



Circuit diagram of the Aerodyne 49 battery all-wave receiver. L1, L4 and L7, L8 are the S.W. coils. Later models have a Droitwich filter circuit in series between C2 and the top of L1. C3 and C4 each consist of two condensers in parallel.

### COMPONENTS AND VALUES

Resistances		Values (ohms)
R1	V1 C.G. decoupling .. ..	50,000
R2	V1 gain control .. ..	10,000
R3	V1 S.G. and anode decoupling .. ..	3,000
R4*	Reaction circuit stabiliser .. ..	50
R5†	V2 grid leak .. ..	1,000,000
R6	V2 anode load .. ..	50,000
R7	V3 C.G. H.F. stopper .. ..	100,000

\* Two 100 O resistances in parallel.  
† Two resistances in series.

Condensers		Values (μF)
C1	Aerial series condensers	0.0002
C2‡		0.00005
C3‡	V1 C.G. decoupling .. ..	0.1012
C4‡	V1 S.G. and anode decoupling .. ..	0.1012
C5	V2 grid condenser .. ..	0.0003
C6	Coupling to T1 .. ..	0.1
C7‡	Fixed tone corrector .. ..	0.005
C8†	Aerial circuit tuning .. ..	0.0005
C9†	Aerial circuit trimmer .. ..	—
C10†	Reaction control .. ..	0.0005
C11†	V1 anode circuit tuning .. ..	0.0005
C12†	V1 anode circuit trimmer .. ..	—

† Variable. ‡ Pre-set. § See General Notes.

Other Components		Approx. Values (ohms)
L1	Aerial coupling coil (S.W.) .. ..	0.1
L2	Aerial coupling coils (M.W. and L.W.)	0.3
L3		35.0
L4	Aerial tuning coil (S.W.) .. ..	0.05
L5	Aerial tuning coils (M.W. and L.W.)	1.2
L6		13.0
L7	V1 anode circuit tuning coil (S.W.) .. ..	0.05
L8	S.W. reaction coil .. ..	0.25
L9	M.W. and L.W. reaction coil .. ..	7.0
L10	V1 anode circuit tuning coils (M.W. and L.W.) .. ..	3.75
L11	V2 anode H.F. choke (M.W. and L.W.)	15.0
L12		200.0
L13	V2 anode H.F. choke (S.W.) .. ..	7.5
L14	Speaker speech coil .. ..	2.2
T1	Intervale trans. { Pri. .. ..	1,300.0
	{ Sec. .. ..	3,500.0
T2	Speaker input trans. { Pri. .. ..	650.0
	{ Sec. .. ..	0.3
S1-S8	Waveband switches .. ..	—
S9	L.T. switch	ganged R2 .. ..
S10	G.B. switch	

### VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating from a new H.T. battery reading 128 V. The volume control was at maximum and the reaction control was at minimum but there was no signal input.

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

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 VP2	116	2.2	116	0.8
V2 PM1HL	58	1.2	—	—
V3 PM22A	122	3.5	128	0.8

### GENERAL NOTES

**Switches.**—S1-S8 are the waveband switches, in a single unit beneath the chassis. S2, S3 and S6, S7 each have one common contact. The table below gives the switch positions for the various control settings, O indicating open, and C, closed.

Switch	S.W.	M.W.	L.W.
S1	O	C	O
S2	C	C	O
S3	O	O	C
S4	O	C	O
S5	C	O	O
S6	C	O	O
S7	O	C	C
S8	O	C	O

Note that the control knob is marked with two L.W. positions, both closing the same switches.

S9 and S10 are the L.T. and G.B. switches, ganged with the gain control, R2. The brown and black battery leads connect to one tag of S9, and the white lead to one tag of S10. The other two tags are common and are connected to chassis.

**Coils.**—L2, L3, L5, L6 and L9, L10, L11 are in two screened units on the chassis deck. L1, L4 and L7, L8, the S.W. coils, are in two units beneath the chassis, of which the first is screened. The chokes L12 and L13 are also unscreened, and beneath the chassis.

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

**External Speaker.**—Two sockets are provided on the speaker terminal strip for a low resistance (2-3 O) external speaker.