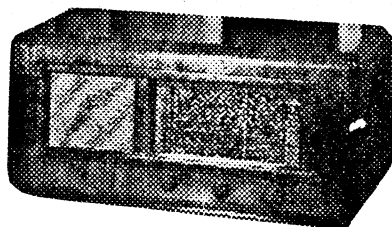


AWA **RADIOLA**

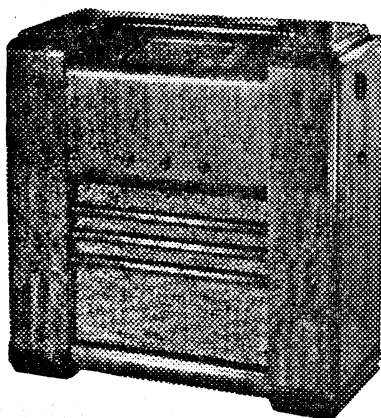
Models 611-T, 709-C, 802-G & 802-GY

EIGHT VALVE, SEVEN BAND, A.C. OPERATED SUPERHETERODYNE

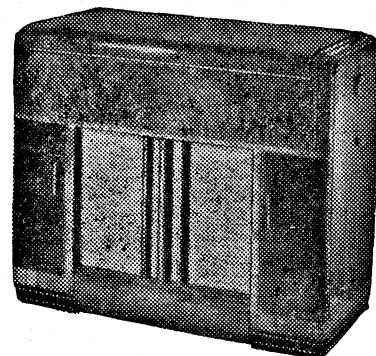
ISSUED BY AMALGAMATED WIRELESS (A/SIA.) LTD.



611-T



709-C



802-G, 802-GY.

ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGES:

- (1) 1500-540 kc. (200-555 M.)*
- (2) 4.0-1.5 Mc. (75-200 M.)
- (3) 9.7-3.6 Mc. (31.0-83.4 M.)
- (4) 12.0-9.4 Mc. (25.0-31.9 M.)
- (5) 15.0-11.7 Mc. (20.0-25.7 M.)
- (6) 19.0-15.0 Mc. (15.8-20.0 M.)
- (7) 22.3-17.7 Mc. (13.5-16.9 M.)

* The Broadcast tuning range of the Model 802-G is 1500-550 kc.

INTERMEDIATE FREQUENCY 455 kc.

POWER SUPPLY RATINGS:

Models 611-T and 709-C: 200-260 volts A.C., 50-60 C.P.S.

Models 802-G and 802-GY: 200-260 volts A.C., 50 C.P.S.

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

POWER CONSUMPTION 80 watts

VALVE COMPLEMENT:

- (1) 6U7G R.F. Amplifier.
- (2) 6J8G Converter.
- (3) 6U7G I.F. Amplifier.
- (4) 6SQ7GT Detector, A.V.C. and A.F. Amplifier.
- (5) 6SJ7GT Phase Splitter.
- (6) 6V6GT/G Push-pull Output.
- (7) 6V6GT/G Push-pull Output.
- (8) 5Y3GT/G Rectifier.

LOUDSPEAKER:

Model 611-T:

7 inch—Code No. AW22.
Transformer—XA11.
Field Coil Resistance—1100 ohms.
V.C. Impedance—3 ohms at 400 C.P.S.

Model 709-C & 802-GY.

12 inch—Code No. AS19.
Transformer—TX36.
Field Coil Resistance—1100 ohms.
V.C. Impedance—2.2 ohms at 400 C.P.S.

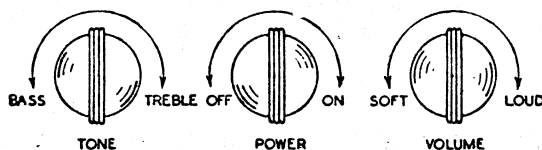
Model 802-G.

12 inch—Code No. AS18.
Transformer—TX5.
Field Coil Resistance—1500 ohms.
V.C. Impedance—12.5 ohms at 400 C.P.S.

UNDISTORTED POWER OUTPUT 6 watts

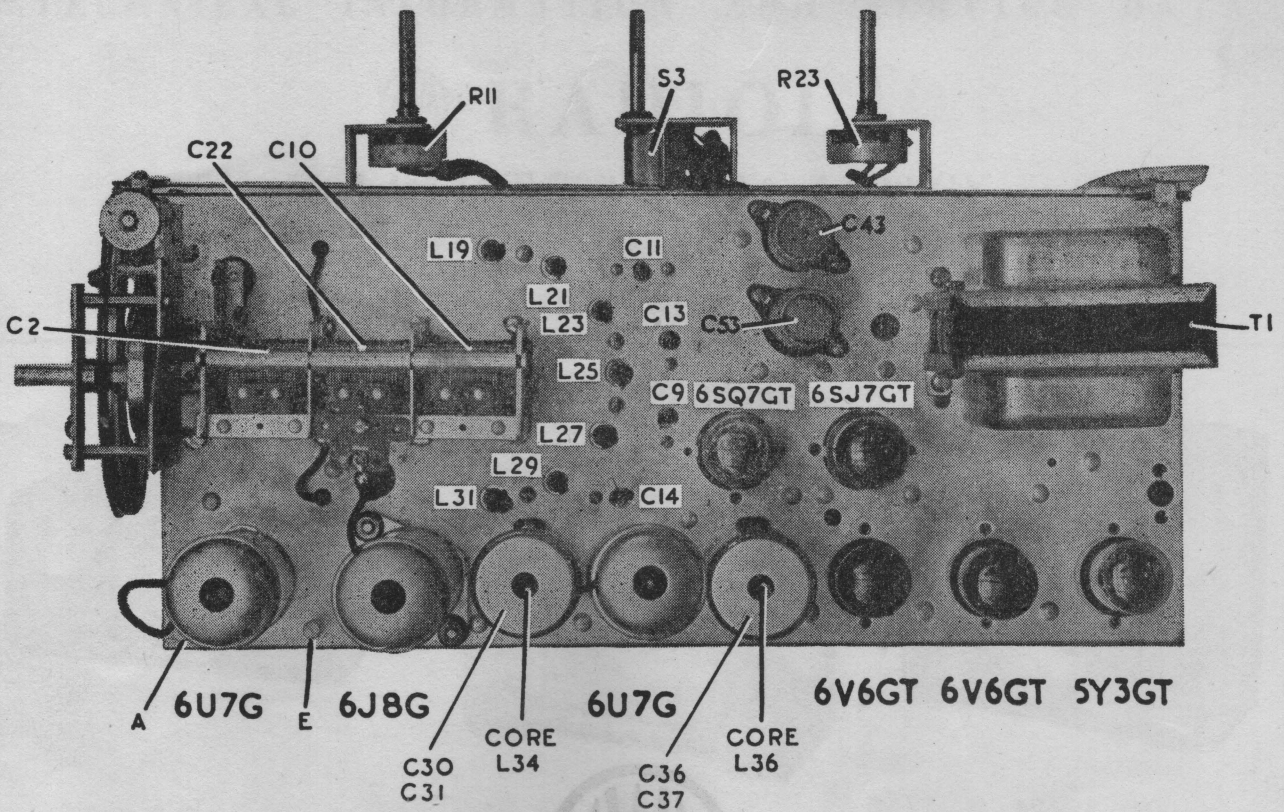
DIAL LAMPS (3) 6.3 volt, 0.25 amp.

