

**General Description :** Four-valve, two-waveband, portable all-dry battery superheterodyne receiver with internal frame aerial. Released December 1949. Price £12 19s. 6d. (plus tax). Weight 12 lb.

**Power Supplies :** L.T. 1.5 volts, 250 mA.; Ever Ready All Dry 4. H.T. 90 volts, 11 mA.; two Ever Ready type B104. (45 volts each.)

**Wavebands :** M.W. 187-572 m. (1603-525 kc/s.); L.W. 928-2068 m. (323-145 kc/s.).

**Intermediate Frequency :** 470 kc/s.

**Valves :** (V1) 1R5; (V2) 1T4; (V3) 1S5; (V4) 3S4.

**Loudspeaker :** A 6½-in. high-flux-density, permanent-magnet, moving-coil unit with a speech-coil impedance of 3 ohms.

**Chassis :** Remove the rear metal casing secured by two knurled nuts on the underside. Remove the front metal casing secured by two 6 B.A. screws on the underside, also by two self-tapping screws on the inside, accessible from the rear. For complete access to the chassis, the loudspeaker can be released from its ring clamp and laid on the bench.

### Alignment Procedure :

**I.F. :** Inject a 470-kc/s. modulated signal into the control grid of V1 via a 0.01-μF. capacitor. Adjust the iron cores of L9, L8, L4 and L3 in that order for maximum response, progressively reducing the input to prevent the A.V.C. from operating.

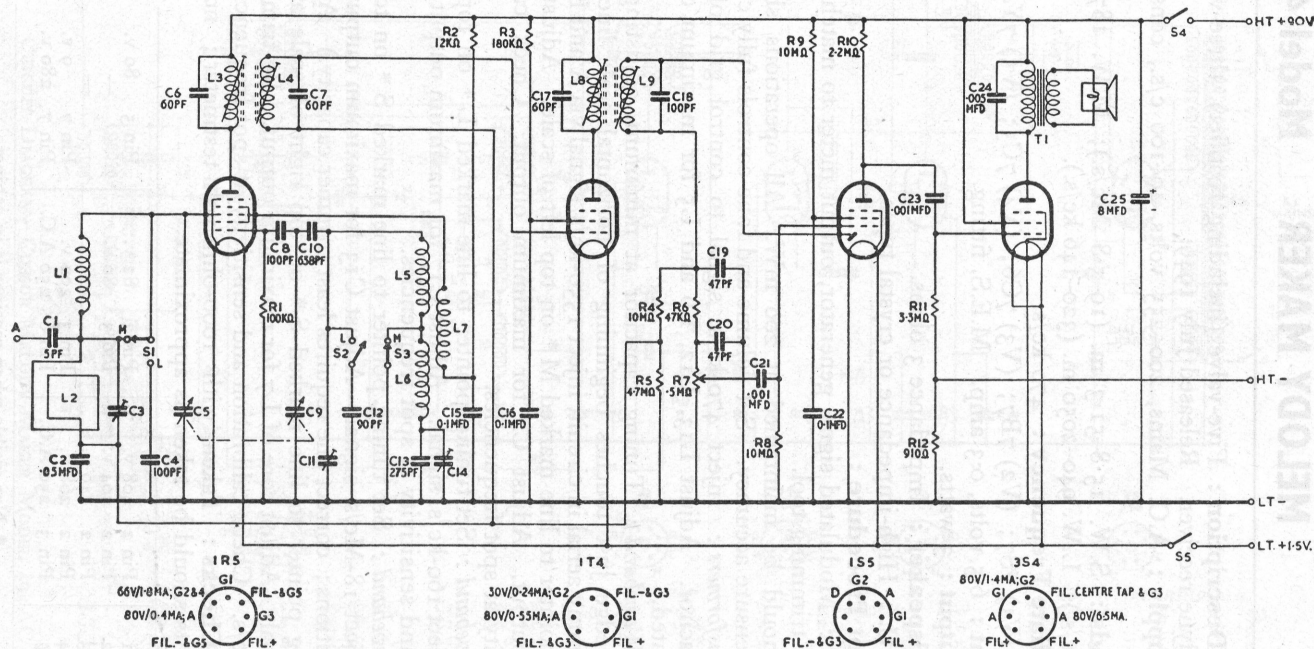
**R.F. :** For R.F. alignment the signal should preferably be introduced via an R.M.A. standard shielded coil. This is defined as "... a cylindrical coil, 5 cm. in radius and 6 cm. deep, wound with twenty turns to an approximate inductance of 40 microhenrys. The whole coils shall be shielded by a wire cage arranged to avoid magnetic screening (*i.e.*, there shall be no complete circuits whose planes are normal to the axes of the coil). The connecting leads shall also be screened."

**M.W. :** Set pointer to 206.5-m. mark, inject 1450-kc/s. signal and adjust calibration by means of C11; then adjust C3 for maximum sensitivity.

**L.W. :** Set pointer to 1875-m. mark, inject 160-kc/s. signal and adjust C14 for maximum response.

### D.C. Resistance of Inductances:

L1	2.6 ohms	L6	8.5 ohms
L2	Very low	L7	3 ohms
L3	13 ohms	L8	11 ohms
L4	13 ohms	L9	8.5 ohms
L5	5 ohms	T1 (primary)	450 ohms



CIRCUIT DIAGRAM—COSSOR MODEL 499