



RESISTANCES		Values (ohms)
R1	V1 tetrode CG decoupling ..	400,000
R2	V1 osc. anode HT feed ..	6,500
R3	V1 osc. CG resistance ..	99,000
R4	V1 osc. anode, V2 triode	9,000
R5	HT feed potential divider	5,000
R6	resistances ..	25,000
R7	V2 triode CG resistance ..	650,000
R8	Manual volume control ..	500,000
R9	V3 signal diode load ..	400,000
R10	IF stopper ..	51,000
R11	V2 triode anode load ..	65,000
R12	Variable tone control ..	100,000
R13	V3 pentode CG resistance ..	250,000
R14	AVC line decoupling ..	650,000
R15	V3 AVC diode load resistances	650,000
R16		1,500,000
R17	Part of fixed tone corrector ..	6,500
R18	V1 tet. and V2 pent. fixed	68
R19	GB; V2 triode and V3 pent. GB resistances	68

CONDENSERS		Values (μF)
C1	Aerial MW and LW coupling	0.01
C2	condensers ..	0.0046
C3	Small coupling ..	Very low
C4	HT circuit RF bypass ..	0.09
C5	Osc. circuit SW tracker ..	0.00154
C6	V1 osc. anode coupling ..	0.00025
C7	V2 CG decoupling ..	0.025
C8*	V1 osc., and V2 triode anodes	16.0
C9	decoupling ..	0.09
C10	V1, V2 SG's decoupling ..	0.04
C11	Tone compensator ..	0.0004
C12	Coupling to V2 triode ..	0.065
C13	IF by-pass condensers ..	0.00011
C14		0.00011
C15	Part of variable tone control	0.04
C16	V2 triode to V3 pentode AF	0.0065
C17	coupling ..	0.001
C18	Treble boost coupling ..	0.0001
C19	Coupling to V3 AVC diode ..	0.006
C20*	Part of fixed tone corrector ..	8.0
C21*	HT smoothing condensers ..	8.0
C22*	Auto GB circuit by-pass ..	50.0
C23		0.05
C24	Mains RF by-pass ..	0.05
C25†	Aerial IF rejector tuning	—
C26†	Aerial circuit MW trimmer ..	—
C27†	Aerial circuit LW trimmer ..	—
C28†	Aerial circuit tuning ..	—
C29†	Aerial circuit SW trimmer ..	—

Continued in next column.

CONDENSERS (Continued)		Values (μF)
C30†	Oscillator circuit tuning ..	—
C31†	Osc. circuit SW trimmer ..	—
C32†	Osc. circuit MW trimmer ..	—
C33†	Osc. circuit LW trimmer ..	—
C34†	Osc. circuit MW tracker ..	—
C35†	Osc. circuit LW tracker ..	—
C36†	1st IF trans. pri. tuning ..	—
C37†	1st IF trans. sec. tuning ..	—
C38†	2nd IF trans. pri. tuning ..	—
C39†	2nd IF trans. sec. tuning ..	—

* Electrolytic. † Variable. ‡ Preset.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial IF rejector coil ..	2.0
L2	Aerial coupling choke ..	18.0
L3	Aerial SW coupling coil ..	0.2
L4	Aerial SW tuning coil ..	0.05
L5	Aerial MW tuning coil ..	3.0
L6	Aerial LW tuning coil ..	40.0
L7	Osc. circuit SW tuning coil ..	0.05
L8	Osc. circuit MW tuning coil ..	2.8
L9	Osc. circuit LW tuning coil ..	21.0
L10	Oscillator SW reaction ..	0.4
L11	1st IF trans. { Pri. ..	8.0
L12	{ Sec. ..	12.0
L13	2nd IF trans. { Pri. ..	12.0
L14	{ Sec. ..	8.0
L15	Speaker speech coil ..	2.0
L16	Hum neutralising coil ..	0.15
L17	Speaker field coil ..	1,500.0
T1	Speaker input { Pri. ..	650.0
	{ Sec. ..	0.2
	trans. { Pri., total ..	20.0
T2	Mains trans. { Heater sec. ..	0.2
	{ Rect. heat. sec. ..	0.1
	{ HT sec., total ..	480.0
S1-S13	Waveband switches ..	—
S14	Gram. pick-up switch ..	—
S15	Tone control switch ..	—
S16	Mains switch, ganged R8 ..	—

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 6A7 ..	280	6.0	95	3.9
	125	2.6		
	280	6.9		
V2 6F7B ..	65	1.3	95	1.6
	265	26		
V3 PenDD6r	350†	—	280	5.6
V4 80 ..	—	—	—	—

† Each anode, A.C.

CIRCUIT ALIGNMENT

During alignment, the volume control should be kept at maximum, and the tone control should be turned as far anti-clockwise as it will go without opening S15.

IF Stages.—Switch set to MW and turn gang to minimum. Connect signal generator to control grid (top cap) of V1 via a standard dummy aerial, leaving existing cap in position, and chassis. Feed in a 465 KC/S signal and adjust C37, C36, then C38, C39 in that order for maximum output.

Transfer signal generator to A and E sockets, feed in a 465 KC/S signal, and adjust C25 for minimum output.

RF and Oscillator Stages.—With the gang at maximum, the pointer should coincide with the third vertical line from the left-hand side of the scale. The signal generator should remain connected to A and E sockets.

SW.—Since the SW trimmers are connected directly across the tuning condensers, it is essential that this band is adjusted first. Subsequent alteration of the positions of these trimmers will upset the alignment of the other bands. Connect signal generator via a 400 Ω resistance (in place of dummy aerial).

Switch set to SW, tune to 18 MC/S on scale, feed in an 18 MC/S (16.65 m) signal, and adjust C31 to the peak involving the lesser trimmer capacity for maximum output. Now adjust C29 for maximum output, while rocking the gang for optimum results. Re-adjust C31 with pointer set to 18 MC/S. Check that image is obtained at 17.1 MC/S and repeat the whole adjustment until no further improvement results.

Feed in a 6 MC/S (50 m) signal, tune it in, and check that pointer coincides with 6 MC/S calibration on scale. No variable tracking is provided.

MW.—Replace 400 Ω resistance with standard dummy aerial, switch set to MW, tune to 214 m (dot on scale), feed in a 214 m (1,400 KC/S) signal and adjust C32, then C26, for maximum output. Feed in a 500 m (600 KC/S) signal, tune it in, and adjust C34 (screw) for maximum output, while rocking the gang for optimum results. Re-adjust C32 at 214 m. Repeat the whole process until no improvement results.

LW.—Switch set to LW, tune to 1,034.5 m (dot on scale), feed in a 1,034.5 m (290 KC/S) signal, and adjust C33, then C27, for maximum output. Feed in a 1,375 m (160 KC/S) signal, tune it in (dot on scale) and adjust C35 (nut) while rocking the gang for optimum results. Re-adjust C33 at 1,034.5 m, then repeat the whole process until no further improvement results.

TABLE AND DIAGRAM OF SWITCH UNIT

Switch	LW	MW	SW	G
S1	—	—	—	—
S2	—	—	—	—
S3	—	—	—	—
S4	—	—	—	—
S5	—	—	—	—
S6	—	—	—	—
S7	—	—	—	—
S8	—	—	—	—
S9	—	—	—	—
S10	—	—	—	—
S11	—	—	—	—
S12	—	—	—	—
S13	—	—	—	—
S14	—	—	—	—
S15	—	—	—	—

