

# BURNDIPT 252

Three-valve, plus rectifier, four-waveband TRF receiver suitable for operation from AC or DC mains, 200-260 volts. Made by Burndipt, Ltd., Erith, Kent.

**A**LTERNATIVE aerial taps are provided, A1 through the condenser, C1, and A2 which provides an aerial trimming capacity, T5.

On the short and ultra-short wavebands the grid of the HF pentode amplifying valve, V1, is connected across the aperiodic coil, L1. On medium and long waves the bandpass tuning unit comprising the coupling coil, L1, and the tuning coils L2, L4 (MW), L3 and L5 (LW), are brought into circuit tuned by VC1 and VC2 sections of the ganged condenser.

V1, which has variable-mu characteristics, has a fixed bias resistance, R2, and this is connected to the volume control, R4. R3 feeds R4 with current from the HT line so that the potentials developed across R4 may be used to increase the biasing of the cathode of V1

as the volume control is rotated. R2 and R4 are decoupled by C3.

V1 is coupled to the grid of V2 by a tuned anode circuit to which reaction may be applied. L11 (MW) and L12 (LW) are the anode coils and are tuned by VC3 section of the ganged condenser. Decoupling and voltage dropping in the anode circuit of V1 is effected by R5, C4, and C5.

On the short wave bands separate anode and reaction coils are brought into circuit. L6 and L8 are the ultra-short wave band coils, and L7 and L9 form the second short wave band coils, with L10 shorted out of circuit. L10 is the common reaction coil coupled to the medium and long wave tuning coils, L11 and L12. VC4 is the reaction control.

V2 is a pentode valve of high impedance operating as a leaky grid detector, C6 and R7 being the grid condenser and leak. The screen of the valve is fed from the HT line through R8, which is decoupled by C7.

The anode circuit of V2 comprises R9 with the HF filter network C8 and C9 and R10 which is the LF coupling resistance. As previously stated, reaction is applied to the tuned anode coils, and the necessary HF feedback to the reaction windings, L8, L9, and L10 are derived from R9.

The LF voltages developed across R10 are applied via the LF coupling condenser,

C10; the filter resistance, R11, and the grid stopper, R12, to the pentode output valve, V3. The grid to cathode resistance is R13, which has a high-note by-pass, C11, in shunt with it.

V3 is biased by R14, which is decoupled by C13. The low impedance speaker is coupled to the anode circuit of V3 by the output transformer, L13, L14. A permanent degree of tone correction is effected by the anode to cathode condenser, C14.

HT and LT supply circuits follow conventional lines, the heaters of all the valves and the two pilot lamps being in series with the main dropping resistance, R15, across the mains input. This is filtered by L17, L18 and C18.

HT is obtained from the half-wave rectifying valve, V4, the speaker field, L16, providing smoothing in the positive HT line. C15 is the smoothing condenser, C16 the reservoir condenser, and C17 the anode to cathode by-pass capacity.

### GANGING

All adjustments to the tuned circuits of this receiver are made on medium waves at 200 metres.

A signal of this wavelength should be injected into the aerial and earth terminals through a dummy aerial, and T1, T2, T3, and T4 adjusted for maximum reading on an output meter. T5 should be ad-

justed to give the best results on the particular aerial which is being used with the receiver.

### VALVE READINGS

On 220v, AC mains.

V	Type	Electrode	Volts	Ma
1	VP132I	Anode	150	7
		Screen	150	1.6
2	SPI3C	Cathode	1.1	8.6
		Anode	38	.5
3	PEN36C	Screen	30	.2
		Anode	175	40
4	ID5	Screen	210	6
		Cathode	6.7	46
		Cathode	250	58.2

Pilot lamps, 6.2v, .3 amp.

### RESISTANCES

R	Ohms	R	Ohms
1	500	9	50,000
2	150	10	250,000
3	50,000	11	50,000
4	10,000	12	100,000
5	5,000	13	250,000
6	500	14	150
7	1 meg	15	—
8	750,000		

### CONDENSERS

C	Mfds	C	Mfds
1	.0005	10	.01
2	.02	11	.0002
3	.1	12	.5
4	.25	13	.25
5	.8	14	.005
6	.0001	15	.24
7	.1	16	.16
8	.00005	17	.02
9	.0005	18	.01

