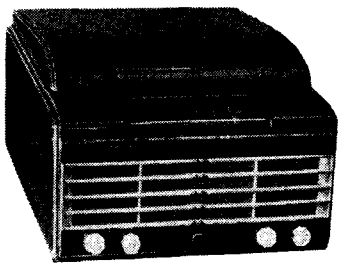
SERVICE DATA

MAS1109



MULLARD MASTER RADIO

MODEL MAS1109

SPECIFICATIONS

Subject to alteration without notice.

Power Supply	220-260V 40-60c/s.
Tuning Range	530-1620Kc/s.
Intermediate Frequency	455Kc/s.
Cabinet	De-luxe wooden combinette.

VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve No.	Valve Type	Plate Volts	Screen Volts	Osc. P. Volts	Bias Volts	Bias Resistor
Frequency Converter	V1	6AN7	220	75	70	–2.0	R17
I.F. Amplifier	V2	6SK7GT	220	70	—	–2.0	R17
Demodulator, A.V.C., and 1st Audio	V3	6SQ7GT	65	—	—	0	—
Power Amplifier	V4	6M5	205	220	—	–6.6	R14 & 17
Rectifier	V5	6X5GT	V5 Cathode — L10 C.T. 247V				
Dial Lamp	V11	6.3V 0.32A tubular screw					

NOTE: These voltages are measured with an "1,000 ohms per volt" meter and may vary ± 10% from the quoted figures. They are measured from the socket points quoted to chassis, or across the resistors listed. The receiver should be in a "no signal" condition.

REMOVAL OF CHASSIS FROM CABINET.

Much service work can be done without having to remove the chassis from the cabinet. For this purpose, remove the power plug from the outlet socket, and remove the control knobs—a firm pull is all that is necessary. Tie down the pick-up arm and remove any needles from the cups. Lay the cabinet on its left-hand side on some protective material. Remove the cabinet bottom cover. Remove the baffle assembly, which is secured by two captive screws, the nuts of which are accessible from inside the cabinet.

If it is desired to remove the chassis, release the receiver and gramo. motor power cords and pick-up lead from their respective lead wiring clips, remove the four chassis mounting bolts which are accessible from inside the cabinet, and screw into the nuts secured to the cabinet. The chassis should be withdrawn through the two cut-outs provided in the cabinet bottom. The lengths of the leads attached to the chassis are such as to allow it to be placed on the work bench alongside the cabinet.

To completely remove the chassis from the cabinet, the various leads should be released from the cabinet, chassis and gramo. unit. The free ends of the gramo. unit power lead should be insulated and bound with insulating tape.

The chassis may be replaced by a reversal of the above procedures.

DIAL LAMP REPLACEMENT.

The dial lamp holder is accessible from inside the cabinet after the bottom cover has been removed.

REMOVAL OF LOUD SPEAKER.

Access to the speaker mounting bolts is obtained after removal of the dial scale and back plate, and the release of the dial cursor from the dial cord. The lengths of the speaker leads are sufficient to allow it to be placed on the work bench in front of the chassis.

DIAL CALIBRATION.

If it is necessary to correct dial calibrations because of an equal error on all stations, the dial cursor can be moved on the dial drive cord after the cabinet bottom cover has been removed.

ALIGNMENT.

The iron cores for the secondaries of the I.F. transformers are in the top of the cans; those for the primaries are in the bottom.

