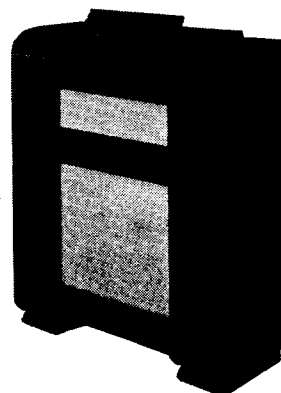




# SERVICE DATA

# MAS1101 MAS1101A

HARRIS, SANDOVEDO PERTH & SC



## MULLARD MASTER RADIO

### MODELS MAS1101 and MAS1101A

#### SPECIFICATIONS

Subject to alteration without notice.

Power Supply .....	220-260v., 40-60 c/s.
Tuning Ranges .....	B/C Band, 530-1620 Kc/s. S/W Band, 5.9-18.4 Mc/s.
Intermediate Frequency .....	455 Kc/s.
Cabinet .....	De Luxe Wooden Console.

#### VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve Type	Valve No.	Plate Volts	Screen Volts	Osc. P. Volts	Cathode Volts	Bias Volts	Bias Resistor	
Frequency Converter	ECH35	V1	236	52	B/C93 S/W65	0.8	0	—	
1st I.F. Amplifier	6SK7GT	V2	236	71	—	0	0	—	
2nd I.F. Amplifier, Demodulator and A.V.C.	EBF35	V3	212	76	—	0	-1.2	R17	
Power Amplifier	EL33A	V4	220	236	—	0	-6.1	R16 & 17	
Rectifier	6X5GT	V5	Cathode to B- 266v.						
Dial Lamps	6.3v.	0.32a	Tubular Screw						

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

#### REMOVAL OF CHASSIS FROM CABINET.

Remove the power plug from socket. Remove the four control knobs, speaker and dial lamp plugs from their respective sockets and release the dial cursor assembly from the dial cord. Remove the four chassis mounting bolts, and withdraw the chassis from the cabinet.

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

#### DIAL GLASS REMOVAL.

Raise the dial glass into its maximum forward position. This allows access to the dial glass clamping screws in the dial assembly end housing. Loosen the clamping screws (it is not necessary that they be completely removed) and withdraw the dial glass from the assembly. When the dial glass is replaced make sure that it is securely clamped.

#### MAINS VOLTAGE ADJUSTMENT.

The power transformer is provided with two mains voltage tappings, 220/240 volts and 250/260 volts. This receiver is adjusted at the Factory to the 220/240 volts tapping.

#### ALIGNMENT.

The calibrated scale on the top member of the gantry assembly, in connection with an auxiliary pointer, which can be made up from workshop materials, facilitates alignment. With the gang fully closed, set the auxiliary pointer to the letter "S" mark.

On the short wave band the receiver oscillator operates at a frequency above that of the incoming signal.

#### DIAL LAMP REPLACEMENT.

This operation is carried out from outside the cabinet. The lamps are located one at each end of the dial glass, in the end housing. The covers are a clip fit and are easily removed.

#### REMOVAL OF INCLINATOR DIAL ASSEMBLY.

After the chassis is removed from the cabinet—see "Removal of Chassis from Cabinet"—the inclinometer dial assembly mounting brackets (one at each end of the assembly) are easily accessible. Removal of the mounting brackets permits the dial assembly to be lifted clear of the cabinet.

In order to prevent possible damage to the dial glass, it is well to remove it before commencing the removal of the dial assembly—see "Dial Glass Removal."

