10P18

OUTPUT PENTODE

Indirectly heated—for series operation

GENERAL

The 10P18 is a miniature based Output Pentode having a maximum anode dissipation of 12 watts, It is intended for use in AC/DC mains powered audio output stages in equipment having series connected heater chains.

RATING

Heater Current	(amps)	I_h	0.1
Heater Voltage	(volts)	V_h	45.0
Maximum Anode Voltage	(volts)	$V_{a(max)}$	250
Maximum Screen Voltage	(volts)	$V_{g2(max)}$	200
Maximum Anode Dissipation	(watts)	$P_{a(max)}$	12
Maximum Screen Dissipation (continuous)	(watts)	$P_{g2(max)}$	1.75*
Mutual Conductance	(mA/V)	g_m	10.0†
Anode Impedance	(kΩ)	r_a	23†
Inner Amplification Factor		μ_{g1-g2}	8†
Maximum Mean Cathode Current	(mA)	$I_{k(mean)max}$	100
Maximum Heater to Cathode Voltage	(volts)	$V_{h-k(max)}$	200

* On speech and music the permissible rating at peak signal level is 6 watts.

† $V_a = V_{g2} = 170$ V ; $I_a = 70$ mA ; $V_{g1} = -12.5$v.

INTER-ELECTRODE CAPACITANCES (pF)

Grid 1/Earth	c_{in}	12.0
Anode/Earth	c_{out}	6.0
Anode/Grid 1	c_{a-g1}	0.5
Grid 1/Heater	c_{g1-h}	0.25

" Earth " denotes the remaining earthy potential electrodes, heater and shields connected to cathode.

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DIMENSIONS

Maximum Overall Length	(mm)	78.5
Maximum Diameter	(mm)	22.2
Maximum Seated Height	(mm)	71.5
Approximate Nett Weight	(ozs)	½
Approximate Packed Weight	(ozs)	¾

MOUNTING POSITION Unrestricted.

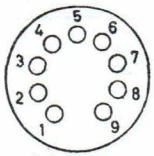
TYPICAL OPERATION Single Valve Class A Audio Amplifier

Anode Voltage.	(volts)	V_a	160
Screen Voltage	(volts)	V_{g2}	170
Anode Current (Quiescent)	(mA)	I_a	70
Screen Current (Quiescent)	(mA)	I_{g2}	5
Grid Bias	(volts)	V_{g1}	—12.5
Power Output for 10% total Harmonic Distortion	(watts)	P_{out}	5.2
Anode Load	(ohms)	R_a	2,200
Input Swing for 10% total Harmonic Distortion (r.m.s.)	(volts)	$V_{in(rms)}$	7

These operating conditions are taken with fixed D.C. potentials.

BULB Clear

BASE Noval (B9A)



Viewed from free end of pins

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VALVE HOLDER

Ediswan Clix VH599/9, VH499/9, VH19/9 series.

CONNECTIONS

Pin 1	Internal Connection	IC
Pin 2	Grid 1	g1
Pin 3	Cathode, Grid 3	k,g3
Pin 4	Heater	h
Pin 5	Heater	h
Pin 6	Internal Connection	IC
Pin 7	Anode	a
Pin 8	Internal Connection	IC
Pin 9	Grid 2	g2

" Internal connection " indicates that the pin is connected to an electrode for the purpose of improving mechanical rigidity. The connection may not always be made to the same electrode on a given valve type, and it is essential that the corresponding valve holder socket be left unconnected.

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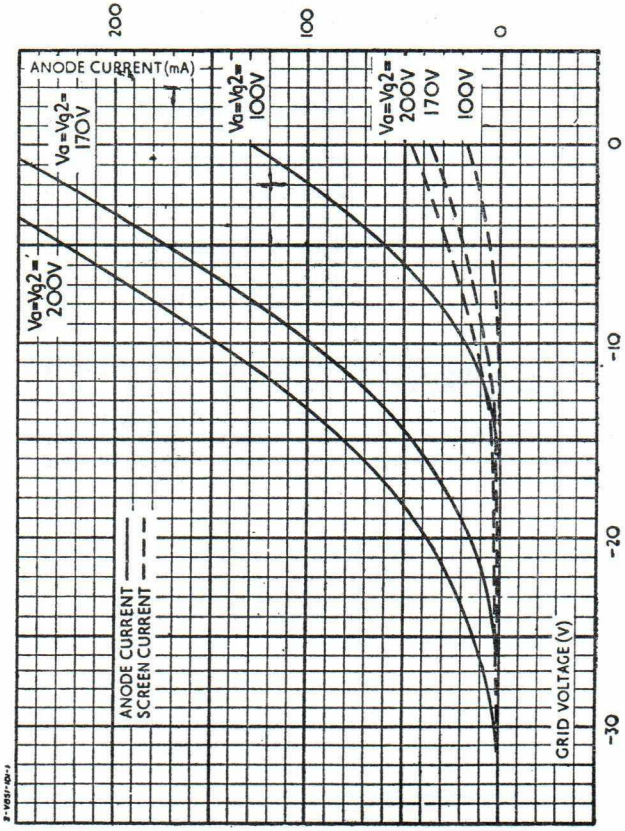
CHARACTERISTIC CURVES: I_a, I_{g2}/V_{g1}



