

Note that Q5 has one lead soldered to the top foil, and the same is soldered to the underside as well.

Q7/8/9 should each be mounted so that the underside of the case is no more than 3mm above the PCB to avoid instability. Each of these transistors must have a heatsink (TO5 push on type). L1 & L2 are made as per the drawings. Once wound and in place, and after correct operation has been verified, the cores are held fast using epoxy adhesive with a separation between the cores of 5mm. The 53 turn windings need 82cm of wire each, and the 3 turn windings 9cm.

A tinplate screen should be fitted last (or use double sided PCB), 15mm high to isolate the input and output signals from each other. Don't forget to solder in the coax link (use miniature cable) between the two points both marked A on the layout (or you won't receive any signals).

Oscillator/LPF PCB

The oscillator section is identical to the HF version (except for crystal frequencies), and the low pass filters are similar in layout but with changed values. Also, the cores used for the latter are a different grade for the lower frequencies.

1. The PCB is not difficult to assemble — start by inserting the connection pins. Then commence with the top oscillator section; all the three sections are identical, with the exception of the 160M oscillator where L3 has a lower inductance (blue coil — the others are white) and the two air spaced inductors (L5/6) have one turn less than the others. Again keep leads as short as possible and orientate leads of vertical resistors in the positions shown.

It is important that when winding L5 and L6 (two for each oscillator) the winding direction must be correct if the tap is to end in the right place. Each soil is wound by taking a 15cm (14cm for 160m) length of 19swg (1.25mm) enamelled copper wire, and winding around a 7/32" drill so that the winding progresses anticlockwise from left to right. If you start the winding by having the wire under the drill, and then bring

it up over the back towards you, continuing to wind to the right, you will get it right.

Four of the six-turn coils, and two five-turn coils are required if you are running all three bands, with the insulation scraped off at 1.25 turns from the end nearest the 1nF decoupling capacitors. Tin the exposed copper before putting the coil into place with its underside about 2mm above the PCB. Then solder the diode into place, with the banded (yellow or black) end against the PCB (it won't work if they are the wrong way round). The other end can then be clipped off just at the point where it meets the tap made earlier, and then soldered.

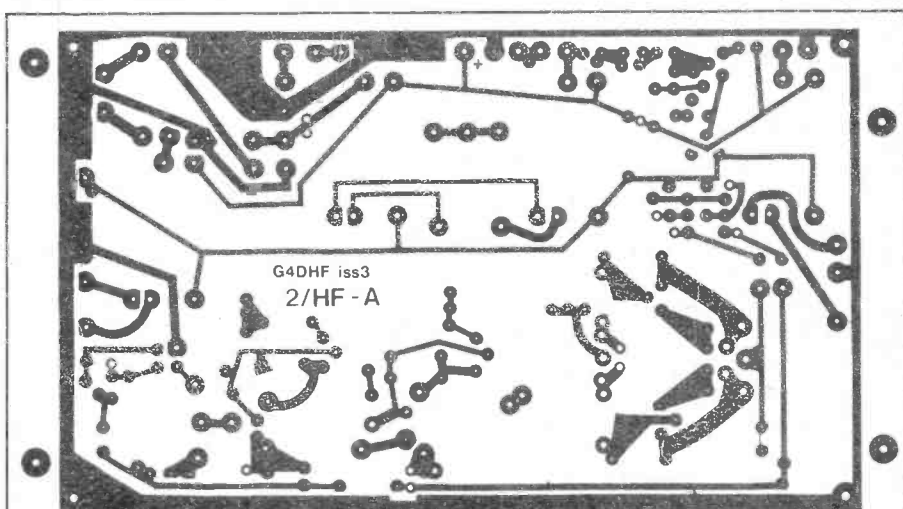
Low Pass Filters

These are wound on T50-2 (red) toroids (rather than T50-6). L8 and 9 (80 metres) need 36cm of wire for winding, and L10 and 11 (40 metres) need 26cm. The 160

metre inductors (L12 & L13) are wired directly across the band-switch (see diagram). They require 50cm of wire each for winding. Note that C29 comprises two capacitors wired in parallel to get the correct value. Polystyrene capacitors are used in this version of the transverter.

Screens are required between the oscillator sections as shown, again 15mm high.

If the transverter is constructed as the original, an 18swg aluminium screening plate cut to the same size as the PCB's is required between them — this is sandwiched between the two PCB's as shown in the drawings. In the prototype VC1 was also mounted on this screen, using an additional sidepiece which had been bent at right angles to the main screen — whether this can be done depends on the type of capacitor used. If the leads from the capacitor to the preselector



Foil Patterns — Please note they are 75% full-size.

