

TECHNICAL INFORMATION
AND SERVICE DATA

AWA **RADIOLA**

Models 730-C,

809-G, 809-GZ, and 809-GY

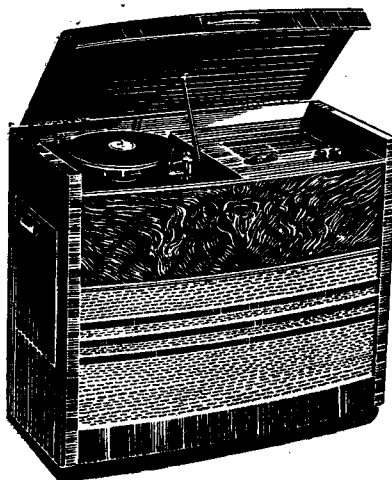
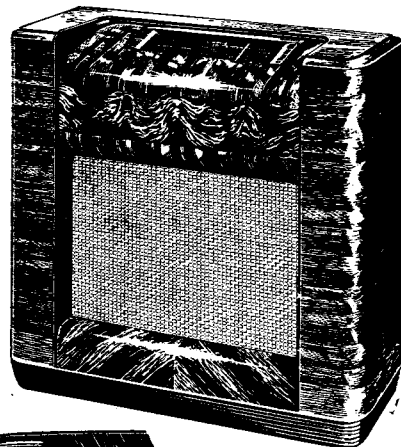
FIVE VALVE, TWO BAND, A.C. OPERATED

SUPERHETERODYNES

ISSUED BY

AMALGAMATED WIRELESS (A/SIA) LTD.

Model 730-C



Model 809-GY

ELECTRICAL SPECIFICATIONS.

NOTE: For all electrical information on model 809-G refer to the model 804-GZ service manual.

FREQUENCY RANGE:

Medium Wave 540-1600 Kc/s (555-187.5 M)
Short Wave 6-18 Mc/s (50-16 M)

Intermediate Frequency 455 Kc/s
Power Supply Rating 200-260 volts (50-60 C.P.S.)

(Models are produced with other voltage and frequency ratings.)

Power Consumption 60 watts

Dial Lamps: 6.3 volts, 0.25 amp. M.E.S.

Valve Complement.

1. X61M Converter
2. 6AR7GT I.F. Amplifier, Detector, A.V.C.
3. 6AU6 A.F. Amplifier.
4. 6V6GT Output.
5. 5Y3GT Rectifier.

Loudspeaker (Permanent Magnet).

12 inch—code No. AU60.
Transformer—TU201.

V.C. Impedance 6.5 ohms at 400 C.P.S.
Undistorted Power Output 4 Watts

MECHANICAL SPECIFICATIONS.

Cabinet Dimensions (inches)	Height	Width	Depth
Model 730-C	32	30	17
Models 809-G, 809-GZ, 809-GY	31	36	17½

Chassis base Dimensions (inches)	Height	Width	Depth
Models 730-C, 809-GZ, 809-GY	2½	14½	7
Model 809-G	2½	11	5½

Weight (nett lbs.)
Model 730-C 63 lbs.

Model 809-G 150 lbs.
Models 809-GZ, 809-GY 152 lbs.
Cabinet Finish: Walnut Veneer .



