

LISSEN

8108, 8111, 8116, 8117, 8121, 8125, 8128, 8129

EVER READY

5004, 5005, 5006

Four-valve, plus rectifier, two-wave-band superhet with provision for pickup in the table models and low impedance extra loudspeakers in all models. The types of models and their mains supply voltage ratings are shown in the table.

Trade Mark.	Model No.	Type	Voltage Range.	Remarks.
Lissen	8108	R/G	200-250v. 40-100 c/s.	Basic Chassis.
"	8111	Table.	200-250v. 40-100 c/s.	" "
"	8116	Table	200-250v. 25-40 c/s.	" "
"	8117	Table	100-110v. 40-100 c/s.	" "
"	8121	R/G.	100-110v. 40-100 c/s.	" "
"	8125	Table	200-250v. 40-100 c/s.	Modified Chassis.
"	8128	Table	200-250v. 25-40 c/s.	" "
"	8129	Table.	100-110v. 40-100 c/s.	" "
Ever-Ready	5004	Console.	*Available in four Ranges.	Basic and Modified Chassis.
"	5005	R/G.	" "	" "
"	5006	Table.	" "	" "

* 100-110v. 25-40 and 40-100 c/s. 200-250v. 25-40 and 40-100 c/s.

TWO aerial sockets are provided A1 and A2, the latter being for local station reception and with this socket in use signals are fed via C1 to the coupling coil L1 of the inductively coupled band-pass filter circuit in which L2, L4 are the MW coils and L3, L5 the LW coils.

The signal is fed from L4 to the control grid of the frequency changer V1. The cathode circuit of this valve incorporates a fixed biasing resistance R2 and a variable resistance VR1 which acts as a sensitivity control. The oscillator section of V1 employs a tuned grid circuit, R4 and C4 being the grid leak and condenser, while the oscillator coils are L6 (MW) and L7 (LW). L8 is the anode feed-back coil which connects to the HT line via R5.

To obtain extra gain on Gram. the pickup input is switched into the grid circuit of the oscillator section of V1. R5 then acts as an LF coupling resistance and C6 as the coupling condenser to feed

the LF signal via R12 and C15 to the volume control VR2.

On Gram the screening grid circuit of V1 is broken by a pair of switch contacts and on radio another pair of contacts breaks the connection to C6 and R12.

IF signals from V1 are coupled by L9, L10 to the pentode IF amplifying valve V2, which is cathode biased by R10 decoupled by C9.

A second IF transformer, L11, L12, transfers the signal from V2 to the signal diode of the double diode valve V3. The

VALVE READINGS

V	Type	Electrode	Volts	Mas
1	A80A	Anode	275	1.2
	(All valves	Osc anode	77	2.2
	Every Ready)	Screen	72	4
2	A50N	Anode	275	6
		Screen	105	2.5
3	A20B			
4	A70C	Anode	258	27
		Screen	275	3.1
5	A11B	Cathode	400	

Pilot lamps, 3.5v. .3 amp MES. Voltage readings taken with high resistance meter, no signal input and sensitivity control at maximum gain.

LF load resistance is R13, the IF signal being filtered out by R11, C11, C13.

A variable tone control VC4 is connected across R13 and the bias resistance R18.

