

EVER READY

5118

LISSEN 8418

Four-valve, three-waveband, table model superhet for battery operation, using two-volt valves. Made by Ever Ready Radio, Ltd., Eley's Estate, London, N.18.

CIRCUIT.—There is band-pass input on medium and long waves, and a single tuned input circuit on short waves. A.V.C. is applied to V1 grid via R3 and

the grid coils on M. and L.W., C14 being the decoupling condenser.

A.V.C. is also applied on S.W., and an interesting feature is that the separate decoupling condenser, C13, is also used for tracking, i.e., maintaining the necessary frequency difference between input and oscillator circuits over the waveband. C39 is a short-wave neutralising capacity between signal and oscillator grids.

V1 is the frequency-changer with straightforward oscillator arrangements comprising tuned grid coils with separate anode reaction windings.

Air-cored, trimmer-tuned I.F. transformers link up V2, the I.F. amplifier, and V3, the double-diode triode.

The A.V.C. is given delay bias from a potentiometer, R22, 23, 24, in the negative H.T. lead, and is energised from V2 anode, via C33. The signal diode load, R12, feeds the triode grid via an I.F. filter, R13, and a D.C. stopper C29, and the volume control R14. The latter is connected to the bias network to bias the V3 grid.

Resistance-capacity coupling leads to

V4, the output pentode. This has a grid stabiliser, R20, and tone components across the anode circuit. Bias is taken from the network, which is decoupled by C37. C35 decouples the H.T. battery.

Notes.—P.U. sockets are provided, and there is a high-impedance ("live") output for an extension speaker having its own matching transformer.

Batteries.—L.T., 2-v. type GZ24; H.T. Winner 144 v. H.T. consumption, 10.2 ma.; L.T., .5 amp.

GANGING

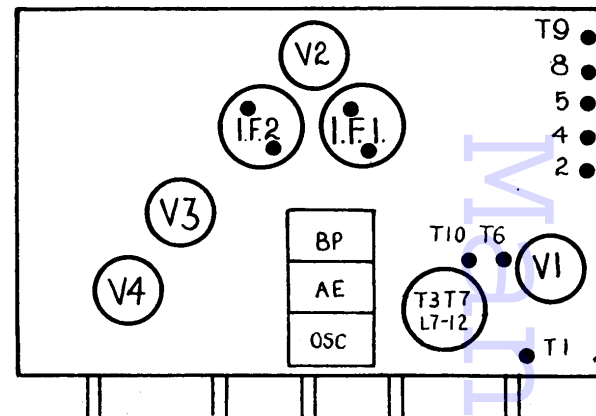
I.F. Circuits.—Short oscillator gang section, tune to M.W., inject 452 kc. to V1 grid, and adjust I.F. trimmers for maximum, reducing input as circuits come into line so that A.V.C. does not operate.

S.W. Band.—See that pointer is on 180° line with gang at maximum.

Inject 15 mc. to aerial, tune to this wavelength, and adjust T1 for first peak heard from *tight* (maximum capacity). Adjust T2 for maximum output.

Inject 7.5 mc., tune to this point, and adjust top turn of S.W. oscillator coil,

How the main parts are arranged on the top of the chassis. Trimmers are adjustable from above.



L7, for maximum, rocking gang slightly. Repeat T1 and T2 adjustments.
M.W. Band.—Set T6 two-thirds in. Tune to 214 m., inject 214 m., and adjust T3, T4 and T5.
 Tune to and inject 500 m. Pad with T6.

Repeat both trimming (214 m.) and padding (500 m.) operations two or three times.
L.W. Band.—Set T10 three-quarters in. Tune to 1,200 m., inject 1,200 m., and adjust T7, T8 and T9. Tune and inject 1,700 m., and pad with T10.
 Repeat trimming and padding two or three times.

VALVE READINGS

V	Type	Electrode	Volts	Ma.
1	K80B	Anode	139	.7
		Screen	45	1.7
		Osc. anode	32	.9
2	K50N	Anode	139	.8
		Screen	38	.4
3	K23B	Anode	92	.8
		Screen	1.5	.8
4	K70B	Anode	136	4.5
		Screen	139	.6

RESISTANCES

R	Ohms.	R	Ohms.
1	110,000	13	110,000
2	11,000	14	500,000
3	110,000	15	51,000
4	110,000	16	510,000
5	26,000	17	260,000
6	51,000	18	510,000
7	50,000	19	510,000
8	11,000	20	110,000
9	110,000	21	51,000
10	110,000	22	100
11	260,000	23	50
12	510,000	24	350

CONDENSERS

C	Mfds.	C	Mfds.
12	10 mmfds.	29	.05
13	.01	30	.1
14	.1	31	100 mmfds.
15	.1	32	.05
16	100 mmfds.	33	10 mmfds.
17	500 mmfds.	34	500 mmfds.
20	.1	35	.2
21	.2	36	50
22	.1	37	50
23-26	300 mmfds.	38	.05
27	.1	39	twisted wire
28	100 mmfds.		wire

Automatic bias is provided by R 22, R 23, and R 24 in the negative anode current path between L.T. negative and H.T. negative. Triode bias, A.V.C. delay and output valve bias are provided. The set is band-pass on M. and L.W.

WINDINGS

L	Ohms.
1	11.4
2	2.5
3	11.1
4	V. low
5	2.5
6	11.0
7	V. low
8	1.8
9	5
10	V. low
11	7.3
12	16.6
13-16	6.8
17	650
18	V. low