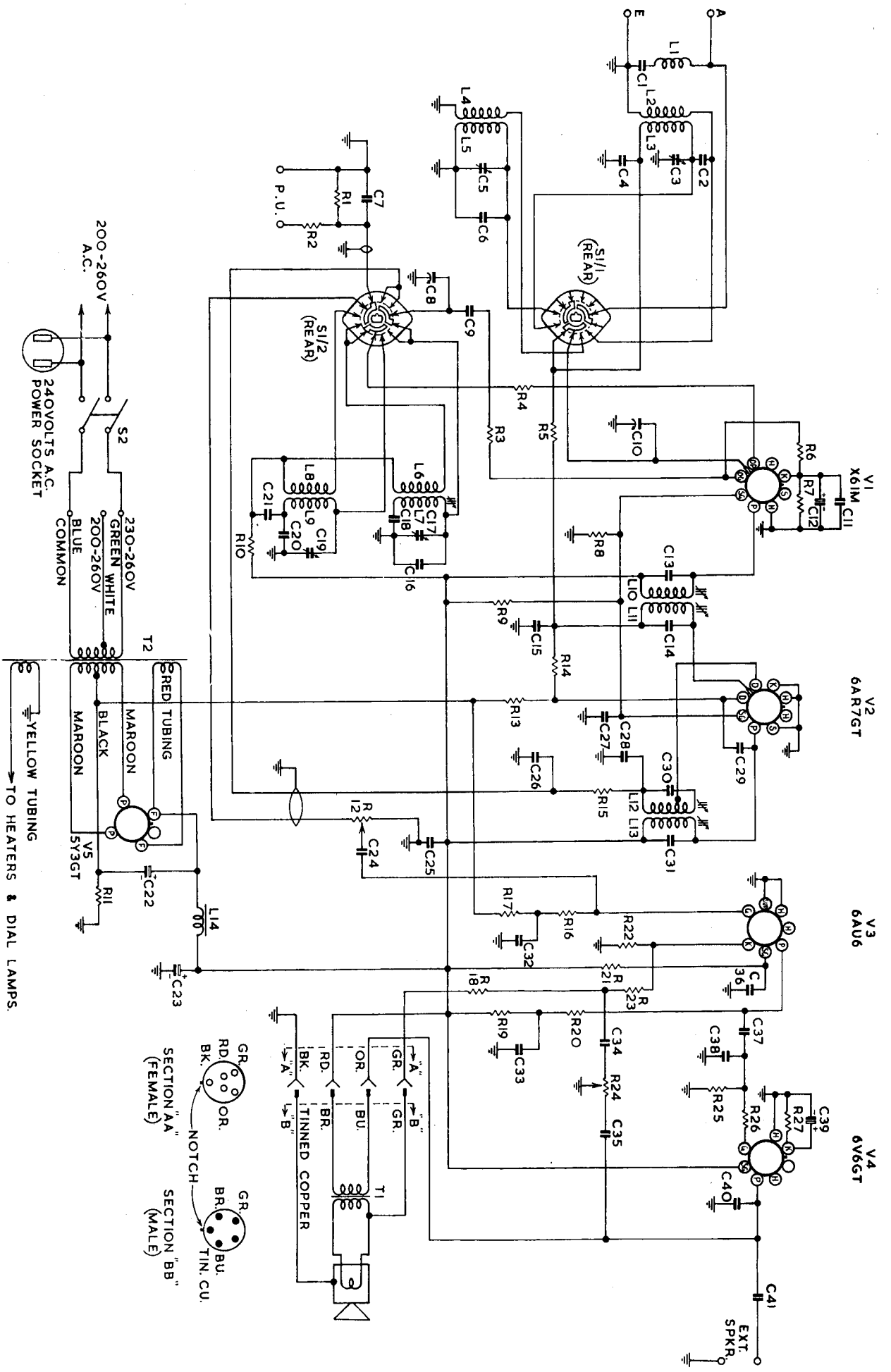
GENERAL DESCRIPTION.

The model 730-C is a five valve, two band A.C. operated console superheterodyne and features of its design include:—Tropic-proof construction, automatic volume control, magnetite cores in I.F. transformers and broadcast oscillator coil, air-dielectric trimming capacitors, straight-line edge lighted dial scale.

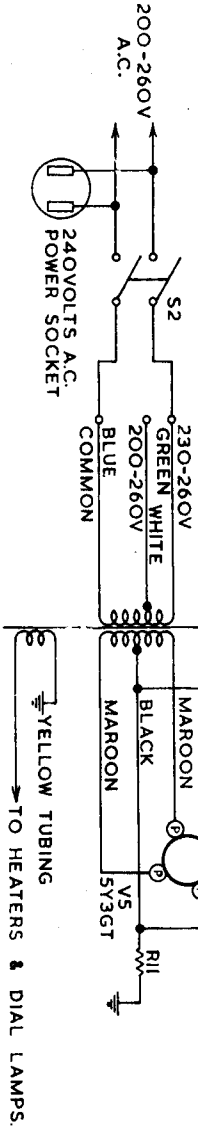
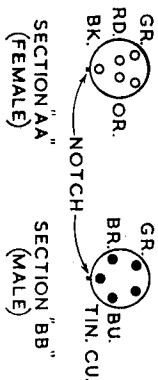
Models 809-G, 809-GZ and 809-GY are Radio-Phonograph combinations and have similar features to the 730-C. In addition, models 809-G and 809-GZ incorporate the OAK

Automatic Record Changer, capable of playing up to eight ten-inch or twelve-inch (not mixed) records without attention. The model 809-GY incorporates the Garrard RC70A Automatic Record Changer, capable of playing up to ten ten-inch or twelve-inch (not mixed) records without attention.

Both types of Record Changer feature a synchronous motor and simple construction with minimum of working parts, ensuring trouble-free service.



- V1 X61M C11
- V2 6A7GT
- V3 6AU6
- V4 6V6GT



ALIGNMENT PROCEDURE.

Manufacturer's Setting of Adjustments.

The receiver is tested by the manufacturer with precision instruments and all adjusting screws are sealed. Re-alignment should be necessary only when components in tuned circuits are repaired or replaced or when it is found that the seals over the adjusting screws have been broken.

It is especially important that the adjustments should not be altered unless in association with the correct testing instruments listed below.

Under no circumstances should the plates of the ganged tuning capacitor be bent, as the unit is accurately aligned during manufacture and cannot be re-adjusted unless by skilled operators using specialised equipment.

For all alignment operations, connect the low side of

the signal generator to the receiver chassis, and keep the generator output as low as possible to avoid A.V.C. action. Also, keep the volume control in the maximum clockwise position.

Testing Instruments.

1. A.W.A. Junior Signal Generator, type 2R3911, or

2. A.W.A. Modulated Oscillator, type J6726.

If the modulated oscillator is used, connect a 0.25 megohm non-inductive resistor across the output terminals, and, for short wave alignment, an additional 400 ohms non-inductive resistor in series with the "high" output lead of the instrument.

3. A.W.A. Output Meter, type 2M8832.

ALIGNMENT TABLE.

Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for maximum peak output
1	X61M*	455 Kc/s	540 Kc/s	L13 Core
2	X61M*	455 Kc/s	540 Kc/s	L12 Core
3	X61M*	455 Kc/s	540 Kc/s	L11 Core
4	X61M*	455 Kc/s	540 Kc/s	L10 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s	600 Kc/s	[L.F. Osc. Core Adj. (L7)**
6	Aerial Terminal	1500 Kc/s	1500 Kc/s	H.F. Osc. Adj. †
7	Aerial Terminal	1500 Kc/s	1500 Kc/s	H.F. Aer. Adj. (C3)
Repeat adjustments 5, 6 and 7.				
8	Aerial Terminal	16 Mc/s	16 Mc/s	H.F. Osc. Adj. ††
9	Aerial Terminal	16 Mc/s	16 Mc/s	H.F. Aer. Adj. †

*With grid clip connected. A 0.001 μ F capacitor should be connected in series with the "high" side of the test instrument.

**Rock the tuning control back and forth through the signal.

†C17 in model 730-C, C14 in models 809-GZ, 809-GY.

††C19 in model 730-C, C12 in models 809-GZ, 809-GY. Use minimum capacity peak if two can be obtained. Check to determine that the trimmer has been adjusted to correct peak by tuning the receiver to approximately 15.09 Mc/s, where a weaker signal should be received.

†C5 in model 730-C, C8 in models 809-GZ, 809-GY. Use maximum capacity peak if two can be obtained.

Connection To Power Supply.

The receiver should not be connected to any circuit supplying other than alternating current from 200-260 volts and at the frequency stated on the label within the cabinet. The power supply connections are shown in the accompanying diagrams.

Chassis Removal.

First remove the control knobs by pulling them straight off their spindles.

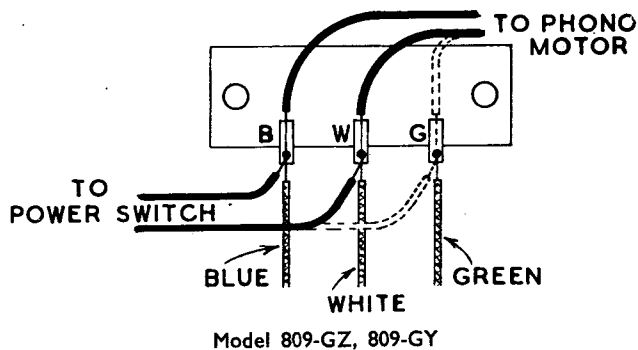
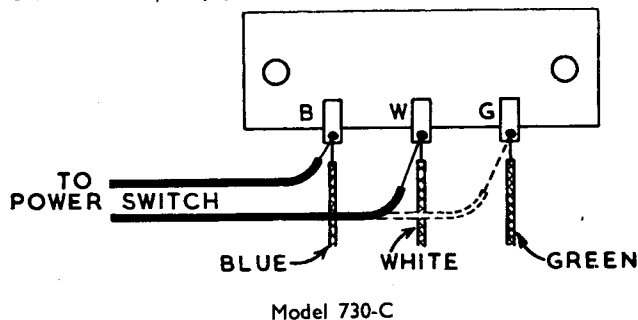
Then, disconnect the loudspeaker cable and in the case of models 809-GZ, 809-GY, the pick-up cable and phono-motor plug from the socket on the receiver.

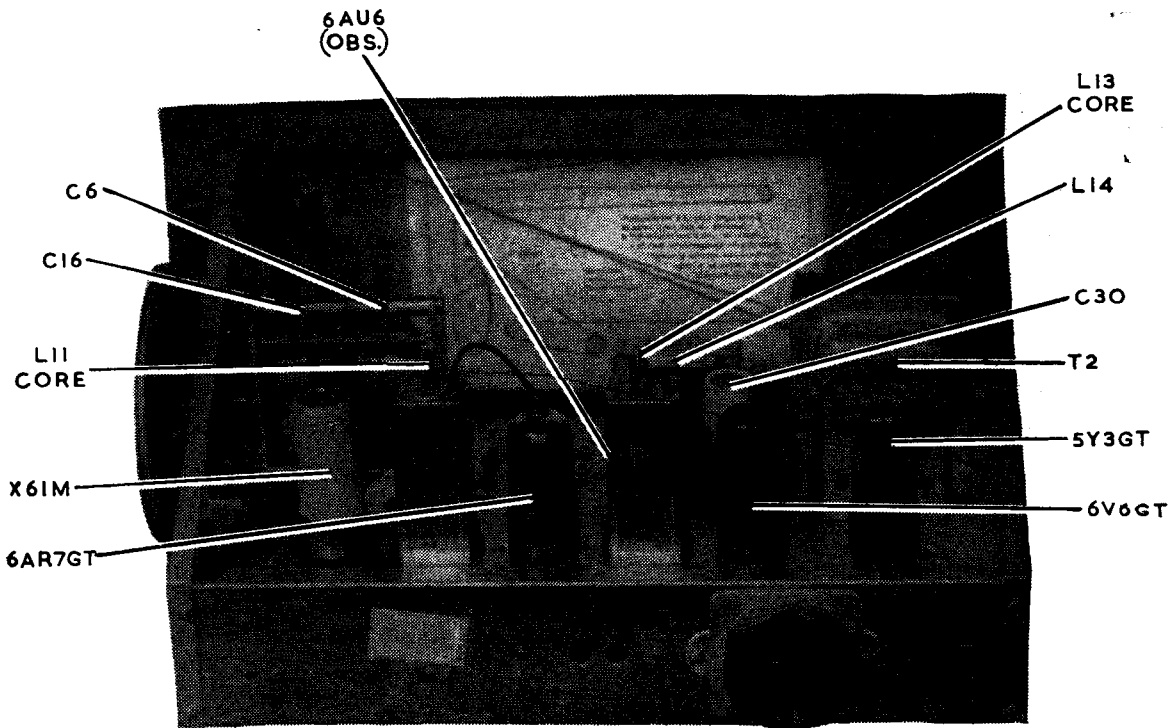
The chassis is held in the cabinet by four nuts, two at each end of the dial frame assembly. Removal of these enables the chassis to be withdrawn from the cabinet.

