



Switch Table

Switch	Gram	MW	LW
S1	○	○	—
S2	○	○	—
S3	○	○	—
S4	○	○	—
S5	○	○	—
S6	—	○	—
S7	—	○	—
S8	—	○	—
S9*	—	—	—

* Closes only between settings.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 VMS4*	160	9.0	85	2.0
V2 AC/S2*	210	0.5	85	0.3
V3 MHL4*	85	5.5	—	—
V4 VMS4*	210	9.5	85	2.0
V5 41MHL†	20	0.15	—	—
V6 MSG/LA†	80	0.3	95	0.3
V7 MPT4†	275	35.0	270	4.5
V8 UUI20/350†	†	—	—	—

* Measured with chassis as negative.

† Measured with HT negative as negative.

‡ Filament to HT negative, 390V, DC.

RADIOGRAM MODIFICATIONS

The differences in the three radiogram chassis consist of a modified pick-up input circuit and the addition of a twin flexible cable, like that used for the mains lead and emerging from the same grommet at the rear of the chassis. Internally, this lead is connected to the receiver side of S10 and the opposite mains lead.

The modified pick-up input circuit is shown in the diagram above, where it will be seen that an additional volume control is included. This is ganged with R17 and is fitted against the front chassis member, where we show R17 in our under-chassis view. R17 itself is at the far end of the control spindle, near the centre of the

RESISTORS		Values (ohms)
R1	V1 CG decoupling ...	5,000
R2	V1 fixed GB resistor ...	1,000
R3	V1 anode HT feed ...	5,000
R4	V2 fixed GB resistor ...	7,000
R5	V3 CG stabiliser ...	2,000
R6	V3 CG resistor ...	100,000
R7	V4 CG decoupling ...	5,000
R8	V4 fixed GB resistor ...	300
R9	V5 CG resistor ...	2,000,000
R10	V1, V2, V4 SG's and V3 anode HT feed... Pick-up shunt ...	2,000 250,000
R11		
R12*	V5 anode load resistors ...	150,000
R13*		250,000
R14	HT circuit potential divider resistors ...	3,000
R15		2,700
R16		1,000
R17	Manual volume control ...	450
R18*	V6 GB resistors ...	3,000
R19*		7,000
R20	V6 anode decoupling ...	50,000
R21	V6 anode load ...	100,000
R22*	IF filter resistors ...	5,000
R23*		5,000
R24*	V7 CG resistor ...	200,000
R25*	V7 CG decoupling ...	300,000
R26	V7 SG HT feed ...	5,000
R27	V7 GB resistor ...	300

* In pairs, each pair consisting of a single tapped resistor.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial coupling coils ...	1.7
L2		3.0
L3		1.3
L4	Aerial tuning coils... ..	14.5
L5		2.0
L6	Band-pass primary coils ...	14.0
L7		2.0
L8		14.0
L9	V2 osc. coupling coil ...	0.5
L10		3.2
L11	Oscillator reaction coil ...	3.5
L12	Osc. MW tuning coil ...	14.0
L13	Osc. LW tuning coil ...	14.0
L14		35.0
L15	1st IF trans. { Pri., total	75.0
L16		Sec., total
L17	2nd IF trans. { Pri., total	75.0
L18		Sec., total
L19	Speaker speech coil ...	0.2
T1	Hum neutralising coil ...	1,000.0
T2	Speaker field coil ...	450.0
S1-S5	Speaker input trans. { Pri.	0.2
S6		12.0
S7	Mains trans. { Pri., total	Very low
S8		Very low
S9	Heat, sec. a, b	0.1
S10	Heat, sec. c, d ...	300.0
S11	Rect. heat. sec.	
S12	HT sec., total ...	
S13	Waveband switches	
S14	Radio muting on gram ...	
S15	Pick-up switch ...	
S16	V6 GB circuit switch ...	
S17	Wavechange muting ...	
S18	Mains switch, ganged R17	

CIRCUIT ALIGNMENT

IF Stages.—Withdraw **V3** from its socket to mute the oscillator, and turn the volume control to maximum. Connect signal generator leads via a 0.1 μ F capacitor to control grid of **V2** and chassis, feed in a 125 kc/s (2,400 m) signal, and adjust **C35**, **C34**, **C33** and **C32** for maximum output, keeping input low to avoid AVC action. Replace **V3**.

RF and Oscillator Stages.—Transfer signal generator leads via a suitable dummy aerial to **A** and **E** sockets. With the gang at maximum and minimum the end calibration marks on the scale should be in the same horizontal plane as the gang spindle.

CAPACITORS		Values (μ F)
C1	V1 CG decoupling ...	0.1
C2	V1 cathode by-pass ...	0.1
C3	V1 anode decoupling ...	0.1
C4	Band-pass coupling ...	0.000015
C5	V2 CG decoupling ...	0.1
C6	V1, V2, V4 SG's and V3 anode decoupling ...	0.5
C7	V2 cathode by-pass ...	0.1
C8	Osc. circ. LW tracker ...	0.001
C9	V3 CG capacitor ...	0.00075
C10	V4 CG decoupling ...	0.1
C11	V4 cathode by-pass ...	0.1
C12	V5 CG capacitor ...	0.0003
C13*	HT pot. divider shunt ...	4.0
C14	HT neg. line RF by-pass ...	0.5
C15	V6 anode decoupling ...	0.5
C16	IF by-pass capacitors ...	0.0015
C17		0.0003
C18	V6 cathode by-pass ...	0.5
C19	V6 to V7 AF coupling ...	0.01
C20	V7 SG decoupling ...	0.5
C21	V7 CG decoupling ...	0.5
C22*	HT smoothing capacitors {	7.0
C23*		8.0
C24†	Aerial circuit tuning ...	—
C25†	Aerial MW trimmer ...	—
C26†	Band-pass pri. tuning ...	—
C27†	B-P pri. MW trimmer ...	—
C28†	Band-pass sec. tuning ...	—
C29†	B-P sec. MW trimmer ...	—
C30†	Oscillator circuit tuning... ..	—
C31†	Osc. circ. MW trimmer ...	—
C32†	1st IF trans. pri. tuning... ..	—
C33†	1st IF trans. sec. tuning ...	—
C34†	2nd IF trans. pri. tuning ...	—
C35†	2nd IF trans. sec. tuning ...	—

* Electrolytic. † Variable. ‡ Pre-set.

chassis. The 1.0 μ F capacitor seen in the diagram is mounted beneath the chassis deck, between **R17** and the pick-up sockets.

The output from the pick-up volume control is taken directly to either side of **S7**, as are the pick-up sockets and **R11** in our circuit diagram. The additional switch **BB** is the one similarly marked in our under-chassis view, but in the table model these tags are blank.

The illustration in col. 2 shows the appearance of the model SG. The SGA is similar, but has an automatic record changer, while the SGT is equipped with a mechanical press-button tuning unit, operated by levers in long vertical slots. This last model is also fitted with two speakers.

MW.—Switch set to MW, tune to 214 m on scale, feed in a 214 m (1,402 kc/s) signal, and adjust **C31**, then **C25**, for maximum output, keeping input low. Tune to 250 m on scale, feed in a 250 m (1,200 kc/s) signal and adjust **C27** and **C29** for maximum output.

LW.—There are no LW adjustments but the calibration should be checked at two or three points on both bands. **C8** is the LW tracker, but this is fixed.