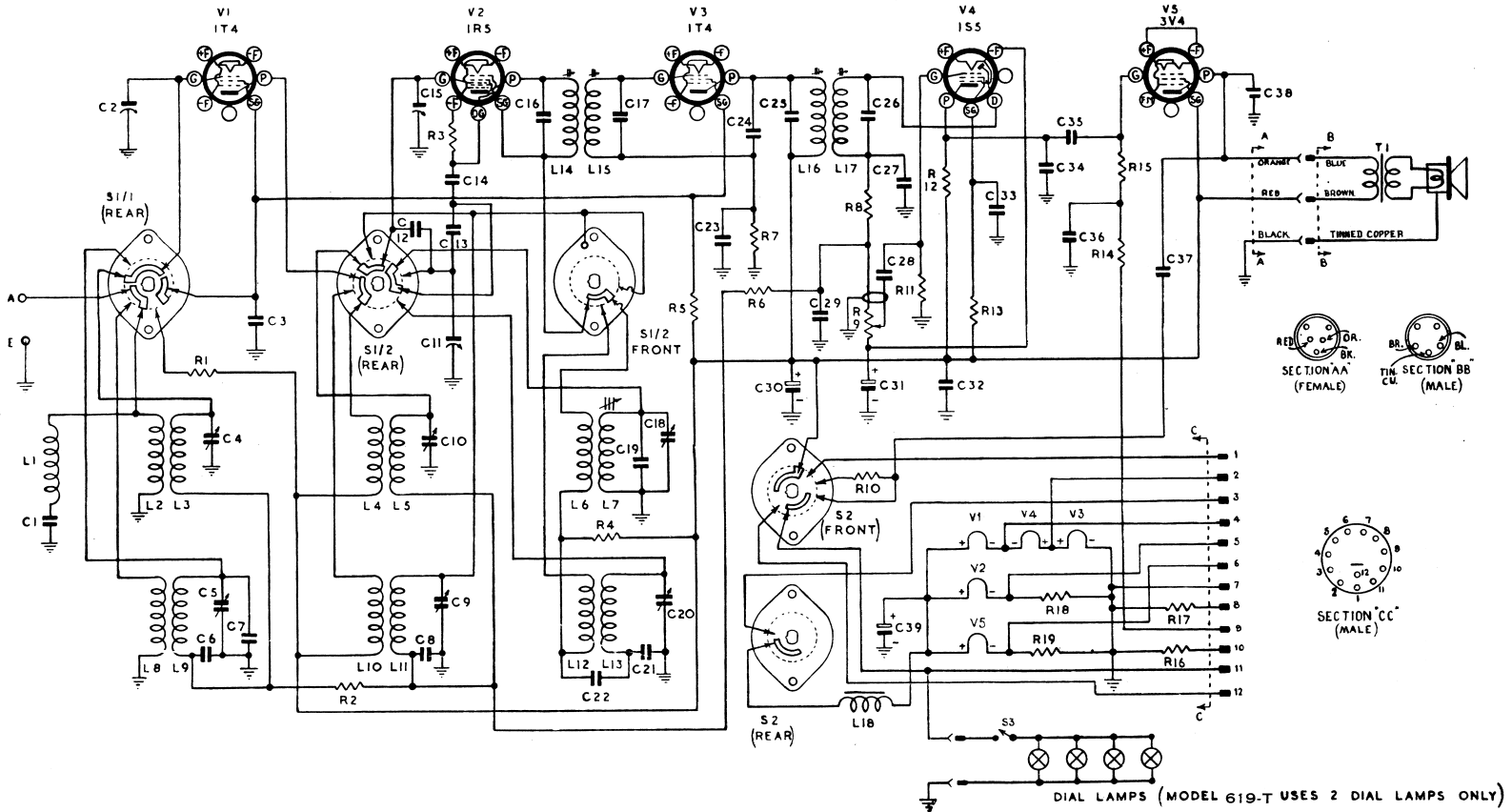


MODELS 619-T AND 723-C — CIRCUIT



ALIGNMENT TABLE.