When replacing the chassis, make sure that the four tubular spacers are in their correct position.

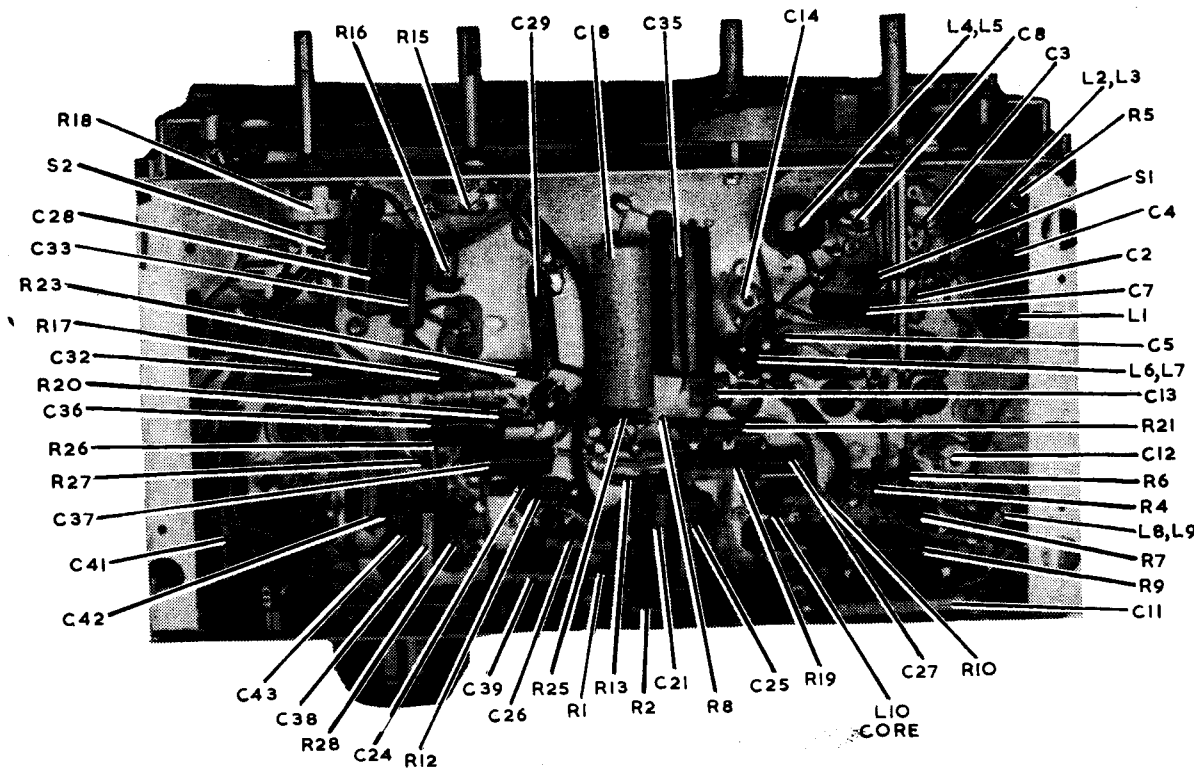
Drive Cord Replacement.

Follow the diagram which is fixed to the back of the dial frame assembly. This shows the route of the cord and the method of attachment





