EVER READY 5104 LISSEN 8401

Three-valve, plus rectifier, table model superhet covering two wavebands and for operation from 200-250 volt A.C. supplies. Marketed by Ever Ready Radio, Ltd., and Lissen, Ltd., Eley's Estate, London, N.18.

Circuit.—The aerial is coupled to V1, the frequency-changer, by band-pass circuits on both wavebands. The arrangement is simple with transformers for the first section and inductive coupling between the coils to the grid circuit.

The oscillator section of V1 is tuned grid with anode reaction coils. There are trimmers and padders for both bands in this stage. The band-pass section has trimmers for M.W. only, these being on the gang condenser.

R6 and R7 modify the feed-back and give more stable results.

Trimmer-tuned intermediate-frequency transformer link up V2, the I.F. amplifier, and V3, the double-diode output pentode.

R11 is the signal diode load with C24 as the H.F. by-pass and C23 to pass the L.F. on to R12, the volume control. The slider goes to the pentode grid via a parasitic oscillation stopper, R10. Bias is provided by R13.

The A.V.C. diode is fed by C25 and the control voltage is developed across R14 and R15. The cathode bias now acts as A.V.C. delay. It will be seen that V2 is provided with a lower control voltage than V1.

There are a fixed tone corrector, C27, and a variable adjustment, C28–R16, in parallel with the output valve.

H.T. is drawn from a full-wave rectifier, V4, which uses L16, the speaker field, and two electrolytics for smoothing.

GANGING

I.F. Circuits.—Short circuit the oscillator (front) section of the gang condenser. Switch to M.W. Inject 452 kc. via .1 mfd. to V1 grid (i.e., across centre section of gang).

Adjust the four I.F. trimmers for peak on an output meter, keeping the signal always as low as possible to prevent operation of the A.V.C.

M.W. Band.—This band should be adjusted first. See that pointer registers with 180° line with the gang at maximum.

Set T1 approximately two-thirds in. Tune to 214 m., inject 214 m. to A and E, and adjust T2. Then adjust T3 and T4.

Tune to 500 m., inject 500 m. and adjust T1.

Readjust T2, T3 and T4 at 214 m.

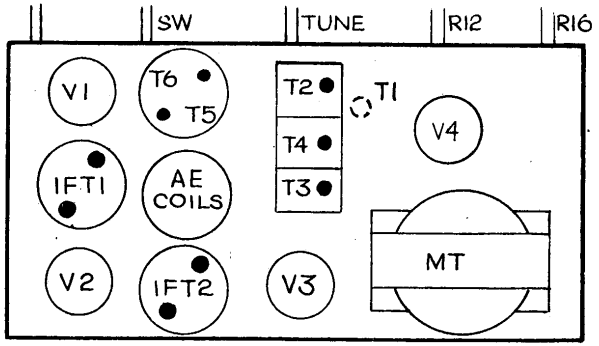
L.W. Band.—Set T5 approximately three-quarters in. Tune to 1,200 m., inject 1,200 m. and adjust T6.

Tune to 1,700 m., inject 1,700 m. and adjust T5.

Readjust T6 at 1,200 m.

WINDINGS

L.	Ohms	L.	Ohms
1	11.8	10, 11, 12, 13	6.7
2	2.7	14	200
3	13.4	15	V. low
4	2.7	16	1,500
5	13.4	17	V. low
6	2	18	530
7	6.4	19	V. low
8	3.8	20	36
9	11.7		



Layout of the top of the Ever Ready chassis, identifying the trimmers and main features.

VALVE READINGS

V.	Type	Electrode	Volts	Ma.
1	A36B	Anode	246	1.7
		Screen	79	4.7
		Osc. Anode	108	6
		Cathode	1.9	12.4
2	A50P	Anode	246	8.3
		Screen	172	2.9
		Cathode	1.7	11.2
3	A27D	Anode	238	35
		Screen	246	5.4
		Cathode	5.8	40.4
4	A11D	Anode to anode	622 A.C.	—
		Cathode	346	64