Order	Connect "High" Side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for Maximum Peak Output
1	R.F. Section of Gang (centre portion)	455 Kc/s	540 Kc/s	L17 Core
2	R.F. Section of Gang (centre portion)	455 Kc/s	540 Kc/s	L16 Core
3	R.F. Section of Gang (centre portion)	455 Kc/s	540 Kc/s	L15 Core
4	R.F. Section of Gang (centre portion)	455 Kc/s	540 Kc/s	L14 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s	600 Kc/s	Osc. Core Adj. (L7)*
6	Aerial Terminal	1500 Kc/s	1500 Kc/s	Osc. Adj. (C18)
7	Aerial Terminal	1500 Kc/s	1500 Kc/s	R.F. Adj. (C10)
8	Aerial Terminal	1500 Kc/s	1500 Kc/s	Aer. Adj. (C4)
Repeat adjustments 5, 6, 7 and 8.				
9	Aerial Terminal	16 Mc/s	16 Mc/s	Osc. Adj. (C20)†
10	Aerial Terminal	16 Mc/s	16 Mc/s	R.F. Adj. (C9)‡
11	Aerial Terminal	16 Mc/s	16 Mc/s	Aer. Adj. (C5)‡

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

†Use minimum capacity peak if two can be obtained. Check to determine that C20 has been adjusted to correct peak by tuning the receiver to approximately 15.09 Mc/s, where a weaker signal should be received.

‡Use maximum capacity peak if two can be obtained.

MECHANICAL REPLACEMENT PARTS.

Item	Part No.	Item	Part No.
Cabinet:		Dial, Scale:	
Model 619-T	C89	Model 619-T	23340
Model 723-C	C86	Model 723-C	23342
Cable, Speaker	19188	Drum, Drive:	
Cable, Volume	23910	Model 619-T	22890
Chassis, End:		Model 723-C	15684
Model 619-T—		Knob	4589
Left-Hand	20124	Socket, Valve	19965
Right-Hand	22417	Spindle, Assembly, Drive:	
Model 723-C—		Model 619-T	22634
Left-Hand	20318	Model 723-C	22388
Right-Hand	20316	Strip, Tag:	
Dial, Frame Assembly:		1-way	7628
Model 619-T	20514	2-way	8863
Model 723-C	20343G	2-way	8021
Dial, Pointer Assembly:		3-way	8821
Model 619-T	20522	5-way	15926
Model 723-C	20331	Terminal, Spring	5458

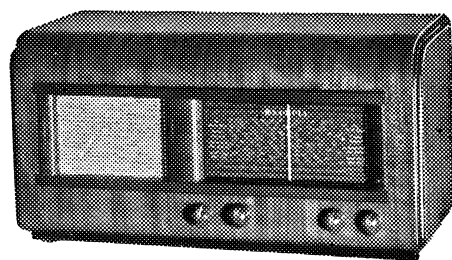
TECHNICAL INFORMATION
AND
SERVICE DATA

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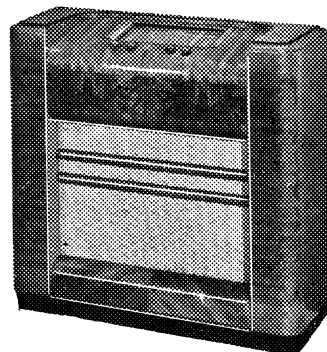
MODELS 619-T AND 723-C

**FIVE-VALVE, TWO-BAND
BATTERY/VIBRATOR-OPERATED
SUPERHETERODYNES**

ISSUED BY
AMALGAMATED WIRELESS (A/SIA) LTD.



Model 619-T



Model 723-C

ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGES:

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

INTERMEDIATE FREQUENCY: 455 Kc/s

BATTERY COMPLEMENT:

(1) 1 4-volt Accumulator	} Cable with	Tips	Plugs
2 45-volt "B" Batteries			
(2) 1 1.5 volt Dry Cell "A"	} Cable with	19182	19801
Battery: 2 45-volt "B" Batteries:			

NOTE: If a 1.5-volt dry cell "A" battery is used, it is necessary, if dial illumination is required, to remove the dial lamp cable from the terminals on top of the chassis and to connect the cable to the outer terminals of a 4.5-volt "C" battery—see diagram "BATTERY CONNECTIONS".

VIBRATOR POWER UNIT OPERATION:

Unit No. 19190: 1—4-volt accumulator
Unit No. 22770: 1—6-volt accumulator

BATTERY CONSUMPTION:

4-volt "A" battery, 0.2 amp.
1.5-volt "A" battery, 0.3 amp.
"B" battery, 16 mA
4-volt vibrator operation, 0.8 amp.
6-volt vibrator operation, 0.7 amp.

