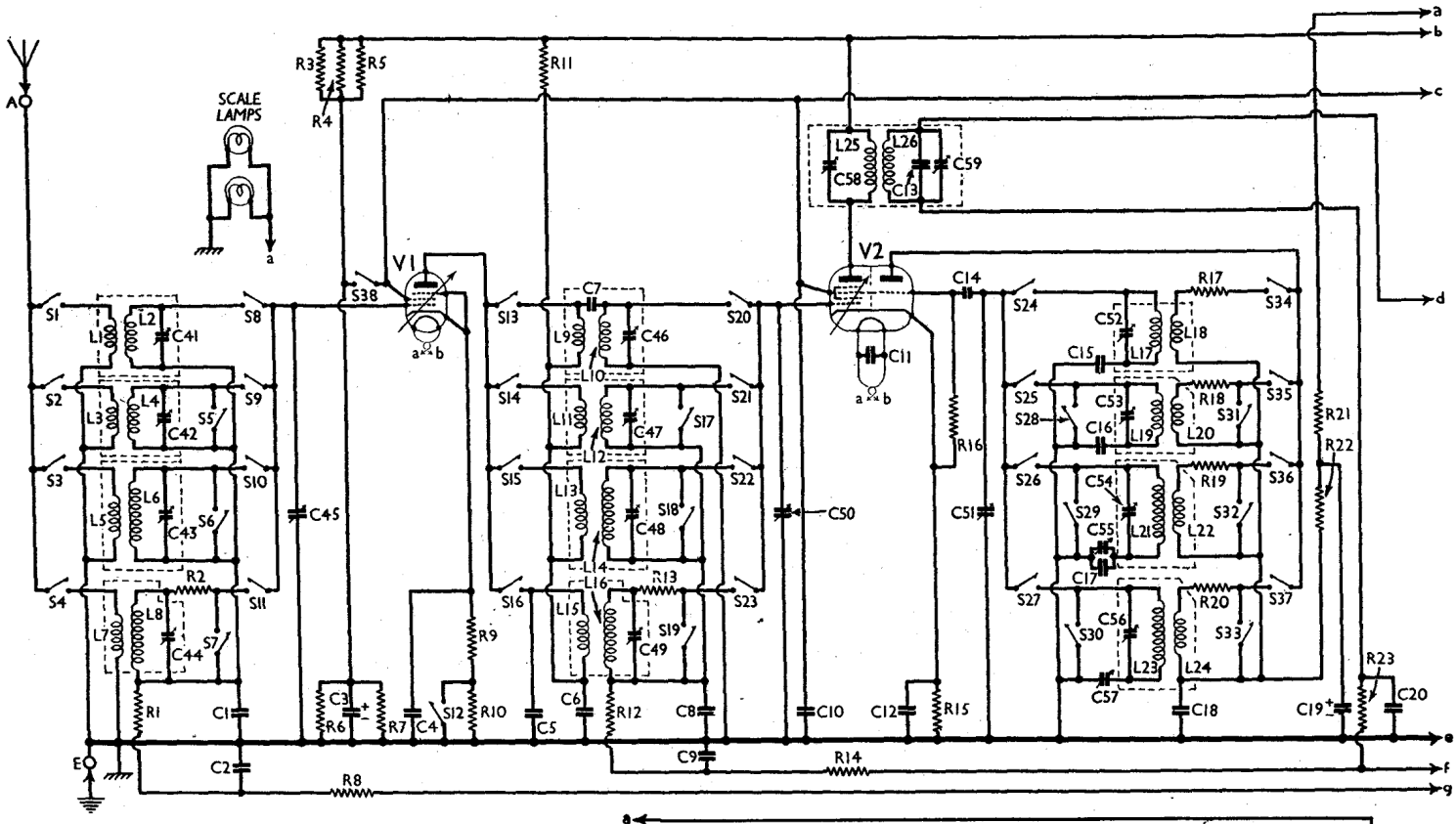
