These instructions should be read in conjunction with the "M Series" General Instructions. This sheet gives further details that are special to the CA80M HF Single Band CW Transceiver Hardware Package.

## PARTS LIST

26 off M3 12mm Pan Head Bolts	l off lp, 2w Toggle Switch
2 off M3 12mm Countersunk Bolt	3 off Push-on Knobs
10 off No.4 Self-tapping screws	4 off Knob Caps with white line
l off Solder Tag	l off Screw-fitting Knob
20 off M3 Washers	2 off 3.5mm Jack Sockets
48 off M3 Nuts	l off 4p 3way Rotary Switch
6 off Small Grommets	4 off Stick-on Rubber Feet
1 off SO239 Socket	1M RG174AU Miniature Coax

CASE: Front Panel, Rear Panel, Chassis, Top Cover, Bottom Cover, Screen, Pre-selector capacitor mounting bracket.

TUNING DRIVE AND CAPACITORS - these are not supplied with the CA80M hardware package. Many customers will already have suitable items purchased at the same time as the receiver kit. These items are normally available separately from C.M.HOWES COMMUNICATIONS.

### TUNING CAPACITOR MOUNTING

It is absolutely vital to the operational "feel" of the transceiver to make a good job of fitting and aligning the tuning capacitor and its slow motion drive.

There are various combinations of tuning drive and capacitor that can be used. The "vernier" type dial mounted on the front panel used with one of our "surplus" type tuning capacitors is the most economical system, and will give good results provided that the alignment of dial and capacitor is carried out properly. Two fixing holes will need to be drilled through the front panel and the chassis to mount this type of dial.

An alternative is to use an "inline" drive. This will need to mount on a bracket attached to the chassis. This type of drive has no dial or scale and so should only be used in conjunction with a digital frequency display (HOWES DFD5 etc.). There is a matching hardware package for the DFD5 - type CA5M that will match the styling of the CA80M case.

## O SCREEN

The VFO screen is designed to fit down the length of the chassis and shield the VFO from the cables running to the rotary TX/RX switch. Four M3 12mm bolts and four M3 nuts should be used to mount the screen. The front fixing bolt should be a countersunk type so that it does not obstruct the pre-selector capacitor. The four fixings should be spaced evenly along the length of the screen. Drill 4mm holes in the screen and then mark the chassis through these holes and drill the fixing holes 4mm. Countersink the front fixing hole on the top of the chassis. Before final fixing of the screen, drill a grommet hole (7.5mm) about 100mm from its rear edge.

# PRE-SELECTOR CAPACITOR BRACKET

This is used to mount one of our "surplus" type capacitors so that it aligns with its front panel hole. Drill 4mm fixing holes for the capacitor and chassis fixing. M3 12mm bolts and nuts should be used to fix the bracket to the chassis. See the CA80M Hardware layout page for details.

# C.M.HOWES COMMUNICATIONS

CA80M Hardware Layout

issue 1



# C.M.HOWES COMMUNICATIONS

"VERNIER DIAL" AND "SURPLUS" TUNING CAPACITOR. Drill two 4mm diameter mounting holes for the tuning capacitor as shown in the diagram. These are the fixing holes for the capacitor. The fixing screws are supplied with the device.

Before fitting, the tuning capacitor should have all the projections on its base filed off. These projections are the two copper coloured rivet heads, the thin strip metal retained by these rivets and the four areas of paxoline type insulator that project slightly from the base - these should be filed flush with the base of the capacitor frame. Your tuning capacitor should now be able to sit flat on the chassis. Fixing holes.



The last mods to the capacitor are to cut off the flat end of its, spindle w'h a hacksaw, and then smooth off the serrations on the shaft flush with the rest of the spindle so that it will fit easily into the dial. All filings and dust should be cleaned from the capacitor using a soft brush.

## FITTING THE DIAL

The front panel should be fitted accurately to the case chassis. Check that the front panel is at right-angles to the main body of chassis. Bend the front edge of the chassis to achieve this if necessary.

The tuning capacitor (suitably modified), should be fitted in place with its fixing screws tightened just enough so that it is held in place, but so that it can be moved with modest pressure. With the front panel fitted accurately in place on the chassis, offer the dial up to the tuning capacitor and slide it onto the capacitors shaft (you will have to remove the clamp screw from the output shaft of the dial for this). Move the capacitor slightly, if needs be, until you have the dial sitting flat on the panel and mated to the capacitor. Tighten the capacitor fixing screws.

Now rotate the dial so the pointer is at 50 on its scale. Rotate the tuning conacitor so that it is half meshed. Now refit the clamp screw to the al's output shaft and tighten it so it grips the tuning capacitors shaft.

Now rotate the tuning dial back and forth from end to end (holding it with your other hand to prevent its body rotating itself) and check that the tuning capacitor rotates smoothly with the dial. If you are happy all is well, mark through the two "ears" at the bottom of the dial for its fixing hole locations. If the alignment does not seem quite right, then loosen the tuning capacitor fixing screws and reposition things slightly. A little time spent getting this alignment right will make all the differance to the "feel" of the rig's most used control.

Drill 4mm clearance holes for the dial fixing through the front panel and then through the chassis. It is best to remove the front panel for drilling and then use it to mark the chassis, then drill these holes. M3 12mm pan head bolts should be used to fix the dial in place. After fixing, check the alignment again, and re-adjust things if needs be.

Wiring Suggestions for DcRx/ MTX/CTX/CVF/CSL4/DCS2 Modules Issue 1

