



OUTPUT PENTODE

An indirectly heated output pentode rated for 12 watts anode dissipation. It has a 100mA. heater designed for use in series heater chains.

PHYSICAL DETAILS.

Base	...	...	B9A—Noval.
Max. Overall Length	...	...	78.5 mm. (3 $\frac{1}{2}$ in.).
Max. Seated Height	...	...	71.5 mm. (3 in.).
Max. Diameter	...	...	22.2 mm. ($\frac{7}{8}$ in.).
Mounting Position	...	...	Any.

BASE CONNECTIONS.

Pin 1—Internal Connection.	Pin 5—Heater.
Pin 2—Control Grid.	Pin 6—Internal Connection.
Pin 3—Cathode,	Pin 7—Anode.
Suppressor Grid.	Pin 8—Internal Connection.
Pin 4—Heater.	Pin 9—Screen Grid.

HEATER.

Heater Current	...	...	0.1 amp.
Heater Voltage	...	...	45 volts.

RATINGS.

Max. D.C. Supply Voltage	...	550 volts.
Max. Anode Voltage	...	250 volts.
Max. Anode Dissipation	...	12 watts.
Max. Screen Grid Voltage	...	200 volts.
Max. Screen Grid Dissipation	...	1.75 watts.
Max. Cathode Current	...	100 mA.
Max. V _{h-k}	...	200 volts.
Max. R _{h-k}	...	20 k Ω
Max. R _{g1-k}	...	0.3 M Ω

CHARACTERISTICS.

Anode Voltage	...	100	170	200	volts.
Screen Voltage	...	100	170	*	volts.
Control Grid Voltage	...	-6.7	-12.5	-17.3	volts.
Anode Current	...	43	70	60	mA.
Screen Current	...	3.0	5.0	4.0	mA.
Mutual Conductance	...	9	10	8.8	mA/V.
Anode Impedance	...	23	24	28	k Ω
Inner μ (μ g ₁ -g ₂)	...	8	8	8	

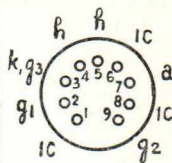
TYPICAL OPERATION.

As Audio Output Valve (Class A).

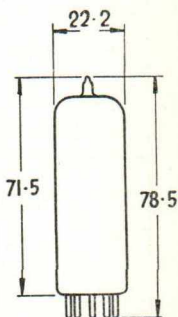
Anode Voltage	...	100	170	200	volts.
Screen Grid Voltage	...	100	170	*	volts.
Cathode Bias Resistor	...	145	170	270	ohms.
Anode Current	...	43	70	60	mA.
Screen Grid Current	...				
(no sig.)	...	3.0	5.0	4.0	mA.
Screen Grid Current	...				
(max. sig.)	...	11	22	12.5	mA.
Anode Load	...	2.4	2.4	2.4	k Ω
Input Voltage	...	4.3	7	7.8	volts(rms.)
Power Output	...				
(D _{tot} =10%)	...	1.9	5.6	5.2	watts.

*Screen Grid Supply Voltage=200. R_{g2}=470 ohms, not decoupled.

UL84



Base
Connections
Underside View
of Base



All Dimensions
shown are in
millimetres
(max.).



TYPICAL OPERATION (cont.)

As Audio Amplifier (2 valves in push pull).

Anode Voltage	...	...	...	...	100	170	200	volts.
Screen Grid Voltage	...	...	...	...	100	170	200	volts.
*Cathode Bias Resistor	...	...	...	...	270	240	300	ohms.
*Anode Current (Zero signal)	...	...	...	...	29	56	55	mA.
*Anode Current (Max. signal)	...	...	...	...	31	57.5	60	mA.
*Screen Grid Current (Zero signal)	...	...	...	...	1.6	3.0	2.8	mA.
*Screen Current (Max. signal)	...	...	...	...	7	20.5	15	mA.
Input Voltage ($g_1 - g_1$)	...	...	...	...	14	26	29	volts(rms.)
Optimum Load (Anode to Anode)	...	...	...	...	3.5	3.5	3.5	k Ω
Power Output	...	...	...	...	3.6	13	15	watts.
Total Distortion	...	...	...	...	3.0	4.5	3.5	%

CAPACITANCES.

C_{in}	...	...	...	12	pF.	C_{a-g_1}	...	...	...	<0.6	pF.
C_{out}	...	...	...	6.5	pF.	C_{g_1-h}	...	...	...	<0.25	pF.

*per Valve.

