

TRADE SERVICE SHEET

for the

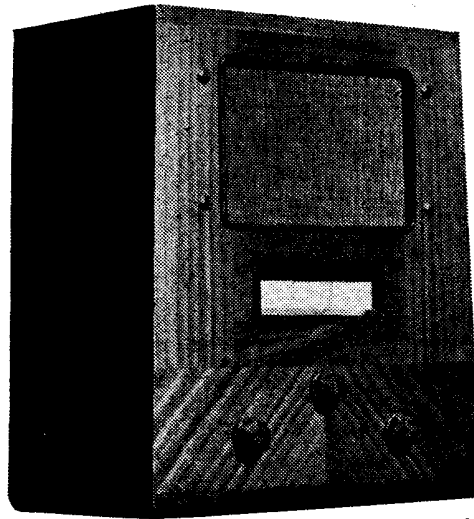
LISSEN

FOUR VALVE

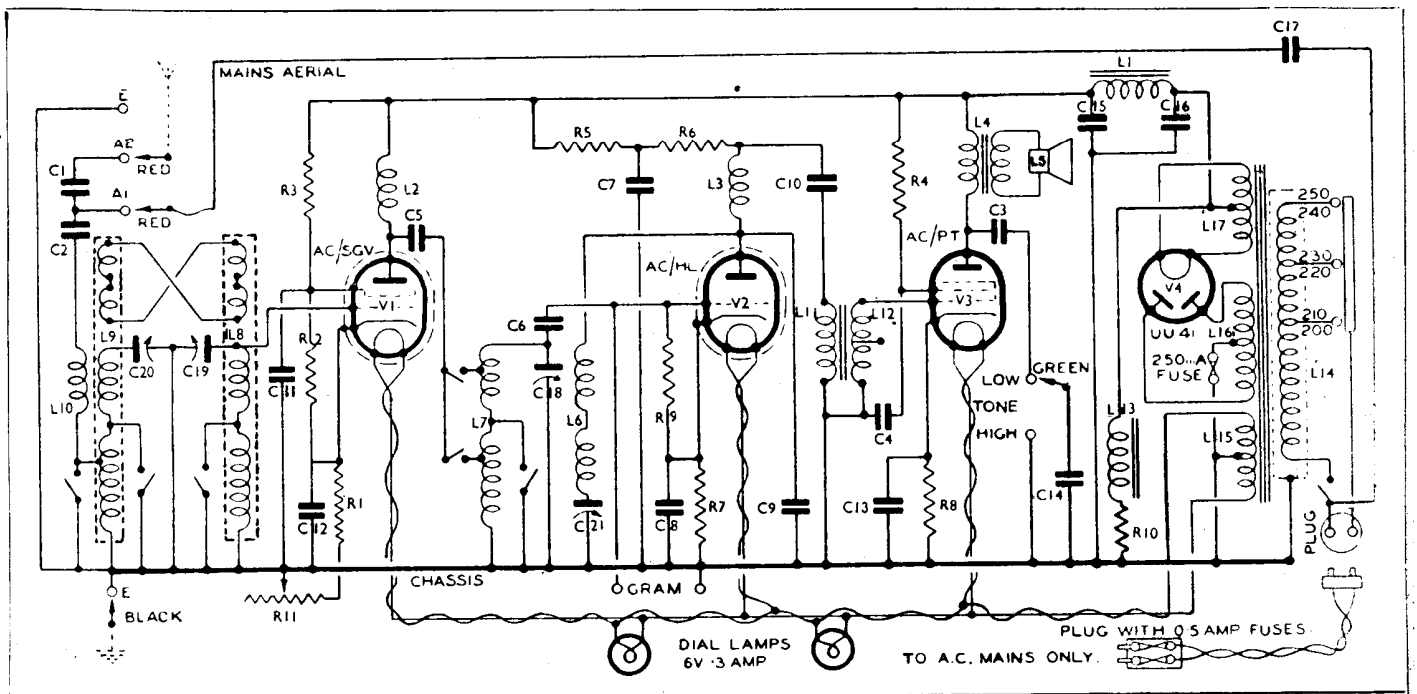
(including Rectifier)

ALL-MAINS BAND PASS RECEIVER

**MODEL
8093**



**200/250 Volts
40/60 Cycle
A.C. Mains**



SPECIFICATION OF MODEL 8093

A Four Valve Receiver (including Rectifier) for operation on A.C. Mains 200/250 volts.

This Instrument is designed for use with External Aerial and Earth. A mains aerial connection is fitted for use where an outside aerial arrangement may not be available.