CONTROLS:

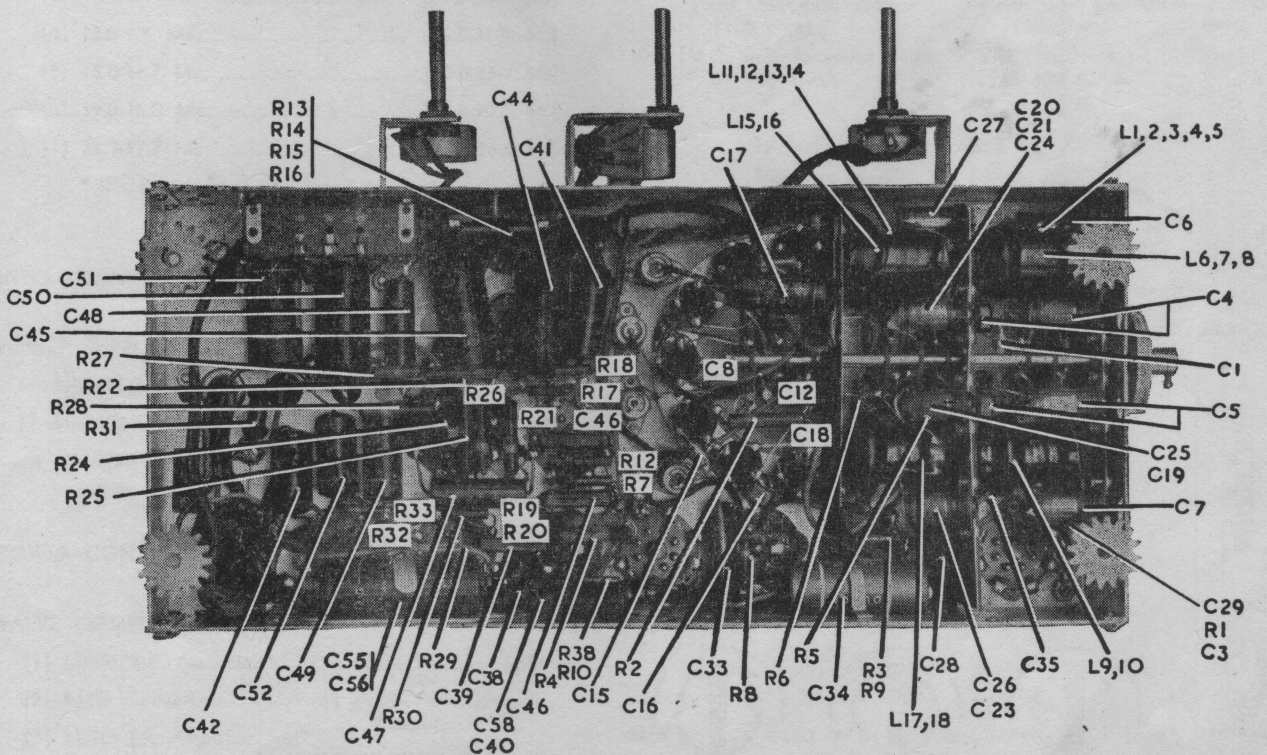


CIRCUIT CODE—Models 611-T and 709-C

Circuit Code No.	Description.	Stock Code or Part No.	Circuit Code No.	Description.	Stock Code or Part No.	Circuit Code No.	Description.	Stock Code or Part No.	Circuit Code No.	Description.	Stock Code or Part No.
INDUCTORS.											
L1, 2	Aerial Coil 13-16 metres	9852	R1	1 megohm, $\frac{1}{2}$ watt		C1	52 uF mica		C40	0.02 uF paper, 600 v. working	
L1, 2, 3	Aerial Coil 16-20 metres	9852	R2	20,000 ohms, 1 watt		C2	12-430 uF Tuning	18380	C41	0.02 uF paper, 600 v. working	
L1, 2, 3, 4—	Aerial Coil 20-25 metres	9852	R3	32,000 ohms, $\frac{1}{2}$ watt		C3	200 uF mica		C42	0.1 uF paper, 400 v. working	
L1, 2, 3, 4, 5—	Aerial Coil 25-31 metres	9852	R4	16,000 ohms, 2 watt (2,32,000 in parallel)		C4	13-37 uF Air Trimmer		C43	8 uF 525 P.V. Electrolytic Ducon	EE0810
L6, 7	Aerial Coil 31-83 metres	9854	R5	1 megohm, $\frac{1}{2}$ watt		C5	13-37 uF Air Trimmer		C44	0.4 uF paper, 200 v. working	
L6, 7, 8	Aerial Coil 75-200 metres	9854	R6	1 megohm, $\frac{1}{2}$ watt		C6	13-37 uF Air Trimmer		C45	0.5 uF paper, 400 v. working	
L9, 10	Aerial Coil Broadcast 1500-540 kc.	9748A	R7	1.6 megohms, $\frac{1}{2}$ watt		C7	490 uF mica $\pm 2\frac{1}{2}\%$		C46	50 uF mica	
L11	R.F. Coil 13-16 metres	9853	R8	0.1 megohm, $\frac{1}{2}$ watt		C8	1-25 uF Air Trimmer		C47	0.02 uF paper, 600 v. working	
L11, 12	R.F. Coil 16-20 metres	9853	R9	20,000 ohms, 1 watt		C9	1-25 uF Air Trimmer		C48	0.005 uF paper, 600 v. working	
L11, 12, 13—	R.F. Coil 20-25 metres	9853	R10	50,000 ohms, $\frac{1}{2}$ watt		C10	12-430 uF Tuning	18380	C49	0.1 uF paper, 400 v. working	
L11, 12, 13, 14—	R.F. Coil 25-31 metres	9853	R11	Control	19931	C11	1-25 uF Air Trimmer		C50	0.5 uF paper, 400 v. working	
L15	R.F. Coil 31-83 metres	9855	R12	2.5 megohms, $\frac{1}{2}$ watt		C12	42 uF N750 Temp. Comp.		C51	25 uF 40 P.V. Electrolytic Ducon	EI10769
L15, 16	R.F. Coil 75-200 metres	9855	R13	20 ohms, 1 watt, wire wound		C13	1-25 uF Air Trimmer		C52	0.1 uF paper, 400 v. working	
L17, 18	R.F. Coil Broadcast 1500-540 kc.	9749A	R14	20 ohms, 1 watt, wire wound		C14	1-25 uF Air Trimmer		C53	16 uF 525 P.V. Electrolytic Ducon	EI10783
L19, 20	Oscillator Coil 13-16 metres	9747	R15	11 ohms, 1 watt, wire wound		C15	1-25 uF Air Trimmer		C54	0.05 uF paper, 200 v. working	
L21, 22	Oscillator Coil 16-20 metres	9746	R16	20 ohms, 1 watt, wire wound		C16	2550 uF mica $\pm 2\frac{1}{2}\%$		C55	0.5 uF paper, 400 v. working	
L23, 24	Oscillator Coil 20-25 metres	9745	R17	0.5 megohm, $\frac{1}{2}$ watt		C17	1350 uF mica		C56	0.5 uF paper, 400 v. working	
L25, 26	Oscillator Coil 25-31 metres	9744	R18	1.6 megohms, $\frac{1}{2}$ watt		C18	70 uF mica		C57	200 uF mica	
L27, 28	Oscillator Coil 31-83 metres	9743	R19	0.25 megohm, $\frac{1}{2}$ watt		C19	200 uF mica		C58	.01 uF paper, 600 v. working	15277
L29, 30	Oscillator Coil 75-200 metres	9742	R20	50,000 ohms, $\frac{1}{2}$ watt		C20	12-430 uF Tuning	18380	TRANSFORMERS.		
L31, 32	Oscillator Coil Broadcast 1500-540 kc.	9741A	R21	50,000 ohms, 1 watt		C21	200 uF mica		T1	Power Transformer 50 cycles	11344
L33, 34	1st I.F. Transformer	8286Z	R22	1 megohm, 1 watt		C22	1-25 uF Air Trimmer		T2	Loudspeaker Transformer	TX5
L35, 36	2nd I.F. Transformer	8287Z	R23	1 megohm, Tone Control	19931	C23	1-25 uF Air Trimmer		LOUDSPEAKER.		
L37	Speaker Field 1100 ohms.		R24	1 megohm, 1 watt		C24	1-25 uF Air Trimmer		12-inch Electro Magnet AS18		
			R25	5,000 ohms, 1 watt		C25	1-25 uF Air Trimmer				
			R26	0.1 megohm $\pm 5\%$, 1 watt		C26	1-25 uF Air Trimmer				
			R27	50,000 ohms, 1 watt		C27	1-25 uF Air Trimmer				
			R28	0.1 megohm $\pm 5\%$, 1 watt		C28	0.05 uF paper, 200 v. working				
			R29	0.5 megohm $\pm 5\%$, 1 watt		C29	0.05 uF paper, 200 v. working				
			R30	10,000 ohms, $\frac{1}{2}$ watt		C30	70 uF silvered mica				
			R31	400 ohms, 3 watt, wire wound		C31	70 uF silvered mica				
			R32	0.5 megohm $\pm 5\%$, 1 watt		C32	4 uF mica				
			R33	10,000 ohms, $\frac{1}{2}$ watt		C33	0.01 uF paper, 600 v. working				
			R34	1.6 megohm, $\frac{1}{2}$ watt		C34	8 uF 525 P.V. Electrolytic Ducon	ET1015			
			R35	20,000 ohms, 1 watt		C35	0.1 uF paper, 400 v. working				
			R36	1 megohm, 1 watt		C36	70 uF silvered mica				
			R37	0.25 megohm, $\frac{1}{2}$ watt		C37	70 uF silvered mica				
			R38	20,000 ohms, $\frac{1}{2}$ watt		C38	100 uF mica				
			R39			C39	100 uF mica				