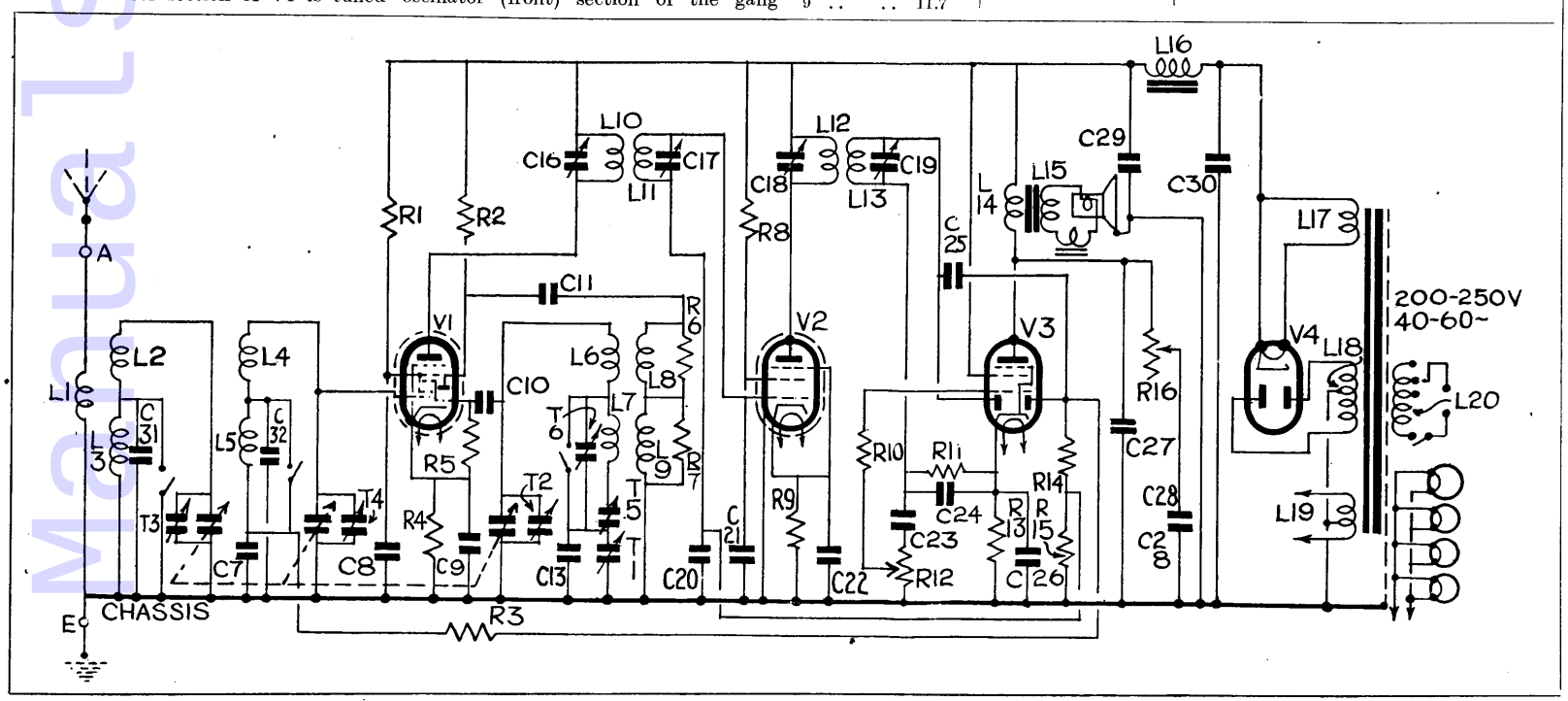
Pilot lamp, 12 mm., 5.5 v., .3 amp.

CONDENSERS

C.	Mfds.	C.	Mfds.
7	.1	24	100 mmfds.
8	.1	25	10 mmfds.
9	.1	26	50
10	100 mmfds.	27	.005
11	300 mmfds.	28	.04
13	300 mmfds.	29	8
20	.1	30	8
21	.1	31	50 mmfds.
22	.1	32	50 mmfds.
23	.05		

RESISTANCES

R.	Ohms	R.	Ohms
1	41,000	9	150
2	20,000	10	110,000
3	1.1 meg.	11	510,000
4	150	12	500,000
5	51,000	13	150
6	1,000	14	260,000
7	2,100	15	260,000
8	25,000	16	50,000



PHILIPS —Continued from opposite page

M.W. Band.—Tune to 180 m. Fit special trimming jig to rear of spindle and turn back manual control until condenser rests against jig. Alternatively, check dial position and calibration, and see that pointer registers correctly at maximum or minimum positions of gang.

Inject modulated 1,600 kc. signal to aerial and earth via standard dummy aerial. Adjust T1, T2, T3, T2, T1 for maximum on an output meter.

Keep input low to prevent operation of A.V.C.

Remove jig and inject 546 kc. Connect the aerial socket of another receiver through 25 mmfds. to the anode of the mixer section of V1. Connect the output meter to the additional receiver.

Tune both receivers to about 550 m. Disconnect auxiliary set and reconnect output meter to 735L. Without touching tuning knob adjust T4 for maximum.

Readjust T1 at 1,600 kc. (180 m.).

Instead of this special padding method, one can simply tune to 550 m., inject 546 kc. and adjust T4.

L.W. Band.—Trim with T5 at 750 m. (400 kc.) either in the usual way or by using the additional receiver.

Pad with T6 at 1,875 m. (160 kc.) either in the usual way or by using the extra set.

Repeat T5 adjustments.

S.W. Band—There are no adjustments.

Filter Circuit.—Inject to 128 kc., tune for maximum (top of L.W.) and adjust T7 for *minimum*.