Selectivity of a high degree is obtained by the arrangement of a loose coupled aerial circuit in conjunction with a Band Pass Filter employing Iron Cored Coils.

The H.F. Circuit employs a Variable Mu (AC/SGV) Valve, this being coupled to a Metallised Detector Valve (AC/HL) followed by a Pentode Valve (AC/PT) operating an Energised Moving Coil Loudspeaker coupled through an Output Transformer.

Volume is regulated by a combined Resistance and Variable Condenser; the Resistance providing for a variation of grid bias to the AC/SGV Valve, while the Condenser operates in the reaction circuit of the Detector Valve.

SERVICING MODEL 8093

On turning the switch to "M" or "L" the dial scale becomes illuminated—failure to do so indicates either the scale lamp loose in its holder, a disconnection in the mains lead or a "blown" fuse, the latter being incorporated in the plug of the mains lead.

Voltage and emission readings should be checked by comparison with Table 1.

TABLE 1

Valve	Voltage on Load	*Voltage off Load	Emission
V1. AC/SGV.	Anode 250 Screen 80	Anode 260 Screen 90	6.5 m/a. 1.0 m/a. Just below Reaction Point.
V2. AC/HL.	Anode 85	Anode 260	3.6 m/a.
V3. AC/PT.	Anode 250 Aux Grid 220	Anode 325 Aux Grid 310	30 m/a. 4 m/a.

Readings taken at Valve Holders.

*Actual measurements with meter of 166 ohms per volt (Avometer) with only the valve concerned removed.

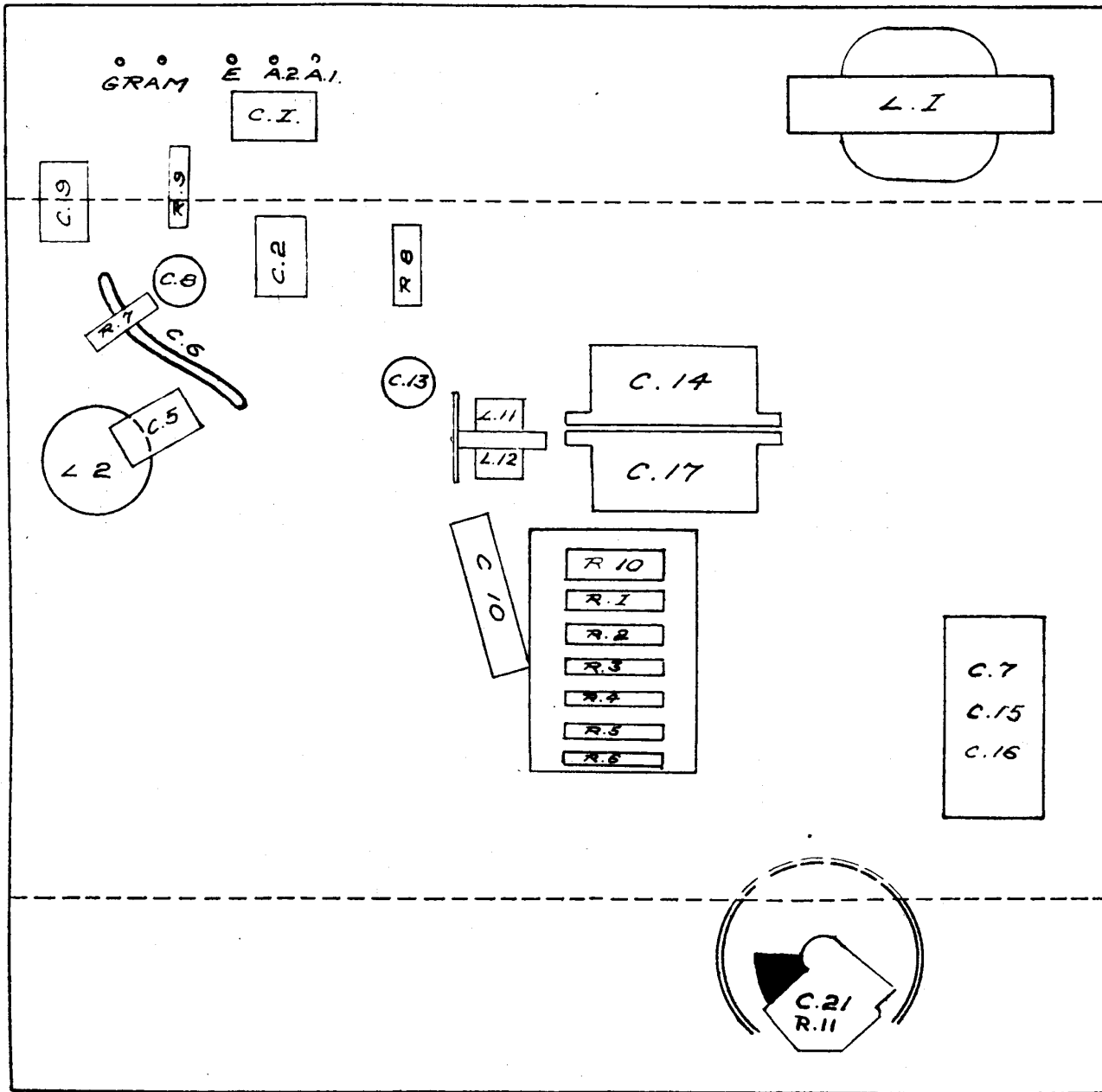
In the event of readings obtained not corresponding to within 10% of those given in Table 1, an examination should be made of the wiring associated with the particular circuit where the discrepancy is observed. (See particulars for REMOVING CHASSIS FROM CABINET).