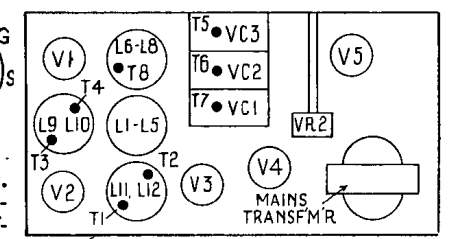
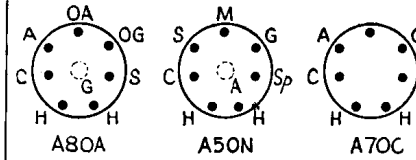
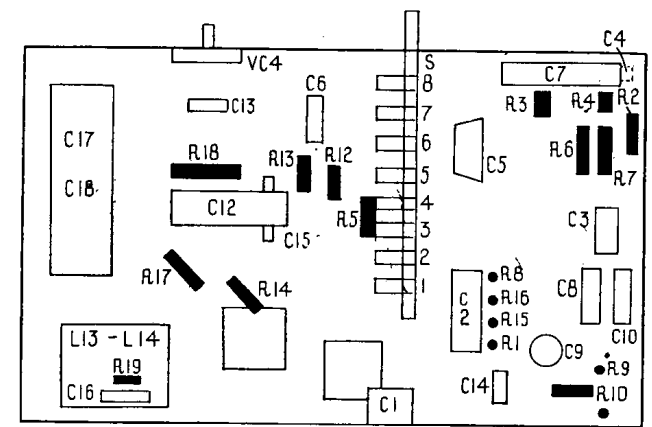
From R13 the LF signals are fed via C15 to the volume control VR2 and thence via the grid stopper R14 to the grid of the pentode output valve V4.

The AVC diode of V3 is fed from the anode of V2 through C14, the AVC load resistances being R15, R16. Full bias is applied to V1, while a smaller potential is tapped off from the junction of R15, R16 to control the grid circuit of V2.

V4 is cathode biased by R17 and R18 decoupled by C12, and bias for the signal diode of V3 is obtained from the junction of R17 and R18. This arrangement biases the signal diode of V3 so that stations which are not of programme strength are suppressed.

The output from V4 is coupled to the low-impedance energised moving-coil loudspeaker by the matching transformer L13,

L14. A permanent degree of tone correction is effected by R19 and C16 across L13. L15 and L16 are the speech coil and the humbucking coil respectively, across which may be connected an extra low impedance loudspeaker. The internal loudspeaker may be muted



CONDENSERS

C	Mfds	C	Mfds
1	.. .15 mm fds.	10	.. .01
2	.. .25	11	.. .0001
3	.. .1	12	.. .20
4	.. .001	13	.. .0001
5	.. .1	14	.. .0001
6	.. .1	15	.. .05
7	.. .2	16	.. .01
8	.. .1	17	.. .8
9	.. .1	18*	.. .8

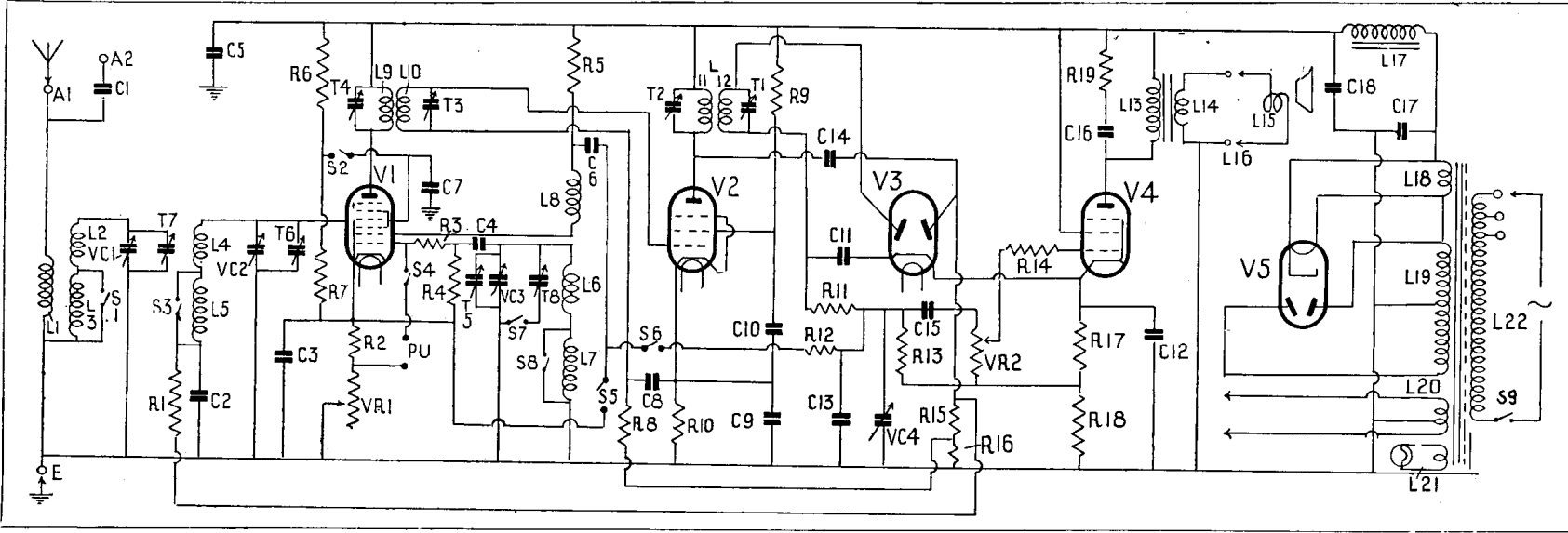
* 16 mfd in modified chassis.