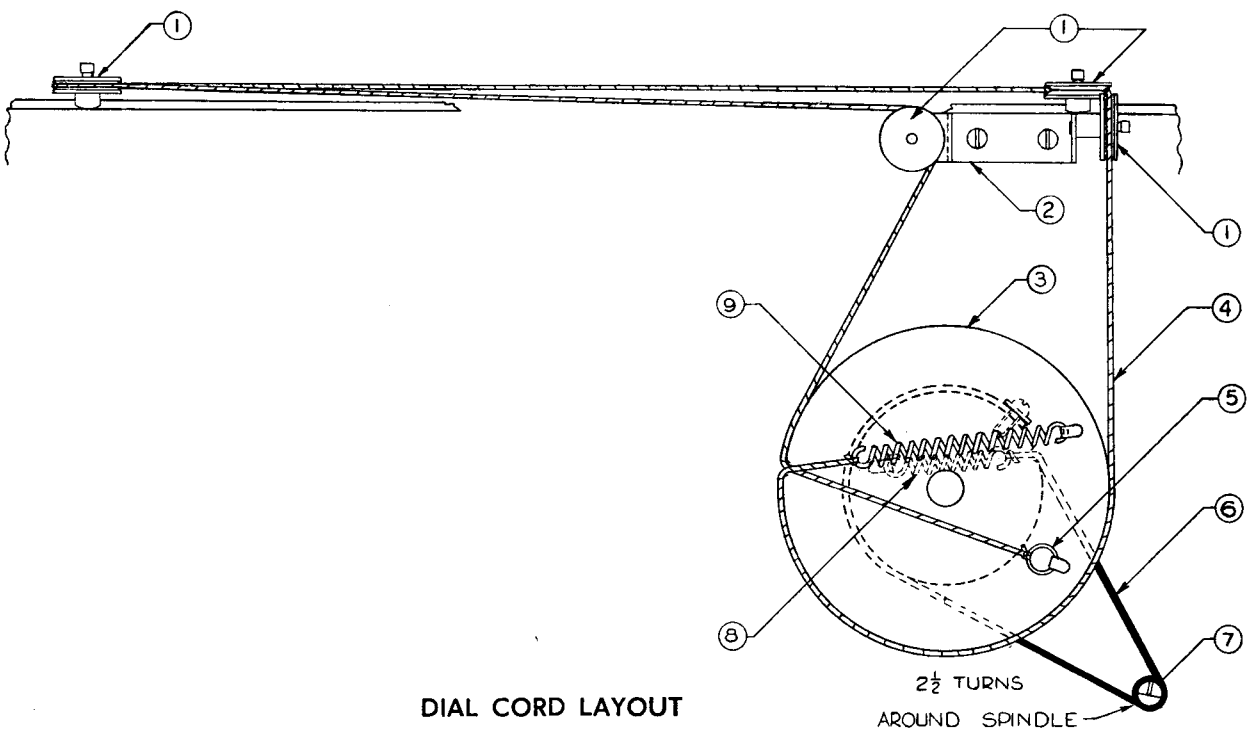
Broadcast band alignment frequencies are 1,420 Kc/s and 600 Kc/s. Capacitive trimmer adjustments are used at 1,420 Kc/s; the iron core of the oscillator coil is used for padding at 600 Kc/s. **Do not attempt to adjust the aerial coil iron core.** Before commencing alignment, set the dial cursor, with the tuning gang fully closed, to the thin line at the extreme R.H. end of the calibration marks on the top of the dial scale.

MAINS VOLTAGE ADJUSTMENT.

The power transformer is provided with two primary winding tappings, 220/240 volts and 250/260 volts, for adjustment to the supply mains voltage at the point of installation. The Receiver is adjusted at the factory to the 220/240 volts tapping.

MISCELLANEOUS COMPONENTS

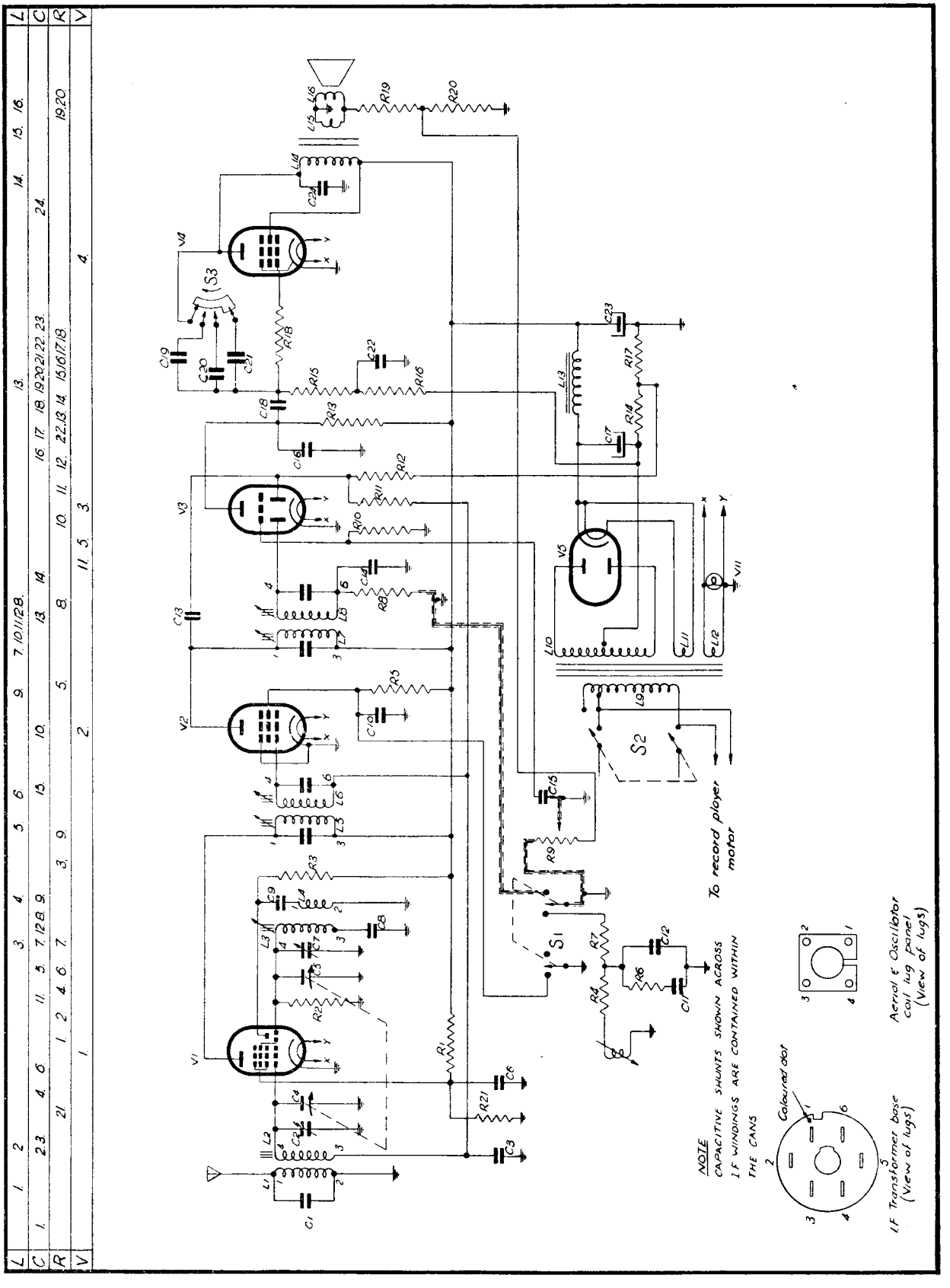
No. on Dial Parts Diagram	Description	Code No.
—	Assembly, baffle	CR.005.231
—	Assembly, dial cursor	CR.480.632
3	Assembly, dial drum	CR.382.813
—	Assembly, lamp holder	CZ.367.900
2	Assembly, pulley spindle	CR.436.205
—	Badge, Mullard	CR.531.409
—	Bush, spindle supporting	CS.381.815
—	Cloth, speaker baffle	CE.081.81
4	Cord, dial drive	CS.361.821
6	Cord, drum drive	CS.361.822
—	Knob, control	CR.432.623
—	Cup, needle (with cover)	CR.571.001
—	Cup needle (without cover)	CS.461.001
—	Plate, dial back	CS.412.807
1	Pulley, wooden	CS.360.201
—	Ring, "C"	CS.281.802
5	Ring, dial cord	CS.281.807
—	Scale, dial	CS.412.284
—	Socket, noval wafer	CZ.369.702
—	Socket, octal moulded	CZ.369.515
7	Spindle, tuning	CS.351.313
9	Spring, dial drum	CS.210.008
8	Spring, tuning drum	CS.210.011
—	Switch, radiogram	CZ.200.221
—	Switch, tone control	CZ.200.220
—	Window, dial	CS.030.006