Having checked and found the wiring to be correct, the component parts should be tested for internal disconnection, reference being made to Table 2.

TABLE 2

V1. AC/SGV.	Choke L2 Coils L8, L9, L10 Resistances... .. R1, R2, R3, R11 Condensers C1, C2, C5, C11, C12, C19, C20
V2. AC/HL.	Choke L3 Coils L6, L7 Resistances... .. R5, R6, R7, R9 Condensers C6, C7, C8, C9, C10, C18, C20
V3. AC/PT.	Transformers L4 (Prim. and Sec.) L11, L12, L5 (Speaker Speech Coil) Resistances... .. R4, R8 Condensers C3, C4, C13, C14
V4. UU/41.	Choke L1 Speaker Field L13 Mains Transformer L14, L15, L16, L17 Condensers C15, C16, C17 Resistance R10

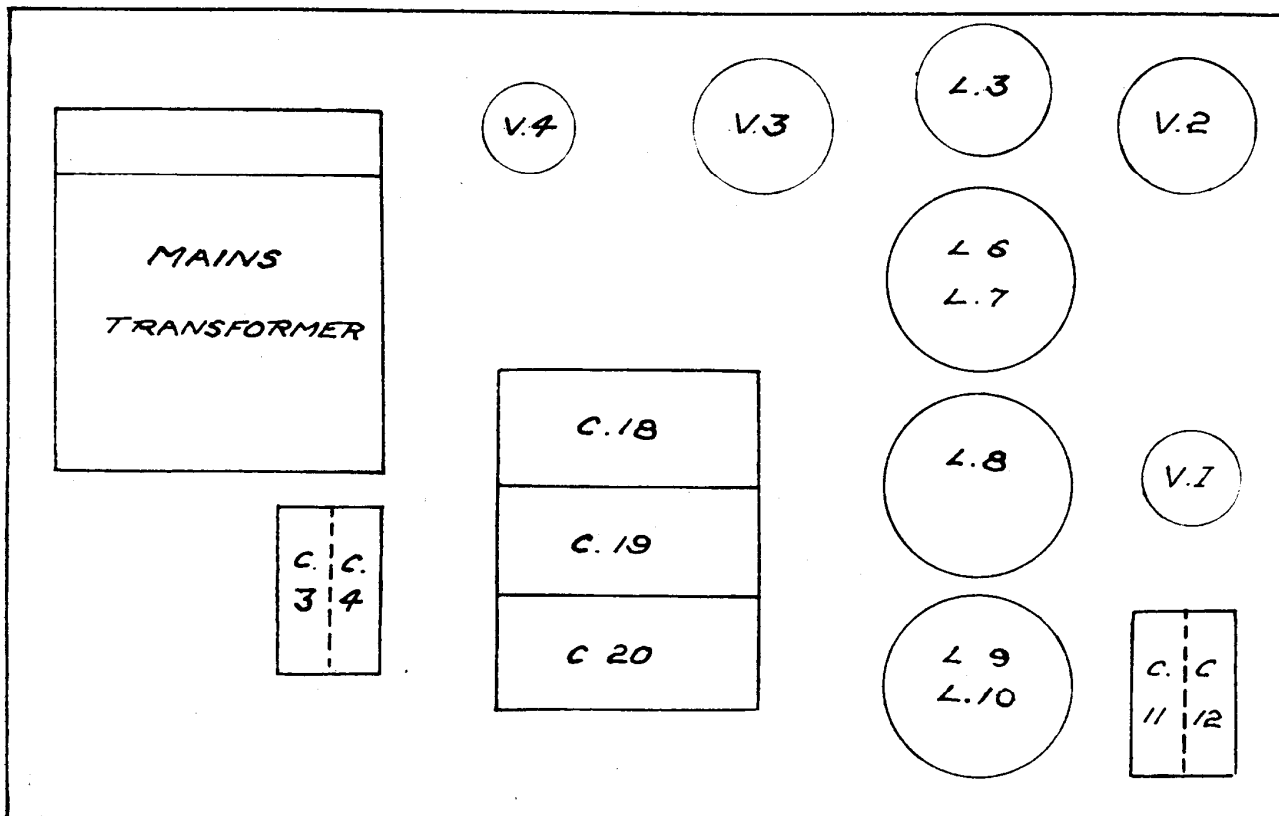
UNDER CHASSIS



C.7 { BLACK
BLUE }

C.15 } BLACK
C.16 } RED

ABOVE CHASSIS



CONDENSER VALUES

D.C. RESISTANCE OF COILS, CHOKES AND TRANSFORMERS

Circuit Indication	Mfd.	Description
C 1	.00005	Mica (Stamp Type)
C 2	.0005	"
C 3	1	In metal case } Twin
C 4	1	In metal case } Twin
C 5	.0001	Mica (Stamp Type)
C 6	.00004	Flexible
C 7	4	Section of 12 mfd Block (Black-Blue)
C 8	.1	Tubular Type
C 9	.001	Mica (Stamp Type)
C 10	.1	Tubular Non Inductive
C 11	1	In metal case } Twin
C 12	1	In metal case } Twin
C 13	15	Electrolytic
C 14	.1	Mica (Moulded)
C 15	4	Section of 12 mfd Block (Black-Red)
C 16	4	" " " "
C 17	.005	Mica (Moulded)
C 18	.0005	Variable (Ganged)
C 19		
C 20		
C 21	.0005	Variable Reaction

Circuit Indication	Description	D.C. Resistance
L1	Smoothing Choke	400 ohms.
L2	H.F. Choke AC/SG Anode lead	450 "
L3	H.F. Choke AC/HL Anode lead	450 "
L4	Output transformer Prim.	400 "
	Sec.	0.3 "
L5	Loudspeaker Speech Coil	1.2 "
