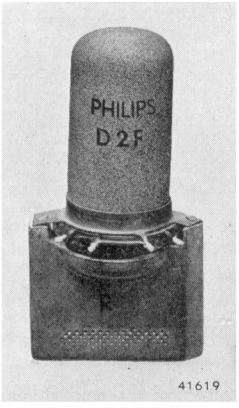
PHILIPS "Miniwatt" SPECIAL VALVES

VALVE FOR PORTABLE TRANSCEIVERS

D2F
D12F



CHARACTERISTICS

Heater voltage . . .	V_f	=	1.4	V
Heater current	I_f	=	0.24	A
Anode voltage . . .	V_a	=	250	V
Screen-grid voltage .	V_{g_2}	=	250	V
Anode current . . .	I_a	=	10	mA
Screen-grid current . .	I_{g_2}	=	1.8	mA
Grid bias	V_{g_1}	=	-5.5	V
Slope	S	=	3.4	mA/V
AC resistance . . .	R_i	=	0.5	MΩ

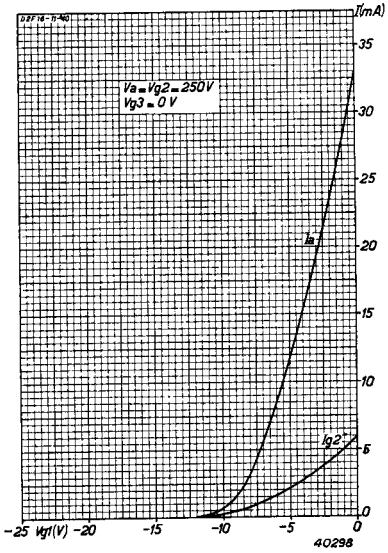
SPECIAL ADVANTAGES

1. Small size, permitting compact apparatus
2. Valves can easily be replaced without opening the set
3. Usable in every stage of a transceiver
4. Robust construction
5. Light weight
6. Operates on wavelenghts down to 3 metres

DESCRIPTION

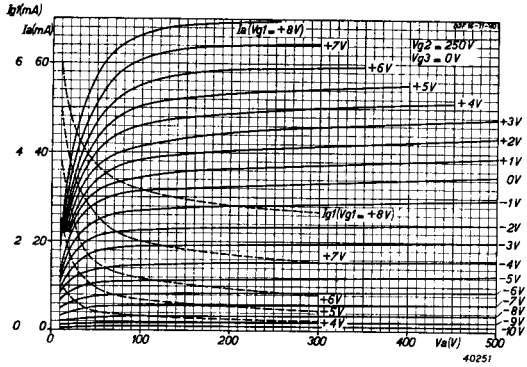
The D2F is a directly heated pentode, whose filaments may be run in series or in parallel.

For details of the radial arrangement of the contacts and of the hand grip see prospectus B 1-1. For special purposes, this pentode can be supplied without the hand grip, and in that case its type indication is D12 F. Types D2 F and D12 F are intended chiefly for use as transmitting valves. Connected as



Anode current and screen-grid current shown against grid voltage.

triodes they can be used as oscillators, and in RF push-pull output stages they may serve either as triodes or pentodes. With 250 V on anode and screen and at a wavelength of 3 to 5 metres, two valves in a class C push-pull telegraphy transmitter provide an output of 2.4 W; the anode dissipation will then be 3.6 W and the efficiency 40%. Under the same conditions the output from two valves in an RF push-pull stage, class C, with combined anode- and screen modulation, is 1.6 W; the screens should be series-fed through a common resistance of 20 kΩ. The anode voltage being 250 V and the anode current 20 mA, the efficiency of the valve is thus 32%.



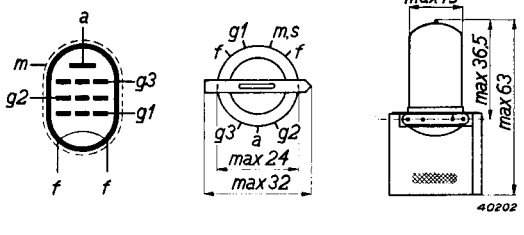
Anode current and screen-grid current shown against anode voltage, at various values of grid bias.

Apart from their use in the power stages of transmitters, the D2 F and D12F may also be employed as modulators, whilst in receivers they may serve as output valves. With 250 V on anode and screen, the output from two valves in Class AB push-pull is 3.5 W at 2.5% distortion.

Measured cold the capacities between each electrode and all others connected with the filament are as follows:

$$C_a = 5.0 \text{ pF} \pm 0.5 \text{ pF},$$
$$C_{g_1} = 5.5 \text{ pF} \pm 0.5 \text{ pF},$$
$$C_{g_3} = 7.2 \text{ pF} \pm 0.5 \text{ pF}.$$

The input and output capacities may, if necessary, be adjusted to a specific value by removing a small area of the metallisation.



Arrangement of electrodes; connections and maximum dimensions in millimetres.