

RESISTANCES		Values (ohms)
R1	V1 heptode CG decoupling...	3,000,000
R2	V1 SG HT feed	70,000
R3	V1 osc. CG resistance	25,000
R4	V1 osc. anode HT feed re-	50,000
R5	sistances	20,000
R6	V2 CG decoupling	3,000,000
R7	V2 SG HT feed	100,000
R8	IF stopper	50,000
R9	Manual volume control; V3	500,000
	signal diode load	500,000
R10	V3 triode CG resistance	2,000,000
R11	V3 triode anode load	100,000
R12	V3 AVC diode load	2,000,000
R13	Variable tone control	250,000
R14	V4 CG resistance	1,000,000
R15	V4 grid stopper	100,000
R16	Part of fixed tone corrector	25,000
R17	V1, V2 fixed GB, V3 triode GB	150
R18	V4 GB and AVC delay pot.	250

OTHER COMPONENTS (continued)		Approx. Values (ohms)
L18	Speaker speech coil	2-0
T1	Speaker input trans. { Pri. ... 1,100-0	
	{ Sec. ... 0-2	
S1-S14	Waveband switches	—
S15	Speaker muting switch	—
S16	LT circuit switch	—
S17	HT circuit switch	—
F1	HT circuit fuse	—

CONDENSERS		Values (μF)
C1	Aerial IF rejector tuning	0-000225
C2	Aerial series condenser	0-0005
C3	Aerial MW "top" coupling	0-00001
C4	V1 heptode CG decoupling	0-05
C5	V1 SG decoupling	0-05
C6	1st IF transformer tuning	0-000053
C7	condensers	0-000058
C8	V1 osc. CG condenser	0-00005
C9	Osc. circ. LW fixed trimmer	0-00005
C10	Osc. circuit MW tracker	0-000468
C11	Osc. circ. LW fixed tracker	0-00014
C12	V1 osc. anode coupling	0-0005
C13	V2 CG decoupling	0-05
C14	V2 SG decoupling	0-1
C15	2nd IF transformer tuning	0-000045
C16	condensers	0-000065
C17	Coupling to V3 AVC diode	0-00005
C18	IF by-pass condensers	0-00005
C19	AF coupling to V3 triode	0-05
C20	IF by-pass	0-0002
C21	V3 triode to V4 AF coupling	0-01
C22	Part of variable tone control	0-001
C23	Parts of fixed tone corrector	0-002
C24	HT reservoir condenser	2-0
C25	Auto GB circuit by-pass	20-0
C26	condensers	0-1
C27	Aerial circuit SW trimmer	—
C28	Aerial circuit MW trimmer	—
C29	Aerial circuit LW trimmer	—
C30	Aerial circuit tuning	—
C31	Oscillator circuit tuning	—
C32	Oscillator SW trimmer	—
C33	Osc. circuit SW trimmer	—
C34	Osc. circuit MW trimmer	—
C35	Osc. circuit LW trimmer	—
C36	Osc. circuit LW tracker	—
C37	Osc. circuit LW tracker	—

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial IF rejector coil	4-0
L2	Aerial SW coupling coil	0-4
L3	Aerial MW coupling coil	24-0
L4	Aerial LW coupling coil	130-0
L5	Aerial SW tuning coil	Very low
L6	Aerial MW tuning coil	2-0
L7	Aerial LW tuning coil	16-0
L8	Osc. circuit SW tuning coil	Very low
L9	Osc. circuit MW tuning coil	5-5
L10	Osc. circuit LW tuning coil	13-5
L11	Oscillator SW reaction	0-3
L12	Oscillator MW reaction	2-0
L13	Oscillator LW reaction	6-25
L14	1st IF trans. { Pri. ... 7-5	
	{ Sec. ... 7-5	
L15	2nd IF trans. { Pri. ... 18-0	
	{ Sec. ... 16-0	

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating with a new HT battery reading 120V on load. 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 400V scale of a model 7 Universal Avometer, chassis being negative.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 220 TH	115	0-3	60	0-6
	(23 Oscillator)	1-3		
V2 210 VPA	115	1-6	56	0-6
V3 210 DDT	74	0-2	115	1-3
V4 220 OT	107	5-0		

CIRCUIT ALIGNMENT

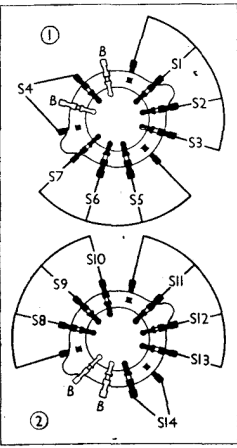
IF Stages.—Connect signal generator to control grid (top cap) of V1 and chassis. Short-circuit C33, and disconnect AVC line between the top of R12 and the junction of R1, R6, connecting this junction to chassis. Feed in a 465 KC/S signal, and adjust cores of L17, L16, L15 and L14 in turn for maximum output, first softening the wax over each core with a warm screwdriver blade. Remove the short from C33, and re-connect the AVC line.

IF Rejector.—Feed a strong 465 KC/S signal into the A and E leads, and adjust core of L1 for minimum output.

RF and Oscillator Stages.—Connect signal generator to A and E leads via a suitable dummy aerial. Disconnect the AVC line (as for IF alignment), or use a low input from the signal generator. With gang at maximum, pointer should cover the sloping lines at the upper wavelength ends of the scales.

MW.—Switch set to MW, tune to 214m on scale, feed in a 214m (1,400 KC/S) signal, and adjust C35, then C30, for maximum output.

LW.—Switch set to LW, tune to 1,200m on scale, feed in a 1,200m (250 KC/S) signal, and adjust C36, then C31, for maximum output. Feed in an 1,875m (160 KC/S) signal, tune it in, and adjust C37 for maximum output, while rocking the gang for optimum results.



Diagrams of the two switch units, as seen from the front of the underside of the chassis

SWITCH TABLE

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	—	—
S12	—	C	—
S13	—	—	C
S14	C	—	—

SW.—Switch set to SW, tune to 18 MC/S on scale, feed in an 18 MC/S (16.67m) signal, and adjust C34 for maximum output, using the peak involving the lower trimmer capacity. Then adjust C29 for maximum output.