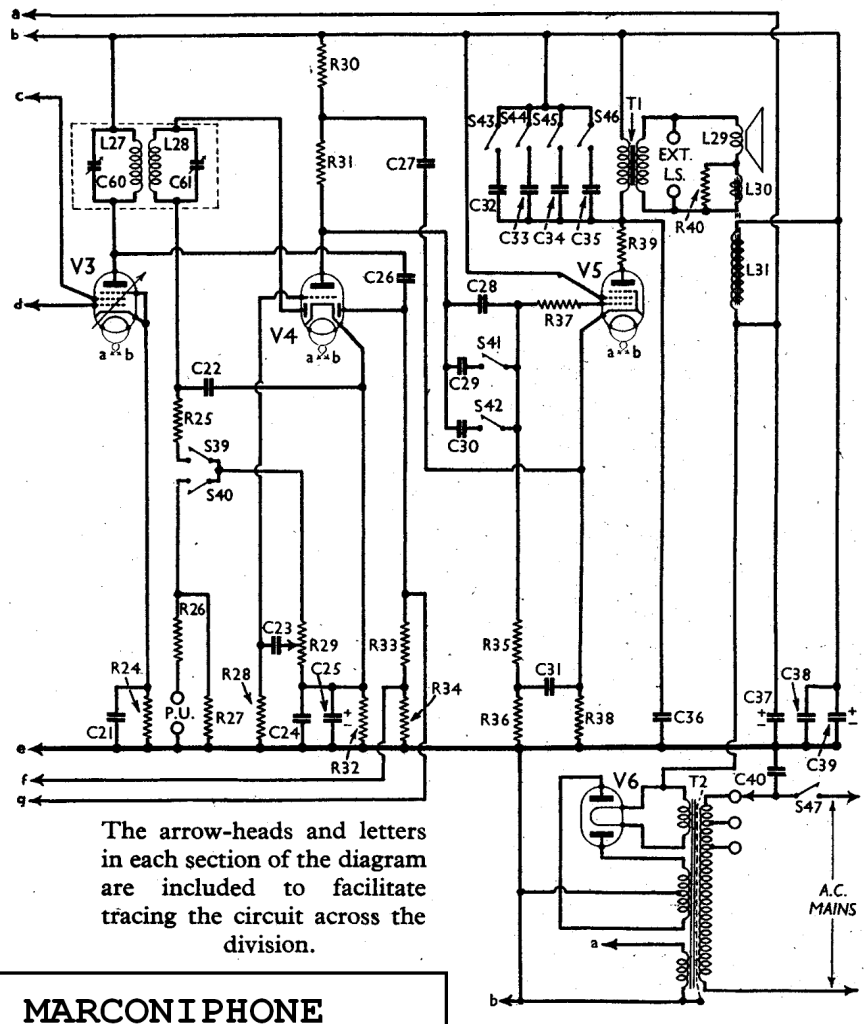