DIAL LAMPS: 6.3 volt, 0.25 amp. M.E.S.

FUSES:

Battery Operation: $\frac{1}{4}$ - $\frac{3}{8}$ amp
Vibrator Operation: 3 amp.

VALVE COMPLEMENT:

1. 1T4 R.F. Amplifier
2. 1R5 Converter
3. 1T4 I.F. Amplifier
4. 1S5 Detector, A.F. Amplifier, A.V.C.
5. 3V4 Output

VIBRATOR CARTRIDGE:

4-volt operation: V6804
6-volt operation: V5211

LOUDSPEAKER (Permanent Magnet):

Model 619-T

7-inch — code number AY40
Transformer: XA8
V.C. Impedance 3 ohms at 400 C.P.S.

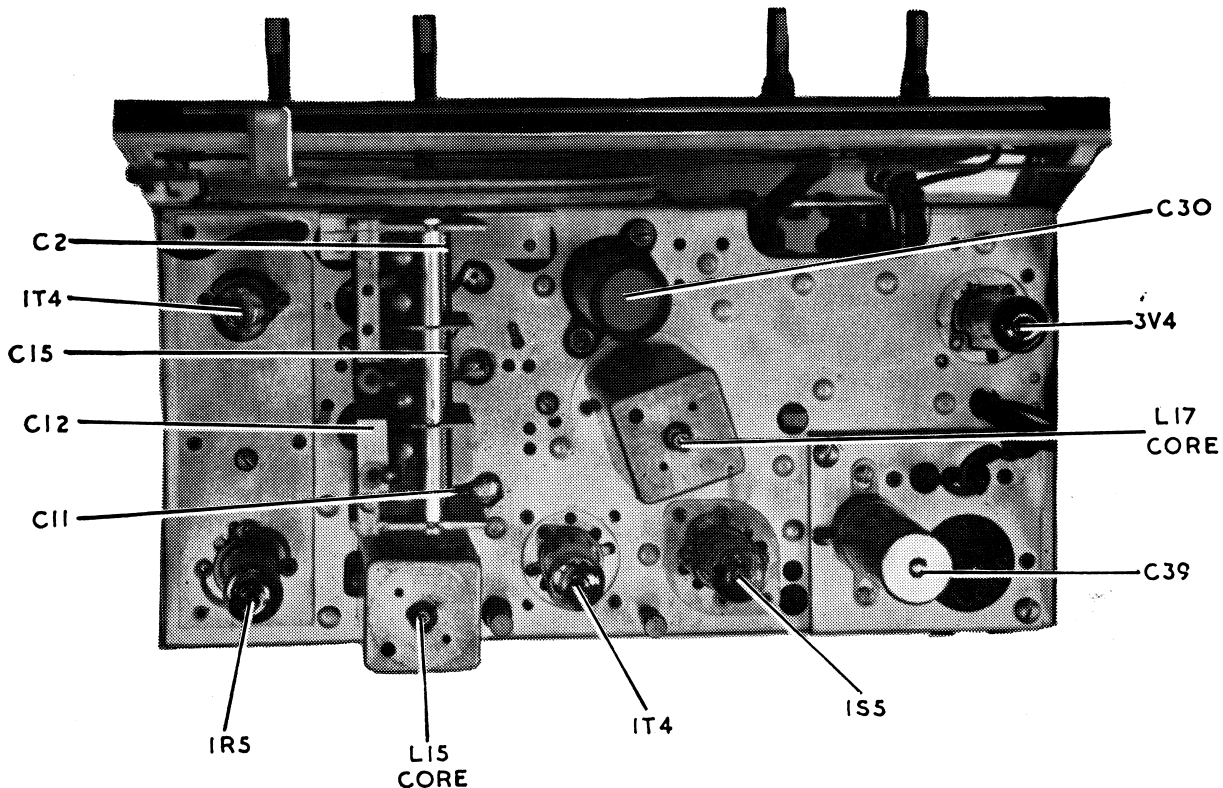
Model 723-C

12-inch — code number AU53
Transformer: TU213
V.C. Impedance 6.5 ohms at 400 C.P.S.

