

EVER READY

5105

Five valve, plus rectifier, table model superhet with R.F. stage and covering three wavebands. For 200-250 v. 40-60-cycle A.C. supplies. Marketed by Ever Ready Radio, Ltd., Eley's Estate, London, N.18.

Circuit.—The aerial input to V1, a radio-frequency amplifier, is by transformer coils on each of the three wavebands. A.V.C. is applied on all bands. Transformers also from the coupling to V2, the frequency-charger. Here again A.V.C. is applied on all bands.

The oscillator section of V2 is tuned grid and there is a separate anode reaction coil for each band. Resistors are included to give a smoother feedback over the whole frequency ranges.

Straightforward trimmer-tuned I.F. transformers link up V2, V3 and V4. V3 is the I.F. amplifier, and V4 the double-diode triode.

The A.V.C. diode is energised from V3 anode via C33. The D.C. due to the rectified carrier is developed across the potentiometer R27, R25, R26, from which various voltages are taken for A.V.C. Delay bias is obtained by making the cathode of V4 positive by the inclusion of R22 and R23.

The signal diode load is R21, R20 forming an I.F. stopper. L.F. is taken by C38 to the volume control, R24, which forms the triode grid leak and is returned to the bottom of R22 for bias. C39 and R19 constitute the tone control, and a pick-up connection is made via C38.

R31 and C41 decouple V4 anode. R30 is the anode load and C42 passes the L.F. to R34, the grid load of V5. R33 is an oscillation stopper and R32 provides negative feedback from the anode for tone improvement.

A connection is provided for an extension speaker having its own high-impedance pentode matching transformer.

V6 is a full-wave rectifier with a choke, L23, and two electrolytics for smoothing. C49 by-passes mains H.F. "noise" to chassis.

GANGING

I.F. Circuits.—Short oscillator (rear) section of the gang condenser. Switch

to M.W. Inject modulated 473 kc. via .1 mfd. between V2 signal grid and chassis. Adjust I.F. trimmers for maximum on an output transformer, keeping the signal low so that the A.V.C. does not operate.

L.W. Band.—See that pointer registers with 180° line with gang at maximum capacity. Set T1 two-thirds in. Tune to 1,000 m.

Inject 1,000 m. to aerial and earth sockets, and adjust T2, T3 and T4 for maximum.

Tune to 1,700 m., inject 1,700 m., and pad with T1.

Repeat both 1,000 and 1,700 m. adjustments.

M.W. Band.—Set T5 two-thirds in. Tune to 214 m., inject 214 m., and adjust T6, T7 and T8 for maximum.

Tune to 500 m., inject 500 m., and pad with T5.

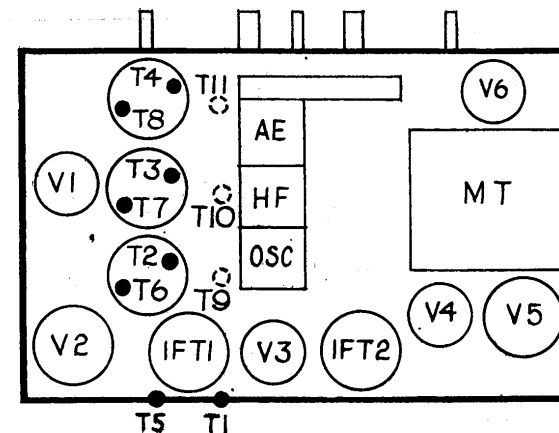
Repeat both 214 and 500 m. adjustments.

S.W. Band.—Tune to 15 mc. Fully unscrew T9. Inject 15 mc., and screw in T9 until first peak is heard. This peak (with the lowest capacity) is the one required.

Adjust T10 and T11 for maximum.

Inject and tune 6 mc. and adjust the spacing of the top turn of the S.W. oscillator coil for maximum while rocking the gang.

Repeat operations.



How parts are placed on the top of the chassis. Those trimmers underneath are also indicated.

RESISTANCES

R.	Ohms.	R.	Ohms.
1	110,000	19	2 meg.
2	110	20	510,000
3	25,000	21	260,000
4	10,000	22	80
5	2,100	23	1,500
6	100	24	500,000
7	41,000	25	260,000
8	5,000	26	510,000
9	20,000	27	260,000
10	51,000	28	110,000
11	200	29	510,000
12	260,000	30	41,000
13	200	31	11,000
14	1,500	32	250,000
15	5,100	33	51,000
16	30,000	34	510,000
17	250	35	150
18	260,000	36	2,500

CONDENSERS

C.	Mfds.	C.	Mfds.
4	5 mmfds.	35	.1
5	.05	36	.1
9	.1	37	50 mmfds.
10	.1	38	.05
11	200 mmfds.	39	.002
12	.1	40	50
13	.05	41	2
14	5 mmfds.	42	.05
18	.1	43	.025
19	.1	44	50
20	100 mmfds.	45	8
21	8	46	8
22	300 mmfds.	47	.0033
28	400 mmfds.	48	.005
33	10 mmfds.	49	.005
34	.1	50	.1

WINDINGS

L.	Ohms.	L.	Ohms.
1	2	14	1.7
2	10.4	15	5
3	140	17	2.9
5	2.5	18	9.6
6	43	19-22	6.7
7	7.9	23	230
8	2.2	24	650
9	137	26	240
11	2.4	27	23.5
12	45		

Fault in Push-Pull

A RECEIVER employing push-pull output developed a slight hum. By stage-to-stage testing the fault was traced to the output circuit. One of the push-pull pentodes was taking less current than the other.

The bias on the valve with the low reading was decreased in order to balance the valves up. The hum still continued.

On inspecting the lead from the anode of the valve with the low reading, to the primary of the output transformer, a dry joint was revealed where it joined the winding. This was resoldered and the set returned to normal.—ALFRED ROSE.