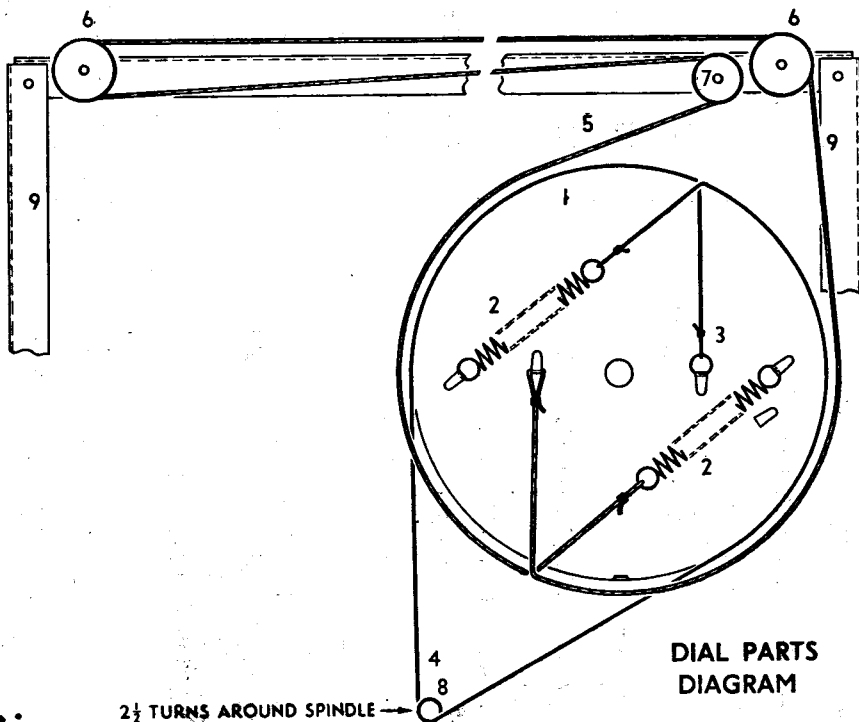
# MAS1101 MAS1101A

## SERVICE DATA



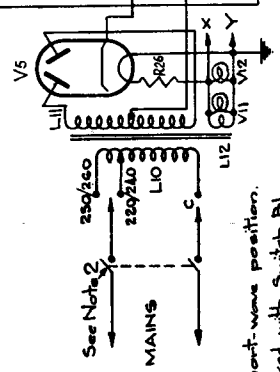
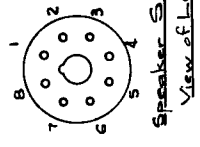
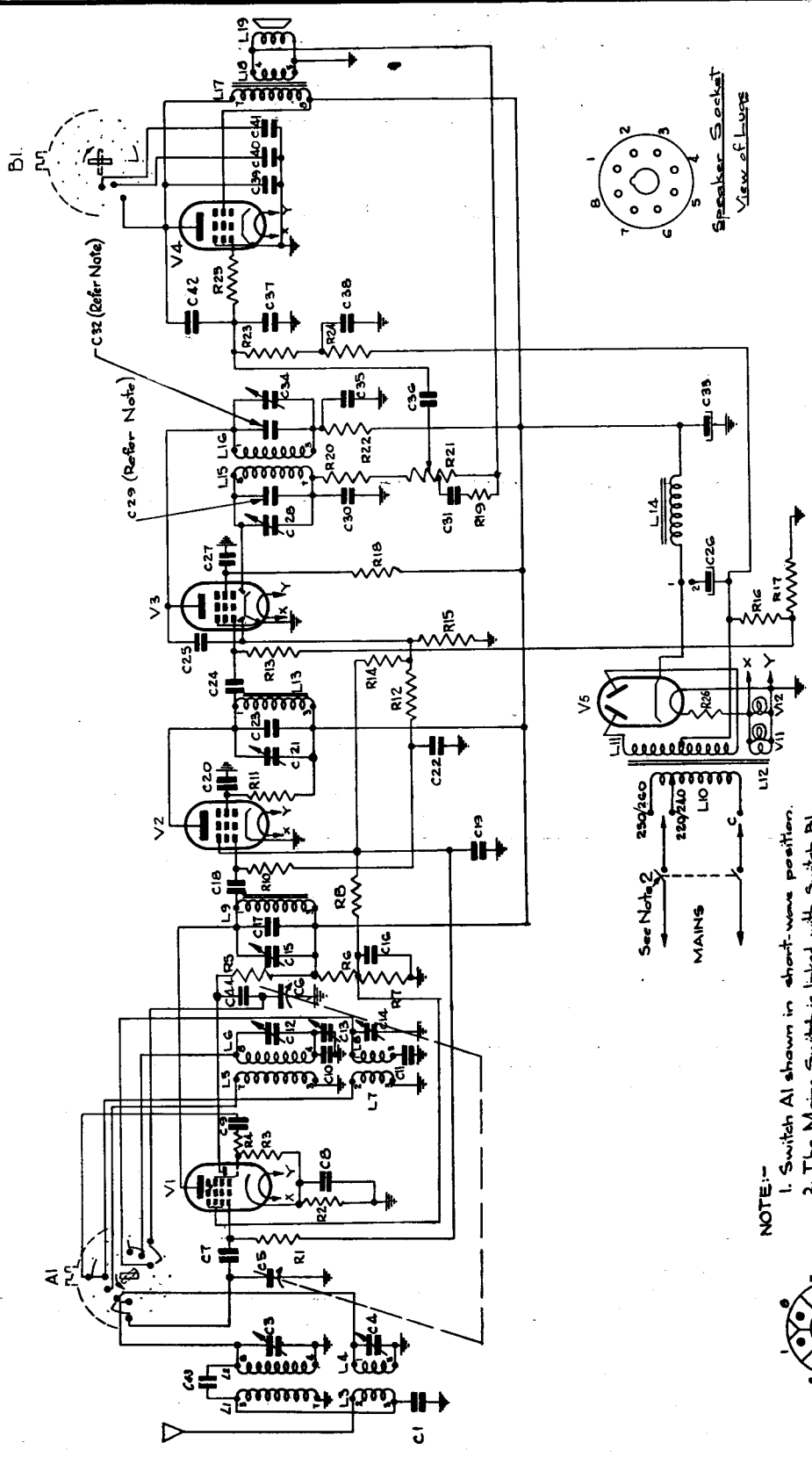
### COMPONENTS NOT SHOWN ON CIRCUIT DIAGRAM

