

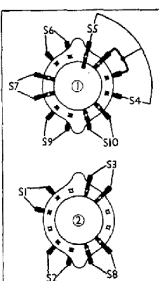
RESISTANCES	Values (ohms)
R1	Aerial shunt resistance ... 9,900
R2	V1 CG decoupling ... 1,000,000
R3	V1 SG HT feed potential divider resistances ... 22,000
R4	V1 fixed GB resistances ... 300
R5	V1 anode HT feed resistances ... 300
R6	V1 anode HT feed resistances ... 300
R7	V1 anode HT feed resistances ... 300
R8	AVC line decoupling ... 1,000,000
R9	V2 hexode CG resistance ... 1,000,000
R10	V2 hexode CG decoupling ... 1,000,000
R11	V2 SG and fixed GB potential divider resistances ... 15,500
R12	V2 SG HT feed resistances ... 22,000
R13	V2 osc. CG resistance ... 99,000
R14	Osc. circuit damping ... 150
R15	Osc. reaction damping ... 300
R16	Osc. circuit damping ... 300
R17	V2 osc. anode decoupling ... 22,000
R18	V2 osc. anode HT feed ... 9,000
R19	V3 SG HT feed ... 2,000,000
R20	V3 SG HT feed ... 7,000
R21	V3 fixed GB resistance ... 300
R22	IF stopper ... 55,000
R23	Part of fixed tone corrector ... 330,000
R24	V4 signal diode load ... 150,000
R25	Part of fixed tone corrector ... 1,000,000
R26	Manual volume control ... 4,400
R27	V2, V3 SG and V4 triode anode HT feed ... 99,000
R28	V4 triode anode load ... 3,300
R29	V4 AVC diode load ... 44,000
R30	Part of fixed tone corrector ... 220,000
R31	V5 CG resistance ... 330,000
R32	Part of fixed tone corrector ... 99,000
R33	V5 SG stabiliser ... 75
R34	V5 grid stopper ... 9,900
R35	V5 GB resistance ... 80
R36	Variable tone control ... 55,000
R37	T.I. anode HT feed ... 1,000,000
R38	T.I. CG decoupling ... 2,000,000

\* Two 77,000 Ω resistances in parallel.  
† Two 33,000 Ω resistances in parallel.  
‡ Two 44,000 Ω resistances in parallel.

CONDENSERS	Values (μF)
C1	Aerial coupling ... 0.005
C2	V1 CG SW decoupling ... 0.005
C3	V1 SG HT feed ... 0.05
C4	AVC line decoupling ... 0.05
C5	V1 cathode by-pass ... 0.05
C6	V1 anode decoupling ... 0.1
C7	V1 to V2 hexode L.W. coupling condensers ... 0.0052
C8	V1 to V2 hex. SW top coupling ... 0.00004
C9	HT circuit RF by-pass ... 0.0005
C10	V2 hexode CG condenser ... 0.0005
C11	V2 SG decoupling ... 0.05
C12	V2 SG decoupling ... 0.05
C13	V2 cathode by-pass ... 0.05
C14	V2 cathode by-pass ... 0.05
C15	Osc. circuit LW fixed trimmer ... 0.00005
C16	Osc. circuit MW fixed trimmer ... 0.0005
C17	Osc. circuit SW fixed trimmer ... 0.0005
C18	Part osc. reaction coupling ... 0.0005
C19	V2 osc. anode decoupling ... 0.05
C20	V3 CG decoupling ... 0.05
C21	V3 cathode by-pass ... 0.1
C22	V3 SG decoupling ... 0.05
C23	V3 cathode by-pass ... 0.0001
C24	Coupling to V4 AVC diode ... 0.0005
C25	IF by-pass condensers ... 0.0001
C26	V4 cathode by-pass ... 0.0002
C27	Parts of fixed tone corrector ... 0.01
C28	AF coupling to V4 triode ... 0.02

CONDENSERS—(Continued)	Values (μF)
C31*	V3 triode anode decoupling ... 4.0
C32	IF by-pass condenser ... 0.001
C33	V4 triode to V5 AF coupling ... 0.02
C34	Parts of fixed tone corrector ... 0.0005
C35	Fixed tone corrector ... 0.005
C36	V5 cathode by-pass ... 30.0
C37	Part of variable tone control ... 0.05
C38*	HT smoothing condensers ... 24.0
C39	T.I. CG decoupling ... 0.01
C40	Aerial circuit SW trimmer ...
C41	Aerial circuit MW trimmer ...
C42	Aerial circuit LW trimmer ...
C43	Aerial circuit tuning ...
C44	RF trans. SW sec. trimmer ...
C45	RF trans. MW sec. trimmer ...
C46	RF trans. LW trimmer ...
C47	RF trans. sec. tuning ...
C48	Oscillator circuit tuning ...
C49	Osc. circuit SW trimmer ...
C50	Osc. circuit MW trimmer ...
C51	Osc. circuit LW trimmer ...
C52	Osc. circuit LW trimmer ...
C53	Osc. circuit MW trimmer ...
C54	1st IF trans. pri. tuning ...
C55	1st IF trans. sec. tuning ...
C56	2nd IF trans. pri. tuning ...
C57	2nd IF trans. sec. tuning ...

