

# BURNDIPT 319

Five valve, plus rectifier and tuning indicator, superhet covering two short wavebands and medium waves. For 200-260 volt, 50-100 cycle A.C. supplies. Made by Burndipt, Ltd., Light Gun Factory, Erith, Kent.

**Circuit.**—Aerial transformers on each of the three wave-bands form the input to V1, a radio-frequency amplifier. Tuned grid H.F. transformers couple V1 to V2, the frequency-changer, and this has similar coupled circuits in the oscillator section.

Permeability-adjusted I.F. transformers link up V3, the I.F. amplifier, and V4, a double-diode, double-cathode valve. This is used for demodulation and A.V.C. in the usual way and also energises V7, a cathode-ray tuning indicator.

Without intermediate L.F. amplification the

signal passes from the volume control to V5, a high-slope output pentode. This has a shunt tone circuit.

H.T. is provided by V6, a full-wave rectifier, in conjunction with a straightforward smoothing circuit, using a choke. The speaker is a permanent magnet type.

Switched connection is provided for a pick-up, and a 3-ohms extension speaker can be fitted.

WAVEBANDS: 13.5-50, 50-180, 180-500 metres. Mains consumption, 54 watts. Pilot lamps, 6.5v. .3 amp.

### GANGING

**I.F. CIRCUITS:** Adjust the I.F. cores at 473 kc. Adjust the secondary cores first. These are the top ones.

**CALIBRATION:** See that the pointer is at end of scale with gang at maximum.

**S.W.1 BAND:** Inject 13.5 metres, and adjust T1, T2 and T3. Pad by means of the S.W. osc. coil core, P1, at 50 metres.

**S.W.2 BAND:** Inject 50 metres and adjust T4, T5, T6. Pad with C16 at 170 metres.

**M.W. BAND:** Inject 200 metres and adjust T7, T8 and T9. Pad with C14 at 500 metres.

### VALVE VOLTAGES

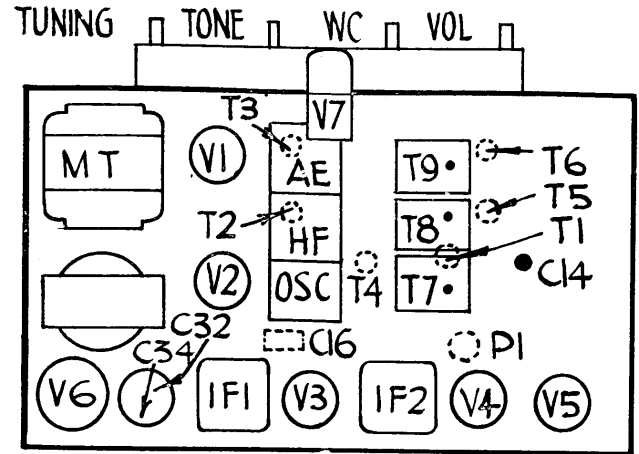
| V. | Type. | Electrode.    | V volts. |
|----|-------|---------------|----------|
| 1  | EF8   | Anode         | 285      |
|    |       | Screen        | 290      |
| 2  | ECH3  | Anode         | 285      |
|    |       | Screen        | 120      |
|    |       | Osc. anode    | 185      |
| 3  | EF9   | Anode         | 285      |
|    |       | Screen        | 95       |
| 4  | EB4   | Diodes only   | —        |
| 5  | EL3   | Anode         | 260      |
|    |       | Screen        | 290      |
| 6  | AZ3   | Anodes (A.C.) | 265      |
| 7  | EM1   | Target        | 290      |

### RESISTANCES

| R  | Ohms.    | R     | Ohms.   |
|----|----------|-------|---------|
| 1  | .5 meg.  | 15    | .1 meg. |
| 2  | 200      | 16    | .1 meg. |
| 3  | 1,000    | 17    | 5,000   |
| 4  | 30,000   | 18    | .5 meg. |
| 5  | 20,000   | 19    | .5 meg. |
| 6  | .5 meg.  | 20    | .5 meg. |
| 7  | 150      | 21    | 50,000  |
| 8  | 50,000   | 22    | 5 meg.  |
| 9  | 100      | 23    | .1 meg. |
| 10 | 20,000   | 24    | 5,000   |
| 11 | 250      | 25    | 100,000 |
| 12 | .5 meg.  | 26    | 150     |
| 13 | .1 meg.  | 27    | 50,000  |
| 14 | .25 meg. | Field |         |

### CONDENSERS

| C  | Mfds.       | C  | Mfds.       |
|----|-------------|----|-------------|
| 1  | 100 m.mfds. | 20 | 150 m.mfds. |
| 2  | .1          | 21 | 100 m.mfds. |
| 3  | .1          | 22 | .1          |
| 4  | .1          | 23 | .1          |
| 5  | 100 m.mfds. | 24 | .1          |
| 6  | 150 m.mfds. | 25 | 200 m.mfds. |
| 7  | 150 m.mfas. | 26 | .1          |
| 8  | .1          | 27 | 200 m.mfds. |
| 9  | .1          | 28 | .05         |
| 10 | 100 m.mfds. | 29 | .01         |
| 11 | 100 m.mfds. | 30 | 100 m.mfds. |
| 13 | 100 m.mfds. | 31 | .05         |
| 14 | 500 m.mfds. | 32 | .24         |
| 16 | .002        | 33 | .25         |
| 18 | .005        | 34 | .16         |
| 19 | 150 m.mfds. | 35 | .01         |



The model 319 covers two short wavebands and the medium band. In the circuit diagram below the coils are drawn with the medium wave circuits at the top. Trimmers are distributed both above and below the chassis.

### Cleaning Volume Controls

**MOST** carbon-track volume controls have either wiping contacts or stationary ring contacts pressed on the track by a moving arm.

Most trouble with the first type is between the wiper and the centre tag contact. Springing off the collar on the spindle enables spindle and wiper to be slipped out; in some types a nut at the back does the trick.

The metal ring connected to the centre tag should be cleaned with methylated spirit and lightly rubbed with gauge 00 sandpaper. Then clean off with "meth." and put a little vaseline on. Go over this vaseline with a clean soldering iron to "boil" it into the sandpapered abrasions.

Go over the carbon track very gently with a BB pencil, afterwards wiping off the pencil-lead with a pipe-cleaner.

The moving contact end need only be rubbed on a piece of smooth paper to clean it, but its contact with the centre-tag ring should be cleaned with meth. and vaseline in the same way as the fixed ring.

The spring-ring contact controls can be handled in the same way, but a card mask should be put between track and ring during the process.

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When valve caps come off they can be refixed with cabinet filling compound. If the lead has been broken, a short length of fuse wire can be soldered on. The heat of soldering the lead to the top cap will melt the compound, which, when set, will hold the cap firm.—J. B.