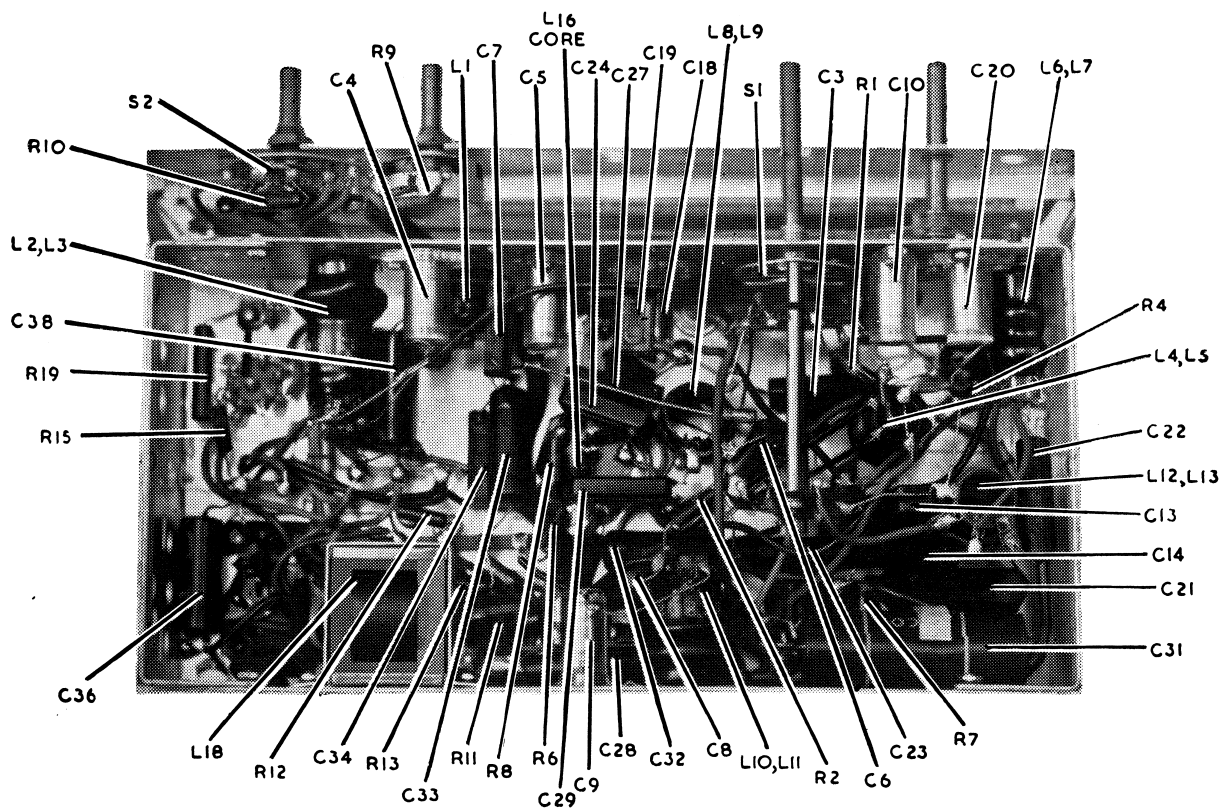
UNDISTORTED POWER OUTPUT: 200 milliwatts

MECHANICAL SPECIFICATIONS.

	Height	Width	Depth		Height	Width	Depth
Cabinet Dimensions (inches):				Model 723-C	32	35	13 $\frac{3}{4}$
Model 619-T	10 $\frac{1}{2}$	20 $\frac{1}{4}$	8 $\frac{7}{8}$	Weight (nett lbs.):			
Model 723-C	31 $\frac{1}{2}$	33 $\frac{1}{2}$	12 $\frac{1}{2}$	Model 619-T	26 lbs.		
Chassis Base Dimensions (inches)	2 $\frac{1}{2}$	11	5 $\frac{1}{2}$	Model 723-C	56 lbs.		
Carton Dimensions (inches):				Cabinet Finish	Walnut Veneer		
Model 619-T	11	20 $\frac{5}{8}$	11				