RESISTANCES

R	Ohms	R	Ohms
1	.. 510,000	12	.. 100,000
2	.. 300	13	.. 260,000
3	.. 1,000	14	.. 25,000
4	.. 100,000	15	.. 510,000
5	.. 100,000	16	.. 510,000
6	.. 40,000	17	.. 150
7	.. 40,000	18	.. 500
8	.. 510,000	19	.. 10,000
9	.. 80,000	VR1	.. 2,000
10	.. 200	VR2	.. 500,000
11	.. 100,000		

WINDINGS

L	Ohms	L	Ohms
1	.. 24	12	.. 42
2	.. 2.3	13	.. 700
3	.. 15	14	.. .3
4	.. 2.3	15	.. 1.5
5	.. 15	16	.. .3
6	.. 1.8	17	.. 3,000
7	.. 1.5	18	.. .13
8	.. 45	19	.. 340
9	.. 93	20	.. .07
10	.. 93	21	.. .35
11	.. 42	22	.. 43



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is connected between the top ends of L1 and L2.
PU CIRCUIT—The slider of VR1 is taken to chassis through a 300 ohm resistance which is shunted by a pair of switch contacts which open on gram. This arrangement desensitises V1 to prevent radio breakthrough and takes the place of the screen grid switching which is deleted. R2 is changed from 300 ohms to 150 ohms. R4 is changed to 51,000 ohms.

V4 CATHODE CIRCUIT—A 100 ohm resistance is connected between R17 and R18, R17 being reduced to 50 ohms. R13 is taken to the junction of R17 and the added resistance, while VR2 is taken to the other end of this resistance where it joins R18.

SMOOTHING CIRCUIT—C18 is increased to 16 mfd.

GANGING

IF CIRCUITS—The manufacturers advise that a damping unit comprising a 50,000 ohm resistance and a .1 mfd condenser in series be connected across the winding of the IF transformer opposite to that which is being trimmed.

Adjust VR1 and VR2 to maximum and prevent V1 from oscillating by connecting a large capacity condenser between the oscillator anode and chassis.

Inject a 127 kcs signal into the grid (top cap) of V1 and adjust T1 for maximum output with the damping unit connected across L11. Transfer damping unit to L12 and adjust T2 for maximum output. Repeat procedure for L9 when trimming T3, and L10 when trimming T4.

MW BAND—Check calibration by adjusting gang to minimum capacity and pointer so that it coincides with mark at end of scale.

Inject a 196m signal into A1 and E sockets *via* a suitable dummy aerial and adjust T5, T6 and T7 for maximum output.

LW BAND—Switch receiver to LW and adjust pointer to 1,300m. Inject a 1,200m signal and adjust T8 for maximum output.