

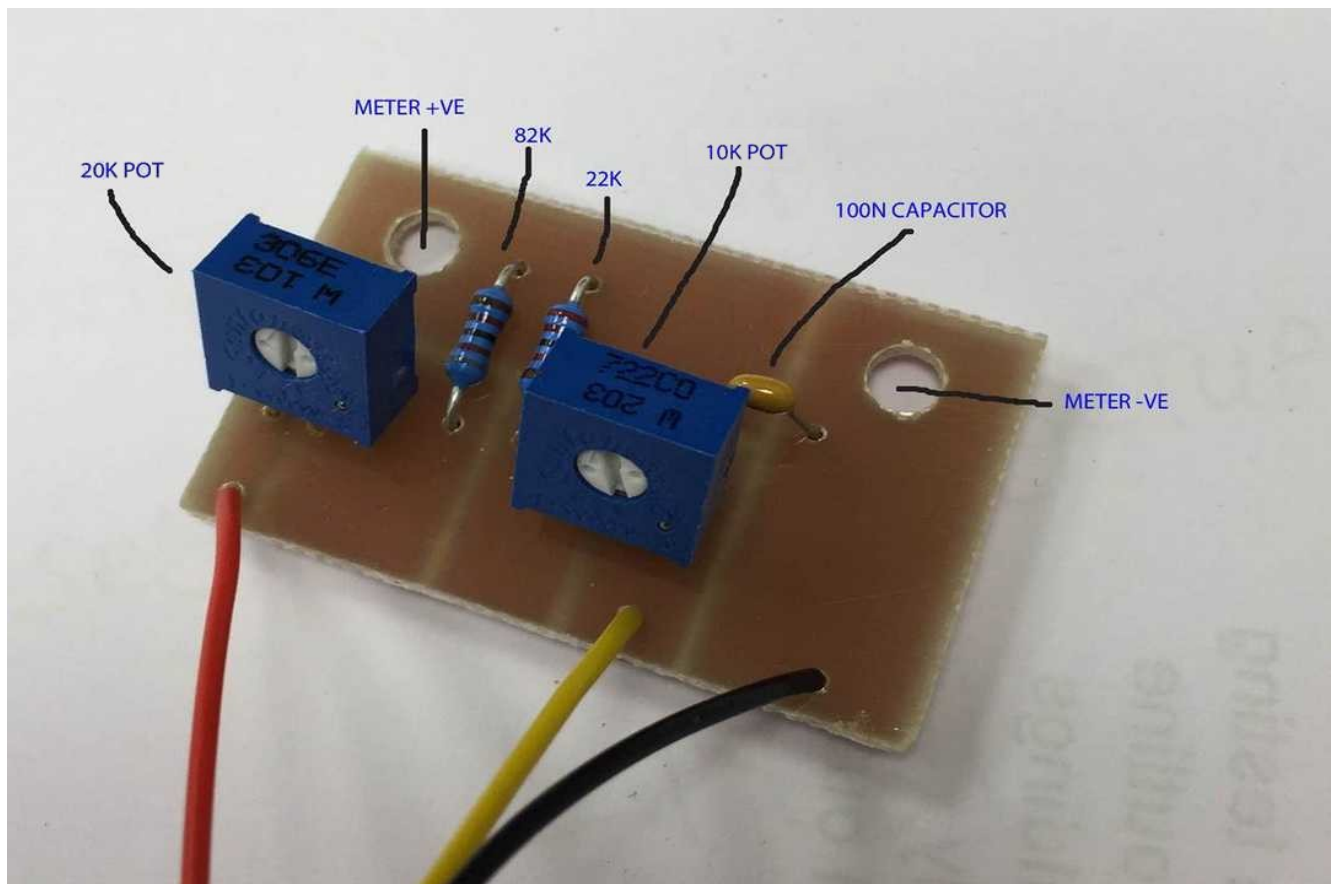
## **Sadars 2019 Build of the G4NVH in-line power meter project**

Please refer to Graeme's original build manual as the best overall guide.

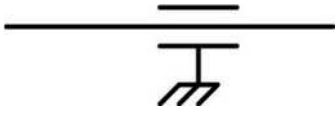
Notes:

There have had to be a few alterations since Graeme's original build (2003).

1. A different case and internal RF head screening case has been supplied as the originals cannot be sourced. John, G8JAQ, has kindly taken on the task of milling and drilling the enclosures. The front panels are done and he is working on doing the internal diecast screening box next. Before using the front panel, the holes will need to be carefully deburred with a fine file or emery paper.
2. There are two holes in the front panel which are for the fixings to the case. These will be covered by the meter movement so we have supplied 2x M3 countersunk machine screws to replace the originals. The front panel holes for these two screws will need to be countersunk and the panel attached to the case before the meters are fitted to the front panel.
3. John has redesigned and milled the small PCBs which mount on the meter studs. The circuit remains unchanged but the components now mount on the non-copper side of the board and the board will mount on the meter studs, copper side facing the meter movement. It is suggested that you mount the trimmers upside down compared to John's picture here, in order to make adjustment more accessible.



4. A printed scale for the meter movements will be provided. Once the calibration of the scale is confirmed Chris, G4DBR, will print stick-on scales.
5. When building the RF head, if the 100 ohm resistors provided prove to be too bulky, I have some smaller ones on order.
6. Contrary to Graeme's drawing of the RF head construction (section 4), the nylon pillars will mount to the diecast box with countersunk M3 screws allowing the diecast box to mount flush to the inside face of the rear panel.
7. There is an error on line 10 of the original component list. The resistor value is 82K as in the circuit diagram. (Not 820k)
8. C5 and C6 on the circuit diagram are 1000pF feedthrough capacitors. These are hard to come by and expensive. We have provided some 10nF feedthroughs which were very reasonably priced at Nantwich Rally. The value is not critical as they simply decouple the DC voltage as it leaves the RF head.  
The feedthrough capacitors should be drawn as below on the circuit diagram. As originally drawn the meter could not work. Seemingly no one spotted that in 2003!



Hopefully, when they are all completed we can set aside an evening during which they can all be set up.

73

Nick G4KQK