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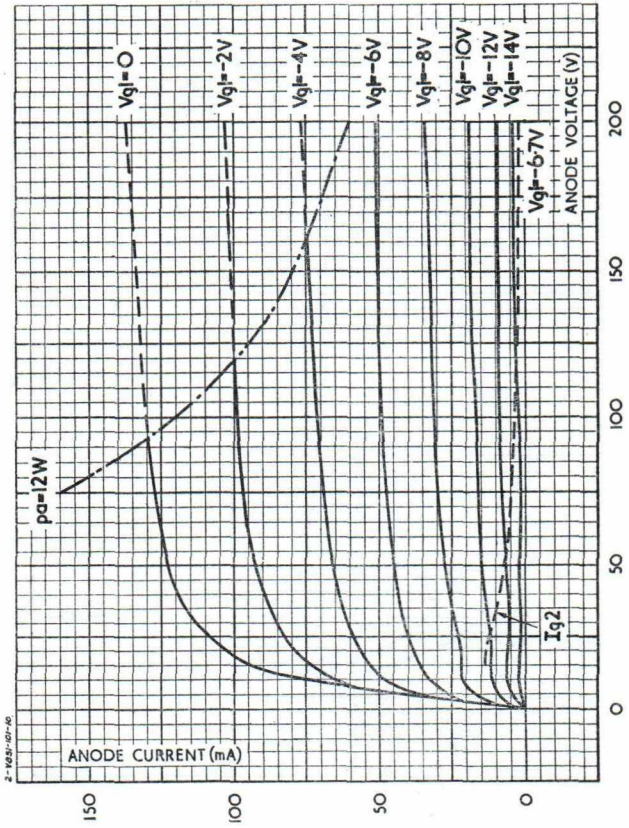
TENTATIVE

CHARACTERISTIC CURVES: Ia,Ig2/Va
$V_{g2}=100V$



10P18/UL84

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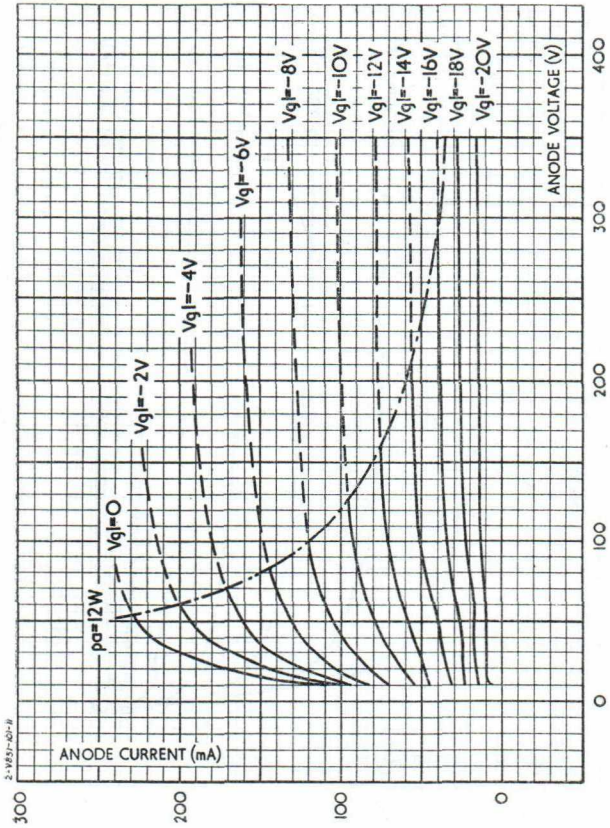
TENTATIVE

CHARACTERISTIC CURVES : I_a/V_a

$V_{g2}=170V$