L6	Reaction Coil	3.2 "
L7	Det. Grid Coil	1.3 to 1.4 ohms.
L8	2nd Band Pass Coil	
L9	1st Band Pass Coil	19 ohms.
L10	Aerial Coupling Coil	2.5 "
L11	L.F. Transformer Prim.	1,100 "
L12	L.F. Transformer Sec.	7,600 "
L13	Speaker Field	10,000 "
L14	Mains Transformer Pri. Common	200 20 ohms.
	"	220 22 "
	"	240 24 "
L15	Mains Transformer Fil. heater	0.1 "
L16	" " H.T. Sec.	270 "
L17	" " Rectifier heater	0.2 "

RESISTANCE VALUES

Circuit Indication	Description	Colour Code		
		Body	Tip	Dot
R 1	100 Ohms Tubular Type	Brown	Black	Brown
R 2	15,000 " " "	Brown	Green	Orange
R 3	30,000 " " "	Orange	Black	Orange
R 4	10,000 " " "	Brown	Black	Orange
R 5	25,000 " " "	Red	Green	Orange
R 6	25,000 " " "	Red	Green	Orange
R 7	600 " " "	Blue	Black	Brown
R 8	300 " " "	Yellow	Black	Brown
R 9	.5 Meg " " "	Green	Black	Yellow
R 10	3,000 (3 Watt) " " "	Orange	Black	Red
R 11	5,000 Variable (Volume Control)			

REMOVING CHASSIS FROM CABINET

The Cabinet is designed with an inspection board at the bottom (secured by six wood screws) which, on being removed, gives free access to the wiring and components without removing the chassis. In turning the receiver upside down, take care that the valves do not fall out of their holders.

Should it be found necessary to take the chassis out of the cabinet, remove the control knobs by slackening the grub screws. The chassis may then be withdrawn after releasing the screws at each inner corner of the underside of the cabinet.

The Loudspeaker leads are long enough to allow the Speaker to remain in position.

Issued by
LISSEN LIMITED
 SERVICE DEPARTMENT,
 ANGEL ROAD,
 EDMONTON, N.18

