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Getting started . . .

Firstly if you have bought the kit, check the pcb for any solder bridges or whiskers from the roller tinning process against the master (Fig. 2) before commencing soldering.

1. At each of the external connection points marked with a solid black circle, insert a 1mm dia. connection pin from the underside, push hard home and then solder.

2. Next insert all the resistors in numerical order and solder into place, not forgetting to solder to the top where indicated. Rather than inserting both leads through the pcb when one is earthed, you may find it easier to cut the earthed end to about 5mm in length and solder this direct to the top foil with the body lying in the direction indicated by the diagram. If you have any resistors left over, or the last one is the wrong value, then check all the others again!

3. Insert pins into the three holes marked with crossed circles and solder both sides, and also the short link wire just under R21 shown as dotted lines.

4. Now work round the pcb inserting all the fixed value capacitors in numerical order, observing the polarity of electrolytics.

5. Bend the lead adjacent to the raised part of the mica compression trimmer (C19) so that it is nearly parallel to the body. Insert the other lead into its pcb hole and solder both leads so that the underside of the capacitor is just clear of the pcb surface. Repeat with C21.

6. Insert IC1 (LM380N) with pin 1 correctly orientated, solder all pins to the underside, and the 7 pins marked with crosses to the top foil.

7. Insert the double balanced mixer package (DBM1) with pin 1 correctly placed — depending on the mixer used either pin 1 will have a blue coloured bead, or the letter "M" of "MCL" will be above pin 2 (or both). Then solder.

8. Insert RV1 & RV4 presets, soldering into place, not forgetting that one lead of each is soldered to the top foil.

9. Insert and solder L2,3 & 6 chokes.

10. Insert all the diodes ensuring that the band on each aligns correctly with the diagram, then solder.

11. Insert C4 (foil dielectric trimmer) and solder.

12. Insert each of the transistors (except the PA transistor) in turn and solder, making sure that the underside of the body is not more than 5mm above the pcb, and that the case orientation is correct. Note that Fig. 3 shows the case outlines for

18mm in diameter and partly coloured red). In this case the turns are simply wound through the toroid, avoiding crossed turns (each time the wire goes through the centre counts as one turn). 41 turns will fill the core completely so keep the turns tightly spaced as you proceed. When finished, crop off the excess leads to leave about 10mm of each, and strip about 8mm of insulation off each lead using a knife or other suitable implement. Then insert into



Transceiver rear view

25K55 at TR1/2. If a J310 is used, the case must be turned through 180° as the pin-out is opposite to that shown.

13. Smear a small amount of heat sink compound on one side of the T03 insulating washer for the PA transistor, and place on the pcb aligning the holes with those on the pcb.

14. Now smear a further amount of compound on the top side of the washer, then carefully insert the MOS power transistor into place, avoiding handling the 2 leads.

15. Bolt the transistor into place using 2 x 6.4mm 6BA bolts, inserted from the top, with a plain washer, then shakeproof washer, and finally a nut, on the underside. Tighten up and then solder the leads, cropping off the excess lead afterwards.

Coil winding

It now remains to wind the 4 coils. All of these are wound on toroidal cores, and are not difficult to make. It is suggested you follow these instructions as this will ensure that the various taps end up in the right place to suit the pcb layout! If the VFO is not being used then L1 can be omitted.

1. L1. This consists of 41 turns of 0.56mm enamelled copper wire (all the coils use the same wire) on a T68-2 dust iron toroid (these are

the pcb and solder so that the bottom of the coil is resting against the pcb.

2. L4/5. These are both identical and again wound on the T68-2 cores. So that the taps end up in the right place proceed as follows. Take 15 cm of wire and strip 8mm of insulation off one end. Hold the core in your left hand and the stripped end of the wire against the outside. Then insert the other end of the wire through the centre of the core from the back, then over the top, and continue winding in a clockwise direction round the core until seven turns have been made (i.e. the wire has been through the core seven times).

Now take another length of wire, this time 43 cm long, again strip one end, and then twist and solder this to the stripped end already on the core. Again hold the core in your left hand, but with the already wound part to your left, and continue winding another 18 turns onto the core in a clockwise direction round the core. If you have deciphered the instructions correctly, you should end up with 25 turns on the core, tapped at seven turns, with all the winding in the same sense. Now crop the excess leads at each end as before, and strip the ends.