

## G0MJI Construction Notes - Draft

The kit of parts as received from Chris



### Order of assembly

1. First of all the large BNC and anti-static neon were positioned and soldered. I then moved on to the wound components.
2. It seemed logical to me to wind and solder the toroids in band strips across the board. This would make continuity testing as each toroid was added very easy to do. Take your time with these and check carefully that varnish is carefully cleaned each time. Here is the first strip in place and soldered:



In the image you can see Toroids 13,17,21

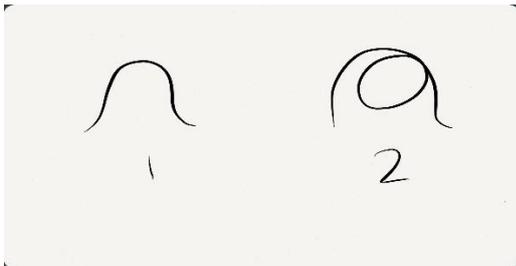
I then added three more banks of toroids 14,18,22 15,19,23 16,20,24

Each time checking for continuity across the band strip.

The completed low pass filters



3. I then added the two 10:1 swr toroids. I checked with Chris and he recommended 10 turns on each toroid and a single loop to complete the transformer.



So here loop 1 is correct as opposed to loop 2

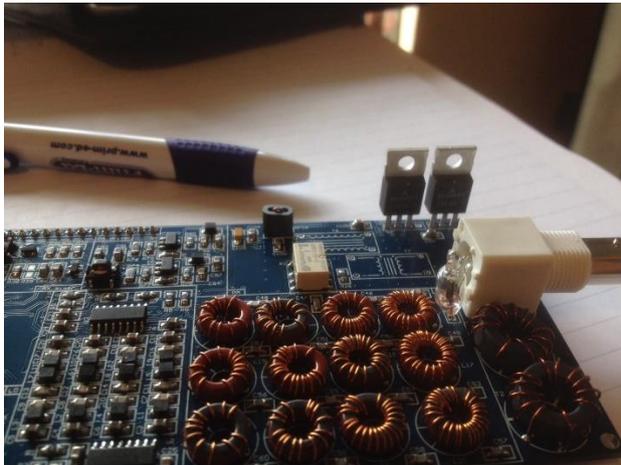
Position the coils as per the illustration below on the pcb. Attach the single loop in the correct position indicated on the board also. Again check for continuity in all windings and connections to the board. Take time to clean away varnish from the copper wire very carefully.



4. Position and solder the ACC/Key sockets.



5. I then fitted the two FETs to the three left hand pcb holes. This left one empty hole to the right of each device – see below. Position carefully as far inward as possible as the heatsink may not fit the case later. In my case I had to bend the FET legs slightly to enable an accurate fit once the case was assembled.



6. Next I fitted the very small single link binocular choke. This can be seen in the image above to the left of the FETs.

7. Constructing the bifilar binocular transformer. This takes particular care and it is useful to note the printing on the pcb for guidance. I took two lengths of copper wire (provided) and twisted them together. These I fed through the binocular toroid twice. I then spent some time trimming the wire endings as well as removing the varnish.



8. Winding the 3:2 transformer. This was simple. Two turns from one end, three turns from the other. I marked the two turn end so it could be positioned accurately on the pcb. See below:



9. Fitting the heatsink. This is straightforward. However I needed to attach the FETs with nuts and bolts as the supplied screws did not tighten correctly. Not an issue. It is worth spending some time to make sure the heatsink is level so that it fits the case nicely later on.

10. I fit the speaker in position. It is held in place by melting the studs carefully with a soldering iron. I also applied a very small amount of superglue. The wiring has to be routed through the case carefully. This is best worked out during final assembly. Be sure to insulate the terminals as the case is rather tight and components are closely packed. See below.



11. Check everything most carefully. Then assemble the case around the two interlocking boards.

12. Turn on! You should be greeted by the sight of one of the best qrp radios every designed. The beautiful mCHF



Enjoy!