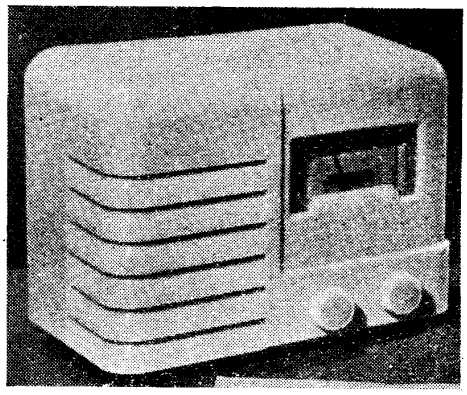
Test Report—R11

MERVYN MINOR MODEL 1260

A five-valve superheterodyne for operation on A.C. or D.C. mains 100–135v. and 200–250v., is now being manufactured by Mervyn Sound & Vision Co., Ltd., Thornash Way, Horsell, Woking, Surrey.

Only three controls are incorporated in the design of this receiver, two situated on the front of the cabinet and a two-position wave-change switch at the rear.

The cabinet has an ivory finish, the dimensions of which are 9½in. × 7¼in. × 5in., and the weight 6 lb. 9 oz. Price £11 9s. 5d., tax paid.



CIRCUIT

The circuit comprises of a **12K8GT** frequency changer, the output of which is connected to a high Q selective I.F. amplifier embodying a **12K7GT** valve, **12Q7GT** double diode triode which operates as the second detector L.F. amplifier and A.V.C. valve. The output of the **35L6GT** pentode operates a **3in.** permanent magnet loudspeaker. A **35Z4GT** valve is fitted as the rectifier.

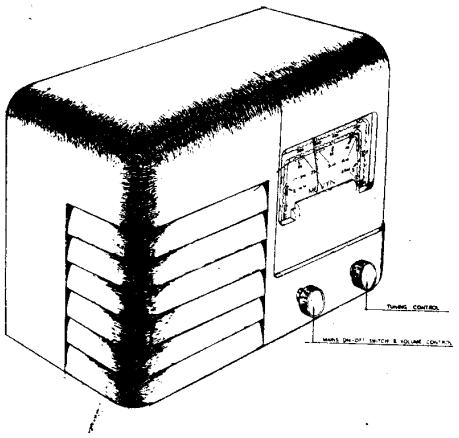
The sensitivity of the Mervyn Minor is rated at **50 microvolts** on medium waves and **75 microvolts** on long waves, selectivity on the adjacent **9 Kc.** channel is also rated at better than **100/1.**

The wave-change switch at the rear of the receiver is for operating wavebands covering **860-2,000 mts.**, and **186-533 mts.** The receiver has its own self-contained aerial.

ALIGNMENT PROCEDURE

Before connecting the receiver to the mains supply ensure that the voltage selector plug is inserted in the appropriate socket. When operating on **D.C.** mains correct polarity must be observed. The chassis should not be allowed to come into contact with any metal surface and should not be earthed as it may be **" live."**

The receiver, besides being fitted with a capacity aerial, also has an aerial terminal for fitting an external aerial if desired.



Intermediate frequency :—The two pairs of I.F. transformers trimmers **C7, C8,** and **C14, C18,** should be adjusted for maximum sensitivity at **465 Kc/s.**

R.F. alignment :—The receiver must not be standing on a metal plate whilst adjustments are being made to the R.F. trimmers.

On the medium waveband a signal should be injected between the aerial side of **C2,** and the chassis via a dummy aerial.

On the short waveband a series resistor of **400 ohms** should be used.

Oscillator trimmers **C9, L7,** and **C13, L8,** should not be adjusted unless the calibration of the pointer against the scale readings is incorrect. The oscillator inductance trimmers **L7,** and **L8,** control calibration of respective wavebands at *maximum* setting of the tuning condensor. The oscillator capacity trimmers **C9,** and **C13,** control calibration at the **minimum** setting of tuning condensor.

The frequencies covered at the extreme setting of the tuning condensor should be as follows :—**Min. Frequency on S.W. 6 Mc/s** and on **L.W. 540 Kc/s.** *Max. frequency* on **S.W. 18.75 Mc/s** and on **L.W. 1,520 Kc/s.**

The aerial trimmers **C1, L1,** and **C3, L2** are used to align the tuned aerial circuits with the oscillator circuits. The following table gives the crossover points at which the various trimmers should be adjusted to give the **maximum** sensitivity :—Inductance trimmer (Padding) on **S.W. 6 Mc/s** and on **M.W. 600 Kc/s.** Capacity trimmer (trimming) on **S.W. 18.75 Mc/s** and on **M.W. 1 Mc/s.**

MECHANICAL DATA

The servicing of the Mervyn Minor should present no difficulty to the service engineer and from the pictorial layout of the chassis on page four, it can be seen that the components are well spaced out and quite easy to ' get ' at.