No. on Dial Parts Diagram	Description	Code No.	No. on Dial Parts Diagram	Description	Code No.
—	Arm, side (W/C switch)	CS.218.006	—	Clamp, incl. dial mounting to cab.	CS.235.205
—	Assembly, cursor	CR.480.614	—	Cloth, baffle	CE.081.14
1	Assembly, dial drum	CR.332.804	5	Cord, dial	CS.361.813
—	Assembly, dial housing R.H. (Incl. Dial Assy.)	CR.272.604	4	Cord, drum	CS.361.812
—	Assembly, dial housing L.H. (Incl. Dial Assy.)	CR.272.605	—	Cover, front (Incl. Dial Assy.)	CS.430.828
9	Assembly, gantry MAS1101	CR.304.614	—	Cover, rear (Incl. Dial Assy.)	CS.430.827
9	Assembly, gantry MAS1101A	CR.304.612	—	Glass, dial, printed MAS1101	CS.412.231
—	Assembly, inclinor dial (complete)	CR.483.005	—	Glass, dial, printed MAS1101A	CS.412.232
—	Assembly, lamp cover R.H. (Incl. Dial Assy.)	CR.272.401	—	Grommet, chassis	CS.422.421
—	Assembly, lamp cover L.H. (Incl. Dial Assy.)	CR.272.400	—	Grommet, power cord	CS.422.414
—	Assembly, lamp holder	CZ.367.906	—	Key, W/C clicker	CS.365.803
—	Assembly, pressure plate (Incl. Dial Assy.)	CR.391.207	—	Knob, tuning	CR.523.656
—	Assembly, slider hinge	CR.432.200	—	Mount, bakelite (Incl. Dial to Cabinet)	CS.235.813
—	Assembly, T/C—On/Off switch (Complete)	CZ.200.214	—	Nut, tee (Chassis Mounting)	CH.603.214
—	Assembly, W/C switch (Complete)	CZ.200.018	—	Plate, clamping (Incl. Dial to Mount)	CS.235.200
—	Assembly, T/C clicker	CR.450.012	—	Plate, friction (Incl. Dial Assy.)	CS.366.200
—	Assembly, W/C clicker	CR.450.017	—	Plug, 2 pin polarised	CR.102.200
—	Assembly, terminal	CZ.376.201	6	Pulley, wooden, large	CS.360.202
—	Badge, Mullard	CR.531.409	7	Pulley, wooden, small	CS.360.201
—	Bank T/C switch	CZ.200.204	3	Ring, dial cord	CS.281.807
—	Bank W/C switch	CZ.200.009	—	Rod, dial slide	CS.382.202
—	Brace, end (W/C switch)	CS.219.000	—	Socket, octal wafer	CZ.369.507
—	Bracket, cover attaching R.H. (Incl. Dial Assy.)	CS.229.803	—	Socket, 2 pin polarised	CR.102.401
—	Bracket, cover attaching L.H. (Incl. Dial Assy.)	CS.229.802	8	Spindle, tuning	CS.351.409
—	Bracket, tuning spindle	CS.224.603	—	Spring, compression (Incl. Dial Assy.)	CS.281.806
—	Clamp, speaker mounting	CS.234.813	2	Spring, dial drum	CS.210.010
			—	Spring, return (Incl. Dial Assy.)	CS.212.201
			—	Spring, tuning spindle	CS.212.001
			—	Spring, W/C clicker key	CS.211.802
			—	Switch, mains On/Off	CZ.220.001
			—	Washer, friction (Incl. Dial Assy.)	CS.366.201



