



COMPONENTS AND VALUES

CONDENSERS	Values (μF)
C1	Aerial IF filter tuning .. 0.00006
C2	Aerial series condenser .. 0.00043
C3	LW aerial 261 m retractor tuning .. 0.000012
C4	V1 hexode CG condenser .. 0.0001
C5	V1 hexode CG decoupling .. 0.02
C6	V1 cathode by-pass .. 0.1
C7	V1 osc. CG condenser .. 0.00006
C8	Osc. circuit SW tracker .. 0.005
C9	Osc. circuit MW fixed tracker .. 0.0003
C10	Osc. circuit MW fixed trimmer .. 0.000012
C11	Osc. circuit LW fixed trimmer .. 0.00006
C12	Part of SW reaction equaliser .. 0.000025
C13	V1 osc. anode coupling .. 0.002
C14	V2 CG decoupling .. 0.1
C15	V1, V2 SG's decoupling .. 0.1
C16	V2 cathode by-pass .. 0.1
C17	IF by-pass condensers .. 0.0001
C18	IF by-pass condensers .. 0.0001
C19	AF coupling to V3 triode .. 0.02
C20*	V3 triode anode decoupling .. 4.0
C21	Coupling to V3 AVC diode .. 0.0001
C22*	V3 cathode by-pass .. 50.0
C23	V3 triode to V4 AF coupling .. 0.01
C24*	V4 cathode by-pass .. 50.0
C25	Fixed tone corrector .. 0.006
C26	Part of variable tone control .. 0.05
C27*	HT smoothing condensers .. 10.0
C28*	HT smoothing condensers .. 10.0
C29	Mains RF by-pass .. 0.006
C30†	Aerial circuit SW trimmer .. —
C31†	Aerial circuit MW trimmer .. —
C32†	Aerial circuit LW trimmer .. —
C33†	Aerial circuit tuning .. —
C34†	Oscillators circuit tuning .. —
C35†	Osc. circuit MW tracker .. —
C36†	Osc. circuit LW tracker .. —
C37†	Osc. circuit SW trimmer .. —
C38†	Osc. circuit MW trimmer .. —
C39†	Osc. circuit LW trimmer .. —
C40†	1st IF trans. pri. tuning .. —
C41†	1st IF trans. sec. tuning .. —
C42†	2nd IF trans. pri. tuning .. —
C43†	2nd IF trans. sec. tuning .. —

* Electrolytic. † Variable. ‡ Pre-set.

CIRCUIT ALIGNMENT

IF Stages.—Connect signal generator to control grid (top cap) of V1, via a 0.1 μF condenser, and chassis. Short-circuit C34, switch set to MW and turn volume control to maximum. Feed in a 465 KC/S signal, and adjust C40, C41, C42 and C43 for maximum output. Check these settings, then remove short circuit from C34.

IF Filter.—If this should need adjustment, connect signal generator to A and E sockets, switch set to LW, tune to bottom of band, and feed in a 465 KC/S signal. Adjust core of L1 for minimum output.

RF and Oscillator Stages.—With gang at maximum, scale pointer should be vertical. Connect signal generator, via a suitable dummy aerial, to A and E sockets. Turn receiver volume control to maximum.

LW.—Switch set to LW, tune to 1,200 m on scale, feed in a 1,200 m (250 KC/S) signal, and adjust C39, then C32, for maximum output. With sets using variable trackers, feed in a 1,800 m (166.7 KC/S) signal, tune it in, and adjust C36 for maximum output, while rocking the gang for optimum results. Return to 1,200 m, and re-adjust C39 and C32, if necessary.

RESISTANCES	Values (ohms)
R1	V1 hexode CG resistance .. 500,000
R2	V1 hexode CG decoupling .. 500,000
R3	V1 CG stabiliser .. 40
R4	V1 fixed GB resistance .. 300
R5	V1 osc. CG resistance .. 50,000
R6	V1 osc. anode HT feed .. 35,000
R7	V2 CG decoupling .. 500,000
R8	V1, V2 SG's HT feed .. 35,000
R9	V2 fixed GB resistance .. 300
R10	IF stopper .. 70,000
R11	V3 signal diode load .. 300,000
R12	Manual volume control .. 500,000
R13	V3 triode GB: AVC delay .. 3,000
R14	V3 triode anode decoupling .. 25,000
R15	V3 triode anode load .. 100,000
R16	V3 AVC diode load .. 500,000
R17	V4 CG resistance .. 250,000
R18	V4 GB resistance .. 250
R19	V4 anode stabiliser .. 100
R20	Variable tone control .. 50,000