CHASSIS (TOP VIEW).



CHASSIS (UNDERNEATH VIEW).

MECHANICAL SPECIFICATIONS.

Cabinet Dimensions (inches)—	Height.	Width.	Depth.
Table	12	26	11
Console	32½	33	13
Combination	32	36	16
Chassis Base Dimensions (inches)	3½	16	7½

Overall Chassis Height	9
Weight (nett lbs.)—	
Table	39
Console	84
Combination	150
Cabinet Finish	Walnut Veneer

ALIGNMENT PROCEDURE.

Alignment should be necessary only when adjustments have been altered from the factory setting or when repairs have been made to the tuned circuits. Climatic conditions should not seriously affect the receiver.

It is important to apply a definite procedure, as given in this booklet, and to use adequate and reliable test equipment. Instruments ideally suited to the requirements are either the A.W.A. Junior Signal Generator type 2R3911, or the A.W.A. Modulated Oscillators type J6726 and C1070*. An output meter is necessary with both these instruments, the recommended type having an output impedance of 12000 ohms and a range of 5-6000 milliwatts. The meter should be connected across the primary of the loudspeaker transformer with the voice coil of the loudspeaker open-circuit. If the output meter used is one which does not impress a load on the anode circuit of the output valve it will not be necessary to open-circuit the voice coil.

As the calibration of the band-spread bands requires great accuracy, it is recommended that an A.W.A. Crystal Calibrator, type 6795, be used after setting the oscillator calibration to check the accuracy of the signal generator. The crystal calibrator emits a modulated signal at intervals of either 100 or 1000 kc/s, throughout the radio frequency spectrum, thus providing a series of fixed and equally spaced calibration points of known accuracy. When using this instrument care should be taken to select the correct signal. With the crystal set at the 1000 kc. position, a spurious image signal can generally be obtained by turning the tuning control of the receiver to a point approximately 100 kc/s. higher in frequency. This is a useful check as to whether a harmonic or spurious image is being tuned. If a crystal calibrator is not available, broadcasting stations of known frequency may be used as an alternative.

When using a signal generator or modulated oscillator with the tuning of the receiver fixed, two frequencies can be tuned from the test instrument, one 0.92 Mc/s higher in frequency than the other. In all cases the desired frequency is the lower of the two.

A convenient alignment jig designed to hold the receiver chassis and fitted with a dial scale and pointer may be obtained from the Service Department of the Company.

With this jig alignment may be carried out with the chassis coupled to an actual scale, thus ensuring that the calibration will be correct when the chassis is placed in the cabinet; otherwise, use the 0-180° calibration scale on the drum. (See alignment table.)

For all alignment purposes connect the "low" side of the signal generator to the receiver chassis.

Perform alignment in the proper order as shown in the chart, starting from No. 1 and following all operations across, then No. 2, etc.

Keep the volume control set in the maximum clockwise position and regulate the output of the test instrument so that a minimum signal is introduced to the receiver to give a standard indication on the output meter. This will avoid A.V.C. action and overloading.

When the receiver has been satisfactorily aligned, seal the adjusting screws with a small quantity of cellulose cement.

* If a type J6726 or C1070 instrument is used, see that a 250,000 ohm resistor is connected between the output terminals, and for short wave alignment a 400 ohm non-inductive resistor in series with the active output lead.

SIMPLE SHORT WAVE CALIBRATION ADJUSTMENT.

The short wave calibration may be adjusted slightly, without removing the chassis from the cabinet for full alignment, by adjusting four cores, L19, L21, L23 and L25 after a station of known frequency is received.

The correct procedure is as follows:—

- (1) Set the dial pointer so that calibration is correct on the medium wave band.
- (2) To adjust the calibration of the 22.3-17.7 Mc. band, tune in the known station, and to shift the pointer position to the left, turn L19 clockwise or vice-versa until the station can be tuned in at its assigned frequency.
- (3) The adjustments for the 19.0-15.0, 15.0-11.7 and 12.0-9.4 Mc. bands are similar, using L21, L23, and L25 respectively.

ALIGNMENT TABLE.

Alignment Order.	Test Ins. Connect to Receiver.	Frequency Setting.	Band Setting.	Calibration Scale Setting.	Circuit to Adjust.	Adjustment Symbol.	Adjust to Obtain.
1	6J8G Cap.*	455 kc.	Broadcast	0°	2nd I.F. Trans.	Core L36	Max. Peak
2	6J8G Cap.*	455 kc.	Broadcast	0°	2nd I.F. Trans.	Core L35	Max. Peak
3	6J8G Cap.*	455 kc.	Broadcast	0°	1st I.F. Trans.	Core L34	Max. Peak
4	6J8G Cap.*	455 kc.	Broadcast	0°	1st I.F. Trans.	Core L33	Max. Peak
Re-check 1, 2, 3, and 4.							
5	Aerial	600 kc.	Broadcast	19°	Oscillator†	Core L31	Max. Peak
6	Aerial	1500 kc.	Broadcast	168°	Oscillator	C11	Calibration
7	Aerial	1450 kc.	Broadcast	158°	Radio Frequency	C27	Calibration
8	Aerial	1450 kc.	Broadcast	158°	Aerial	C7	Max. Peak
Re-check 5, 6, 7, and 8							
9	Aerial	17.8 Mc.	22.3-17.7 Mc.	18°	Oscillator	Core L19	Calibration
10	Aerial	17.8 Mc.	22.3-17.7 Mc.	18°	Radio Frequency†	C24	Max. Peak
11	Aerial	17.8 Mc.	22.3-17.7 Mc.	18°	Aerial	C4	Max. Peak
12	Aerial	21.0 Mc.	22.3-17.7 Mc.	149°	Oscillator	C9	Calibration
13	Aerial	15.2 Mc.	19.0-15.0 Mc.	27°	Oscillator	Core L21	Calibration
14	Aerial	11.8 Mc.	15.0-11.7 Mc.	25°	Oscillator	Core L23	Calibration
15	Aerial	11.8 Mc.	15.0-11.7 Mc.	25°	Radio Frequency†	C25	Max. Peak
16	Aerial	11.8 Mc.	15.0-11.7 Mc.	25°	Aerial	C5	Max. Peak
17	Aerial	9.5 Mc.	12.0-9.4 Mc.	24°	Oscillator	Core L25	Calibration
18	Aerial	9.0 Mc.	9.7-3.6 Mc.	156°	Oscillator	C13	Calibration
19	Aerial	9.0 Mc.	9.7-3.6 Mc.	156°	Radio Frequency†	C26	Max. Peak
20	Aerial	9.0 Mc.	9.7-3.6 Mc.	156°	Aerial	C6	Max. Peak
21	Aerial	4.0 Mc.	9.7-3.6 Mc.	19°	Oscillator	Core L27	Calibration
Re-check 18, 19, 20 and 21							
22	Aerial	1.6 Mc.	4.0-1.5 Mc.	150°	Oscillator	Core L29	Calibration
23	Aerial	3.7 Mc.	4.0-1.5 Mc.	153°	Oscillator	C14	Max. Peak
Re-check 22 and 23							

