

Note that a triode output valve is used, its filament being run from a separate secondary winding on T2.

COMPONENTS AND VALUES

RESISTANCES		Values (ohms)
R1	A2 aerial feed potentiometer	11,000
R2		110,000
R3	V1 hexode CG decoupling (MW and LW)	110,000
R4	V1 hex. CG decoupling (SW)	110,000
R5	Part V1 SG HT pot.	20,000
R6	V1 fixed GB resistance	150
R7	V1 osc. CG resistance	26,000
R8	V1 osc. CG stabiliser	200
R9	Part V1 SG HT pot.	5,000
R10	Osc. reaction MW damping	1,000
R11	Osc. reaction LW damping	2,000
R12	V1 SG and osc. anode HT feed	10,000
R13	V2 SG HT feed	25,000
R14	V2 fixed GB resistance	100
R15	IF stopper	110,000
R16	Manual volume control	500,000
R17	V3 signal diode load	510,000
R18	V3 GB and AVC delay res.	2,100
R19	V3 triode anode decoupling	5,100
R20	V3 triode anode load	50,000
R21	AVC line decoupling	110,000
R22		110,000
R23	V3 AVC diode load resistances	510,000
R24	T1 CG feed resistance	510,000
R25	V4 CG resistance	260,000
R26	Variable tone control	250,000
R27	V4 GB resistance	600
R28	T1 anode HT feed	2,100,000

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial MW and LW coupling	11-0
L2		2-6
L3	Band-pass primary coils	11-0
L4	Aerial SW tuning coil	Very low
L5		2-5
L6	Band-pass secondary coils	11-0
L7	Osc. circuit SW tuning coil	Very low
L8	Osc. circuit MW tuning coil	1-8
L9	Osc. circuit LW tuning coil	5-0
L10	Oscillator SW reaction	0-3
L11	Oscillator MW reaction	6-25
L12	Oscillator LW reaction	8-3
L13	1st IF trans. { Pri.	6-5
L14	Sec.	6-5
L15	2nd IF trans. { Pri.	6-5
L16	Sec.	6-5
L17	Speaker speech coil	2-0
L18	Hum neutralising coil	0-15
L19	Speaker field coil	1,500-0
T1	Speaker input trans. { Pri.	210-0
	Sec.	0-4
T2	Mains { Pri. total	24-0
	Vr-V3 heat. sec., total	0-1
	V4 heat. sec., total	0-1
	Rect. heat. sec., total	0-15
	HT sec., total	350-0
S1-S11	Waveband switches	—
S12	Mains switch, ganged R16	—

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of 232 V, using the 216-235 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 A36B	{ 270 Oscillator	2-1	78	3-3
V2 A50P	115	7-5	—	—
V3 A23A	270	9-2	180	3-3
V4 S30D	140	2-0	—	—
V5 A11D	258	50-0	—	—
	360†	—	—	—
T1 A39A	{ 17 Target	0-1	—	—
	270	0-4	—	—

† Each anode, AC.

GENERAL NOTES

Switches.—S1-S11 are the wavechange switches, ganged in two rotary units beneath the chassis. The units are indicated in our under-chassis view, and shown in detail in the diagrams in col. 3. The table (col 2) gives the switch positions for the three control settings, starting from fully anti-clockwise. A dash indicates open, and C closed.

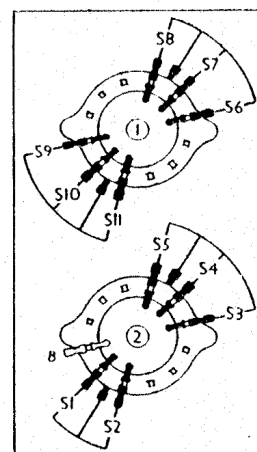
S12 is the QMB mains switch, ganged with the volume control R16.

Coils.—L1-L6 are in a tabular un-screened unit beneath the chassis. L7-L12 and the IF transformers L13, L14 and L15, L16 are in three screened units on the chassis deck. Note that the L7-L12 unit also contains the resistances R10 and R11.

Scale Lamps.—These are four Ever Ready MES types rated at 4.5 V 0.3 A.

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

Switch diagrams, looking from the rear of the underside of the chassis.



CIRCUIT ALIGNMENT

IF Stages.—Short circuit the oscillator tuning coils by a wire across C29. Feed in a 455 KC/S signal between control grid (top cap) of V1 and chassis, and adjust C38, C37, C36 and C35 in turn for maximum output, in the order given. Re-check adjustments, then remove the short on C29.

RF and Oscillator Stages.—With gang at maximum, pointer should cover the horizontal lines at the bottoms of the scales. Set C33 approximately two-thirds in.

*Electrolytic. †Variable. ‡Pre-set.

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RF and Oscillator Stages.—With gang at maximum, pointer should cover the horizontal lines at the bottoms of the scales. Set **C33** approximately two-thirds in.

Switch set to MW, tune to 214 m on scale, feed a 214 m (1,400 KC/S) signal into the **A1** and **E** sockets, and adjust **C31**, **C26** and **C22** for maximum output.

Tune to 500 m on scale, feed in a 500 m (600 KC/S) signal and adjust **C33** for maximum output.

Return to 214 m and re-adjust **C31**, **C26** and **C22**, then return to 500 m, and if the pointer does not indicate 500 m when the signal is accurately tuned, re-adjust **C33** until it does. Check calibration at 214, 300 and 500 m.

Switch set to LW and set **C34** about one-third in. Tune to 1,200 m on scale, feed in a 1,200 m (250 KC/S) signal, and adjust **C32**, then **C27** and **C23**, for maximum output. Tune to 1,700 m on scale, feed in a 1,700 m (176.5 KC/S) signal, and adjust **C34** for maximum output. Return to 1,200 m and re-adjust **C32**, **C27** and **C23**, then re-adjust **C34** until the 1,700 m signal is accurately tuned at 1,700 m on the scale.

Switch set to SW and tune to 15 MC/S on scale. Screw **C30** right in, feed in a 15 MC/S (20 m) signal, and slowly unscrew **C30** until the *first* output peak is reached. It is important that the second peak is *not* used. Next adjust **C25** for maximum output.

Feed in a 7.5 MC/S (40 m) signal, tune it in, and adjust the end turn of **L4** (nearest the end of the coil former) for maximum output. Return to 15 MC/S, and re-adjust **C30** and **C25**.