COMPONENTS AND VALUES

	Resistances	Values (ohms)
R1	V1 C.G. decoupling	100,000
R2	Aerial L.W. circuit stabiliser ..	100
R3	V1, V2 and V3 S.G.'s H.T. potential divider ..	23,000
R4		23,000
R5		23,000
R6		7,500
R7		7,500
R8	V1 A.V.C. line decoupling ..	1,500,000
R9	V1 fixed bias resistances	150
R10		10,000
R11	V1 anode decoupling ..	1,000
R12	V2 hexode C.G. decoupling ..	100,000
R13	H.F. trans. L.W. sec. stabiliser	100
R14	V2 A.V.C. line decoupling ..	750,000
R15	V2 fixed bias resistance ..	150
R16	V2 osc. C.G. resistance ..	50,000
R17	Oscillator anode reaction circuits stabilisers	150
R18		500
R19		2,300
R20		15,000
R21	V2 oscillator anode decoupling and H.T. smoothing	35,000
R22		5,000
R23	V3 C.G. decoupling	1,000,000
R24	V3 fixed bias resistance ..	150
R25	I.F. stopper	50,000
R26	Gram. P.U. series resistance ..	230,000
R27	Gram. P.U. circuit shunt ..	50,000
R28	V4 triode C.G. resistance ..	1,000,000
R29	Manual volume control ..	250,000
R30	V4 triode anode decoupling ..	50,000
R31	V4 triode anode load	35,000
R32	V4 bias resistance	1,000
R33	V4 A.V.C. diode load ..	350,000
R34		230,000
R35	V5 C.G. resistance	230,000
R36	V5 C.G. decoupling	50,000
R37	V5 C.G. I.F. stopper	1,000
R38	V5 bias resistance	100
R39	V5 anode circuit stabiliser ..	500
R40	Hum neut. coil shunt ..	0·8

	Condensers	Values (μF)
C1	V1 C.G. decoupling	0·05
C2	V1 A.V.C. line decoupling ..	0·001
C3*	V1 ,V2 ,V3 S.G.'s by-pass ..	4·0
C4	V1 cathode by-pass	0·1
C5	H.F. trans. L.W. pri. shunt	0·0003
C6	V1 anode decoupling	0·1
C7	H.F. trans. coupling (S.W.2) ..	0·000005
C8	V2 hexode C.G. decoupling ..	0·05
C9	V2 A.V.C. line decoupling ..	0·05
C10	V2 hexode S.G. by-pass ..	0·1



The arrow-heads and letters in each section of the diagram are included to facilitate tracing the circuit across the division.

MARCONIPHONE

345 & 365

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	Condensers (continued)	Values (μF)
C11	V2 heater by-pass	0·002
C12	V2 cathode by-pass	0·1
C13	1st I.F. trans. sec. tuning, fixed	0·0001
C14	V2 osc. C.G. condenser	0·00005
C15	Osc. S.W.2. tracker	0·00285
C16	Osc. S.W.1. tracker	0·00184
C17	Osc. M.W. tracker, fixed	0·00035
C18, C19*	V2 osc. anode decoupling	0·05, 4·0
C20	V3 C.G. decoupling	0·05
C21	V3 cathode by-pass	0·1
C22	I.F. by-pass	0·00035
C23	L.F. coupling to V4 triode	0·05
C24, C25*	V4 cathode by-passes	0·1, 4·0
C26	Coupling to V4 A.V.C. diode	0·0001
C27	V4 triode anode decoupling	0·5
C28, C29, C30	V4 to V5 L.F. coupling; bass control condensers	0·001, 0·0015, 0·05
C31	V5 C.G. decoupling	0·1
C32, C33, C34, C35	Treble tone control condensers	0·0023, 0·005, 0·02, 0·05
C36	Fixed tone corrector	0·0023
C37*, C38, C39*	H.T. smoothing	8·0, 0·25, 8·0
C40	Mains H.F. by-pass	0·005
C41‡	Aerial circuit trimmer (S.W.2)	—
C42‡	Aerial circuit trimmer (S.W.1)	—
C43‡	Aerial circuit trimmer (M.W.	—
C44‡	Aerial circuit trimmer (L.W.)	—
C45†	Aerial circuit tuning	—
C46‡	H.F. trans. trimmer (S.W.2)	—
C47‡	H.F. trans. trimmer (S.W.1)	—
C48‡	H.F. trans. trimmer (M.W.)	—
C49‡	H.F. trans. trimmer (L.W.)	—
C50†	H.F. trans. tuning	—
C51†	Oscillator tuning	—
C52‡	Oscillator trimmer (S.W.2)	—
C53‡	Oscillator trimmer (S.W.1)	—
C54‡	Oscillator trimmer (M.W.)	—
C55‡	Oscillator tracker (M.W.)	—
C56‡	Oscillator trimmer (L.W.)	—
C57‡	Oscillator tracker (L.W.)	—
C58‡	1st I.F. trans. pri. tuning	—
C59‡	1st I.F. trans. sec. tuning	—
C60‡	2nd I.F. trans. pri. tuning	—
C61‡	2nd I.F. trans sec. tuning.	—

* Electrolytic. † Variable. ‡ Pre-set.