Finally, re-check broadcast band. This is necessary only if the setting of C9 has been altered.

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

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

The column headed "Calibration Scale Setting" refers to the 180° scale on the ganged tuning capacitor drive drum. In taking readings on this scale, read from the right-hand edge of the pointer, that is, the edge nearest the rear of the chassis. Check the setting of the drum before taking readings. The zero mark should be opposite the pointer with the tuning capacitor fully closed.

CHASSIS REMOVAL AND REPLACEMENT.

Table and Console Models.

- (1) Turn the Phono-Range Switch to the 22.3-17.7 Mc. position and then remove the three control knobs from the front of the cabinet. These knobs are each held by one set screw.

To remove the two knobs at the side of the cabinet, proceed as follows:—

Table Model:

The knobs pull straight off. Do not loosen the set screw in the lower knob. If difficulty is experienced in removing this knob, refer to the label adhered to the inside of the cabinet for instructions.

Console Model:

The knobs are not removed but the spindles to which they are attached are parted at the couplings within the cabinet.

- (2) Disconnect the dial pointer from the drive cord, first unscrewing the thumb nut, and disconnect the cable from the loudspeaker. Also disconnect the dial lamp lead from the chassis.
- (3) Remove the four chassis mounting bolts and withdraw the chassis slightly to free the spindles from the front of the cabinet and move it to the right to allow access to the Band Indicator.

- (4) Disconnect the Band Indicator control cord. To do this, slip the loop in the end of the cord from the peg on the indicator, loosen the thumb-screw which holds the flexible tube at the top left-hand corner of the dial assembly and pull the control cord and tube free from the dial.
The chassis may now be removed from the cabinet.

- (5) Upon replacing the chassis in the cabinet the position of the Band Indicator may be adjusted by lifting the flexible tube to the required height before tightening the thumb-screw. It is also necessary to connect the pointer to the drive cord at the correct point. To do this, set the pointer opposite a known broadcasting station and connect it when the receiver has been accurately tuned to that station.

Combination Model.

- (1) Disconnect the loudspeaker, phono motor and pick-up cables.
- (2) Pull the Phono-Range Switch knob off. Pull the Tuning Control knob to part the spindle within the cabinet. This knob is not removed, but is left resting in the hole in the cabinet.
- (3) Four screws around the control panel mount the chassis in the cabinet. Remove these and lift the chassis out by grasping the two wooden handles provided on the control panel for this purpose.

SOCKET VOLTAGES AND CURRENTS.

Valve.	Control Grid to Chassis Volts.	Cathode to Chassis Volts.	Screen Grid to Chassis Volts.	Plate to Chassis Volts.	Plate Current mA.	Heater Volts.
6U7G R.F. Amplifier, M.W.	-3.6*	0	100	250	8.0	6.3
S.W.	-3.5*	0	100	250	8.0	—
6J8G Converter, M.W.	-3.9*	0	100	250	0.8	6.3
S.W.	-4.5*	0	100	250	0.6-0.8	—
Oscillator, M.W.	—	—	—	130	5.0	—
S.W.	—	—	—	130	5.0	—
6U7G I.F. Amplifier, M.W.	-3.9*	0	100	250	8.0	6.3
S.W.	-3.5*	0	100	250	8.0	6.3
6SQ7GT Detector, A.V.C. and A.F. Amp.	-1.7*	0	—	143*	0.5	6.3
6SJ7GT Phase Splitter	0	70	—	145	0.5	6.3
6V6GT/G Push Pull	0	16	250	243	18.0	6.3
6V6GT/G Output	0	16	250	243	18.0	6.3
5Y3GT/G Rectifier	690/345 volts, 73 mA. total current drain.					

Voltage across loudspeaker field—110 volts.

* Cannot be measured with ordinary voltmeter. Measured with receiver connected to 240 volts A.C. supply. No signal input. Volume Control at maximum.

MECHANICAL REPLACEMENT PARTS.

Item.	Part No.	Item.	Part No.
Cabinet, console	C69Z	Dust cover, loudspeaker—	
Cabinet, combination	C48	AS18 and AS19	10306
Cabinet, table	C67Z	AW22	9843
Cable, band indicator	20375	Knob	4589
Cable, loudspeaker	19925	Knob, range switch	5846
Cable, pick-up	15432	Knob, tuning	8075
Cable, power	209	Mount plate assembly, tuning drive—	
Cable, power switch	19089	Table	17816
Cable, volume control	15355	Console	9916
Cable, tone ontrol	19927	Pulley, brass	7885
Chassis, end, right hand	19080	Screen, I.F. transformer	3351
left hand	9875	Cap	8372
Clip, grid	7459	Screen, valve	8147
Cone Assembly, loudspeaker—		cap	8148
Type AW22	9356	Socket, dial lamp	4194
Type AS18	9332	Socket, valve	4704
Type AS19	20185	Socket, valve, cushion	7326
Core, magnetite, small	11403	Spindle, tuning drive, table	17739
large	11400	console	9812
Dial frame assembly—		Spindle, range switch extension—	
Table	20249A	Table	19066
Console	20251A	Console	19584
802-G	19939	Combination	10193
802-GY	19939B	Spindle, tuning control extension	19583
Dial Scale	20159	Spring, band indicator	8364
802-G	19100	Spring, drive tension	6641
Drum, band indicator	20373	Strip, tag, 1 way	7628
Drum, drive	9090	2 way	8863
		3 way	9877
		7 way	9879
		Washer, felt	4935

