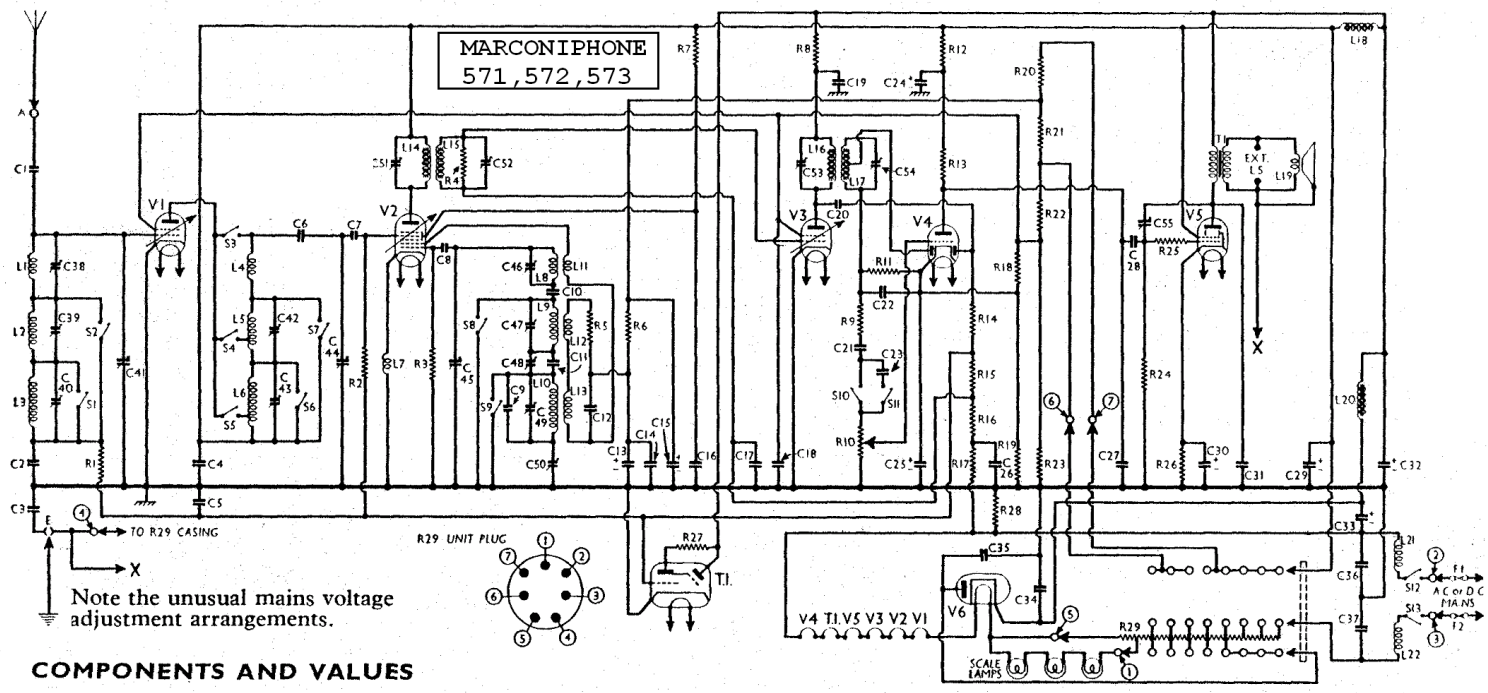


Note the unusual mains voltage adjustment arrangements.