CHASSIS TOP VIEW MODELS 619-T/723-C

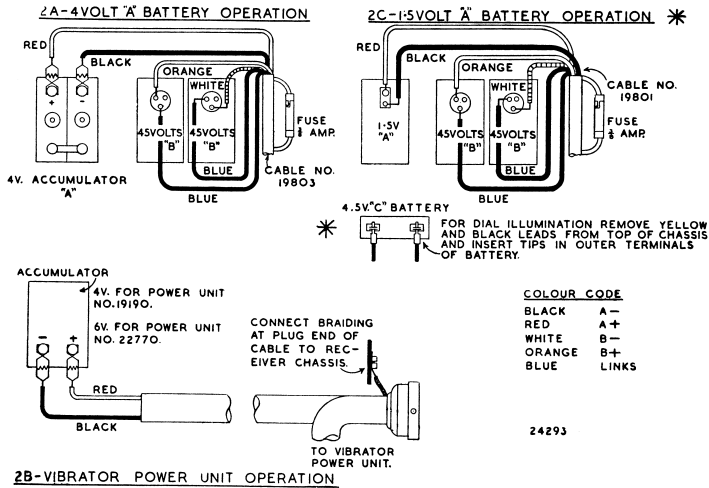


CHASSIS UNDERNEATH VIEW MODELS 619-T/723-C

GENERAL DESCRIPTION.

The Models 619-T and 723-C are table and console models respectively, designed for either battery or vibrator operation. Battery and vibrator connections are shown in the accompanying diagram.

Features of design include: Tropic-proof construction, automatic volume control, magnetite cores in I.F. transformers and broadcast oscillator coils, air-dielectric trimming capacitors, straight-line edge-lighted dial scales.



Chassis Removal.

Model 619-T:

- (1) Remove the control knobs—each is held by a set-screw.
- (2) Disconnect the cable from the loudspeaker.
- (3) Disconnect the battery and vibrator cables.
- (4) The chassis is held in the cabinet by two screws. Remove these and withdraw the chassis.

Model 723-C:

- (1) Remove the control knobs. Each knob is held by a set-screw.
- (2) Disconnect the cable from the loudspeaker.
- (3) Disconnect the battery and vibrator cables.

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

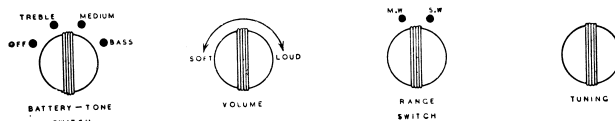
Dial Pointer Adjustment.

The dial pointer is held in position by two rubber-lined clips. To alter the position of the pointer, loosen the two holding clips slightly and move the pointer in the required direction. It is important to reclamp the clips after any adjustment of the dial pointer.

Drive Cord Replacement.

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

CONTROLS 619-T & 723-C



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 an 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.

MODELS 619-T AND 723-C — CIRCUIT CODE.