CIRCUIT CODE—Models 802-G and 802-GY

Circuit Code No.	Description	Stock Code or Part No.	Circuit Code No.	Description	Stock Code or Part No.	Circuit Code No.	Description	Stock Code or Part No.	
INDUCTORS.									
L1, 2	Aerial Coil 13-16 metres	9852	R1	1 megohm, $\frac{1}{2}$ watt		C1	52 uuF mica ± 2 uuF	C41	0.02 uF paper, 600 v. working
L1, 2, 3	Aerial Coil 16-20 metres	9852	R2	20,000 ohms, 1 watt		C2	12-430 uuF tuning	C42	0.1 uF paper, 400 v. working
L1, 2, 3, 4			R3	32,000 ohms, $\frac{1}{2}$ watt		C3	200 uuF mica	C43	8 uF 525 P.V. Electrolytic
L1, 2, 3, 4, 5	Aerial Coil 20-25 metres	9852	R4	16,000 ohms, 2 watt		C4	13-37 uuF Air Trimmer	C44	Ducon
L6, 7	Aerial Coil 25-31 metres	9852	R5	(2,32000 in parallel)		C5	13-37 uuF Air Trimmer	C45	0.4 uF paper, 200 v. working
L6, 7, 8	Aerial Coil 31-83 metres	9854	R6	1 megohm, $\frac{1}{2}$ watt		C6	13-37 uuF Air Trimmer	C46	0.5 uF paper, 400 v. working
L6, 7, 8	Aerial Coil 75-200 metres	9854	R7	1 megohm, $\frac{1}{2}$ watt		C7	1-25 uuF Air Trimmer	C47	50 uuF mica
L9, 10	Aerial Coil Broadcast	9748A*	R8	1.6 megohms, $\frac{1}{2}$ watt		C8	490 uuF mica $\pm 2\frac{1}{2}\%$	C48	0.02 paper, 600 v. working
L11, 12	R.F. Coil 13-16 metres	9853	R9	0.1 megohm, $\frac{1}{2}$ watt		C9	1-25 uuF Air Trimmer	C49	working
L11, 12, 13	R.F. Coil 16-20 metres	9853	R10	20,000 ohms, 1 watt		C10	12-430 uuF Tuning	C50	0.1 uF paper, 400 v. working
L11, 12, 13, 14	R.F. Coil 20-25 metres	9853	R11	1 megohm, $\frac{1}{2}$ watt	19931	C11	1-25 uuF Air Trimmer	C51	0.5 uF paper, 400 v. working
L15, 16	R.F. Coil 25-31 metres	9853	R12	2.5 megohms, $\frac{1}{2}$ watt		C12	42 uuF N750 Temp. Comp.	C52	25 uF 40 P.V. Electrolytic
L15, 16	R.F. Coil 31-83 metres	9855	R13	20 ohms, 1 watt, wire wound		C13	1-25 uuF Air Trimmer	C53	Ducon
L15, 16	R.F. Coil 75-200 metres	9855	R14	20 ohms, 1 watt, wire wound		C14	1-25 uuF Air Trimmer	C54	0.1 uF paper, 400 v. working
L17, 18	R.F. Coil Broadcast	9749A*	R15	11 ohms, 1 watt, wire wound		C15	2550 uuF mica $\pm 2\frac{1}{2}\%$	C55	16 uF 525 P.V. Electrolytic
L19, 20	Oscillator Coil 13-16 metres	9747	R16	20 ohms, 1 watt, wire wound		C16	1350 uuF mica $\pm 2\frac{1}{2}\%$	C56	Ducon
L21, 22	Oscillator Coil 16-20 metres	9746	R17	0.5 megohm, $\frac{1}{2}$ watt		C17	0.1 uF paper, 400 v. working	C57	0.05 uF paper, 200 v. working
L23, 24	Oscillator Coil 20-25 metres	9745	R18	1.6 megohms, $\frac{1}{2}$ watt		C18	70 uuF mica	C58	0.5 uF paper, 400 v. working
L25, 26	Oscillator Coil 25-31 metres	9744	R19	1.6 megohms, $\frac{1}{2}$ watt		C19	200 uuF mica	C59	working
L27, 28	Oscillator Coil 31-83 metres	9743	R20	50,000 ohms, $\frac{1}{2}$ watt		C20	50 uuF mica	C60	0.5 uF paper, 400 v. working
L29, 30	Oscillator Coil 75-200 metres	9742	R21	50,000 ohms, $\frac{1}{2}$ watt		C21	52 uuF mica ± 2 uuF		
L31, 32	Oscillator Coil Broadcast	9741A*	R22	0.2 megohm, 1 watt		C22	12-430 uuF Tuning		
L33, 34	1st I.F. Transformer	8286Z	R23	50,000 ohms, 1 watt		C23	200 uuF mica		
L35, 36	2nd I.F. Transformer	8287Z	R24	1 megohm, 1 watt		C24	1-25 uuF Air Trimmer		
L37	Speaker field 1500 ohms (802G)		R25	1 megohm, 1 watt		C25	1-25 uuF Air Trimmer		
L37	Speaker field 1100 ohms (802-GY)		R26	5,000 ohms, 1 watt		C26	1-25 uuF Air Trimmer		
TRANSFORMERS.									
			R27	0.1 megohm $\pm 5\%$, 1 watt		C27	1-25 uuF Air Trimmer	T1	Power Transformer 50 cycles
			R28	50,000 ohms, 1 watt		C28	0.05 uF paper, 200 v. working	T2	Loudspeaker Transformer (802-G)
			R29	0.1 megohm $\pm 5\%$, 1 watt		C29	0.05 uF paper, 200 v. working	T2	Loudspeaker Transformer (802-GY)
			R30	0.5 megohm $\pm 5\%$, 1 watt		C30	70 uuF silvered mica		
			R31	10,000 ohms, $\frac{1}{2}$ watt		C31	70 uuF silvered mica		
			R32	400 ohms, 3 watt wire wound		C32	4 uuF mica		
			R33	0.5 megohm $\pm 5\%$, 1 watt		C33	0.01 uF paper, 600 v. working		
			R34	10,000 ohms, $\frac{1}{2}$ watt		C34	8 uF 525 P.V. Electrolytic		
			R35	1.6 megohms, $\frac{1}{2}$ watt		C35	Ducon		
			R36	20,000 ohms, 1 watt		C36	0.1 uF paper, 400 v. working		
			R37	1 megohm, 1 watt		C37	70 uuF silvered mica		
			R38	0.25 megohm, $\frac{1}{2}$ watt		C38	70 uuF silvered mica		
			R39	1/2 meg., $\frac{1}{2}$ watt		C39	100 uuF mica		
			R39	1 meg., $\frac{1}{2}$ watt		C40	100 uuF mica		
							0.02 uF paper, 600 v. working		

* NOTE: Frequency coverage of the 802-G Broadcast band is 1500-550 kc.

NOTE: All models 802-G and early models 802-GY used a phono input circuit with different values, i.e.:

R10 = 1 megohm.

R38 = 0.5 megohm.

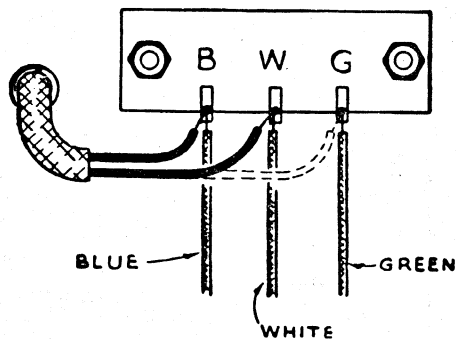
R39 = 0.25 megohm.

C58 = .001 uF 600 v. working.

C60 = not used.

CONNECTION TO POWER SUPPLY.

The receiver should not be connected to any circuit supplying other than alternating current from 200 to 260 volts and at the frequency stated on the label within the cabinet. The power supply connection panel is shown in the accompanying diagram, and for 230 to 260 volt operation the input leads from the power switch S3 and phono motor should be connected to tags B and G. For operation on voltages below 230, connection should be made to tags B and W.



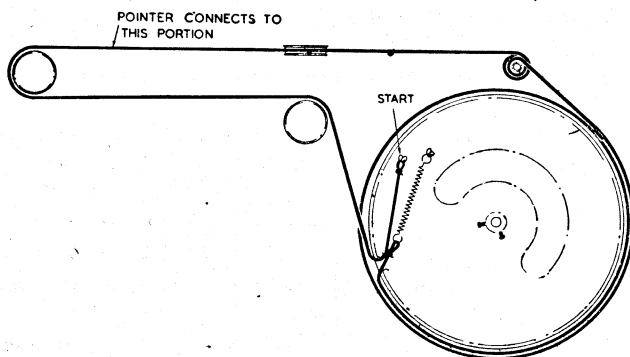
"SERVICE WINDOW."