COMPONENTS AND VALUES

	RESISTANCES	Values (ohms)
R1	V1 CG decoupling	75,000
R2	V2 tetrode CG resistance	500,000
R3	V2 osc. CG resistance	50,000
R4	1st IF trans. sec. shunt	750,000
R5	*Oscillator reaction stabiliser*	100
R6	V2 osc. anode HT feed	1,000
R7	V2 SG HT feed	35,000
R8	V3 anode HT feed	5,000
R9	IF stopper	100,000
R10	Manual volume control	2,000,000
R11	V4 signal diode load	500,000
R12	V4 triode anode decoupling	35,000
R13	V4 triode anode load	75,000
R14	V4 AVC diode load resistances	750,000
R15		750,000
R16		230,000
R17		500,000
R18	V4 triode GB and AVC delay potential divider	100,000
R19		1,000
R20	V1, V3 SG HT feed; V4 cathode pot. feed; V2 osc. anode HT feed potential divider resistances	1,500
R21		1,500
R22		3,500
R23		15,000
R24	V5 CG *resistance*	350,000
R25	V5 grid stopper	50,000
R26	V5 GB resistance	100
R27	T.I. anode HT feed	500,000
R28	V1, V2, V3 fixed GB resistance	23
R29	Voltage adjustment resistance, total	458·5*

* 61 Ω + 54 Ω + 61 Ω + 62 Ω + 40 Ω + 55 Ω + 37 Ω + 17.5 Ω + 68 Ω, starting from free end.

	CONDENSERS	Values (μF)
C1	Aerial series condenser	0·00c0375
C2	V1 CG decoupling	0·05
C3	Earth isolating condenser	0·005
C4	V1, V2, V4 HT line RF by-pass	0·1
C5	AVC line decoupling	0·1
C6	HT blocking condenser	0·1
C7	V2 tetrode CG condenser	0·000035
C8	V2 osc. CG condenser	0·00005
C9	Osc. circuit LW fixed trimmer	0·000015
C10	Osc. circuit SW tracker	0·0035
C11	Osc. circuit MW fixed tracker	0·00035
C12	Osc. SW reaction coupling	0·0001
C13*	V2 osc. anode decoupling	4·0
C14	V2 osc. anode RF by-pass	0·005
C15*	V2 osc. anode decoupling	4·0
C16	V2 SG decoupling	0·05
C17	V3 CG decoupling	0·1
C18	V1, V3 SG's decoupling	0·1
C19	V3 anode decoupling	0·05
C20	Coupling to V4 AVC diode	0·000075
C21	MW and LW AF coupling to V4 triode	0·005
C22	IF by-pass	0·0001
C23	SW AF coupling to V4 triode	0·001
C24*	V4 triode anode decoupling	1·0
C25*	V4 cathode by-pass	50·0
C26	V4 AVC diode RF by-pass	0·1
C27	IF by-pass	0·0005
C28	V4 triode to V5 AF coupling	0·035
C29*	Part HT smoothing	8·0
C30*	V5 cathode by-pass	50·0
C31	Fixed tone corrector	0·0023

	CONDENSERS (*Continued*)	Values (μF)
C32*	Parts HT smoothing	32·0
C33*		16·0
C34	V6 cathode RF by-pass	0·05
C35	V6 anode RF by-pass	0·05
C36	Mains RF filter condensers	0·01
C37		0·01
C38‡	Aerial circuit SW trimmer	—
C39‡	Aerial circuit MW trimmer	—
C40‡	Aerial circuit LW trimmer	—
C41†	Aerial circuit tuning	—
C42‡	V1 anode MW trimmer	—
C43‡	V1 anode LW trimmer	—
C44†	V1 anode circuit tuning	—
C45†	Oscillator circuit tuning	—
C46‡	Osc. circuit SW trimmer	—
C47‡	Osc. circuit MW trimmer	—
C48‡	Osc. circuit MW tracker	—
C49‡	Osc. circuit LW trimmer	—
C50‡	Osc. circuit LW tracker	—
C51‡	1st IF trans. pri. tuning	—
C52‡	1st IF trans. sec. tuning	—
C53‡	2nd IF trans. pri. tuning	—
C54‡	2nd IF trans. sec. tuning	—
C55†	Variable tone control	0·0005

* Electrolytic. † Variable. ‡ Pre-set.

