

RESISTANCES	Values (ohms)
R1 V1 pentode CG decoupling ..	250,000
R2 V1 SG HT feed ..	25,000
R3 V1 fixed GB resistance ..	100
R4 V1 osc. CG resistance ..	50,000
R5 Oscillator SW reaction damping ..	200
R6 V1 osc. anode HT feed ..	25,000
R7 V2 SG HT feed ..	90,000
R8 V2 fixed GB resistance ..	300
R9 IF stopper ..	50,000
R10 V3 signal diode load ..	500,000
R11 Manual volume control ..	500,000
R12 V3 GB resistance ..	150
R13 AVC line decoupling ..	250,000
R14 V3 AVC diode load resistances {	500,000
R15 V3 grid stopper ..	50,000
R16	50,000

CONDENSERS	Values (μF)
C1 Aerial series condenser ..	0.0002
C2 MW aerial coupling condenser ..	0.000005
C3 V1 pentode CG decoupling ..	0.05
C4 V1 SG decoupling ..	0.1
C5 V1 cathode by-pass ..	0.1
C6 V1 osc. CG condenser ..	0.0001
C7 HT circuit RF by-pass ..	0.1
C8 Osc. circuit SW tracker ..	0.0025
C9 V1 osc. anode RF by-pass ..	0.1
C10 V2 CG decoupling ..	0.05
C11 V2 SG decoupling ..	0.1
C12 V2 cathode by-pass ..	0.1
C13 IF by-pass condensers {	0.0001
C14	0.0001
C15 AF coupling to V3 pentode ..	0.005
C16 Coupling to V3 AVC diode ..	0.00005
C17 Fixed tone corrector ..	0.005
C18* V3 cathode by-pass ..	25.0
C19* HT smoothing condensers {	8.0
C20*	8.0
C21 Mains aerial coupling ..	0.0001
C22† Aerial circuit SW trimmer ..	0.00003
C23† Aerial circuit MW trimmer ..	0.00003
C24† Aerial circuit LW trimmer ..	0.00003
C25† Aerial circuit tuning ..	—
C26† Oscillator circuit tuning ..	—
C27† Osc. circuit SW trimmer ..	0.00003
C28† Osc. circuit MW trimmer ..	0.00003
C29† Osc. circuit LW trimmer ..	0.00003
C30† Osc. circuit MW tracker ..	0.0006
C31† Osc. circuit LW tracker ..	0.00025
C32† 1st IF trans. pri. tuning ..	0.00003
C33† 1st IF trans. sec. tuning ..	0.00003
C34† 2nd IF trans. pri. tuning ..	0.00003
C35† 2nd IF trans. sec. tuning ..	0.00003

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

OTHER COMPONENTS	Approx. Values (ohms)
L1 Aerial SW coupling coil ..	0.8
L2 Aerial MW and LW coupling coil ..	40.0
L3 Aerial SW tuning coil ..	Very low
L4 Aerial MW tuning coil ..	1.4
L5 Aerial LW tuning coil ..	16.0
L6 Osc. circuit SW tuning coil ..	Very low
L7 Osc. circuit MW tuning coil ..	3.2
L8 Osc. circuit LW tuning coil ..	9.5
L9 Oscillator SW reaction ..	19.0
L10 Oscillator MW reaction ..	32.0
L11 Oscillator LW reaction ..	52.0
L12 1st IF trans. { Pri. ..	4.0
L13 { Sec. ..	4.0
L14 2nd IF trans. { Pri. ..	4.0
L15 { Sec., total ..	4.0
L16 Speaker speech coil ..	1.6
L17 Hum neutralising coil ..	0.3
L18 Speaker field coil ..	1,000.0
T1 Speaker { Pri. ..	440.0
input trans. { Sec. ..	0.2
T2 Mains { Pri., total ..	36.0
Heater sec. ..	0.1
trans. Rect. heat. sec. ..	0.15
HT sec., total ..	500.0
S1-S11 Waveband switches ..	—
S12 Mains switch, ganged R11 ..	—

### VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 ECH2 ..	282	2.5	68	7.4
V2 EF9 ..	282	5.8	102	2.0
V3 EBL1 ..	263	4.0	282	4.8
V4 AZ1 ..	337†	—	—	—

† Each anode, AC.

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.

### CIRCUIT ALIGNMENT

**IF Stages.**—Switch set to MW or LW, turn volume control to maximum. Connect signal generator to control grid (top cap) of V1 and chassis. Feed in a 470 KC/S signal and adjust C34 and C35, then C32 and C33 for maximum output.

**RF and Oscillator Stages.**—With the gang at maximum, the pointer should coincide with the high-wavelength ends of the three scales.

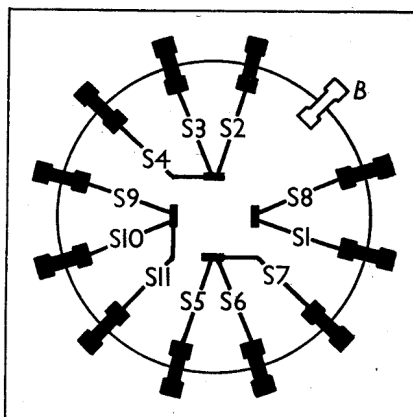
Connect signal generator via a standard dummy aerial to A and E sockets, and keep volume control at maximum.

**MW.**—Switch set to MW, tune to 250 m on scale, feed in a 250 m (1,200 KC/S) signal, and adjust C28, then C23, for maximum output. Feed in a 500 m (600 KC/S) signal, tune it in, and adjust C30 for maximum output, while rocking the gang for optimum results. Re-check at 250 m.

The switch diagram at the top of the column is drawn as seen looking from the rear of the underside of the chassis. Below it is the switch table.

**LW.**—Switch set to LW, tune to 1,300 m on scale, feed in a 1,300 m (231 KC/S) signal, and adjust C29, then C24, for maximum output. Feed in a 1,900 (158 KC/S) signal, tune it in, and adjust

### SWITCH DIAGRAM



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

The switch diagram at the top of the column is drawn as seen looking from the rear of the underside of the chassis. Below it is the switch table.

C31 for maximum output, while rocking the gang for optimum results. Re-check at 1,300 m.

**SW.**—Switch set to SW, tune to 19 m on scale, feed in a 19 m (15.8 MC/S) signal, and adjust C27, then C22, for maximum output.