

4641 Triode

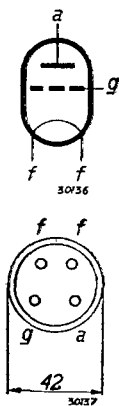


Fig. 2
Arrangement of
electrodes and
base connections.

The triode, type 4641, is a directly-heated 25 W valve intended mainly for use in balanced output stages, being equally satisfactory in Class AB or Class B circuits. In the latter instance the effective output is 68 W. In view of the anode voltage this valve is fitted with the 4-pin base, whilst special precautions have been taken in the design to prevent flash-over within the valve.

FILAMENT RATINGS

Heating: direct by A.C.; parallel supply.
Filament voltage $V_f = 4 \text{ V}$
Filament current $I_f = 2.1 \text{ A}$

CAPACITANCES

Anode-grid $C_{ag} = 7 \mu\text{tF}$

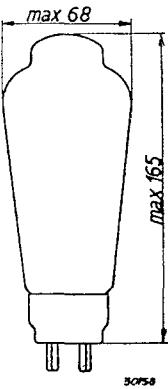


Fig. 1
Dimensions in mm.

OPERATING DATA

		Class B output with fixed grid bias (2 valves)	Class AB output with auto. grid bias (2 valves)	Class B output with fixed grid bias (2 valves)
Anode voltage	$V_a \text{ (V)}$	1,000	1,000	1,500
Common cathode resistor for auto. grid bias . . .	$R_k \text{ (ohms)}$	—	1,700	—
Fixed grid bias	$V_g \text{ (V)}$	—93	—	—144
Anode current ($V_i = 0 \text{ V}$)	$I_{ao} \text{ (mA)}$	2×10	2×25	2×10
Anode current at maximum modulation	$I_{a \text{ max}} \text{ (mA)}$	2×45	2×28	2×41
Load resistor (between anodes) . . .	$R_{aa} \text{ (ohms)}$	20,000	35,000	40,000
Output power	$W_a \text{ (W)}$	41	29	68
Alternating grid voltage (per grid) at maximum modulation	$V_i \text{ (V}_{eff})$	65	58	105
Distortion at max. modu- lation	$d_{tot} \text{ (\%)}$	2.35	4.5	1. 9

STATIC DATA

Anode voltage	$V_a = 1,000 \text{ V}$	1,500 V
Grid bias	$V_g = -85 \text{ V}$	-140 V
Anode current	$I_a = 25 \text{ mA}$	15 mA
Mutual conductance	$S = 3 \text{ mA/V}$	2 mA/V
Internal resistance	$R_i = 3,400 \text{ ohms}$	4,600 ohms

MAXIMUM RATINGS

V_{ao}	= max. 3,000 V
V_u	= max. 1,500 V
W_a	= max. 25 W
V_g ($I_g = + 0.3 \mu\text{A}$)	= max. -2 V
I_k	= max. 60 mA
R_{gk} (auto bias)	= max. 0.3 M ohm
R_{gk} (fixed bias)	= max. 0.1 M ohm

Fig. 3
Anode current as a function of the grid bias
with $V_a = 1,000$ and 1,500 V.