	OTHER COMPONENTS	Approx. Values (ohms)
L1	Aerial SW tuning coil	0·1
L2	Aerial MW tuning coil	6·0
L3	Aerial LW tuning coil	14·0
L4	V1 anode SW tuning coil	0·1
L5	V1 anode MW tuning coil	5·5
L6	V1 anode LW tuning coil	14·0
L7	V2 cathode frequency stabiliser	0·1
L8	Osc. circuit SW tuning coil	0·1
L9	Osc. circuit MW tuning coil	5·5
L10	Osc. circuit LW tuning coil	4·2
L11	Osc. SW reaction coil	1·0
L12	Osc. MW reaction coil	2·0
L13	Osc. LW reaction coil	3·0
L14	1st IF trans. Pri.	6·3
L15	1st IF trans. Sec.	6·3
L16	2nd IF trans. Pri.	6·3
L17	2nd IF trans. Sec.	6·3
L18	Part HT smoothing	550·0
L19	Speaker speech coil	1·0
L20	Part HT smoothing	65·0
L21	Mains RF filter chokes	3·0
L22		3·0
T1	Output trans. Pri.	180·0
	Output trans. Sec.	0·9
S1-S11	Waveband switches	—
S12,13	Mains switches, ganged R10	—
F1,F2	Mains circuit fuses	—

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on AC mains of 228 V, using the 210-230 V tapping on the mains resistance. The receiver was tuned to the lowest wavelength on the medium 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, as in our case, **V2** *should become unstable when* its anode current is being measured and **V3** when its screen current is being measured, they can be stabilised by connecting a non-inductive condenser of about 0·1 μF from grid (top cap) to chassis.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 KTW63	117	3·9	65	1·0
V2 X63	117	1·5	52	1·0
	Oscillator			
	95	2·3		
V3 KTW63	105	4·4	65	1·2
V4 DH63	60	0·4	—	—
V5 KT32	119	54·0	117	4·0
V6 U31	†	—	—	—
T.I. Y64	22	0·2	—	—
	Target			
	130	0·3		

† Cathode to chassis. 138 V, DC

GENERAL NOTES

In examining the table receiver chassis, it will be found that the wiring for a gramophone pick-up and for its switching is carried out, but no pick-up sockets are fitted. The leads which would connect to them are actually connected to chassis and to a blank (bearer) socket on **V3** valve-holder. Although the gramophone switches are included in the switch units, and are wired up, they are not used, a stop being fitted to limit the travel of the switches to the three radio wavebands.

Hence the extra switches and wiring are not shown in our diagrams.

Switches.—**S1-S11** are the waveband switches, in two rotary units beneath the chassis. These are indicated in our under-chassis view, and shown in detail in the diagrams on page VIII. The table (page VIII) gives the switch positions for the three control settings, starting from fully anti-clockwise. A dash indicates open, and **C**, closed.

As explained above, certain tags, which would form radio-gram switches, are wired up, but they are not included in the diagrams, the tags being marked bearer (Be).

S12, S13 are the QMB mains switches, ganged with the volume control **R10.**

Coils.—**L1-L3**; **L4-L6**; **L8-L13**, and the IF transformers **L14, L15** and **L16, L17** are in five screened units on the chassis deck. Most of these contain additional components as indicated in our plan chassis view. **L7** is a small coil on a tubular former beneath the chassis.

Scale Lamps.—These are three Bulgin MES types, rated at 8 V, 0·15 A. They are connected in series in the heater circuit, and are shunted by a portion of **R29.**

MODELS 572 AND 573 MODIFICATIONS

The radiogram models 572 and 573 have chassis similar to the 571, except that, of course, a pick-up is fitted, and there is a fourth (gram) position of the switch. The same switch units are fitted, and in fact the pick-up wiring not used in the table model is brought into use.

For the extra switches the tags marked Be (bearer) in our switch diagrams are used.

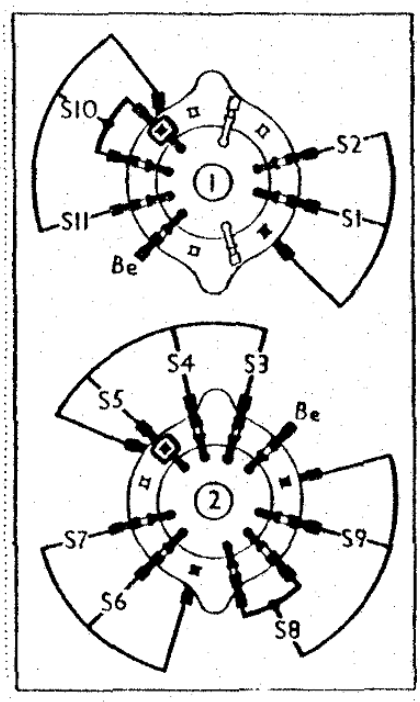
The pick-up is connected across the primary of an input transformer, which also has a 15,000 Ω resistance across its primary. One side of the secondary goes to chassis, and the other side to the Be tag on switch unit 1. The other side of the switch so formed goes to the top of the volume control **R10.** This switch closes on gram, and is open on all other positions.