CHASSIS TOP VIEW MODEL 809-GZ



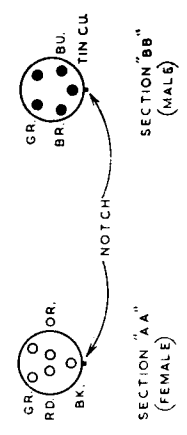
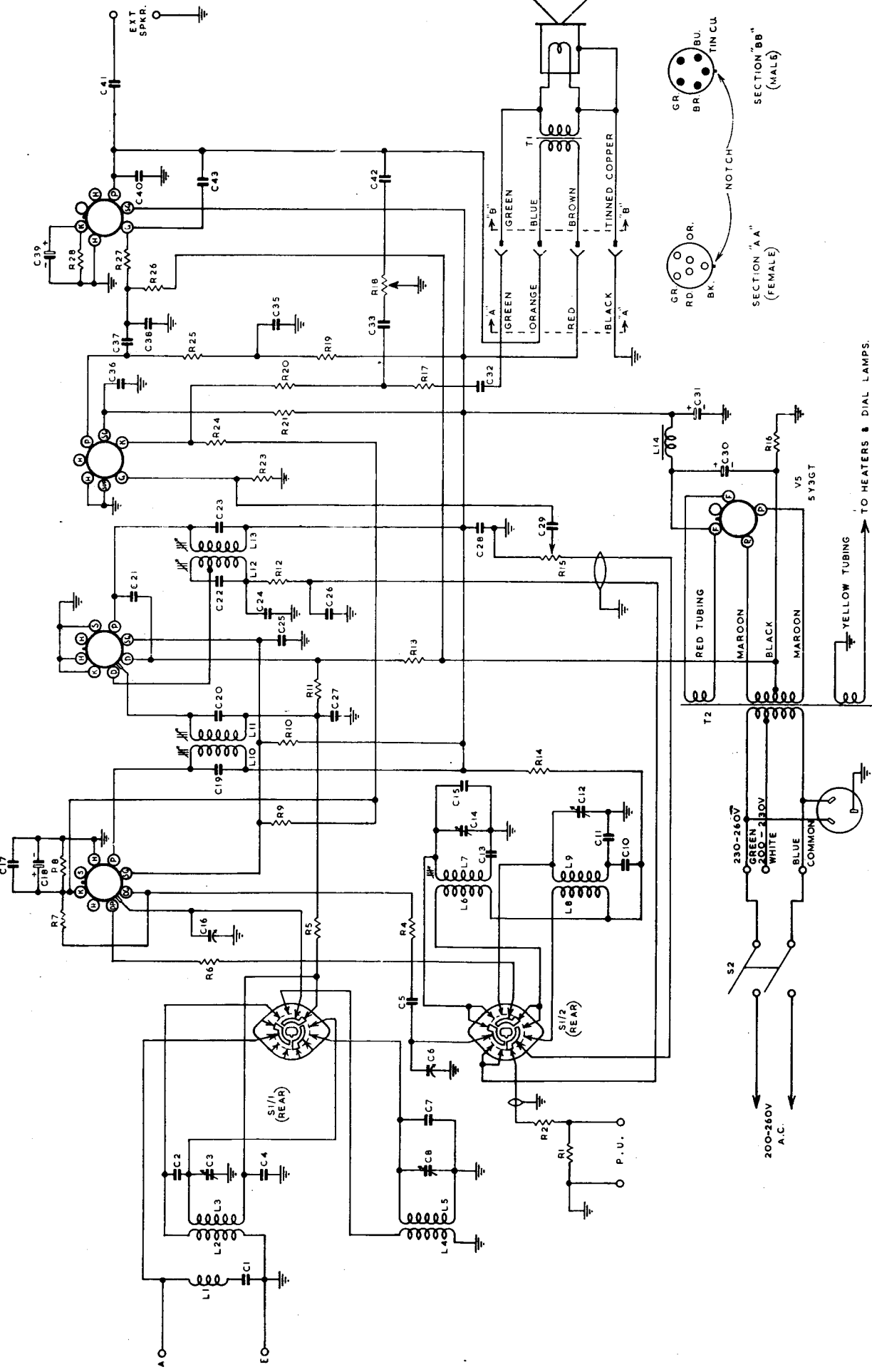
CHASSIS UNDERNEATH VIEW MODEL 809-GZ

V4
6V6GT

V3
6AU6

V2
6AR7GT

V1
X61M



TO HEATERS & DIAL LAMPS.