VALVE ANALYSIS.

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of 230 V, using the 211-230 V tapping on the mains transformer. The volume control was at maximum and the receiver was tuned to the lowest wavelength on the medium band 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 VMP4G*	280	0·4	75	0·3
V2 X41	280	2·9	75	3·1
V3 VMP4G	280	5·2	75	3·9
V4 MHD4	100	2·1	—	—
V5 N41	230	43·0	280	9·5
V6 U12	390†	—	—	—

* Osc. anode 95 V, 7·4 mA.
† Each anode, A.C.

GENERAL NOTES

Switches.—There are 37 waveband switches, in six rotary units. The units are numbered in the under-chassis view, and arrows indicate the direction in which they are to be viewed, looking at the underside of the chassis, when referring to the diagrams on this page showing the individual switches. The table (Col. 2) gives the switch positions for the four control settings, O indicating open, and C closed. Note that with the exception of **S12**, each switch only closes on one of the four wavebands. **S12** closes on the S1 and S2 bands.

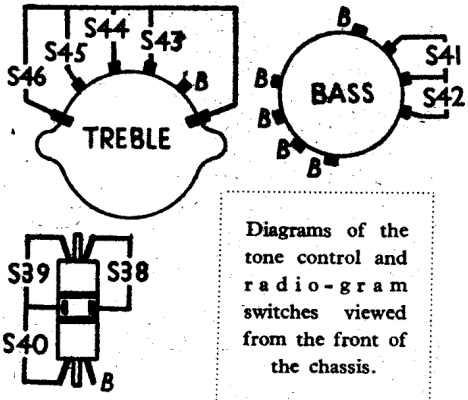
There are three other switch units, indicated in the chassis views and also shown in diagrams.

S38–S40 are the Q.M.B. radio-gram switches, and **S38** and **S39** are closed on radio and open on gram., while **S40** is closed on gram. and open on radio.

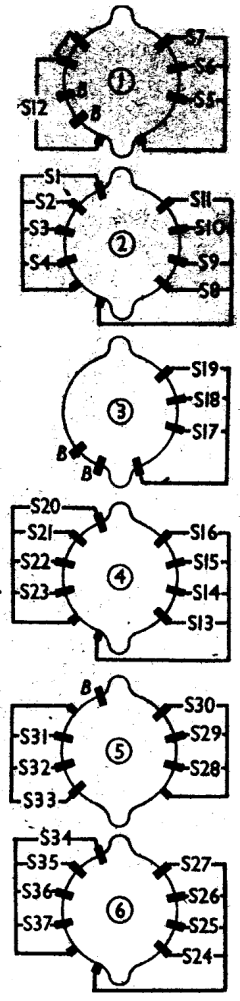
S41 and **S42** are the bass switches, in a single rotary unit at the front of the chassis. In the fully anti-clockwise position, both switches are open. In the next position clockwise, **S41** is closed and **S42** open, and in the clockwise position **S42** is closed and **S41** open.