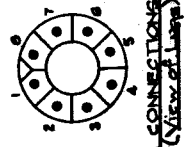


L	1,3,2,4,	5,7,8,9,	10,11,12,13,	14,	15,16,	17,18,19,
C	1, 4, 3, 4,	5, 7,	8, 9,	10,11,12,13,14,15,16,17,18, 19,	20, 21,22,23, 24, 25,	26,27, 28, 29,30,31,32,33,34,35,36, 37,38,42,
R	1, 2, 3, 4,	5, 6, 7,	8,	9, 10, 11,	12,13,14,15, 16,17, 18,	19,20,21,22, 23,24, 25,
V		1,	2, 3,	4,	5,	6,



**NOTE:-**

1. Switch A1 shown in short-wave position.
2. The Mains Switch is linked with Switch B1 which is shown in the Off position.
3. C29 and C32 for use only with 3rd I.F. C7320-800



### CIRCUIT DIAGRAM

**COIL CONNECTIONS NUMBERING**  
(View of Leads)



# SERVICE DATA

# MAS1101 MAS1101A

## PARTS LISTS

### CAPACITORS

No.	Description	Code No.
C1-17-23-29-32	150 pfd. mica	
C3	30 pfd. glass trimmer	
C4-12-14	30 pfd. air trimmer	
C5-6	2 gang tuning— MAS1101 2H MAS1101A CZ.107.706	
C7-9-18-24-30-37-44	100 pfd. ceramic CZ.096.602	
C8-16-27-35	0.01 mfd. 600v. paper	
C10	400 pfd. mica	
C11	0.0045 mfd. mica	
C13-15-21-28-34	125 pfd. ceramic trimmer CZ.118.200	
C19-22-31-38	0.1 mfd. 200v. paper	
C20	0.1 mfd. 400v. paper	
C25	33 pfd. ceramic CZ.096.605	
C26-33	24 mfd. 350v. electrolytic	
C36-39	0.001 mfd. 600v. paper	
C40	0.03 mfd. 600v. paper	
C41	0.1 mfd. 600v. paper	
C42-43	5 pfd. glass	

### RESISTORS

No.	Description	Code No.
R1-10-13-23	1 megohm 1/2W carbon	
R2	150 ohms 1W W/W	
R3-20-25	50,000 ohms 1/2W carbon	
R4	100 ohms 1/2W carbon	
R5	30,000 ohms 1W carbon	
R6	50,000 ohms 1W carbon	
R7	25,000 ohms 1W carbon	
R8-14	5 megohms 1W carbon	
R11-18	100,000 ohms 1W carbon	
R12	2 megohms 1/2W carbon	
R15	1 megohm 1W carbon	
R16	100 ohms 1W W/W	
R17	25 ohms 1W W/W	
R19	10,000 ohms 1/2W carbon	
R21	0.5 megohm tapped potentiometer CZ.029.112	
R22	5,000 ohms 1W carbon	
R24	100,000 ohms 1/2W carbon	
R26	1 ohm 1W W/W CZ.008.009	

### COILS

No.	Ohms	Description	Code No.
L1	24.5	Aerial Coil	CZ.320.009
L2	4		
L3	1.7		
L4	<0.5		
L5	2.3	Oscillator Coil	CZ.321.006
L6	5		
L7	<0.5		
L8	<0.5		
L9	7	1st I.F.	CZ.320.411
L10	72	Power Transformer	CZ.344.203
L11	760		
L12	<0.5		
L13	7.5	2nd I.F.	CZ.326.200
L14	450	Filter Choke	CZ.340.406
L15	27.5	3rd I.F. Transformer	CZ.320.801
L16	27.5		
L17	600	Speaker and Transformer 7,000 ohms	CZ.161.300
L18	<0.5		
L19	1.8		

**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.**