A "Service Window" is provided in the base of the table model cabinet and in the chassis board of the combination. The "window" is normally covered with a perforated grille fastened by four knurled nuts. With the grille removed, it is possible to perform most service operations without removing the chassis from the cabinet.

TUNING DRIVE CORD REPLACEMENT.

The accompanying diagram shows the route of the cord and the method of attachment. Whilst fitting the cord, keep it taut and adjust the length so that the tension spring measures approximately 2 inches long when fitted.

The spring should be sheathed to prevent it from rattling against the drum.



LOUDSPEAKER SERVICE.

It is inadvisable to attempt loudspeaker repairs other than adjustment of the voice coil and replacement of the transformer. The fitting of a new cone or the replacement of a field winding should be done only by Service Departments suitably equipped to do the work.

To centre the voice coil, first remove the dust cover. To do this, use a sharp razor blade and cut the centre out of the dust cover, cutting just inside the edge of the voice coil former, which can be felt with the forefinger. Do not attempt to tear the cover from the cone. Loosen the suspension screws, insert three narrow paper "feelers" in the gap and re-tighten the suspension screws. The "feelers" should be approximately 3-16 inch wide and 0.006 inch thick.

After adjusting, test the loudspeaker, and, if satisfactory, fasten a replacement dust-cover in place with latex rubber cement. See "Mechanical Replacement Parts."

DESCRIPTION OF TUNING CIRCUIT ADJUSTMENTS

BROADCAST BAND.

The broadcast band adjustments follows usual practice with three trimming capacitors—C7 aerial, C27 R.F., C11 oscillator and a variable magnetite core for L.F. adjustment of the oscillator coil L31, L32.

9.7-3.6 Mc. BAND.

Adjustments are the same as those used on the broadcast band, that is, with three trimming capacitors—C6 aerial, C26 R.F., C13 oscillator and a variable magnetite core for L.F. adjustment of the oscillator coil L27, L28.

4.0-1.5 Mc. BAND.

All capacitors in the aerial and R.F. sections are common with those in the 9.7-3.6 Mc. band, the change of band being accomplished by switching tapped coils. The oscillator section, however, is provided with a separate capacitor, C14, for tracking with the signal circuits at the H.F. end and a variable magnetite core for L.F. adjustment of the oscillator coil L29, L30.

22.3-17.7 Mc. BAND.

At the L.F. end of this band there are three adjustments, a magnetite core in the oscillator coil L19, L20 and trimming capacitors C24 R.F. and C4 aerial. Small capacitors, C1, C21 and C12, are used in series with the ganged tuning capacitors to accomplish band-spreading at the L.F. end of this band. The oscillator circuit is made to track with the signal circuit at the H.F. end by adjustment of capacitor C9. The three series capacitors are chosen to give three point tracking between the signal and oscillator circuits.

19.0-15.0 Mc. BAND.

The capacity system is the same as for the 22.3-17.7 Mc. band, the change of band being accomplished by switching coils, the oscillator coil L21, L22 being fitted with a variable magnetite core for L.F. adjustment.

15.0-11.7 Mc. BAND.

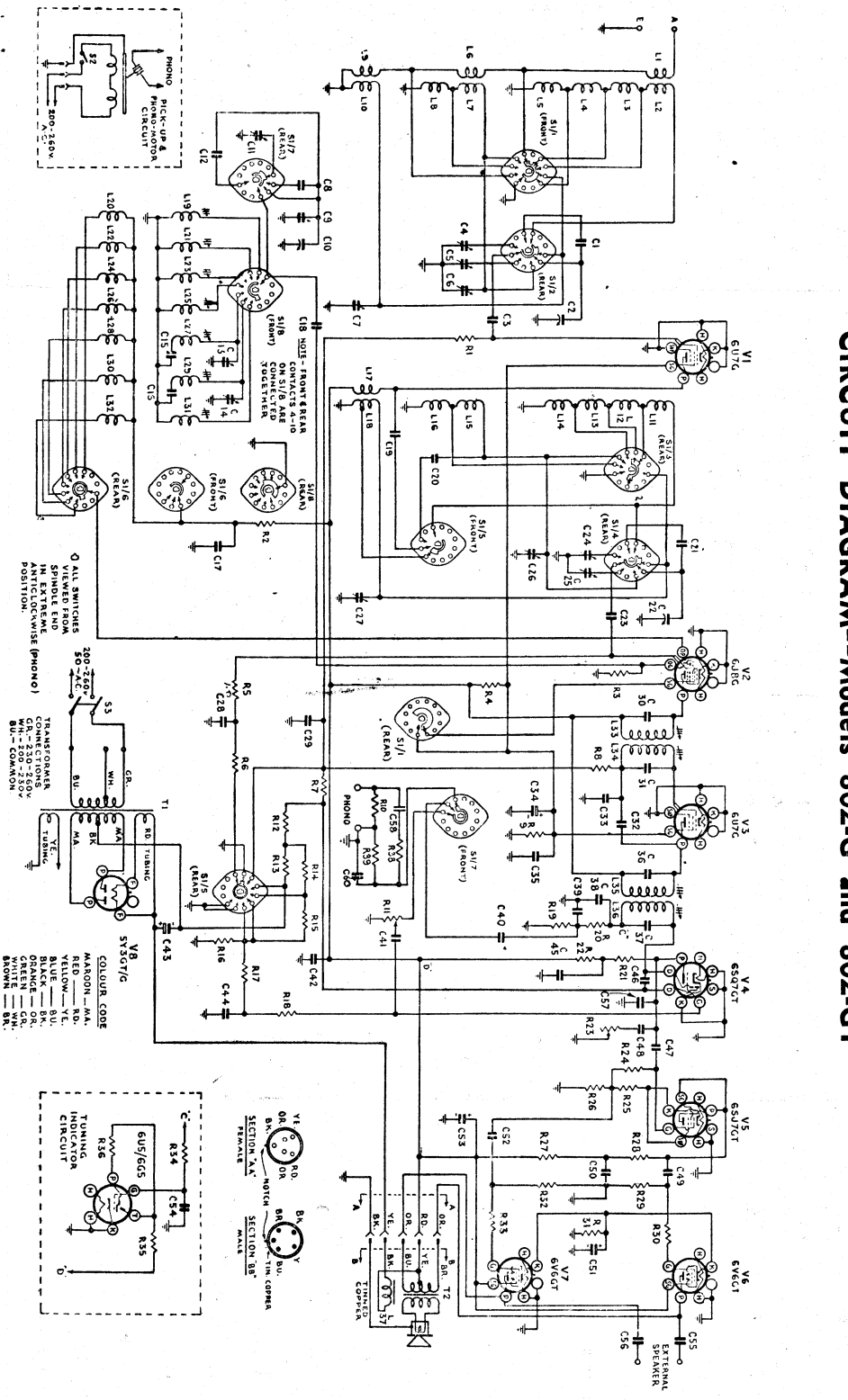
Adjustments are similar to those on the 22.3-17.7 Mc. band, excepting that no H.F. adjustment is provided for the oscillator. L.F. adjustments are trimming capacitors C25 R.F. and C5 aerial and a variable magnetite core in oscillator coil L23, L24.

12.0-9.4 Mc. BAND.

One adjustment only is provided, a variable magnetite core in the oscillator coil L25, L26.