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
INDUCTORS											
L1	Filter Unit (including C1)	9382	R14	0.5 megohm, $\frac{1}{2}$ watt		C14	70 uuF Mica		C35	0.01 uF Paper, 600v. working	
L2, L3	Aerial Coil, 1600-540 Kc/s	15454	R15	0.5 megohm, $\frac{1}{2}$ watt		C15	12-430 uuF Tuning, Ganged (723-C)	18638	C36	0.1 uF Paper, 200v. working	
L4, L5	R.F. Coil, 1600-540 Kc/s	23891	R16	320 ohms, $\frac{1}{2}$ watt			Ganged (619-T)	18637	C37	0.025 uF Paper, 400v. working	
L6, L7	Oscillator Coil, 1600-540 Kc/s	9206A	R17	320 ohms, $\frac{1}{2}$ watt		C16	70 uuF Mica		C38	0.005 uF Paper, 600v. working	
L8, L9	Aerial Coil, 6-18 Mc/s	15456	R18	50 ohms, $\pm 5\%$, 1 watt		C17	70 uuF Mica		C39	400 uF 12, P.V. Electrolytic	
L10, L11	R.F. Coil, 6-18 Mc/s	23892	R19	25 ohms, $\pm 5\%$, 1 watt		C18	3-25 uu Air Trimmer	19659	TRANSFORMER		
L12, L13	Oscillator Coil, 6-18 Mc/s	15922	CAPACITORS			C19	9 uuF Mica		T1	Loudspeaker Transformer (723-C)	TU213
L14, L15	1st I.F. Transformer	22700	C1	50 uuF Silvered Mica		C20	3-25 uuF Air Trimmer	19659	T1	Loudspeaker Transformer (619-T)	XA8
L16, L17	2nd I.F. Transformer	22703	C2	12-430 uuF Tuning, Ganged (723-C)	18638	C21	4000 uuF Mica Padder, $\pm 2\frac{1}{2}\%$		LOUDSPEAKER		
L18	L.T. Filter Choke	17828	C2	12-430 uuF Tuning, Ganged (619-T)	18637	C22	0.05 uF Paper, 200v. working		12-inch Permanent Magnet (723-C)		
RESISTORS											
R1	0.1 megohm, $\frac{1}{2}$ watt		C3	0.05 uuF Paper, 200v. working		C23	0.01 uF Paper, 600v. working		7-inch Permanent Magnet (619-T)		
R2	0.1 megohm, $\frac{1}{2}$ watt		C4	3-25 uuF Air Trimmer	19659	C24	9 uuF Mica		SWITCHES		
R3	0.1 megohm, $\frac{1}{2}$ watt		C5	3-25 uuF Air Trimmer	19659	C25	70 uuF Mica		S1	Range Switch (723-C)	23163
R4	10,000 ohms, $\frac{1}{2}$ watt		C6	0.05 uF Paper, 200v. working		C26	70 uuF Mica		S1	Range Switch (619-T)	23165
R5	0.1 megohm, $\frac{1}{2}$ watt		C7	9 uuF Mica		C27	100 uuF Mica		S2	Battery/Tone Switch (723-C)	22621
R6	2.5 megohms, $\frac{1}{2}$ watt		C8	0.05 uF Paper, 200v. working		C28	0.01 uF Paper, 600v. working		S2	Battery/Tone Switch (619-T)	22632
R7	2.5 megohms, $\frac{1}{2}$ watt		C9	3-25 uuF Air Trimmer	19659	C29	100 uuF Mica		S3	Dial Lamp Switch	15915
R8	20,000 ohms, $\frac{1}{2}$ watt		C10	3-25 uuF Air Trimmer	19659	C30	20 uF 200, P.V. Electrolytic		VIBRATOR POWER UNIT		
R9	0.5 megohm Volume Control (723-C)	7690	C11	12-430 uuF Tuning, Ganged (723-C)	18638	C31	400 uF 12, P.V. Electrolytic		6-volt Power Unit		
R9	0.5 megohm Volume Control (619-T)	6490	C11	12-430 uuF Tuning, Ganged (619-T)	18637	C32	0.1 uF Paper, 200v. working		4-volt Power Unit		
R10	10,000 ohms, $\frac{1}{2}$ watt		C12	Neutralising		C33	0.1 uF Paper, 200v. working				
R11	10 megohms, 1 watt		C13	470 uuF Mica Padder, $\pm 2\frac{1}{2}\%$		C34	200 uuF Mica				

D.C. RESISTANCE OF WINDINGS

Windings	D.C. Resistance in Ohms
Aerial Coil (M.W.):	
Primary (L2)	18
Secondary (L3)	6
Aerial Coil (S.W.):	
Primary (L8)	3
Secondary (L9)	*
R.F. Coil (M.W.):	
Primary (L4)	80
Secondary (L5)	4
R.F. Coil (S.W.):	
Primary (L10)	10
Secondary (L11)	*
Oscillator Coil (M.W.):	
Primary (L6)	*
Secondary (L7)	2
Oscillator Coil (S.W.):	
Primary (L12)	*
Secondary (L13)	*
I.F. Transformer Windings	10
I.F. Filter (L1)	17.5†
L.T. Choke (L18)	*
Smoothing Choke (L75)	200
R.F. Filter Choke (L73, L74)	*
R.F. Filter Choke (L71, L72)	9
Loudspeaker Input Transformer (T1):	
XA8 Primary	425 or 510
XA8 Secondary	*
TU213 Primary	400
TU213 Secondary	*
Vibrator Transformer (T71):	
17568 Primary	*
17568 Secondary	300
17892 Primary	*
17892 Secondary	150

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.

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

*Less than 1 ohm.

SOCKET VOLTAGES.