The removal of the chassis from its cabinet calls for nothing more than the removal of a few threaded screws from underneath the cabinet and of course those holding the protecting cover at the rear of the receiver.

PERFORMANCE

The performance of this little receiver was exceptionally good and the selectivity of the " Mervyn " left little to be desired. The " pulling " power on the short waveband gave many hours of pleasure, especially on the amateur bands, whilst the more well-known foreigners were received at a good signal strength. The portability of the " Mervyn " was greatly appreciated and we are quite certain that this receiver should meet with full approval as the ideal " second " set.

Valve Table

V1 12K8GT 1h. 0.15A Va 100 Vs 60 Ic 9 ma
V2 12K7GT 1h. 0.15A Va 100 Vs 60 Ic 3.5 ma
V3 12Q7GT 1h. 0.15A Va 70 Vs — Ic .2 ma
V4 35L6GT 1h. 0.15A Va 110 Vs 100 Ic 35 ma
V5 35Z4GT 1h. 0.15A Va 140 A.C. RMS. Ic 100 ma
The H.T. voltage across the condenser C23 is 105v.
The H.T. voltage across the condenser C26 is 130v.

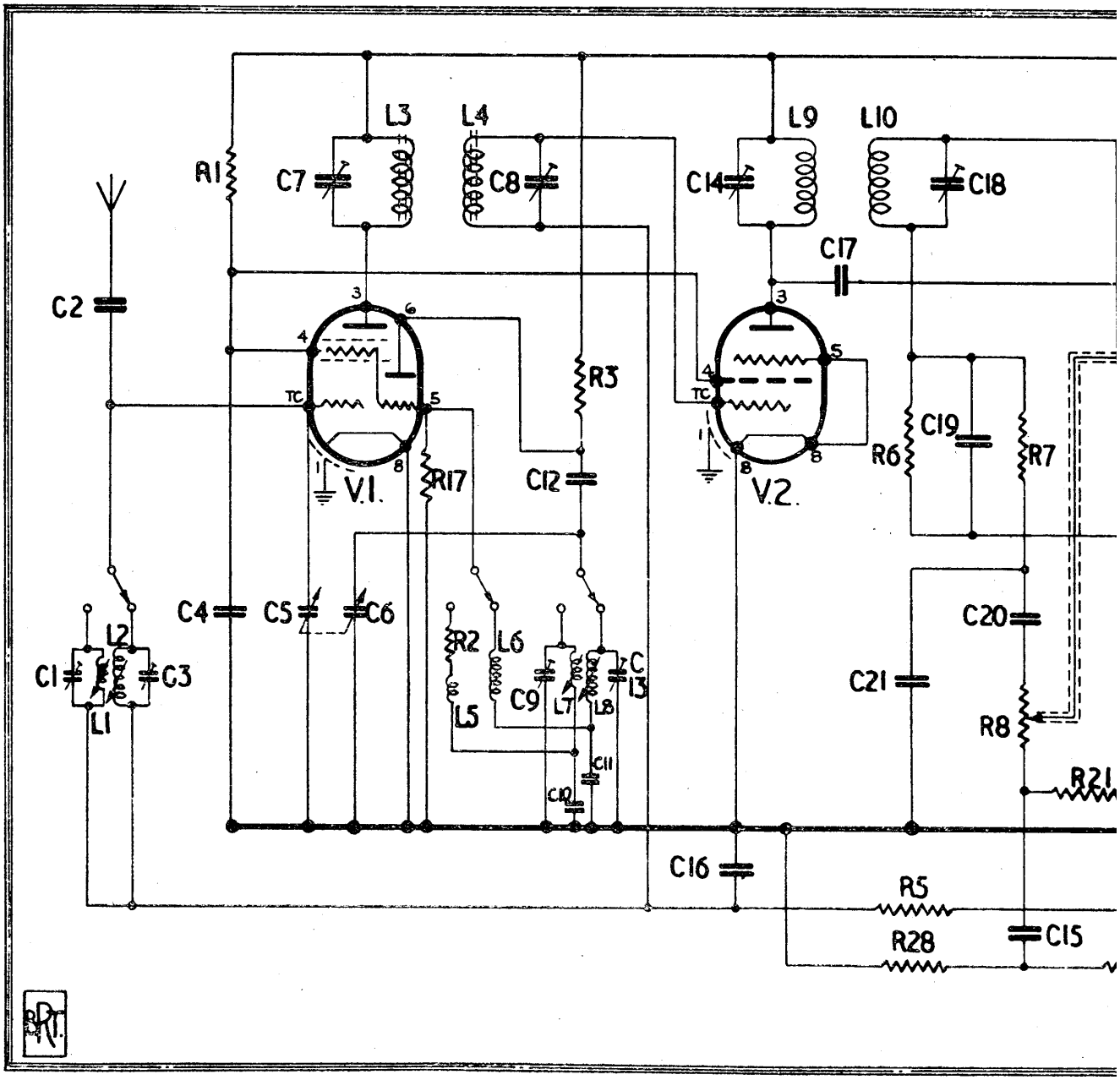
COMPONEN

RESISTANCES

R1 V1 & V2 screen dropper 10KΩ ±20% ½w.
R2 S.W. osc. damping 27Ω ±20% ½w.
R3 V1 osc. anode load 22KΩ ±20% ½w.