It will be noted that the ratio $\frac{\text{max. frequency}}{\text{min. frequency}}$ is the same on the four bands, 12.0-9.4 Mc., 15.0-11.7 Mc., 19.0-15.0 Mc., 22.3-17.7 Mc., and the tracking is practically correct, using the same series capacitor for all bands. The ratio $\frac{\text{max. frequency}}{\text{min. frequency}}$ is also the same on the 4.0-1.5 Mc. and 9.7-3.6. Mc. bands, but, due to the greatly different frequency spectrum of the oscillator, the series capacitors in the two oscillator circuits are different.

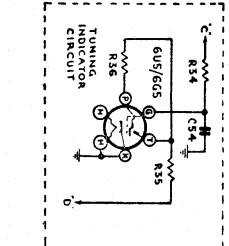
CIRCUIT DIAGRAM--Models 802-G and 802-GY



Q ALL SWITCHES IN SPINDLE END IN EXTREMELY POSITION.

TRANSFORMER
 GA-230-250V
 BU-COMMON
 CR-100V
 WH-100V
 BK-100V
 MA-100V
 YE-100V

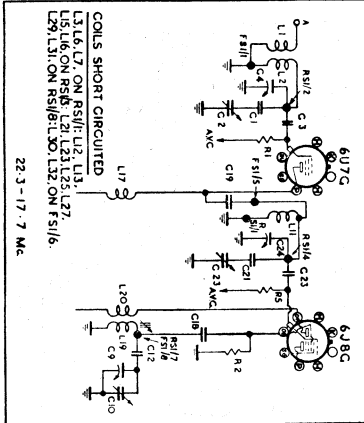
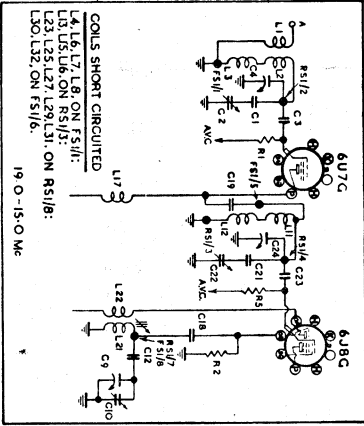
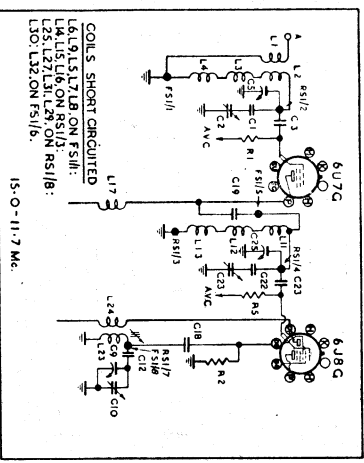
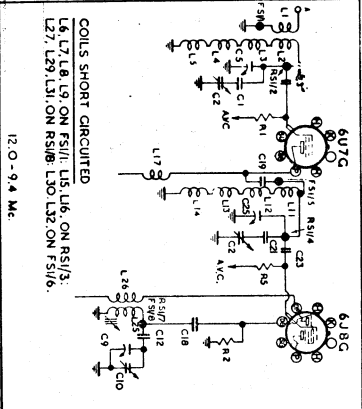
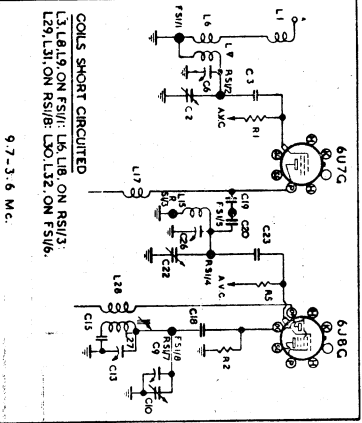
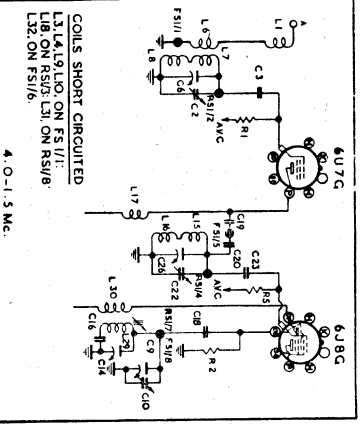
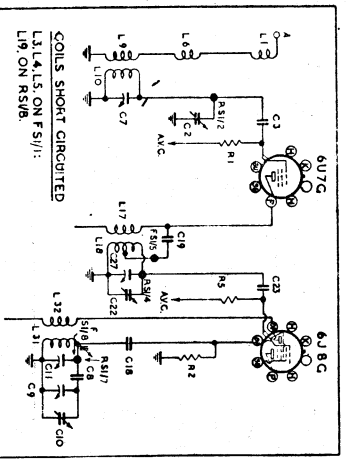
STAYO/C
 CALOROUS CODE
 MAROON-MA
 RED-NO
 BLUE-WM
 BK-BU
 OR-BK
 OR-BK
 BK-WH
 BK-WH
 BK-WH
 BK-WH