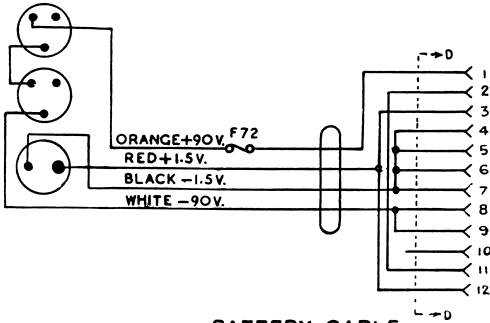
Valves	Bias Volts		Screen to Chassis Volts		Anode to Chassis Volts		Anode Current mA		Filament Volts
	B	V	B	V	B	V	B	V	
1T4 R.F. Amp., M.W. S.W.	0	0	25†	30†	84	90	0.7	0.7	1.3 - 1.4
			35†	40†			1.2	1.2	
1R5 Converter	0	0	50†	60†	50†	60†	1.0	1.0	1.3 - 1.4
1T4 I.F. Amp., M.W. S.W.	0	0	25†	30†	84	90	0.7	0.7	1.3 - 1.4
			35†	40†			1.2	1.2	
1S5 Det., A.V.C., A.F. Amp.	0	-1.4	15*	15*	20*	20*	0.06	0.06	1.3 - 1.4
3V4 Output	-5.5	-5.5	84	90	80	85	7.0	8.0	1.3 - 1.4

*Calculated from measured current. An ordinary voltmeter will register a lower value.

†These readings may vary, depending on the resistance of the voltmeter used.

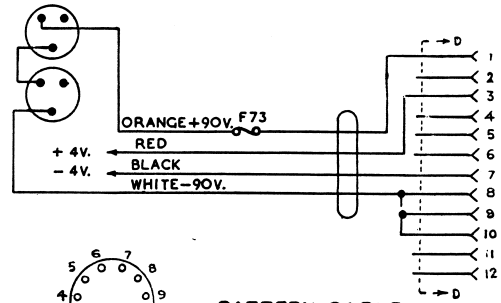
Measured with no signal input. Volume control maximum clockwise.

PLUGS VIEWED FROM WIRING SIDE.

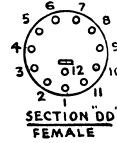


BATTERY CABLE No. 1980I

PLUGS VIEWED FROM WIRING SIDE.



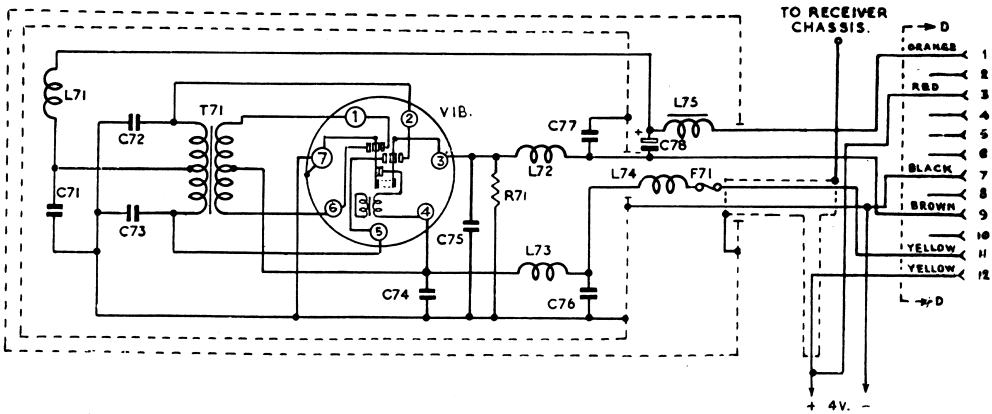
BATTERY CABLE No. 19803



VIBRATOR POWER UNITS 19190, 22770 — CIRCUIT CODE.

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
INDUCTORS			CAPACITORS					
L71	R.F. Choke	13809	C72	0.02 uF Paper, 600v. working		C78	20 uF 200, P.V. Electrolytic	
L72	R.F. Choke	13809	C73	0.02 uF Paper, 600v. working		C79	0.1 uF Paper, 200v. working (22770 only)	
L73	R.F. Choke	3149	C74	0.1 uF Paper, 400v. working		TRANSFORMERS		
L74	R.F. Choke	3149	C75	0.01 uF Paper, 600v. working		T71	Vibrator Transformer (19190)	17568
L75	L.F. Choke	8321	C76	0.1 uF Paper, 400v. working			Vibrator Cartridge (19190)	17892
RESISTORS			C77	0.01 uF Paper, 600v. working			Vibrator Cartridge (22770)	V6804
R71	150 ohms, 1 watt (wire-wound)							V5211
R72	12 ohms, ± 5%, 1 watt (22770 only)							
C71	0.01 uF Paper, 600v. working							

VIBRATOR POWER UNIT No. 19190



6 VOLT VIBRATOR POWER UNIT NO. 22770