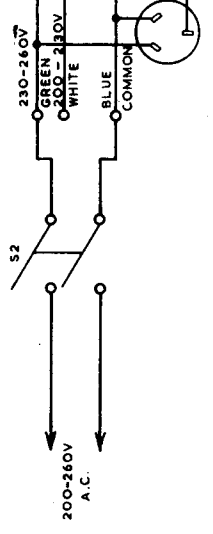
RED TUBING

MAROON

BLACK

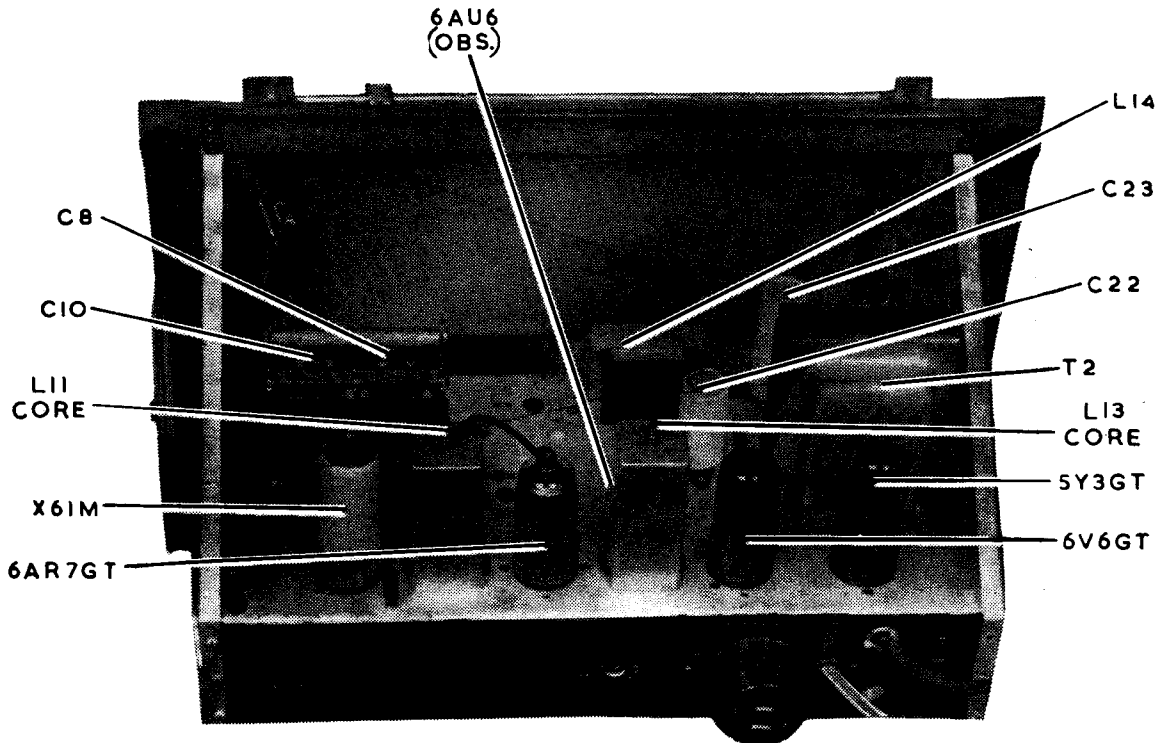
MAROON

YELLOW TUBING

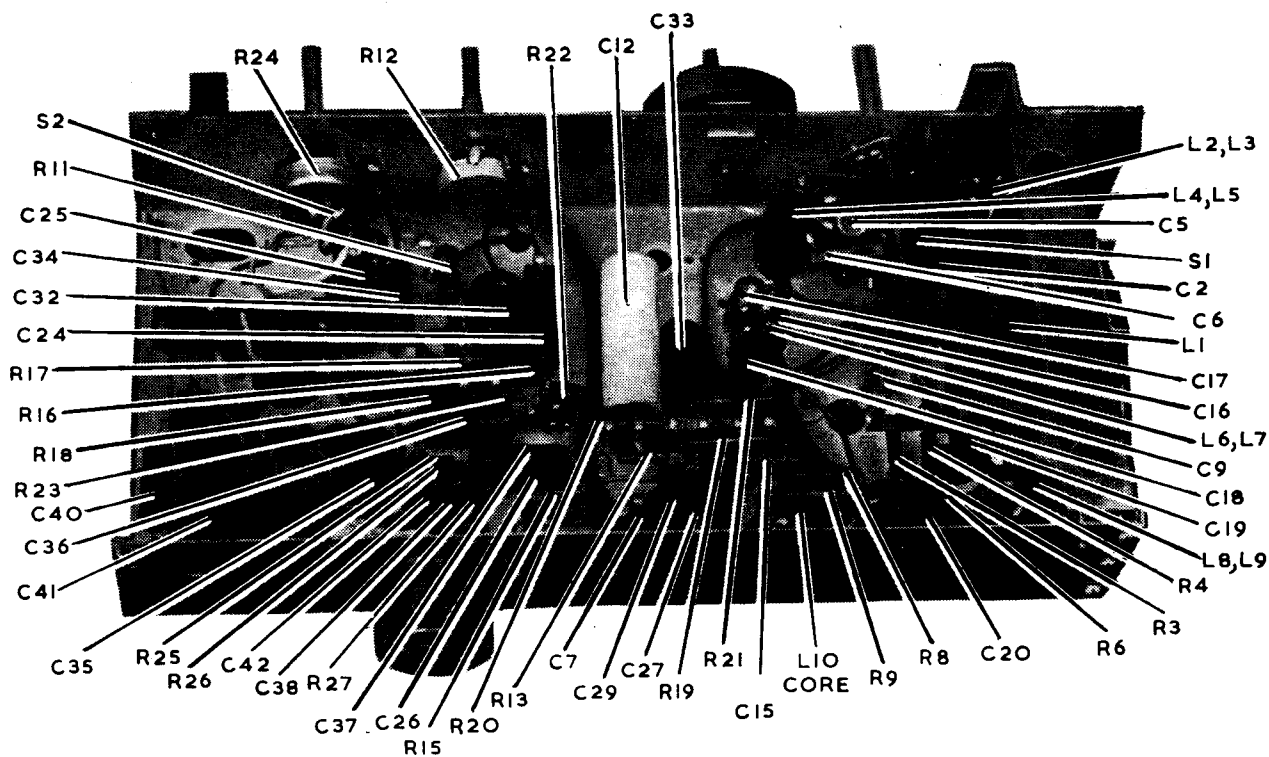


MODEL 730-C — CIRCUIT CODE.

