

Clip on QRM Probe

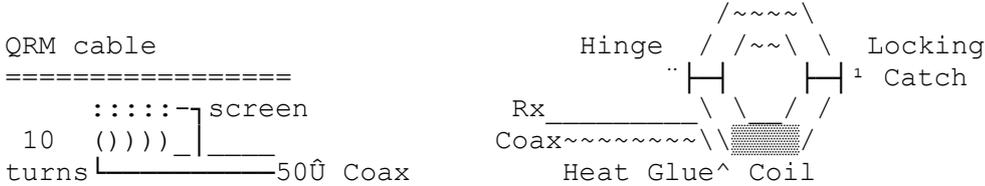
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(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

Wanting to find which lead on a devices like TV & STB set up, has the most RFI current it, I made a simple current probe from a clip in ferrite choke. It can be used with a Rx or spectrum analyser. And for Tx RF work too, finding if balanced line is balanced, coax line is really RF free etc.

THE CURRENT PICK UP

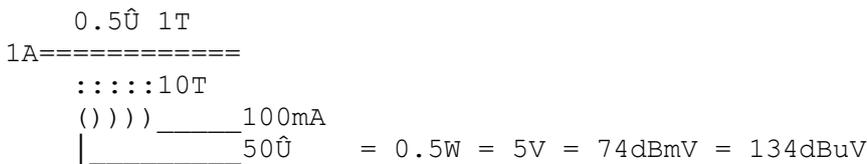


The clip on ferrite is about 2cm dia with a single locking catch, the catch guard I cut off making it easy to unclip. I removed 1 of the ferrite halves from the hinged plastic casing by levering a plastic protrusion out of the way. Then using some very fine enamelled wire I wound 10 turns on it, made a hole in the case, passed the wire ends through it, & then put back the ferrite against the hidden spring inside the case until locked in place. (depends on make)

I glued a thin coax to the case & connected the coil, after DC & RF testing, I soldered some aluminium foil (or copper foil if you have no aluminium solder) to the coax outer & heat glue a narrow strip of it through hole shielding the coil 1/2 a turn from the QRM cable. Then I put a layer of thin tape (parcel tape) over this to protect the coil.

I have seen other design use a cloths peg to house the 2 ferrite cores.

10 turns was used to give some calibration, & not put on too much wire that the frequency response will be affected. With 50Ω load a 0.5Ω is effectively inserted in QRM line.



WHERE TO TEST

The clip probe will show the highest current point along a cable & the worst cable in a set up (where a ferrite choke will be most effective).

Here is a typical TV set up...

