

BURNDEPT 317

Five-valve battery superhet with R.F. stage and Q.P.P. output. Made by Burndept, Ltd., Erith, Kent.

Circuit.—Transformer coils for each band couple the aerial to V1, a radio-frequency amplifier. A.V.C. is applied via R3, decoupled by C2, C1 being a D.C. stopper. Tuned-grid transformers on M. and L.W., and a single-tuned circuit on S.W., couple V1 to V2, the frequency changer. The oscillator circuits have anode reaction coils on each band.

Permeability trimmed I.F. transformers link up V3, the I.F. amplifier, and V4, the double-diode triode. The A.V.C. diode is energised via C19 and is delay biased by the load, R14, being returned to a negative point.

R10-C20 are the signal diode load, R13-C22 forming an H.F. filter and the L.F. being passed to the volume control, R15, by C23. R15 is returned to a negative point for bias, and a switched pick-up connection is provided.

A push-pull transformer drives V5, a Q.P.P. output valve, and a push-pull output transformer drives the speaker. C25 and R17 form a tone control.

Bias is provided by R18 and R19 in the negative H.T. return, being decoupled by C24. H.T. is decoupled by C26.

Valves: V1, VP2B; V2, TH2; V3, VP2B; V4, HL21DD; V5, QP22B.

Voltage and current readings are not available for this receiver.

Notes:—There is no Vidor equivalent to this receiver.

The H.T. battery is a 126 v. Vidor unit: type L5043.

GANGING

I.F. Circuits.—Inject 473 kc. to the grid of V1, with the oscillator section of

the gang shorted, and adjust the cores of the I.F. coils for maximum.

L.W. Band.—Inject 1,000 metres to the aerial terminal, tune to this point on the dial and adjust T1 for calibration and T2 and T3 for maximum.

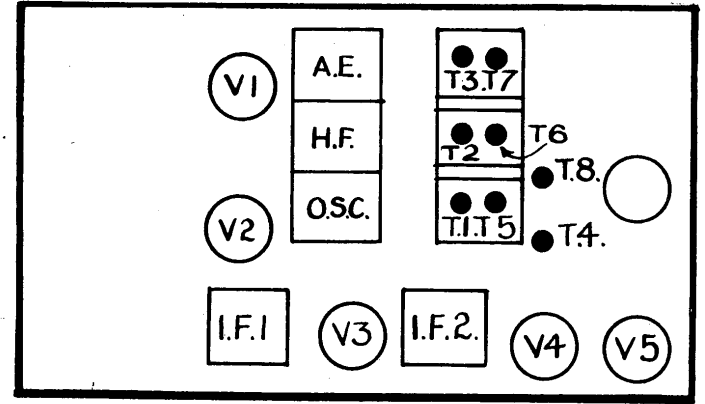
Pad with T4 at 2,000 m., rocking gang slightly.

M.W. Band.—Inject and tune to 200 m. Adjust T5 for calibration and T6 and T7 for maximum. Pad with T8 at 500 m.

S.W. Band.—Inject and tune to 16 m., and adjust T9, T10 and T11. Adjust cores of three S.W. coils at 50 m., and then repeat adjustment of T9, T10 and T11 at 50 m.

CONDENSERS

C	Mfds.	C	Mfds.
1	.0001	14	.1
2	.1	15	150 mmfds.
3	.1	16	150 mmfds.
4	.25	17	150 mmfds.
5	.1	18	170 mmfds.
6	.0001	19	40 mmfds.
7	.1	20	.0002
8	.0001	21	.0005
9	150 mmfds.	22	.0002
10	50 mmfds.	23	.1
11	500 mmfds.	24	.25
12	.005	25	.01
13	.1	26	.8



The 317 is a five-valve receiver and, as it is battery operated, this means there is a radio-frequency stage.

The circuit closely follows "mains" set lines. Bias is automatic and the output valve is a quiescent push-pull type.

RESISTANCES

R	Ohms	R	Ohms
1	50	11	.5 meg.
2	.1 meg.	12	.5 meg.
3	.25 meg.	13	50,000
4	.25 meg.	14	1 meg.
5	50,000	15	50,000
6	.25 meg.	16	1 meg.
7	50,000	17	50,000
8	1,000	18	600
9	100	19	100
10	.5 meg.		

Valve Trouble in Midget

I CAME across a rather interesting fault in an American midget which would operate normally on D.C., but which, on A.C., was so gruff and distorted that the reception was unintelligible.

I checked the rectifier circuit and smoothing condensers, which all proved O.K., and was at a loss until I realised that any capacity between heater and cathode would have more effect on A.C. than D.C.

I tested with a neon lamp, and found that on one valve A.C. passed quite freely between heater and cathode, while to D.C. it was almost an open circuit. On changing the valve, the set worked perfectly on both A.C. and D.C.—VANNI SCARFI, Newport.

THE efficiency of a receiver had gone down on the long-wave band only. A resistance test across a long-wave coil read 18 ohms instead of 30. Testing the L.W. coil, with the leads disconnected, showed it to have the correct resistance.

The wave-change was found to have metal filings on the insulated portion, and testing indicated a resistance of 50 ohms across the contacts with all wires off and switch in open position.—ALFRED ROSE, London, N.4.