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
INDUCTORS								
L1	I.F. Filter (including C1)	9382	R24	0.1 megohm Tone Control (including S2)	26192	C27	0.1 uF Paper 400V. working	
L2, L3	Aerial Coil 540-1600 Kc/s	15454	R25	0.5 megohm $\frac{1}{2}$ watt		C28	100 uuF Mica	
L4, L5	Aerial Coil 6-18 Mc/s	15456	R26	50,000 ohms $\frac{1}{2}$ watt		C29	50 uuF Mica	
L6, L7	Oscillator Coil 540-1600 Kc/s	7638A	R27	250 ohms 3 watt		C30	100 uuF Silvered Mica	
L8, L9	Oscillator Coil 6-18 Mc/s	15458				C31	100 uuF Silvered Mica	
L10, L11	1st I.F. Transformer	25195				C32	0.4 uF Paper 200V. working	
L12, L13	2nd I.F. Transformer	25197				C33	0.1 uF Paper 400V. working	
L14	Filter Choke	TU17				C34	0.1 uF Paper 200V. working	
RESISTORS								
R1	0.2 megohm $\frac{1}{2}$ watt		C5	2-20 uuF Air Trimmer	19659	C35	0.1 uF Paper 400V. working	
R2	50,000 ohms $\frac{1}{2}$ watt		C6	9 uuF Mica	19659	C36	0.1 uF Paper 400V. working	
R3	100 ohms $\frac{1}{2}$ watt		C7	1000 uuF Mica	18221	C37	0.02 uF Paper 600V. working	
R4	100 ohms $\frac{1}{2}$ watt		C8	12-430 uuF Tuning	18221	C38	100 uuF Mica	
R5	0.1 megohm $\frac{1}{2}$ watt		C9	70 uuF Silver Mica	18221	C39	25 uF 40 P.V. Electrolytic	
R6	50,000 ohms $\frac{1}{2}$ watt		C10	12-430 uuF Tuning		C40	0.0025 uF Paper 600V. working	
R7	200 ohms $\frac{1}{2}$ watt		C11	0.1 uF Paper 200 V. working		C41	0.5 uF Paper 400V. working	
R8	30,000 ohms 1 watt		C12	400 uF 12 P.V. Electrolytic		C42	14 uuF Mica	
R9	20,000 ohms 2 watt		C13	100 uuF Silvered Mica		TRANSFORMERS		
R10	30,000 ohms 1 watt		C14	100 uuF Silvered Mica		T1	Loudspeaker Transformer	TU201
R11	30 ohms 3 watt		C15	0.05 uF Paper 200V. working		T2	Power Transformer 50 C.P.S.	17875B
R12	0.5 megohm Volume Control	26191	C16	9 uuF Mica			Power Transformer 40 C.P.S.	17877B
R13	1.5 megohms $\frac{1}{2}$ watt		C17	2-20 uuF Air Trimmer	19659	LOUDSPEAKER		
R14	1.0 megohm $\frac{1}{2}$ watt		C18	440 uuF Padder $\pm 2\frac{1}{2}\%$	19659	12-inch Permanent Magnet net		
R15	50,000 ohms $\frac{1}{2}$ watt		C19	2-20 uuF Air Trimmer		SWITCHES		
R16	1.0 megohm $\frac{1}{2}$ watt		C20	4000 uuF Padder $\pm 2\frac{1}{2}\%$		S1	Phono-Range Switch	26189
R17	0.5 megohm $\frac{1}{2}$ watt		C21	0.05 uF Paper 400V. working		S2	Power Switch (on R24)	
R18	1500 ohms $\frac{1}{2}$ watt		C22	8 uF 525 P.V. Electrolytic				
R19	50,000 ohms 1 watt		C23	16uF 525 P.V. Electrolytic				
R20	0.25 megohm 1 watt		C24	0.02 uF Paper 600V. working				
R21	0.5 megohm 1 watt		C25	0.1 uF Paper 400V. working				
R22	100 ohms $\frac{1}{2}$ watt		C26	100 uuF Mica				
R23	1500 ohms $\frac{1}{2}$ watt							



CHASSIS TOP VIEW 730-C



CHASSIS UNDERNEATH VIEW 730-C

SOCKET VOLTAGES. MODELS 730-C, 809-GZ AND 809-GY.

Valves	Cathode to Chassis Volts	Screen to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Heater Volts
X61M Converter	M.W. 1.7	95	260	2.0	6.3
	S.W. 2.0	—	—	—	—
Oscillator	M.W. —	—	105	4.5	—
	S.W. —	—	105	4.5	—
6AR7GT I.F. Amp., Det., A.V.C.	0	95	260	5.0	6.3
6AU6 A.F. Amp.	2.0	70*	20*	0.8	6.3
6V6GT Output	12	260	240	43	6.3
5Y3GT Rectifier	—	—	325 A.C.	—	5.0

Volts across back-bias resistor. Model 730-C, R11—2.0.
Models 809-GZ, 809-GY, R16—2.0.

Total H.T. Current 70 mA.

*This reading may vary, depending on the resistance of the voltmeter used.
Measured at 240V A.C. supply. No signal input. Volume Control maximum clockwise Voltmeter
1000 ohms per volt; measurements taken on highest scale giving accurate readable deflection.

D.C. RESISTANCE OF WINDINGS.

