



**COSSOR
M44**

RESISTANCES		Values (ohms)
R1	V1 SG feed potential	15,000
R2	divider ...	40,000
R3	V1 gain control ...	12,000
R4	V1 fixed GB resistance ...	150
R5	V2 grid leak ...	1,000,000
R6	V2 SG HT feed ...	500,000
R7	V1, V2 anodes decoupling	5,000
R8	V2 anode load resistance ...	100,000
R9	RF stopper ...	15,000
R10	V3 CG resistance ...	500,000
R11	V3 grid stopper ...	250,000
R12	V3 SG HT feed ...	2,500
R13	V3 GB resistance ...	130
R14	Scale lamp shunt ...	35
R15	Heater circuit ballast, total	518†

† Tapped at 3950 + 600 + 630 from V4 heater.

CONDENSERS		Values (μF)
C1	Ext. aerial series condenser	0-000005
C2	V1 SG decoupling ...	0-1
C3	V1 cathode by-pass ...	0-1
C4*	V1, V2 anodes decoupling	2-0
C5	V1, V2 anodes RF by-pass	0-1
C6	V2 CG condenser ...	0-000025
C7	V2 SG decoupling ...	0-1
C8	RF by-pass condensers ...	0-0005
C9		0-0005
C10	V2 to V3 AF coupling ...	0-05
C11	RF by-pass condenser ...	0-0002
C12*	HT smoothing condenser	16-0
C13*	V3 SG decoupling ...	2-0
C14	Heater circuit RF by-pass	0-01
C15	Fixed tone corrector ...	0-01
C16*	V3 cathode by-pass ...	50-0
C17*	HT smoothing condenser	32-0
C18	Mains RF by-pass condensers ...	0-01
C19		0-01
C20†	Frame aerial tuning ...	—
C21†	Frame aerial MW trimmer	—
C22†	V1 anode circuit tuning ...	—
C23†	V1 anode MW trimmer ...	—
C24†	Reaction control ...	0-00035

OTHER COMPONENTS		Approx. Values (ohms)
L1	Frame aerial windings ...	1-0
L2		7-5
L3	Reaction coils, total ...	6-0
L4		—
L5	V1 anode tuning coils ...	3-0
L6		27-0
L7	Speaker speech coil ...	2-0
L8	Hum neutralising coil ...	0-1
L9	Speaker field coil ...	400-0
L10	Mains filter chokes ...	10-0
L11		10-0
T1	Speaker input trans. { Pri. 310-0 Sec. 0-3	—
S1, S2	Waveband switches ...	—
S3, S4	Mains switches ...	—

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating with AC mains of 236 V, using the 240 V tapping on the mains resistance.

The receiver was tuned to the lowest wavelength on the MW band, the volume control was at maximum, and the reaction control at minimum. V1 top cap was connected directly to chassis.

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 202VPB	140	4.4	100	1.4
V2 202SPB	25	1.0	22	0.3
V3 402PenA	154	48.0	137	12.5
V4 40SUA	200†	—	—	—

† Cathode to chassis, DC.

GENERAL NOTES

Switches.—S1, S2 are the waveband switches, in a rotary unit on the chassis deck. A diagram of the unit, as seen in our under-chassis view, is inset in the top left-hand corner of the circuit diagram.

S3, S4 are the QMB mains switches, mounted in the separate mains filter unit.

Coils.—L1, L2 are the frame aerial windings and are not seen in our chassis illustrations.

The tuned anode and reaction coils L3-L6 are in a screened unit on the chassis deck with C6 and R5. The mains filter chokes L10, L11 are in the filter unit case with C18, C19, and are not seen in our illustrations.

Scale Lamp.—This is an MES type lamp, rated at 8V, 0.2 A, with a spherical bulb. It is connected with its shunt resistance R14 in series with the chassis side of the mains lead.

CIRCUIT ALIGNMENT

With the gang at minimum, the scale pointer should coincide with the red mark at 200 m on the scale. Couple the signal generator via a turn or two of wire wound round the outside of the case.

MW.—Switch set to MW, and set volume control at a point just short of oscillation. Tune to 214 m on scale, feed in a 214 m (1,400 KC/S) signal, and adjust C21 and C23 for maximum output, readjusting the volume control as the circuits come into line. Check calibration at 500 m (600 KC/S).

LW.—There are no adjustments for this, but calibration should be checked at various points. Finally, adjust C21 while receiving a reliable broadcast signal.