OTHER COMPONENTS	Approx. Values (ohms)
L1	Aerial SW coupling coil ... 0.25
L2	Aerial SW tuning coil ... 0.05
L3	Aerial LW tuning coil ... 30.0
L4	Aerial LW tuning coil ... 30.0
L5	RF trans. SW pri. coil ... 3.17
L6	RF trans. MW sec. coil ... 0.05
L7	RF trans. MW pri. coil ... 0.05
L8	RF trans. MW sec. coil ... 3.98
L9	RF LW tuning coil ... 30.0
L10	Osc. circuit SW tuning coil ... 0.03
L11	Osc. circuit MW tuning coil ... 2.54
L12	Osc. circuit LW tuning coil ... 8.1
L13	Osc. SW reaction coil ... 0.39
L14	1st IF trans. Pri. ... 7.0
L15	1st IF trans. Sec. ... 7.0
L16	2nd IF trans. Pri. ... 4.0
L17	2nd IF trans. Sec. ... 4.0
L18	Speaker speech coil ... 2.0
L19	HT smoothing choke ... 380.0
T1	Output trans. Pri. ... 450.0
T2	Output trans. Sec. ... 21.0
S1-S10	Mains trans. Pri. total ... 0.4
S11	Heater sec. ... 0.17
S12	Rect. boat, sec. HT sec., total ... 400.0
S13	Waveband switches ...
S14	Internal speaker switch ...
S15	Mains switch ...



Diagrams of the switch units looking in the directions of the arrows in the under-chassis view

**VALVE ANALYSIS**  
Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of 225 V using the 210-250 V tapping on the mains transformer. The receiver was tuned to the lowest wavelength on the MW band, and the

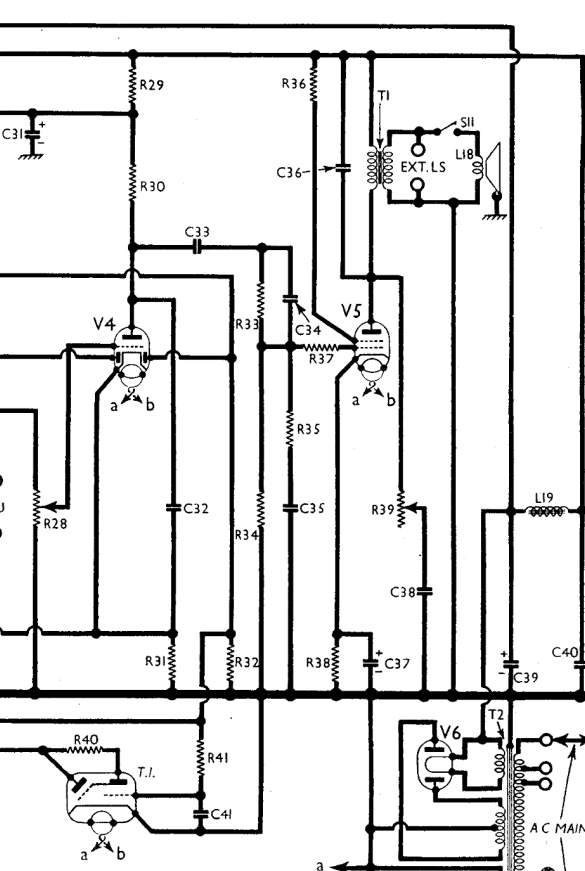
Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 KTW60	183	4.2	72	1.3
V2 X65	247	1.5	74	3.9
V3 KTW61	121	4.7	—	—
V4 6X5	247	6.0	63	1.9
V5 KT61	247	38.0	247	7.5
V6 T50	258†	13	0.35	—
T.I. Y63	247	2.0	—	—

† Each anode, AC.

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.

If the valve screens are removed when making current measurements, it is advisable to slip them over the valve and earth them temporarily while the reading is being taken.

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



### CIRCUIT ALIGNMENT

**IF Stages.**—Switch set to MW, turn gang to maximum, volume control to maximum, and tune control fully anticlockwise. Connect signal generator, via a 0.1 μF condenser to control grid (top cap) of V2, and to chassis, leaving existing top cap connection in place. Feed in a 456 KC/S signal, and adjust C59, C58, C57 and C56 in turn for maximum output. Re-check these settings.

**RF and Oscillator Stages.**—With gang at maximum, volume control to maximum, and tune control fully anticlockwise. Connect signal generator via a suitable dummy aerial to A and E sockets.

**MW.**—Switch set to MW, and tune to 214 m on scale. Feed in a 214 m (1,400 KC/S) signal, and adjust C52, then C47 and C43, for maximum output. Disconnect C50 by unsoldering its green lead, and connect an external variable condenser between the disconnected lead and chassis. Feed in a 500 m (600 KC/S) signal, and tune it in by means of the receiver tuning control and the external condenser. Disconnect the external condenser, re-connect C50, and without touching the tuning control, adjust C54 for maximum output. Repeat the 214 m adjustments.

**LW.**—Switch set to LW, and tune to 1,600 m on scale. Feed in a 1,000 m (300 KC/S) signal, and adjust C53, then C48 and C44, for maximum output. Disconnect C50 as before and connect the external variable condenser. Feed in a 1,515 m (165 KC/S) signal, and tune it in by means of the receiver tuning control and the external condenser. Disconnect the external condenser, re-connect C50, and without touching the tuning control, adjust C54 for maximum output. Repeat the 1,000 m adjustments.

**SW.**—Switch set to SW, tune to 16.7 m (dot on scale), and feed in a 16.7 m (18 MC/S) signal. Adjust C51 for maximum output, using the peak involving the lesser trimmer capacity, then adjust C46 and C42 for maximum output, rocking the gang slightly if "pulling" is experienced.