DIAL CORD LAYOUT

MAS1109

SERVICE DATA



CAPACITORS

No.	Description	Code No.
C1–9–16	100 pF mica	
C2–7	30 pF air trimmer	CZ.113.700
C3–11–22	0.1 mF 200V paper	
C4–5	2 gang tuning	CZ.107.734
C6–10	0.01 mF 600V paper	
C8	500 pF mica 2%	
C12	0.004 mF 600V paper	
C13	50 pF mica	
C14	100 pF ceramic	CZ.096.602
C15	0.02 mF 400V paper	
C17–23	24 mF 350V electrolytic	
C18	0.05 mF 400V paper	
C19	500 pF mica	
C20	200 pF mica	
C21	80 pF mica	
C24	0.03 mF 600V paper	

RESISTORS

No.	Description	Code No.
R1	30,000 ohms 1W carbon	
R2–8–18	50,000 ohms ½W carbon	
R3	50,000 ohms 1W carbon	
R4–6	25,000 ohms ½W carbon	
R5	2 x 100,000 ohms 1W carbon in parallel	
R7–16	100,000 ohms ½W carbon	
R9	0.5 megohm switch potentiometer	CZ.032.004
R10	5 megohms 1W carbon	
R11–12	2 megohms ½W carbon	
R13	250,000 ohms 1W carbon	
R14	80 ohms 1W W/W	
R15	0.5 megohms ½W carbon	
R17	35 ohms 1W W/W	
R19	150 ohms ½W carbon	
R20	50 ohms ½W carbon	
R21	30,000 ohms 1W carbon	

COILS

No.	Ohms	Description	Code No.
L1	26	Aerial Coil (Red Spot)	CZ.323.000
L2	2.2		
L3	3.4	Oscillator Coil (Red Spot)	CZ.330.600
L4	1.2		
L5	12	1st I.F. Transformer	CZ.320.421
L6	12		
L7	12	2nd I.F. Transformer	CZ.320.420
L8	12		
L9	60	Power Transformer	CZ.344.030
L10	700		
L11	<0.5		
L12	<0.5		
L13	515	Filter Choke	CZ.341.000
L14	550	Speaker Transformer, 6,000 ohms	CZ.345.003
L15	1		
L16	3.5	Speaker	CZ.161.304

IMPORTANT ! In ordering spare parts, quote CODE NUMBER of part and MODEL NUMBER of Receiver. In claiming free replacement under GUARANTEE, return defective part PROMPTLY and quote MODEL and SERIAL NUMBER of Receiver and DATE OF PURCHASE.