

QRO dummy load

Written by Hans Summers
Saturday, 11 July 2009 23:26 -

This project (or sub-project) began with a tip from Arv K7HKL about thick film resistors made by [Caddock](#)

. They produce a 10-ohm, 100W-rated non-inductive resistor with 1% tolerance. The [datasheet is available here](#)

. I obtained five of these as sales samples from Caddock. They were bolted to an old Pentium II processor heatsink and immersed in a convenient 2-litre can of extra-virgin Olive Oil from UK supermarket

[Sainsburys](#)

. The dummy load is now installed in my

[QRO ATU project](#)

CLICK ANY PHOTO FOR A LARGER VERSION!

{gallery}dummy/1{/gallery}

1. Don't miss the [QRO ATU project!](#)
2. We start with a perfect 2-litre can of [Sainsburys](#) Olive Oil. The main reason for choosing it, was the tin can it comes in!
3. Thanks to the nice people at [Caddock](#) for the five 10-ohm 100W sales samples.
4. Here's what it doesn't exactly state on the tin...

{gallery}dummy/2{/gallery}

5. The resistors are bolted to the heatsink, with some heatsink compound smeared on first, and connected using brass rod.
6. The rods are connected to a piece of PCB, having insulated island carved out for the RF input.
7. Here's the resistor assembly standing ready for immersion in the oil can, the latter having had it's pouring spout forcibly removed!
8. All sealed and finished. The PCB is soldered to the top of the can, using pieces of [backed bean can](#) and plenty of solder.

NOTE: The olive oil was boiled for 45 minutes prior to use to try to evaporate any water content, and allowed to cool overnight. The PCB was soldered onto the top of the can in a

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complete seal, except for one small hole drilled in the PCB. The dummy load oil can was then heated to a temperature of 100C in the kitchen oven, then the hole sealed with solder. This should ensure that expansion of the oil doesn't cause the can to burst. Hopefully.