



COMPONENTS AND VALUES

RESISTANCES		Values (ohms)
R1	V1 fixed GB resistance	150
R2	V1 gain and aerial shunt control	25,000
R3	V2 CG resistance	1,000,000
R4	V2 SG HT feed	500,000
R5	V2 anode decoupling	25,000
R6	V2 anode load	100,000
R7	V3 CG resistance	250,000
R8	V3 CG RF stopper	100,000
R9	V3 GB resistance	150

CONDENSERS		Values (μF)
C1	V1 cathode by-pass	0.1
C2	HT circuit RF by-pass	0.1
C3	V2 anode MW and LW RF by-pass	0.0002
C4	Part of V1 anode MW coupling circuit	Very low
C5	V2 CG condenser	0.0001
C6	V2 SG decoupling	0.1
C7*	V2 anode decoupling	2.0
C8	V2 anode SW RF by-pass	0.000015
C9	V2 to V3 AF coupling	0.01
C10	Fixed tone corrector	0.01
C11*	V3 cathode by-pass	25.0
C12*	HT smoothing	8.0
C13*		12.0
C14	V4 heater RF by-pass	0.005
C15†	Aerial circuit SW trimmer	0.00003
C16†	Aerial circuit MW trimmer	0.00003
C17†	Aerial circuit tuning	—
C18†	Reaction control	0.0001
C19†	RF trans. SW trimmer	0.00003
C20†	RF trans. MW trimmer	0.00003
C21†	RF trans. sec. tuning	—

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial SW coupling coil	0.6
L2	Aerial MW coupling coil	0.2
L3	Aerial LW coupling coil	40.0
L4	Aerial SW tuning coil	0.05
L5	Aerial MW tuning coil	1.5
L6	Aerial LW tuning coil	0.0
L7	SW reaction coil	20.0
L8	MW reaction coil	0.6
L9	LW reaction coil	1.6
L10	RF trans. SW primary	20.0
L11	RF trans. MW primary	0.2
L12	RF trans. LW primary	40.0
L13	RF trans. SW secondary	0.05
L14	RF trans. MW secondary	1.5
L15	RF trans. LW secondary	13.0
L16	Speaker speech coil	2.0
L17	Hum neutralising coil	0.15
L18	Speaker field coil	1,000.0
T1	Speaker input	480.0
	trans. { Pri. Sec.	0.5
	trans. { Pri., total	53.0
T2	Mains { Heater sec.	0.3
	trans. { Rect. heat. sec.	0.4
	trans. { HT sec., total	500.0
S1-S12	Waveband switches	—
S13	Mains switch, ganged R2	—

VALVE ANALYSIS

Valve voltages and currents given in the table (col. 3) are those measured in our receiver when it was operating on mains of 228 V, using the 220 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 the reaction control was at minimum. 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 VP4B	271	7.0	271	2.8
V2 SP4B	98	1.2	37	0.4
V3 PenA4	252	41.0	271	6.4
V4 DW4/350	311†	—	—	—

† Each anode, AC.

GENERAL NOTES

Switches.—S1-S12 are the waveband switches, in two rotary units beneath the chassis. These are indicated in our under-chassis view, and shown in detail in the diagrams on page iv. The table (page iv) give the switch positions for the three control settings, starting from fully anti-clockwise. A dash indicates *open*, and **C** *closed*.

S13 is the QMB mains switch, ganged with the gain control R2.

Coils.—L1, L2 and L7, L10, L13 are in two unscreened units beneath the chassis. L3-L6 and L8, L9, L11, L12, L14, L15 are in two screened units on the chassis deck. The latter also contains C4.

Condenser C4.—This is a small capacity, formed of a pair of wires wound in one of the slots in the lower coil former of the second screened coil unit. Superficially it resembles an ordinary coil, but it can be recognised by the fact that it is wound in the narrowest slot in the lower former, and has a pinkish colour.

Scale Lamps.—These are two Osram MES types, rated at 6.2 V, 0.3 A.

External Speaker.—Two terminals are provided on the internal speaker connection panel for a high resistance (about 7,000 Ω) external speaker.

Condensers C12, C13.—These are

two dry electrolytics in a single carton beneath the chassis, with a common negative (black) lead. The red lead is the positive of C12 (8 μF) and the yellow the positive of C13 (12 μF).

CIRCUIT ALIGNMENT

With gang at maximum, scale pointer should be horizontal. When aligning, keep gain control at maximum, and reaction control at a point where the set is just short of oscillation. Connect signal generator to A and E sockets.

Switch set to MW, tune to 200 m on scale, feed in a 200 m (1,500 KC/S)

SWITCH TABLE

Switch	SW	MW	LW
S1	C	—	—
S2	—	—	—
S3	—	C	—
S4	C	—	—
S5	—	C	C
S6	C	—	—
S7	—	—	C
S8	—	C	C
S9	—	C	C
S10	C	—	—
S11	—	—	—
S12	—	C	C

signal, and adjust C20, then C16, for maximum output.

Switch set to SW, tune to 20 m on scale, feed in a 20 m (15 MC/S) signal, and adjust C19, then C15, for maximum output.

There are no LW alignment adjustments.