R5 A.V.C. decoup. 470KΩ ±20% ¼w.
R6 Audio diode load 470KΩ ±20% ¼w.
R7 I.F. stopper 47KΩ ±20% ¼w.
R8 Vol. control Pot'meter 1MΩ with switch graded 10%
R9 A.V.C. load 1MΩ ±20% ¼w.
R10 V3 anode load 220KΩ ±20% ¼w.
R11 V4 grid leak 470KΩ ±20% ¼w.
R12 Smoothing 1,500Ω ±20% 1w.
R14 Heater series 200Ω ±20% 5w.
R15 P.L. shunt 50Ω ±20% 2w.
R16 Line cord 400Ω .2A.
R17 Osc. grid leak 22KΩ ±20% ¼w.
R20 Bias network 27Ω 20% ¼w.
R21 Grid leak for V3 1MΩ ±20% ¼w.
R22 Bias network 150Ω ±10% ¼w.
R23 Neg. feed back 2.2KΩ ±10% ¼w.
R24 Neg. feed back 6.8KΩ ±10% ¼w.

CONDENSERS

C1 S.W. Aer. trimmer 30pF.
C2 Aer. series 20pF. M. ±20%
C3 M.W. aer. trimmer 30pF.
C4 V1 and V2 screen decoup. .01μF. M. ±2
C5 Aer. tuning 450pF. swing.
C6 Osc. tuning 450pF. swing.
C7 1st I.F. pri. trimmer 220pF.
C8 1st I.F. sec. trimmer 220pF.
C9 S.W. osc. trimmer 30pF.
C10 S.W. osc. padder .003μF. M. ±10%
C11 M.W. osc. padder 450pF. M. ±2%
C12 Osc. anode coup. 200pF. M. ±20%
C13 M.W. osc. trimmer 30pF.
C14 2nd I.F. pri. trimmer 220pF. ±20%
C15 Neg. feed back .1 μF. T.P. ±20%
C16 A.V.C. decoup. .05μF. T.P. ±20%
C17 A.V.C. coup. 200pF. M. ±20%
C18 2nd I.F. sec. trimmer 220pF.
C19 I.F. byepass 200pF. M. ±20%
C20 A.F. coup. to vol. control .001μF. M. ±2



