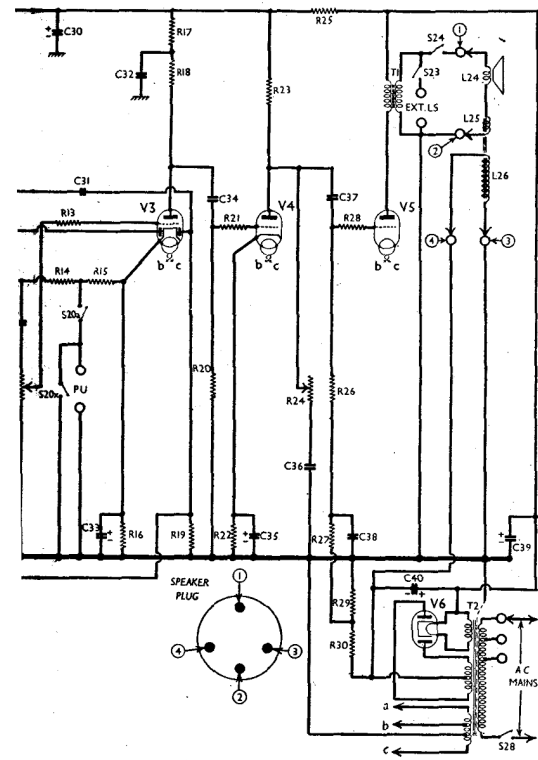


RESISTANCES		Values (ohms)
R1	V1 heptode CG decoupling...	1,000,000
R2	V1 heptode CG resistance ...	5,000,000
R3	Aerial LW auto damping ...	50,000
R4	V1 fixed GB resistance ...	100
R5	V1 osc. CG resistance ...	30,000
R6	V1 osc. anode & SG HT feed	20,000
R7	V2 CG decoupling ...	2,000,000
R8	V2 CG stabiliser ...	50
R9	V2 SG HT feed resistance ...	100,000
R10	V2 anode HT feed resistance ...	10,000
R11	IF stopper ...	250,000
R12	Manual volume control ...	500,000
R13	V3 triode grid stopper ...	100,000
R14	V3 signal diode load resistances ...	250,000
R15	V3 triode GB; AVC delay...	250,000
R16	V3 triode anode decoupling...	1,000
R17	V3 triode anode load ...	50,000
R18	V3 triode anode load ...	5,000
R19	V3 AVC diode load ...	1,000,000
R20	V4 CG resistance ...	500,000
R21	V4 grid stopper ...	100,000
R22	V4 GB resistance ...	2,000
R23	V4 anode load resistance ...	50,000
R24	Variable tone control ...	250,000
R25	V1, V2, V3, V4 HT feed ...	4,000
R26	V5 CG resistance ...	250,000
R27	V5 CG decoupling ...	500,000
R28	V5 grid stopper ...	10,000
R29	V5 automatic GB potential divider ...	100,000
R30		100,000

OTHER COMPONENTS		Approx. values (ohms)
L1	Aerial filter coil ...	2.9
L2	Aerial SW coupling coil ...	0.1
L3	Aerial MW coupling coil ...	0.6
L4	Aerial LW coupling coil ...	30.0
L5	Aerial SW tuning coil...	0.05
L6	Aerial MW tuning coil...	1.3
L7	Aerial LW tuning coil...	14.0
L8	Osc. circuit SW tuning coil ...	0.1
L9	Osc. circuit MW tuning coil ...	1.6
L10	Osc. circuit LW tuning coil ...	3.0
L11	Oscillator SW reaction ...	0.2
L12	Oscillator MW reaction ...	1.1
L13	Oscillator LW reaction ...	2.2
L14	1st IF trans. Pri. ...	4.0
L15	1st IF trans. Sec. ...	4.0
L16	2nd IF trans. Pri. ...	4.0
L17	2nd IF trans. Sec. ...	4.0
L18	Oscillator circuit LW automatic tuning coils ...	2.0
L19	Oscillator circuit MW automatic tuning coils ...	1.4
L20	Oscillator circuit LW automatic tuning coils ...	1.2
L21	Oscillator circuit MW automatic tuning coils ...	1.0
L22	Oscillator circuit LW automatic tuning coils ...	1.0
L23	Speaker speech coil ...	0.7
L24	Hum neutralising coil ...	0.5
L25	Speaker field coil ...	600.0
L26	Speaker input trans. Pri. ...	250.0
T1	trans. Sec. ...	0.8
T2	Mains Heater sec., total trans. Rect. heat. sec. HT sec., total ...	0.25 0.1 650.0
S1a, b, x to S3a, b, x	Aerial circ. waveband and manual/auto switches ...	—
S10a, b, x to S12a, b, x	Osc. circuit waveband and manual/auto switches ...	—
S4a, b, x to S9a, b, x	Aerial circuit auto tuning trimmer selector switches ...	—
S13a, b, x to S18a, b, x	Oscillator circuit auto tuning coil selector switches ...	—
S19a	Radio/gram change switches ...	—
S20a, x	Variable selectivity switches ...	—
S21, S22	Ext. L.S. switch ...	—
S23	Internal LS switch ...	—
S24	Scale lamps switches ...	—
S25-S27	Mains switch, ganged ...	—
S28	R24 ...	—



