

# BURNDEPT 313, 315

Four-valve, plus rectifier and tuning indicator, two waveband superhet in two table versions, model 315 having 7 mechanical push-buttons. For 200-250 volt, 50-100 cycle supplies. Made by Burndept, Ltd., Light Gun Factory, Erith, Kent.

**Circuit.**—Transformer coils with switched primaries, for each of the two wavebands, couple the aerial to V1, a frequency-charger with similar coils for the oscillator. Trimmer-tuned I.F. transformers couple V2, the I.F. amplifier and V3, a double-diode for A.V.C. and demodulation. The signal diode feeds an electronic tuning indicator, V4, as well as the output pentode, V5.

V6 is a full-wave rectifier working at a somewhat lower A.C. voltage than usual and with a straightforward smoothing circuit. Wavebands: 190-570, 800-2,000 metres. Provision for P.U. and low-impedance extension speaker. Mains consumption, 65 watts. The cabinet has a detachable base. Instructions for removing chassis are inside cabinet.

### GANGING

**I.F. CIRCUITS.**—Adjust I.F. trimmers at 473 kc.  
**L.W. BAND.**—Inject 1,000 metres and adjust T4 and T5. Pad with T6 at 2,000 metres while rocking gang slightly.  
**M.W. BAND.**—Trim at 200 metres with T1 and T2, and pad at 500 metres with T3, rocking gang.

### PUSH-BUTTONS

A simple mechanical system is utilised. The set is tuned manually to a required station. The knob of any push-button is then slackened, the button pushed firmly in, and the knob retightened.

### CONDENSERS

C	Mfds.	C	Mfds.
1	.0001	16	.1
2	.1	17	80 mmfds.
3, 5, 19	100 mmfds.	18	.1
4	.1	20	.0002
6	.0002	21	.0002
7	150 mmfds.	22	.0002
8	500 mmfds.	23	.05
9	50 mmfds.	24	.01
10	10 mmfds.	25	100
11	.0002	26	.05
12	.1	27	.24
13	.25	28	.16
14	.1	29	.01
15	.0001		

### RESISTANCES

R	Ohms.	R	Ohms.
1	30,000	11	100,000
2	50,000	12	.5 meg.
3	200	13	100,000
4	50,000	14	10,000
5	30,000	15	5 meg.
6	300	16	.5 meg.
7	100,000	17	100,000
8	50,000	18	150
9	1 meg.	19	50,000
10	5,000		

### VALVE READINGS

V	Type	Electrode	Volts	Ma.
1	ECH2	Anode	270	2.3
		Screen	85	5.8
		Osc. anode	90	5
2	EF9	Cathode	2.5	12
		Anode	270	5.2
		Screen	95	1.5
3	EB4	Diodes only	—	—
		Tuning indicator only	—	—
4	EMI	Anode	255	34
		Screen	270	5.2
		Cathode	6	39
6	AZ3	Anodes	260A.C.	—
		Cathode	300D.C.	62

Pilot lamps, 6.3 volts.

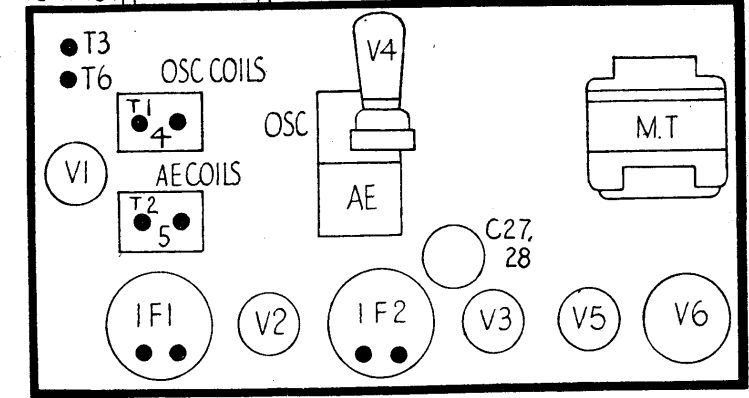
### Bias Fault Makes Set Dead

A FERRANTI Arcadia came in with a report of "Dead, no sigs." Testing main H.T. line revealed low voltage and heavy current drain. The main block condenser tested O.K., and there was no S.C. to earth anywhere on the H.T. circuit.

Removing output valve restored voltage to normal no-load rating. Checking circuit narrowed the field to the bias section of the output valve (a triode).

The cathode and grid circuits proved correct, but the coupling condenser was found to have developed a high resistance leak, thus applying a positive voltage to the grid of the triode. This valve was consequently taking such a heavy

TUNING □ WC □ VC & ON-OFF □ TONE □



The chassis of the 313 and 315 models are similar except that the latter is fitted with a mechanical push-button system. Electrically the sets are identical.

current that it caused the voltage drop that was the first symptom.

Replacing the condenser and the valve, which had suffered lost emission, cured the fault satisfactorily.—G. P. WALKER, Bolton, Lancs.

**IDENTIFICATION** of a wire, valve socket, or component is often a formidable job with compact modern sets. I use a simple method which often saves me a lot of time in tracing.

First, I measure the main H.T. line voltage and of any subsidiary lines. I then measure the voltage at the point concerned; the reading obtained often identifies the point immediately and, at the least, narrows down possibilities considerably.

To anyone with a fair knowledge of the orders of voltage generally found at various points in typical sets this method is sure to prove useful.—J. C., London, N.W.