PHONO PICK-UP B. CIRCUIT

500-350V

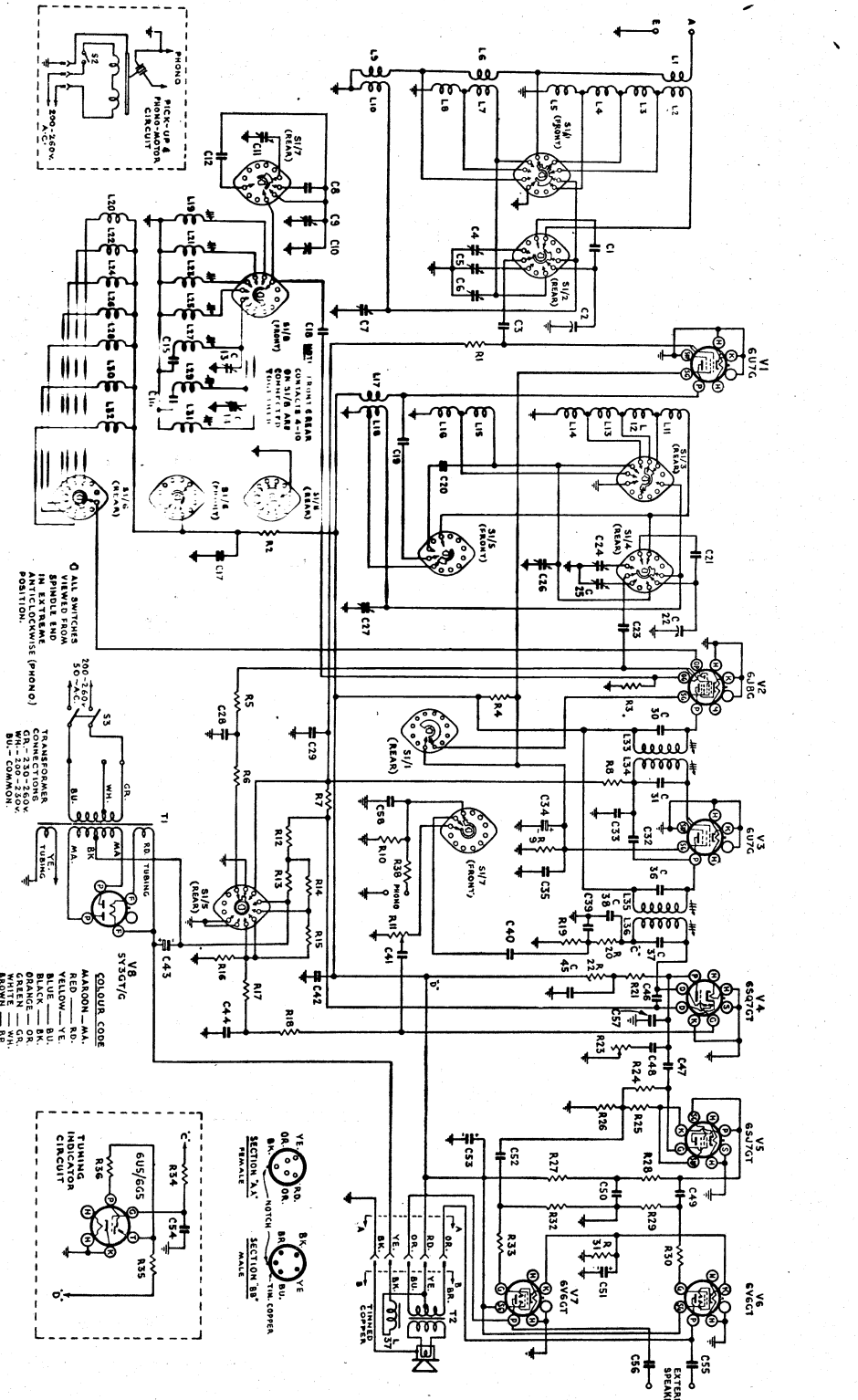
EXTERNAL SPEAKER



NOTE:- INDICATES TWO OR MORE CONNECTIONS THROUGH SWITCH SECTION
EG. 'FS1/7' REPRESENTS 'REAR OF SECTION 7', 'FS1/6' REPRESENTS 'FRONT OF SECTION 6'

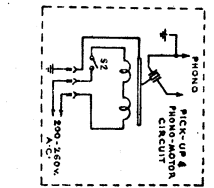
TUNING CIRCUIT DIAGRAM.

CIRCUIT DIAGRAM--Models 611-T and 709-C



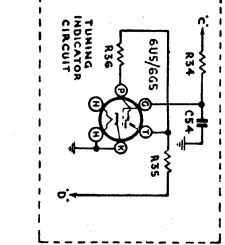
V1 6U7C
 V2 6U8C
 V3 6U6C
 V4 6S50T
 V5 6S470T
 V6 6V6GT
 V7 6V6GT

SECTION 'A'
 TUNER
 SECTION 'B'
 TUNING INDICATOR
 SECTION 'C'
 TUNING INDICATOR
 SECTION 'D'
 TUNING INDICATOR
 SECTION 'E'
 TUNING INDICATOR
 SECTION 'F'
 TUNING INDICATOR
 SECTION 'G'
 TUNING INDICATOR
 SECTION 'H'
 TUNING INDICATOR
 SECTION 'I'
 TUNING INDICATOR
 SECTION 'J'
 TUNING INDICATOR
 SECTION 'K'
 TUNING INDICATOR
 SECTION 'L'
 TUNING INDICATOR
 SECTION 'M'
 TUNING INDICATOR
 SECTION 'N'
 TUNING INDICATOR
 SECTION 'O'
 TUNING INDICATOR
 SECTION 'P'
 TUNING INDICATOR
 SECTION 'Q'
 TUNING INDICATOR
 SECTION 'R'
 TUNING INDICATOR
 SECTION 'S'
 TUNING INDICATOR
 SECTION 'T'
 TUNING INDICATOR
 SECTION 'U'
 TUNING INDICATOR
 SECTION 'V'
 TUNING INDICATOR
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 SECTION 'Y'
 TUNING INDICATOR
 SECTION 'Z'
 TUNING INDICATOR

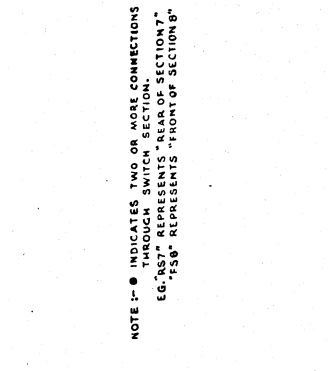
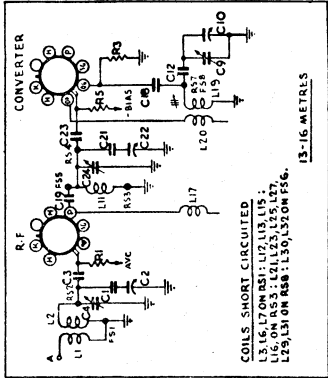
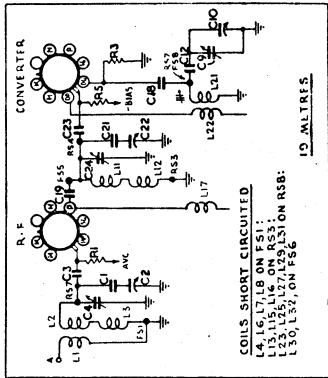
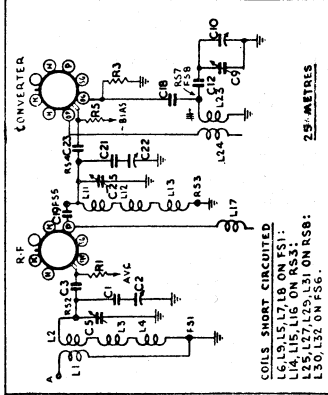
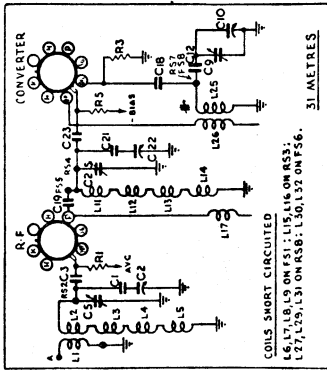
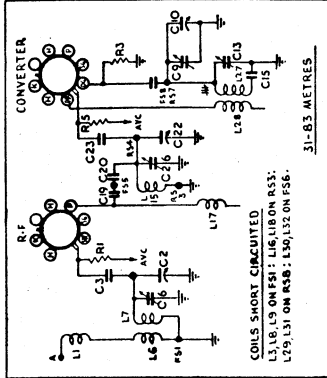
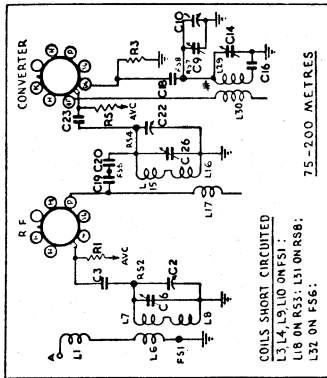
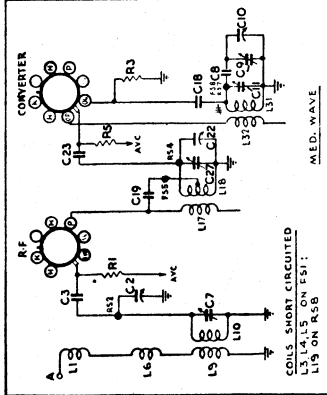


Q ALL SWITCHES
 SPINDLE END
 IN EXTREME
 ANTICLOCKWISE (PHONO)
 POSITION.

TRANSFORMER
 250-250-250V
 50-250-250V
 200-250-250V
 50-A.C.



COLOUR CODE
 5Y50T/G
 MAARON-AA
 RED-RO
 YELLOW-YE
 BLACK-BK
 GRANGE-GR
 WHITE-WH
 BROWN-BR



NOTE: ● INDICATES TWO OR MORE CONNECTIONS.
○ THROUGH SWITCH SECTION.
EG. "R57" REPRESENTS "SECTION 7"
"F58" REPRESENTS "FRONT OF SECTION 8"

TUNING CIRCUIT DIAGRAM.

THIS DIAGRAM SUPERSEDES EXISTING
611-T, 709-C, 802-G & 802-GY TUNING
CIRCUITS.