Winding	D.C. Resistance in Ohms
Aerial Coil (MW)	
Primary (L2)	30
Secondary (L3)	4
Aerial Coil (S.W.)	
Primary (L4)	4
Secondary (L5)	*
Oscillator Coil (M.W.)	
Primary (L6)	1.5
Secondary (L7)	6
Oscillator Coil (S.W.)	
Primary (L8)	*
Secondary (L9)	*
I.F. Transformers	
Windings	10
I.F. Filter (L1)	17.5†
Filter Choke (L14)	1000
Power Transformer (T2)	
Primary	25
Secondary	600
Loudspeaker Input Trans- former (T1)	
Primary	345
Secondary	*

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations and it should not be assumed that a component is faulty if a slightly different reading is obtained.

*Less than 1 ohm.

†In some receivers this reading may be as high as 60 ohms.

MECHANICAL REPLACEMENT PARTS.

Item	Part No.	Item	Part No.
Cabinet		Dial Pointer	20331
Model 730-C	C94	Dial Scale	25953A
Model 809-GY	C92Y	Drum Drive	26147
Model 809-GZ	C92Z	Knob	26472
Cable Power		Panel Power	4251
Model 730-C	23920	Socket Valve (Octal)	4704
Models 809-GY, 809-GZ	20743	Socket Valve (Miniature)	19965
Cable Speaker	26063	Strip, Tag 1 way	7628
Cable Volume	26064	2 way	8863
Chassis End	26144	3 way	26194
Clip Grid	5793	5 way	9210
Dial Frame Assembly	26174A	6 way	23474
		Terminal Spring	5453

MODELS 809-GZ AND 809-GY — CIRCUIT CODE.

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
INDUCTORS								
L1	I.F. Filter (including C1)	9382	R25	0.25 megohm 1 watt		C28	0.1 uF Paper 400V. working	
L2, L3	Aerial Coil 540-1600 Kc/s	15454	R26	0.5 megohm ½ watt		C29	0.0025 uF Paper 600V. working	
L4, L5	Aerial Coil 6-18 Mc/s	15456	R27	50,000 ohms ½ watt		C30	8 uF 525 P.V. Electrolytic	
L6, L7	Oscillator Coil 540-1600 Kc/s	7538A	R28	250 ohms 3 watt		C31	16 uF 525 P.V. Electrolytic	
L8, L9	Oscillator Coil 6-18 Mc/s	15458	C1	50 uF Silvered Mica		C32	0.1 uF Paper 200V. working	
L10, L11	1st I.F. Transformer	25195	C2	4 uF Mica	19659	C33	0.1 uF Paper 200V. working	
L12, L13	2nd I.F. Transformer	25197	C3	2-20 uF Air Trimmer		C34	Not used	
L14	Filter Choke	TU17	C4	0.05 uF Paper 200V. working		C35	0.5 uF Paper 400V. working	
RESISTORS								
R1	0.5 megohm ½ watt		C5	70 uF Silvered Mica		C36	0.1 uF Paper 400V. working	
R2	1.0 megohm ½ watt		C6	12-430 uF Tuning	18221	C37	0.02 uF Paper 600V. working	
R3	Not used		C7	9 uF Mica		C38	100 uF Mica	
R4	100 ohms ½ watt		C8	2-20 uF Air Trimmer	19659	C39	25 uF 40 P.V. Electrolytic	
R5	0.1 megohm ½ watt		C9	Not used		C40	0.0025 uF Paper 600V. working	
R6	100 ohms ½ watt		C10	0.05 uF Paper 400V. working		C41	0.5 uF Paper 400V. working	
R7	50,000 ohms ½ watt		C11	4000 uF Padder ± 2½%		C42	0.1 uF Paper 400V. working	
R8	150 ohms ½ watt		C12	2-20 uF Air Trimmer	19659	C43	14 uF Mica	
R9	30,000 ohms 1 watt		C13	440 uF Padder ± 2½%		TRANSFORMER		
R10	20,000 ohms 2 watt		C14	2-20 uF Air Trimmer	19659	T1	Loudspeaker Transformer	TU201
R11	1.0 megohm ½ watt		C15	9 uF Mica		T2	Power Transformer 50-60 C.P.S.	178758
R12	50,000 ohms ½ watt		C16	12-430 uF Tuning	18221		Power Transformer 40 C.P.S.	178778
R13	1.5 megohms ½ watt		C17	0.1 uF Paper 200V. working		LOUDSPEAKER		
R14	30,000 ohms 1 watt		C18	400 uF 12 P.V. Electrolytic		12-inch Permanent Magnet net		
R15	0.5 megohm Volume Control	26191	C19	100 uF Silvered Mica		S1	Phono-Range Switch	26189
R16	32 ohms 3 watt		C20	100 uF Silvered Mica		S2	Power Switch (on R18)	
R17	1500 ohms ½ watt		C21	50 uF Mica				
R18	0.1 megohm Tone Control (including S2)	26192	C22	100 uF Silvered Mica				
R19	40,000 ohms 1 watt		C23	100 uF Silvered Mica				
R20	1500 ohms ½ watt		C24	100 uF Mica				
R21	0.5 megohm 1 watt		C25	0.1 uF Paper 400V. working				
R22	Not used		C26	100 uF Mica				
R23	1.0 megohm ½ watt		C27	0.05 uF Paper 200V. working				
R24	100 ohms ½ watt							