OTHER COMPONENTS	Approx. Values (ohms)
L1	Aerial IF filter coil .. 8.5
L2	LW aerial 261 m retractor coil .. 5.5
L3	Aerial SW coupling coil .. 0.2
L4	Aerial MW coupling coil .. 14.0
L5	Aerial LW coupling coil .. 75.0
L6	Aerial SW tuning coil .. Very low
L7	Aerial MW tuning coil .. 4.0
L8	Aerial LW tuning coil .. 17.0
L9	Osc. circuit SW tuning coil .. Very low
L10	Osc. circuit MW tuning coil .. 2.5
L11	Osc. circuit LW tuning coil .. 5.0
L12	Oscillator SW reaction .. 0.5
L13	Oscillator MW reaction .. 0.7
L14	Oscillator LW reaction .. 7.5
L15	Osc. SW reaction equaliser .. 2.5
L16	1st IF trans. Pri. .. 8.5
L17	1st IF trans. Sec. .. 8.5
L18	2nd IF trans. Pri. .. 8.5
L19	2nd IF trans. Sec., total .. 8.5
L20	Speaker speech coil .. 1.7
L21	Hum neutralising coil .. 0.15
L22	Speaker field coil .. 1,200.0
T1	Speaker input Pri. .. 350.0
	Sec. .. 0.2
T2	Mains Pri., total .. 34.0
	Heater sec. .. 0.1
	Rect. heat. sec. .. 0.1
	HT sec., total .. 580.0
S1-S22	Waveband switches .. —
S23, 24	Radio/gram change switches .. —
S25-27	Indicator lamps switches .. —
S28	Mains switch, ganged R12 .. —
F1	Mains circuit fuse .. —

VALVE ANALYSIS

Valve voltages and currents given in the table (col. 5) are those measured in our receiver when it was operating on mains of 230 V, using the 220-230 V tapping on the mains transformer. The receiver was tuned to the lowest wavelength on the MW 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.

If valve adaptors are used to connect the meter into circuit for current measurements, care should be taken to see that the valve screen is slipped over V2 and earthed while the anode and screen currents are being observed, as otherwise instability may occur.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 TH62	280	2.0	111	2.4
V2 6U7G	113	4.8	—	—
V3 6Q7G	280	8.7	111	2.7
V4 6V6G	114	0.85	—	—
V5 5Z4G	261	44.0	280	5.0

† Each anode. AC.

GENERAL NOTES

Switches.—S1-S27 are the waveband, radio/gram and scale lamp switches, in three rotary units beneath the chassis. These are indicated in our under-chassis view, and shown in detail in the diagrams in col. 3, where they are drawn as seen looking from the underside of the chassis, in the directions of the arrows in the under-chassis view.

The table (col. 2) gives the switch positions for the four control settings, starting from fully anti-clockwise. A dash indicates open, and C closed.

S28 is the QMB mains switch, ganged with the volume control R12.

Coils.—L1 and L2 are two small variable iron-cored units mounted on the rear and front members of the chassis respectively. L3, L6; L4, L7; L5, L8; L9, L12, L15; L10, L13 and L11, L14 are in six uncreened tubular units beneath the chassis.

The IF transformers L16, L17 and L18, L19 are in two screened units on the chassis deck, with their associated trimmers.

Scale and Indicator Lamps.—The two scale lamps are Philips MES types, with tubular frosted bulbs, and are marked 5.0-55. The three indicator lamps, switched by S25-S27, are Osram MES types, with small bulbs, and are rated at 6.5 V. 0.2 A.

MW.—Switch set to MW, tune to 220 m on scale, feed in a 220 m (1,362 KC/S) signal, and adjust C38, then C31, for maximum output. With sets using variable trackers, feed in a 500 m (600 KC/S) signal, tune it in, and adjust C35 for maximum output, while rocking the gang for optimum results. Return to 220 m, and re-adjust C38 and C31, if necessary.

SW.—Switch set to SW, tune to 16 m on scale, feed in a 16 m (18.75 MC/S) signal, and adjust C37, then C30, for maximum output. A fixed tracker is used in all sets on this band.

261m Retractor.—If this should need adjustment, switch set to LW, feed in a strong 261 m (1,149 KC/S) signal, and adjust core of L2 for minimum output.

TABLE AND DIAGRAMS OF THE SWITCH UNITS

DECCA
AW6

Switch	LW	MW	SW	Gram.
S1	—	—	C	—
S2	—	C	—	—
S3	C	—	—	—
S4	C	C	—	—
S5	C	—	C	—
S6	—	C	C	—
S7	—	—	C	C
S8	—	—	C	—
S9	—	C	—	—
S10	C	—	—	—
S11	—	—	—	C
S12	—	—	C	—
S13	—	C	—	—
S14	C	—	—	—
S15	—	—	—	C
S16	—	—	—	C
S17	C	C	—	—
S18	C	—	C	—
S19	—	C	C	—
S20	—	C	C	—
S21	—	C	—	—
S22	C	—	—	—
S23	C	C	C	—
S24	—	—	C	C
S25	—	—	C	—
S26	—	C	—	—
S27	C	—	—	—

Diagrams of the switch units, as seen looking at the underside of the chassis in the directions of the arrows in the under-chassis view.

