22. COMPONENT LAYOUT

(*a*) (i) Components not shown on the layout diagram or the printed board are either mounted on the filter switch or on the input sockets on the inside of the rear face of the chassis. If access is required to components on the inside of the rear face of the chassis then capacitors C30, C38 and C39 can be removed easily by undoing their fixing nuts on the underside of the printed board.

(ii) When removing components from a printed circuit board care must be taken to avoid overheating the copper foil as this may damage the adhesive. We suggest that you use a small-bit instrument type soldering iron.
We have *not* crimped the component leads and they can be removed easily from the board if the solder round the lead is melted.

(iii) When removing transistors from the printed board the transistor should first be removed from its clip and then the transistor leads should be gently pulled one at a time and at the same time applying the soldering iron to the soldered connection on the underside of the board.

(iv) When removing horizontally mounted components the body of the component should be gently prised at one end (using a small screwdriver) and in this manner the lead-out wires removed one at a time.

(v) When removing vertically mounted components the centre terminal should be unsoldered and the component gently pulled away from the board. The side wire can then be removed more easily.

(vi) Should you for any reason wish to remove the supply voltage to the pre-amplifier section of the 'STEREO 30' the wire link marked 'PRE-AMP' should be removed.

b) VOLTAGE ADJUSTMENTS

For optimum results from the 'STEREO 30' two voltages on each channel must be correctly set. These are set at the factory and should not need adjustment unless a transistor has become faulty and been replaced.

(i) The voltage at the collector of T9L and T9R should be set at −23 V for a line voltage of −42 V. This voltage is set by adjusting P6L and P6R which are situated immediately behind the 'VOLUME' control. When carrying out this adjustment use a screwdriver with an insulated shaft to obviate shorting to the A.C. switch terminals on the rear of the 'VOLUME' control.

(ii) The voltage at the collector of T1L and T1R must be set at −4·7 V. This test point is shown by two white rings round the collector leads of T1L and T1R on the top of the printed board. The voltage is set by adjusting P1L and P1R.

(*c*) CURRENT ADJUSTMENTS IQL AND IQR

On the underside of the printed board are two pairs of soldering tags marked 'IQL' and 'IQR'. Each pair is linked by a piece of wire, and this wire link may be removed and an ammeter inserted to measure the quiescent (no-drive) current of the output transistors. The current should be between 15 and 20 mA and it can be set by adjusting P7L and P7R. This adjustment should be made after the amplifier has been switched on for approximately five minutes and then rechecked after ten minutes. The amplifier must *not* be driven while the meter is in circuit. The amplifier *must never* be switched on without the wire links or ammeters connected across the soldering tags as this can easily damage the driver transistors (particularly T6).

(*d*) PRECAUTIONS

(i) Avoid shorting the loudspeaker output leads while driving the amplifier as this will blow the D.C. fuse.
We have fitted a 1A fuse in order to give maximum protection against fault conditions causing thermal runaway. This fuse can be increased to 1·5A (see para. 6) but this value must not be increased further. If the fuse continues to blow then a fault must be present.

(ii) Do not sustain full-power sine wave drive, particularly at high frequencies, as this will overheat the output and drive transistors and cause the D.C. fuse to blow.

(iii) Do not short together the lead-out wires of the transistors as this can cause rapid failure of the transistor, particularly under drive conditions.

(*e*) TRANSISTORS

The transistor types used are shown on the circuit diagram and other replacement types should not be used unless full facilities for testing the amplifier are available.

(*f*) THERMISTORS AND DIODES

The thermistor types used are VA 1055 (TH1) and VA 1039 (TH2). These have a D.C. resistance at 25°C. of 15,000 ohms (VA 1055) and 500 ohms (VA 1039); other thermistors having the same characteristics may be used as replacements.
The diodes used are type 20AS but any silicon diode having an average current rating of 0·5A and a PIV (peak inverse voltage) rating of 200 V can be used as a replacement.