The input transformer has a primary resistance of 172 Ω and a secondary of 280 Ω. The pick-up resistance is 850 Ω. The socket for earthing the pick-up screening goes to one side of the primary of the transformer, and to chassis via a 0·005 μF condenser.

TABLE AND DIAGRAMS OF THE SWITCH UNITS

SWITCH	LW	MW	SW
S1	—	C	—
S2	—	—	C
S3	—	—	C
S4	—	C	—
S5	C	—	—
S6	—	C	—
S7	—	—	C
S8	—	—	C
S9	—	C	—
S10	C	C	—
S11	—	—	C

Switch diagrams, as seen from beneath the chassis, in the directions of the arrows in the under-chassis view. The bearer tags (Be) are wired up, but are only used in the radiogram models (see under Models 572 and 573 Modifications).



The Be tag on switch unit 2 is connected to the HT line, and on gram the switch so formed closes, and connects the anode of **V1** direct to the HT line.

The external speaker arrangements differ from those of the table model, and two sockets are provided for a 5 Ω external speaker. Across these sockets is connected a 50 Ω resistance. A switch is fitted, which connects into circuit either the internal or external speakers separately, or both together.

The motor is a series wound commutator type, operating on 35 V input, via an adjustable voltage dropping resistance. Two extra chokes are inserted in the motor feed, for interference suppression, while there are two fixed condensers in series across the brushes, their common connection being earthed.

CIRCUIT ALIGNMENT

IF Stages.—Switch set to LW, turn gang to maximum and volume control to maximum. Connect signal generator to grid (top cap) of **V2**, via a 0·1 μF condenser, leaving existing top cap connection in place, and to chassis. Feed in a 465 KC/S signal and adjust **C51, C52, C53** and **C54** in that order, for maximum output. Re-check these adjustments.

RF and Oscillator Stages.—**SW**—Connect signal generator to **A** and **E** sockets and switch set to SW. Feed in an 18 m (16·7 MC/S) signal, tune it in, and adjust **C46** and **C38** for maximum output, rocking the gang slightly for optimum results.

Feed in a 50 m (6 MC/S) signal, and tune it in. Then adjust the inductance of **L1, L4** and **L8** if necessary. A loop of wire will be found running across the coil formers and this loop must be bent up or down until maximum output is obtained. Identify the loop by first removing the coil can; then replace the can and move the loop by a strip of insulating material with a suitable nick in it. This adjustment will not normally be necessary.

Return to 18 m and re-adjust **C38** very carefully, while rocking the gang.

MW.—Switch set to MW, turn gang to 205 m mark, and feed in a 205 m (1,463 KC/S) signal. Adjust **C47** for maximum output. Feed in a 225 m (1,333 KC/S) signal, tune it in, and adjust **C39** and **C42** for maximum output. Feed in a 530 m (565 KC/S) signal, tune it in, and adjust **C48** for maximum output, rocking the gang for optimum results. Return to 205 m, and check setting of **C47.**

LW.—Switch set to LW, turn gang to minimum, and feed in a 725 m (414 KC/S) signal. Adjust **C49** for maximum output. Feed in an 850 m (353 KC/S) signal, tune it in, and adjust **C40** and **C43** for maximum output. Feed in a 1,900 m (158 KC/S) signal, tune it in, and adjust **C50** for maximum output, rocking the gang for optimum results. Check setting of **C49** at 725 m.

Finally, return to MW, and go through whole of MW and LW alignment again. Set the scale pointer to give best possible calibration compromise.