	Other Components		Approx. Values (ohms)
L1	Aerial coupling coil (S.W.2)		2·5
L2	Aerial tuning coil (S.W.2)		0·1
L3	Aerial coupling coil (S.W.1)		16·0
L4	Aerial tuning coil (S.W.1)		0·75
L5	Aerial coupling coil (M.W.)		46·0
L6	Aerial tuning coil (M.W.)		5·5
L7	Aerial coupling coil (L.W.)		140·0
L8	Aerial tuning coil (L.W.)		30·0
L9	H.F. trans. primary (S.W.2)		3·0
L10	H.F. trans. secondary (S.W.2)		0·1
L11	H.F. trans. primary (S.W.1)		27·0
L12	H.F. trans. secondary (S.W.1)		0·75
L13	H.F. trans primary (M.W.)		87·0
L14	H.F. trans. secondary (M.W.)		5·5
L15	H.F. trans primary (L.W.)		145·0
L16	H.F. trans. secondary (L.W.)		25·0
L17	Osc. tuning coil (S.W.2)		0·1
L18	Osc. reaction coil (S.W.2)		0·5
L19	Osc. tuning coil (S.W.1)		0·5
L20	Osc. reaction coil (S.W.1)		0·75
L21	Osc. tuning coil (M.W.)		5·0
L22	Osc. reaction coil (M.W.)		1·25
L23	Osc. tuning coil (L.W.)		10·0
L24	Osc. reaction coil (L.W.)		7·0
L25, L26	1st I.F. trans.	Pri.	12·0
		Sec.	8·0
L27, L28	2nd I.F. trans.	Pri.	12·0
		Sec.	12·0
L29	Speaker speech coil		4·0
L30	Hum neutralising coils		0 5
L31	Speaker field coil		1,200·0
T1	Speaker input trans.	Pri.	580·0
		Sec.	0·5
T2	Mains trans.	Pri. total	19·5
		Heater sec.	0·1
		Rect. fil. sec.	0·1
		H.T. sec. total	300·0
S1-S37	Waveband switches		—
S38	Radio muting switch (gram.)		—
S39, S40	Radio-gram. switches		—
S41, S42	Bass control switches		—
S43-S46	Treble control switches		—
S47	Mains switch		—

Switch	S2	S1	M.W.	L.W.
S1	C	O	O	O
S2	O	C	O	O
S3	O	O	C	O
S4	O	O	O	C
S5	C	O	O	O
S6	O	C	O	O
S7	O	O	C	O
S8	C	O	O	O
S9	O	C	O	O
S10	O	O	C	O
S11	O	O	O	C
S12	C	C	O	O
S13	C	O	O	O
S14	O	C	O	O
S15	O	O	C	O
S16	O	O	O	C
S17	C	O	O	O
S18	O	C	O	O
S19	O	O	C	O
S20	C	O	O	O
S21	O	C	O	O
S22	O	O	C	O
S23	O	O	O	C
S24	C	O	O	O
S25	O	C	O	O
S26	O	O	C	O
S27	O	O	O	C
S28	C	O	O	O
S29	O	C	O	O
S30	O	O	C	O
S31	C	O	O	O
S32	O	C	O	O
S33	O	O	C	O
S34	C	O	O	O
S35	O	C	O	O
S36	O	O	C	O
S37	O	O	O	C



Diagrams of the tone control and radio-gram switches viewed from the front of the chassis.



These diagrams show contact arrangements of the six wave-change switch units which are numbered in accordance with the under-chassis illustration below. Each unit is viewed from the rear of the upturned chassis as shown by the arrows. The letters B indicate blank tags or tags used for bearing purposes.

S42–S46 are the treble or "brilliance" switches. The control has five positions, and only one switch closes at a time. From the anti-clockwise position, the switches close in the following order: **S46, S45, S44, S43.** In the fifth position, all switches are open.

S47 is the Q.M.B. mains switch, mounted at the side of the cabinet.

Coils.—These are in eight large screened units on the chassis deck. Each unit contains two trimmers, which are adjusted by slotted screws in the bases of the units, indicated in our under-chassis view. In addition, the **L9, L10, L13, L14** unit also contains **C7**, the first I.F. unit **L25, L26** also contains **C13**, while the second I.F. unit, **L27, L28**, contains **R25, C22** and **C26.**

Scale Lamps.—These are two Osram M.E.S. types, rated at 6·5 V, 0·3 A.