)NENTS LIST

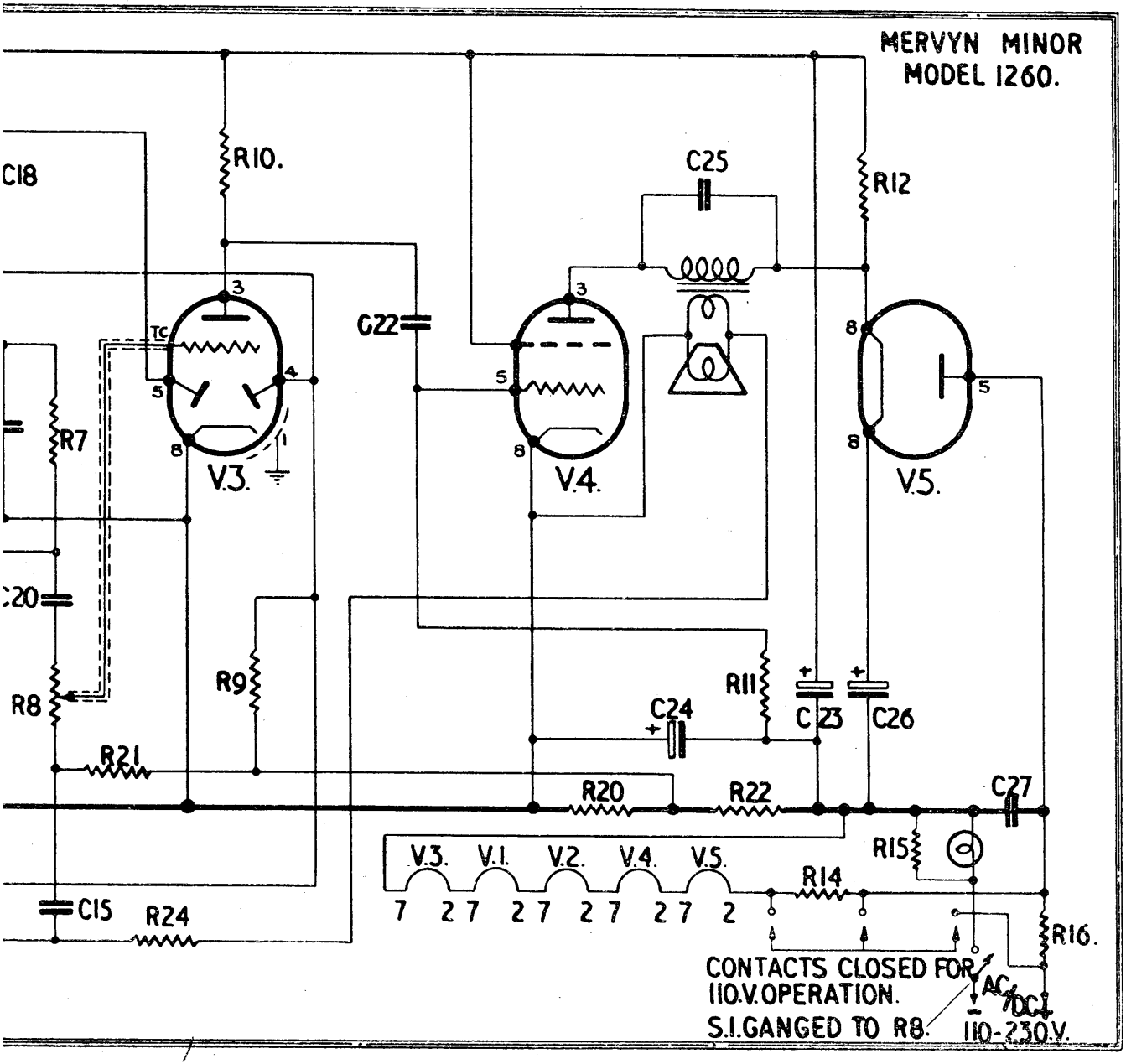
CONDENSERS

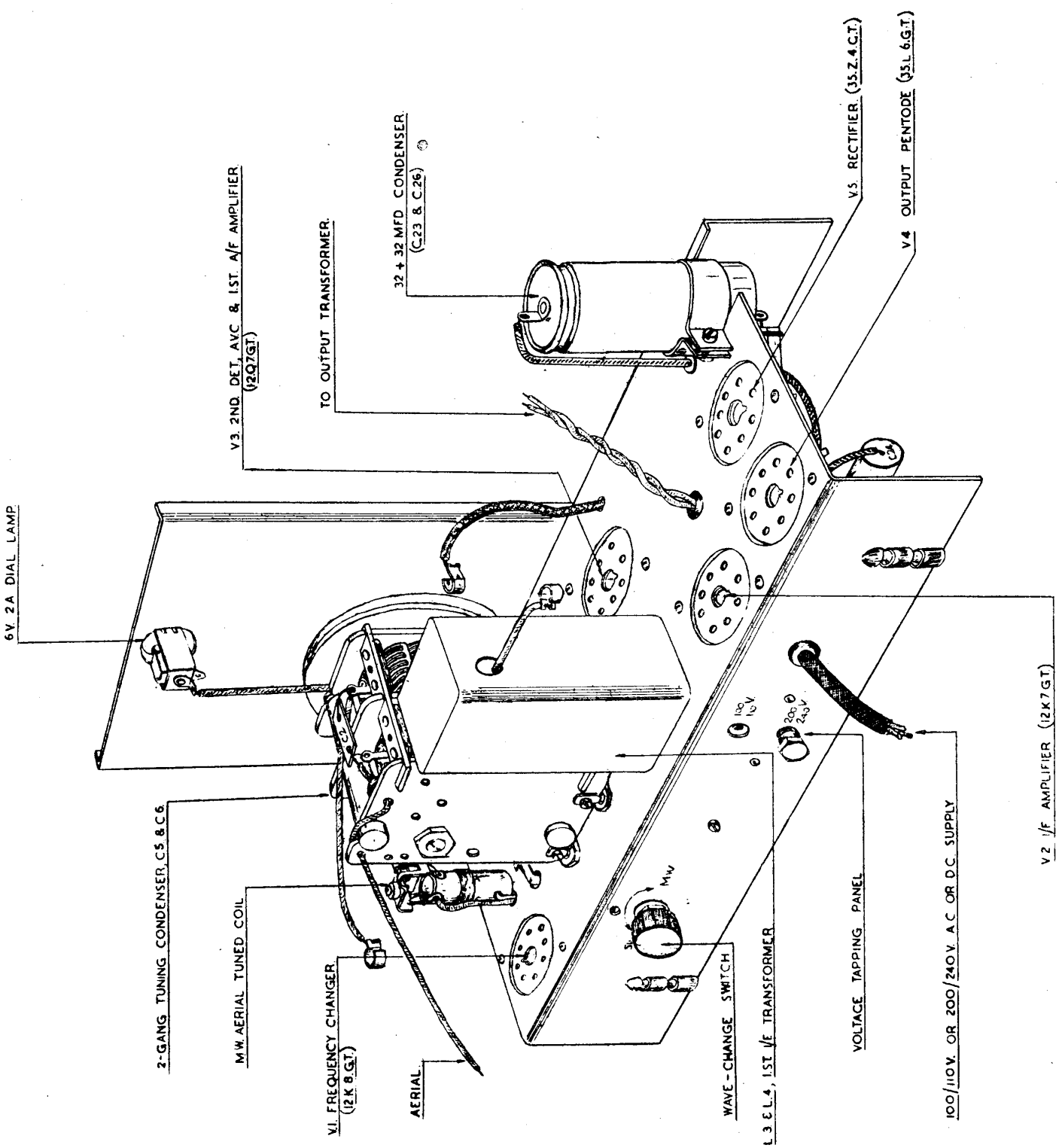
pF.
±20%
pF.
oup. .01μF. M. ±20%
ving.
ving.
220pF.
220pF.
pF.
μF. M. ±10%
pF. M. ±2%
pF. M. ±20%
pF.
220pF. ±20%
T.P. ±20%
T.P. ±20%
M. ±20%
220pF.
1. ±20%
ntrol .001μF. M. ±20%

C21 Audio reservoir 200pF. M. ±20%
C22 A.F. coupling to V4 .01μF. M. ±20%
C23 Smoothing 32μF. Elec.
C24 Bias smoothing 25μF. Elec.
C25 Tone control .02μF. M. ±20%
C26 H.T. reservoir 32μF. Elec.
C27 Mains suppressor .001μF. M. ±20%

INDUCTANCES

L1 S.W. aerial
L2 M.W. aerial
L3 1st I.F. pri.
L4 1st I.F. sec.
L5 S.W. osc. (grid)
L6 M.W. osc. (grid)
L7 S.W. osc. (anode)
L8 M.W. osc. (anode)
L9 2nd I.F. pri.
L10 2nd I.F. Sec.




6V. 2A DIAL LAMP
V3. 2ND. DET, AVC & 1ST. A/F AMPLIFIER (12Q7GT.)
TO OUTPUT TRANSFORMER.
32 + 32 MFD CONDENSER. (C23 & C26)
V5. RECTIFIER. (35Z.4.G.T.)
V4 OUTPUT PENTODE (35L.6.G.T.)
2-GANG TUNING CONDENSER, C5 & C6
M.W. AERIAL TUNED COIL
V1. FREQUENCY CHANGER (12K 8.G.T.)
AERIAL.
WAVE-CHANGE SWITCH
L.3 & L.4, 1ST I/F TRANSFORMER
VOLTAGE TAPPING PANEL
100/110V. OR 200/240V. A.C. OR D.C. SUPPLY
V2 I/F AMPLIFIER (12K7GT)
M.W.
100 110V
200 240V