

COMPONENTS AND VALUES

RESISTANCES	Values (ohms)
R1	V1 hexode CG decoupling .. 250,000
R2	V1 SG HT feed .. 25,000
R3	V1 fixed GB resistance .. 100
R4	V1 osc. CG resistance .. 30,000
R5	Osc. reaction SW stabiliser .. 200
R6	V1 osc. anode HT feed .. 25,000
R7	V2 fixed GB resistance .. 150
R8	IF stopper .. 30,000
R9	V3 signal diode load .. 500,000
R10	Manual volume control .. 500,000
R11	V3 GB resistance .. 150
R12	AVC line decoupling .. 500,000
R13	V3 AVC diode load resistances .. 500,000
R14	

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 TH4A ..	212	3.6	82	6.7
	05	5.0		
V2 VP4B ..	212	11.0	212	3.6
V3 Pen4DD ..	225	33.0	212	7.8
V4 DW4/350 ..	310†			

† Each anode, AC.

TABLE AND DIAGRAM

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

CIRCUIT ALIGNMENT

IF Stages.—Connect signal generator to control grid (top cap) of V1 and chassis, leaving existing connection in place. Switch set to LW and turn gang and volume control to maximum. Feed in a 465 KC/S signal, and adjust C31, C30, C29 and C28 for maximum output. Re-check these settings.

RF and Oscillator Stages.—Connect signal generator to A and E sockets via a suitable dummy aerial. Turn volume control to maximum.

MW.—Switch set to MW, tune to 200 m on scale, feed in a 200 m (1,500 KC/S) signal, and adjust C26,

Valve voltages and currents given in the table above are those measured in our receiver when it was operating on mains of 230 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 there was no signal input.

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

GENERAL NOTES

Switches.—S1-S11 are the waveband switches, in a single rotary unit beneath the chassis. It is indicated in our under-chassis view, and shown in detail in column three. The table (column two) 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 R10.

Coils.—L1, L3 are in an unscreened unit beneath the chassis, L3 being the thick wire winding. L2, L4, L5; L6-L11; and the IF transformers L12, L13 and L14, L15 are in four screened units on the chassis deck, with the associated trimmers, in the case of the last three. The L6-L11 unit also contains C7.

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

External Speaker.—Two terminals are provided on T1 terminal panel for a high resistance external speaker.

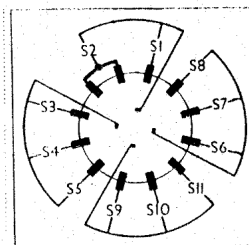
Condensers C17, C18.—These are two 6 µF dry electrolytics in a single carton beneath the chassis, with a common negative (black) lead. The red lead to V4 valve-holder is the positive of C17 and the red lead to V3 holder is the positive of C18.

V3 Connections.—Note that in the Pen4DD valve the connections of anode and cathode are transposed, compared with other valves of similar type.

Resistance R5.—This is given as 100 Ω by the makers, but was actually 200 Ω in our chassis.

Trimmer C19.—The makers' diagram shows this returned to AVC line, but in our set it was returned to chassis.

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



then C21, for maximum output. Feed in a 500 m (600 KC/S) signal, tune it in, and adjust C23 for maximum output, while rocking the gang for optimum results.

LW.—Switch set to LW, tune to 1,200 m on scale, feed in a 1,200 m (250 KC/S) signal, and adjust C27, then C19, for maximum output. Feed in a 1,900 m (158 KC/S) signal, tune it in, and adjust C24 for maximum output, while rocking the gang for optimum results.

SW.—Switch set to SW, tune to 17 m on scale, feed in a 17 m (17.65 MC/S) signal, and adjust C25 for maximum output.

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS

	Approx. Values (ohms)
L1	Aerial SW coupling coil .. 0.2
L2	Aerial MW and LW coupling .. 50.0
L3	Aerial SW tuning coil .. Very Low
L4	Aerial MW tuning coil .. 1.75
L5	Aerial LW tuning coil .. 14.0
L6	Osc. circuit SW tuning coil .. 0.05
L7	Osc. circuit MW tuning coil .. 3.4
L8	Osc. circuit LW tuning coil .. 7.5
L9	Oscillator SW reaction .. 24.0
L10	Oscillator MW reaction .. 30.0
L11	Oscillator LW reaction .. 45.0
L12	1st IF trans. (Pri. .. 2.7
L13	Sec. .. 2.7
L14	2nd IF trans. (Pri. .. 2.7
L15	Sec. .. 2.7
L16	Speaker speech coil .. 1.8
L17	Hum neutralising coil .. 0.1
L18	Speaker field coil .. 1,000.0
T1	Speaker input trans. (Pri. .. 320.0
	Sec. .. 0.3
	Pri., total .. 40.0
T2	Mains trans. (Heater sec. .. 0.05
	Rect. heat. sec. .. 0.1
	HT sec., total .. 450.0
S1-S11	Waveband switches ..
S12	Mains switch, ganged R10 ..