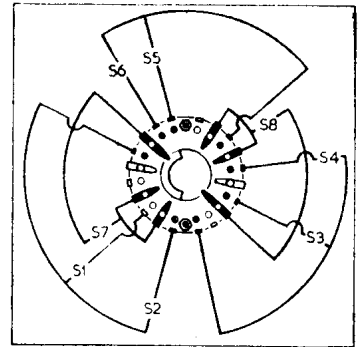


Left: Plan view of the chassis.



Right: Diagram of the switch unit S1-S8 as seen in location D3.

**Circuit Description—continued**

currents are stabilized by R26 and R27. Negative feedback is applied from L12 to the base of TR4 via R28, C31, R29 and R19.

**CIRCUIT ALIGNMENT**

**Equipment Required.**—A signal generator, modulated 30 per cent at 400c/s and an A.C. voltmeter for use as output meter.

- 1.—Switch the receiver to M.W. Turn the volume control to maximum and set the tuning gang to maximum capacitance. Connect the output meter across the speaker speech coil L12. Connect the signal generator live lead to the tapping on L1 (location reference B2), and its earthy lead to the junction of R3, C6.
- 2.—Feed in a modulated 472kc/s signal and adjust the cores of L10 (A2), L9 (D4), L8 (A2), L7 (D4) and L6 (A1) for maximum output, progressively reducing the signal generator output as the circuits come into line.
- 3.—Check that with the tuning gang at maximum capacitance the cursor coincides with the datum marks at the right-hand ends of the tuning scales.
- 4.—Loosely couple the signal generator output to the ferrite aerial rod. Tune the receiver to 600kc/s. Feed in a modulated 600kc/s signal and adjust the core of L5 (location reference A2) for maximum output.
- 5.—Tune the receiver to 1,500kc/s. Feed in a modulated 1,500kc/s signal and adjust C12 and C3 (location references B1, B2) for maximum output.
- 6.—Tune the receiver to 600kc/s. Feed in a 600kc/s signal and slide L1 (location reference B2) along the ferrite rod for maximum output. If considerable adjustment of L1 is required repeat operations 4, 5 and 6.
- 7.—Switch the receiver to L.W. and tune it to 250kc/s. Feed in a modulated 250kc/s

signal and adjust C7 and C4 (location reference A1) for maximum output. As oscillator pulling may occur when adjusting C7, care should be taken to adjust C7 and C4 at the correct tracking point.

- 8.—Tune the receiver to 170kc/s. Feed in a modulated 170kc/s signal and slide L2 (location reference A2) along the ferrite rod for maximum output. Repeat operation 7 if considerable adjustment of L2 is required.

**GENERAL NOTES**

**Switches.**—S1, S3 and S5 close on M.W.; S2, S4 and S6 close on L.W.

**Transistors.**—Replacement transistors are supplied by the manufacturers' spares department in two packages which are identified as type R.F.1 and type L.F.1. The R.F.1 package contains one XA102 and two XA101 transistors; the L.F.1 package contains one XB103 and a matched pair of XC101 transistors.

The manufacturers recommend that if a fault develops in one of the R.F./I.F. transistors TR1, TR2 or TR3, all three should be replaced. Similarly, should it become necessary to replace one of the A.F. transistors TR4, TR5 or TR6, all three should be replaced.

**Warning.**—Transistors may be permanently damaged if the full negative voltage is connected to their bases, or if continuity measurements are made with the transistors in circuit. They may also be damaged by

the application of excessive heat. If a transistor has to be removed or replaced, the soldering or unsoldering operation should be completed as quickly as possible using an earthed soldering iron. A heat shunt, such as a pair of pliers, should be clamped across the transistor lead between the transistor and the soldering iron during the soldering or unsoldering of its leads. Take care to avoid scratching the paint on glass-cased transistors.

**Drive Cord Replacement.**—About 38in of nylon-braided glass yarn is required for a new drive cord. It should be run as indicated in the sketch in cols. 1, 2, where it is drawn as seen when viewed from the front of the chassis with the tuning scale and backing plate removed and with the gang at minimum capacitance.

**Batteries.**—The batteries recommended by the manufacturers are two Ever Ready Lantern type 996's, rated at 6V each, connected in series.

**Transistor Analysis**

Collector current readings given in the table below are those derived from the manufacturers' information. They were measured on a high-resistance meter, the positive terminal being connected to the collector in each case. The use of a meter with an internal resistance lower than 10,000Ω/V can give rise to misleading readings. The receiver must be switched off before unsoldering the collector lead and connecting the milliammeter in circuit. See "Warning" under "General Notes," col. 2.

Transistor	Collector (mA)
TR1 XA102	0.3
TR2 XA101	1.2
TR3 XA101	1.2
TR4 XB103	2.8
TR5 XC101	2.1
TR6 XC101	2.1

Right: Underside view of the chassis.

Below: Diagram of the tuning drive system.

