

## COMPONENTS AND VALUES

CONDENSERS		Values (μF)
C1	Band-pass coupling	0.02
C2	V1 S.G. by-pass	0.1
C3	V1 cathode by-pass	0.1
C4	V1 anode decoupling	0.1
C5	V2 grid condenser	0.00005
C6	V2 anode decoupling	1.0
C7	V2 heater by-pass	0.01
C8	V2 anode H.F. by-pass	0.0005
C9	V2 to V3 L.F. coupling	0.01
C10	Part of T.C. filter	0.01
C11*	V3 cathode by-pass	25.0
C12*	H.T. smoothing	8.0
C13*		8.0
C14	Mains aerial coupling	0.0002
C15	Droitwich rejector tuning	0.002
C16†	Band-pass primary tuning	0.00035
C17†	Band-pass primary trimmer	—
C18†	Band-pass sec. L.W. trimmer	0.000035
C19†	Band-pass sec. M.W. trimmer	0.000035
C20†	Band-pass sec. and S.W. tuning	0.00035
C21†	Aerial S.W. trimmer	—
C22†	Reaction control	0.0005
C23†	V1 anode circuit L.W. trimmer	0.000035
C24†	V1 anode circuit M.W. trimmer	0.000035
C25†	V1 anode circuit tuning	0.00035

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

RESISTANCES		Values (ohms)
R1	V1 C.G. decoupling	1,000
R2	V1 S.G. H.T. potential divider	20,000
R3	V1 gain control	20,000
R4	V1 fixed G.B. resistance	10,000
R5	V1 anode decoupling	140
R6	V2 grid leak	8,000
R7	V2 anode decoupling	500,000
R8	V2 anode load	20,000
R9	V2 anode H.F. stoppers	50,000
R10	V2 anode H.F. stoppers	5,000
R11	V3 C.G. H.F. stopper	40
R12	V3 C.G. resistance	100,000
R13	V3 G.B. resistance	500,000
R14	V3 G.B. resistance	140
R15	Part of T.C. filter	20,000

OTHER COMPONENTS		Approx. Values (ohms)
L1	Droitwich rejector coil	1.5
L2	Aerial M.W. coupling coil	0.3
L3	M.W. band-pass primary	1.5
L4	Aerial L.W. coupling coil	15.0
L5	L.W. band-pass primary	16.0
L6	Aerial S.W. coupling coil	0.3
L7	Aerial S.W. tuning coil	0.05
L8	M.W. band-pass secondary	1.5
L9	L.W. band-pass secondary	16.0
L10	S.W. reaction coil	0.3
L11	V1 anode S.W. tuning coil	0.05
L12	M.W. and L.W. reaction coil	3.0
L13	V1 anode M.W. tuning coil	1.5
L14	V1 anode L.W. tuning coil	16.0
L15	V2 anode H.F. choke	200.0
L16	Speaker speech coil	2.2
L17	Hum neutralising coil	0.1
L18	Speaker field coil	2,000.0
T1	Speaker input trans.	Pri. 600.0 Sec. 0.25
T2	Mains trans.	Pri. total 25.0 Heater sec. 0.05 Rect. heat. sec. 0.05 H.T. sec. total 450.0
S1-S21	Waveband switches	—
S22	Mains switch, ganged R4	—

Circuit diagram of the Aerodyne 52 3-valve A.C. receiver. Coils L1-L3, L8 and L13 are iron-cored. The radio-gram, model 60, has a very similar circuit (see General Notes).

## VALVE ANALYSIS

Valve voltages and currents given in the table (col. 2) are those measured in our receiver when it was operating on mains of 215 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 minimum. There was no signal input.

Voltages were measured on the 1,200 V scale of an Avometer, chassis being negative.

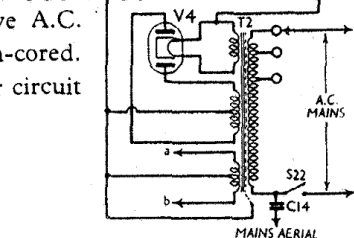
Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 VP1B	170	4.9	110	1.8
V2 AC/HL	50	2.0	—	—
V3 PenA4	190	30.0	210	4.4
V4 IW4/350	265†	—	—	—

† Each anode, A.C.

## GENERAL NOTES

**Switches.**—S1-S21 are the wavechange switches, in three ganged rotary units beneath the chassis, indicated by numbers in circles in the under-chassis view. The arrows show the directions in which the units are viewed in the diagrams on this page. The table below gives the switch positions for the three control settings, O indicating open, and C, closed.

Switch	L.W.	M.W.	S.W.
S1	O	O	C
S2	O	C	O
S3	C	O	O
S4	O	C	O
S5	O	O	C
S6	O	C	O
S7	O	C	O
S8	C	O	O
S9	O	O	C
S10	O	C	O
S11	O	O	C
S12	C	O	O
S13	C	O	O
S14	O	C	O
S15	O	C	O
S16	C	O	O
S17	O	O	C
S18	O	C	O
S19	O	C	O
S20	O	C	O
S21	C	O	O



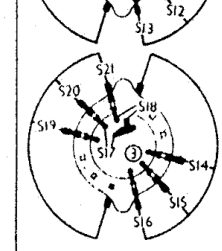
S22 is the Q.M.B. mains switch, ganged with the gain control R4.

**Coils.**—L1 is beneath the chassis; L2-L5, L8, L9 and L12-L14 are in three screened units on the chassis deck; while L6, L7 and L10, L11 are on two tubular units beneath the chassis. L7 and L11 are the thick wire windings, L6 and L10, each consisting of about one turn of fine wire close to one end of L7 and L11 respectively. L15 is also beneath the chassis.

**Scale Lamp.**—This is an Osram M.E.S. type rated at 3.5 V, 0.15 A.

**Condensers C12, C13.**—These are two 8 μF dry electrolytics in a single unit beneath the chassis, with a common negative (black) lead. The red lead to the V4 valve-holder is the positive of C12, and the red lead to one end of R2 (H.T. line) the positive of C13.

**Alternative Valves.**—V2, Mullard 354V or Mazda AC/HL; V3, Mullard Pen



Switch diagrams, looking from the rear of the underside of the chassis. The units are numbered as in the under-chassis view.

4 VB or Pen A4; V4, Mullard IW3 or IW4/350.