BURNDEPT

Four-valve, plus rectifier, twowaveband superhets. marketed 1935-6. Model CN225 is a radiogram; others are table models. All are suitable for mains supplies of 200-250-volts, 50-100-cycle AC. Made by Burndept, Ltd., Erith.

section of VI is cut off on gram by S8.

Output of V1 is coupled by normal valve.

IFTI

Signals developed across the diode load R16 are fed to volume control R12 input is connected directly across the via C15.

across loads R14 and R15 control V1 obtained by feeding the pick-up into CN201, 225, 226, 231 across loads R14 and R15 control V1 obtained by feeding the pick-up into the grid of V2 via a pair of switch constanding bias for V2.

> reason of cathode resistance R10, which | HT to the oscillator as in the other models. also carries "bleeder" current from V2 screen pot, R8-R9.

Varying anode currents due to AVC on Vi and V2 are made to operate a tuning meter in the common HT supply. decoupled by C10.

From R12 audio signals proceed to the grid of V4, a pentode output valve, Fircuit.—A tapped primary, induc- which has a constantly variable tone tively coupled, bandpass circuit control consisting of C18 and R19. A feeds the grid of the pentagrid converter low-impedance speaker is transformer valve V1. A mains aerial is provided coupled to output of V4, but external via C1. Standing bias is provided by R2 speakers must be of high-impedance or decoupled by C3. HT to the oscillator have suitable matching transformers. V4 is biased by R18 decoupled by C17.

HT is supplied by a normal circuit IFT to V2, an HF pentode, and thence comprising a full-wave rectifier, V5, models trim to 130 kc. The latter will by second IFT to V3, a double-diode field coil of speaker and smoothing be recognised by a white spot on the condensers C20 and C21.

CII =

R6 TUNING

L2 LITI

IFT2

RII

In models 201, 226 and 231 the PU volume control, R12, but in the model C16 feeds the AVC diode and voltages | 225RG extra LF amplification is tacts. S8 breaks the IFT secondary The AVC diode has delay volts by circuit to the grid of V2 instead of the

A 10.000-ohm resistance is connected between the primary of IFT2 and the tuning meter, and the LF voltages across this resistance are coupled by a .01 mfd condenser to the junction of A shunt, R6, is across the meter which is C15 and R12. A limiting resistance of .25 meg is connected between the .01 mfd condenser and R12, and a tone correction condenser of .002 mfd is connected between chassis and the junction of the 10,000-ohm resistance and IFT2.

In all other respects the circuits are similar.

GANGING

RI2

IF Circuits.—A few early instruments have 117.5 kc IFs, but majority of coil cans.

6.5v .3AMP

C20

Top view of AERIAL chassis show-**0** T7 COILS ing layout of all trimmers. GRID Ø T6 ∠ GANG valves and COILS OSC COILS S P IFT2 circuit ØT8 (below) employs a dcuble diode follow-I FT I ed by a highslope pentode. The set covers wave-GRAM EXT. LS MAINS EARTH

Tune receiver to bottom of LW band. | CONDENSERS Inject 130 kc into A and E terminals.

coils.

The

two

bands.

Shunt L2 with 10,000-ohm resistance, and adjust T1 for maximum output on output meter, keeping input from service oscillator low to prevent AVC

Transfer resistance to L1 and adjust Transfer resistance to L4 and adjust

Transfer resistance to L3 and adjust | In earlier issues of the table models, C20 and C21

Remove resistance and see that when gang is at maximum capacity, tuning pointer coincides with spot at top end of scale.

MW Band.—Inject and tune to 200 m. Adjust T5 for max. output. Check pointer and spot, then inject 220 m, set gang at 220 m and adjust T6 and T7 for maximum.

LW Band.—Switch to LW, set gang to 2,000 m and inject 2,000 m signal. Adjust T8 while rocking gang to obtain best average output.

WALVE DEADINGS

FC4 VP4A	Anode Screen Osc anode Cathode Anode Screen	240 85 85 2 240 100	3 5 2 10 4.5
. •	Osc anode Cathode Anode	$\frac{85}{2}$ 240	$\frac{2}{10}$ $\frac{4.5}{4.5}$
	Cathode Anode	$\begin{smallmatrix}2\\240\end{smallmatrix}$	$\frac{10}{4.5}$
	Anode	240	4.5
VP4A			
, 1 111		100	
			3.5
	Cathode	2	8
2D14	Cathode	10	14
PEN4VB	Anode	240	33
COSSOR	Screen	240	3
42MP PEN	Cathode	6	36
R2 Rectifier	Cathode	420	68/70
	or COSSOR 42MP PEN R2 Rectifler readings we	2D4A Cathode PEN4VB Anode or COSSOR Screen 42MP PEN Cathode R2 Rectifier Cathode readings were with 2.5	2D4A Cathode 10 PEN4VB Anode 240 or COSSOR Screen 240 42MP PEN Cathode 6 R2

2,000 ohms fields.

\boldsymbol{c}	Mfds	c		Mfds
1	 .0001	12		.1
2	 .1	13		.1
3	.1	14		.0001
4 ´ 5	 .001	15		.01
5	 .1	16		.0001
6 7	 .0005	17		50
7	 .01	18		.1
8	 - 8	19		.5
9	 .1	20		16
10	 .1	21		8
11	 · .1			
	 		. ~~.	

were each of 6 mfds.

RESISTANCES

R		Ohms	R		Ohms
1		100,000	11		.25 meg
2		250	12		.5 meg
2 3 4 5 6 7		50,000	13		100,000
4		30,000	14		1 meg.
5		100,000	15		.5 meg
Ř	• •	5,000	16		1 meg
7	• •	200	17		.25 meg
8	• •	10,000	18		15
9	• •	8,000	19		.25 meg
Ö		700	1	- •	

The resistance of the LS field winding in the earlier models was 2,500 ohms, but all later models are fitted with speakers having 2,000 ohm

Instability with 6L6 Replacement

IN receivers using a 6L6 metal valve it will be found that replacement by a glass type invariably causes instability. This is due to feed-back and may be cured by using a 6F6G glass type instead of the 6L6. The former is a pentode and the latter a beam power tetrode, but any drop in volume is not noticed.