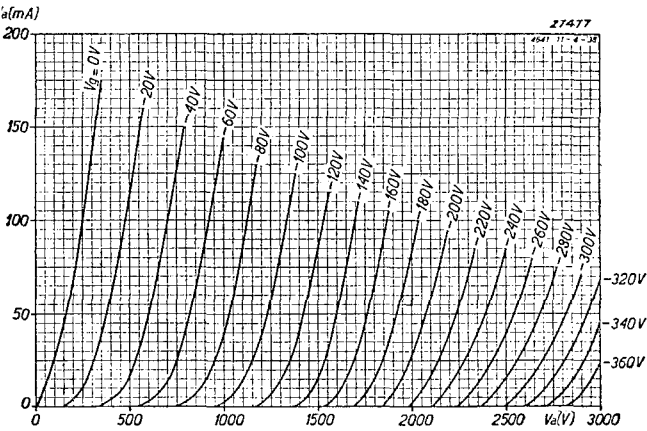
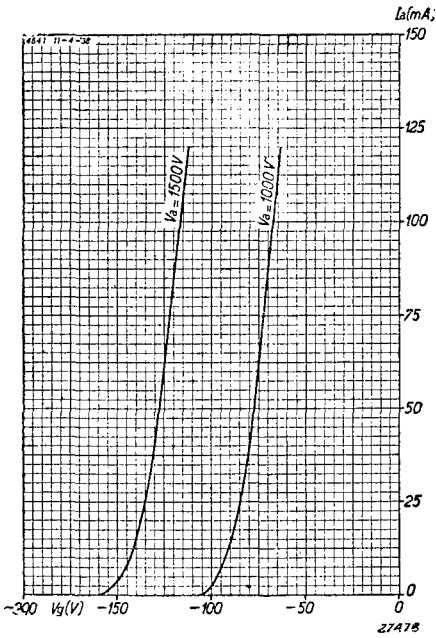


Fig. 4
Anode current as a function of the anode voltage for different values
of grid bias.

Fig. 5
Total distortion, alternating grid voltage and total anode current as functions of the output power of two 4641 valves in a Class AB output circuit with automatic bias. $V_a = 1,000$ V.

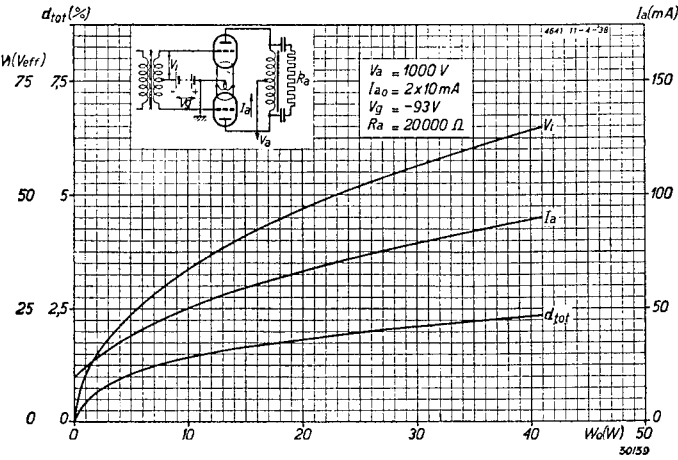
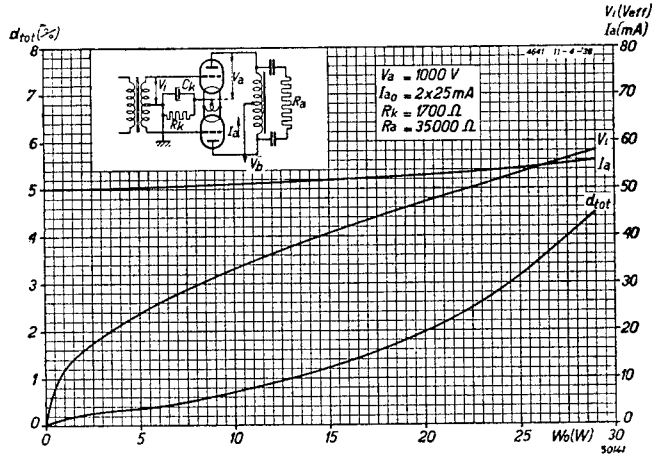


Fig. 6
Total distortion, alternating grid voltage per grid and total anode current as functions of the output power of two 4641 valves in a Class B output circuit with fixed bias. $V_a = 1,000$ V.

Fig. 7
Total distortion, alternating grid voltage per grid and total anode current as functions of the output power of two 4641 valves in a Class B output circuit, with fixed bias. $V_a = 1,500$ V.