### ALIGNMENT OF MANUAL CIRCUITS

**IF Stages.**—Press MW manual tuning button, tune to 300 m on the scale, turn volume control to maximum, variable selectivity to "Normal" (1), and tone control to "low." A damping circuit consisting of a 30,000 Ω resistor in series with a 0.05 μF capacitor must be used where indicated below.

Connect signal generator between control grid (top cap) of V2 and chassis, and feed in a 465 KC/S signal. Connect damping circuit between anode of V2 and chassis, and adjust core of L17 for maximum output. Connect damping between V3 signal diode (pin 1) and chassis, and adjust core of L16 for maximum output.

Connect signal generator between control grid (top cap) of V1 and chassis, connect damping between anode of V1 and chassis, and adjust core of L15 for maximum output. Connect damping circuit between control grid (top cap) of V2 and chassis, and adjust core of L14 for maximum output.

**RF and Oscillator Circuits.**—With gang at maximum, indicator should be opposite wording "Vatican City" at top of SW scale. Remove the escutcheon plate from front of cabinet if chassis has not been removed. Turn volume control to maximum, and tone control to "low." Connect signal generator to A1 and E sockets.

**SW.**—Press SW button, and tune to 18 m on scale. Feed in an 18 m (16.67 MC/S) signal, and adjust G46 (above SW button) and C41 (below SW button) for maximum output. Check calibration at 50 m.

**MW.**—Press MW button, and tune to 300 m on scale. Feed in a 300 m (1,000 KC/S) signal, and adjust C47 (above MW button) and C42 (below MW button) for maximum output. Check calibration at 500 m.

**LW.**—Press LW button, and tune to 1,500 m on scale. Feed in a 1,500 m (200 KC/S) signal, and adjust C48 (above LW button) and C43 (below LW button) for maximum output. Check calibration at 1,900 m.

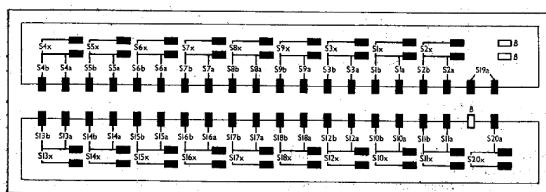
### VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of 235 V, using the 230 V tapping on the mains transformer. The receiver was tuned to the lowest wavelength on the medium band and the volume control was at maximum, but there was no signal input.

Voltages were measured on the 400 V scale of a model 7 Universal Avometer, chassis being negative.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 TH4B	240	2.3	72	1.7
V2 VP4B	180	4.7	82	1.6
V3 TDD4	100	2.3	—	—
V4 354V	135	1.7	—	—
V5 AC044	312	4.6	—	—
V6 43TU	370	—	—	—

† Each anode AC



Diagrams of the press-button switch unit. The upper one is as seen looking from the rear of the underside of the chassis, while the lower one shows the reverse side as seen looking from the front of the chassis after the tuning unit has been partially withdrawn.

\* Electrolytic. † Variable. ‡ Pre-set.