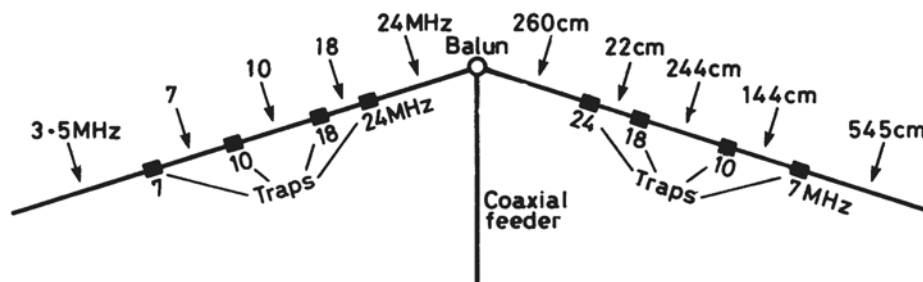
FIG 1

To make sure you have a type of poly-pipe that is not affected by RF, place a section in your microwave about 1 min. Take out the pipe and see if it is cool. If so, then it will be suitable to use as the trap former.

Start with 1800mm of RG58U wound around the 32mm pipe, as per Fig 1. Chances are you will need to trim the length slightly to get resonance at 7.1MHz. Once that has been done, the ends of the coax can be routed inside the pipe, for neatness, through suitably drilled holes. I then wrapped the whole of mine in self-amalgamating tape to weatherproof them. They went up as a temporary measure but were so successful they are still there after 15 years. Compared to conventional coil + capacitor traps, the SWR curve on 40m seems slightly sharper,

so maybe the "Q" is slightly higher.

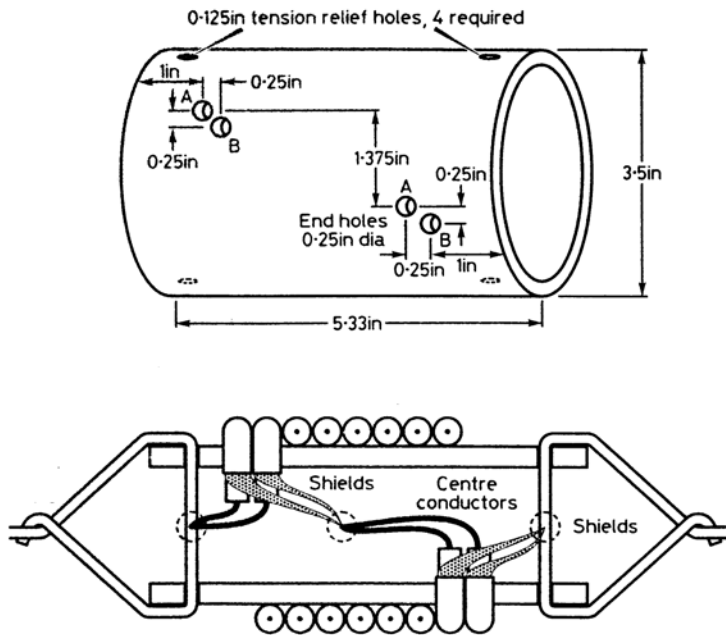
VK5BI included details of traps for all the WARC bands too, along with the cutting dimensions of a WARC band dipole. Although I've only ever used the 7.1MHz version the others may be of interest so I have included them here.



TRAP FREQ	RG58U LENGTH	PIPE LENGTH
7MHz	1800mm RG58U	110mm
10MHz	1330mm	90mm
18MHz	830mm	70mm
24MHz	710mm	70mm

Along with the RadCom article showing the VK5BI traps, I found another RadCom article I had saved (but completely forgotten about) showing how W8NX subsequently developed the idea. By using coils in parallel he reckoned to have increased the “Q” factor and hence reduced loss. Additionally the power handling was increased four-fold, although this aspect of the design is probably only of interest to USA amateurs.

I have not tried this version of the coax trap idea, but include it for info. Construction is slightly more complex, but the reduced losses may make it seem worthwhile making the effort.



W8NX provided details for traps made with RG58U along with the cutting dimensions of his 80/40m dipole. His dimensions would be for the USA freq allocations, so some adjustment may be needed. His dimensions were all provided in inches. Old habits die hard.

Length of RG58U	61.6 in
Diameter of former	2.125 in
Number of turns	7.8

Dipole dimensions

Feed-point to trap	24.4 ft
Trap to end of wire	17.4 ft