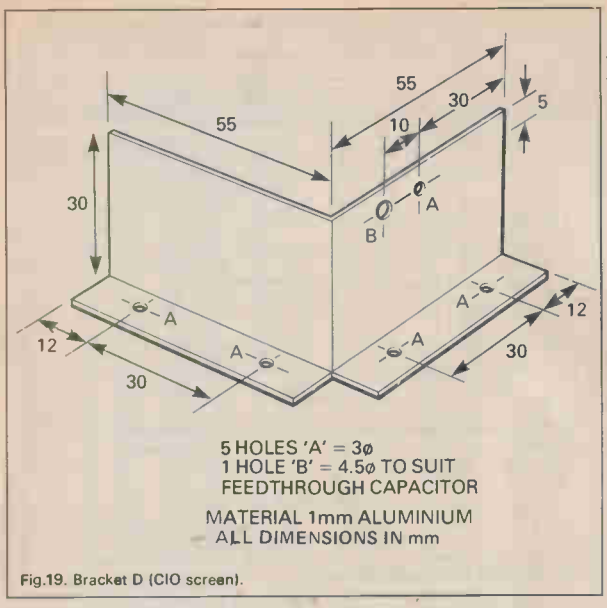

Fig.19. Bracket D (CIO screen).

much more than this, turn off quickly and look for solder splashes, wrong components and so on. When the current looks reasonable, apply an oscilloscope (if available) to the buffer stage output and check for an undistorted sine wave.

Adjust R6 for an output of about 2 volts peak-to-peak. If you do not have access to a scope, set R6 at about mid-position. In practice, this setting is not too critical and it can be experimented with on live signals.

To set the frequency range of the VFO accurately, a frequency meter or a receiver preferably with digital read-out is required. Set VC1 to maximum capacitance, that is with its vanes fully meshed, and measure the frequency of oscillation. Using the correct type of trimmer tool, not a screwdriver which will probably result in a broken core, adjust the core of T1 until the frequency is about 10-20kHz below 3.955MHz. Now swing VC1 to minimum capacitance and again measure the frequency. It should be a few 10s of kHz above 4.455MHz. Fine adjustments of the core of T1 can not be made until the overlap at each extreme is about equal. If an acceptable overlap cannot be obtained, the values of C2 or C3 may have to be reduced, so that VC1 has more effect on the frequency coverage.

When the correct VFO coverage has been obtained, the dial can be calibrated before the VFO box and slow-motion mechanism are assembled on the receiver chassis. Set the VFO to 3.955MHz and mark the received frequency this will correspond to, 3.5MHz, at the top rear of the dial near to the outside edge. Work upwards in frequency, in say 50kHz intervals, marking the rear of the dial as you proceed. 4.055MHZ VFO frequency corresponds to 3.6MHz received frequency, and so on.

A similar procedure can be followed for setting the CIO frequency and level from pcb 4. Again the core of T1 has to be adjusted for the correct frequency. Here the frequency to aim for is 453.5kHz. If a method of setting this frequency accurately is not available, T1 can be adjusted when the receiver has been fully assembled and a signal is being received. The current consumption of pcb 4 should be about 14mA.

No adjustments are needed on pcb 3. The current consumption of this board should be about 19mA with no audio output.

The RF tuned circuits on pcb 1, T1 and T2, can be aligned either using a signal generator at about mid-band, or by peaking them on received signals. T3 needs to be tuned to 455kHz, and agian this adjustment can be left until a signal is being received. The core of T3 needs to be adjusted for greater audio output. The current consumption of pcb 1 should be about 22mA.

Finishing

A pleasing final appearance for the receiver can be obtained by using self-adhesive plastic material such as Contac.

Fig.21. Disc A and disc B.

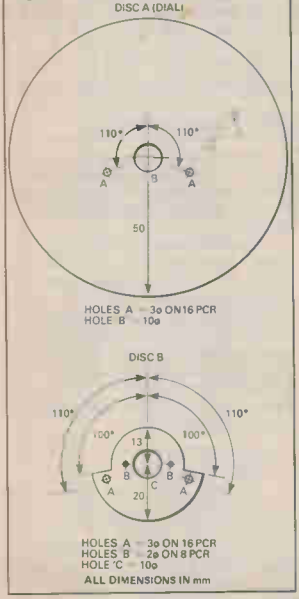

Fig.20. Slow-motion drive and mounting details.