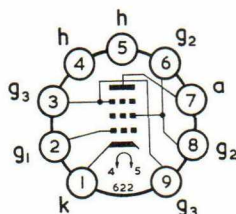


VIDEO OUTPUT PENTODE



B9A Base

GENERAL

This pentode is for use as a luminance output valve in colour television receivers having series connected heaters (a.c. or d.c.).

Heater Current	I_h 0.3	A
Heater Voltage	V_h 16	V

DESIGN CENTRE RATINGS

Maximum Anode Dissipation	$P_a(\max)$	6.0	W
Maximum Screen Grid Dissipation	$P_{g2}(\max)$	2.5*	W
Maximum Anode Supply Voltage	$V_{a(b)\max}$	400†	V
Maximum Anode Voltage	$V_a(\max)$	300	V
Maximum Screen Grid Voltage	$V_{g2}(\max)$	300†	V
Maximum Heater to Cathode Voltage	$V_{h-k}(\max)$	200	V
Maximum Cathode Current	$I_k(\max)$	100	mA
Maximum Control Grid Resistance	$R_{g1}(\max)$	0.1‡	MΩ

* Design maximum rating including no signal condition is 3.0 W.

† With valve cold $V_{a(b)\max} = V_{g2(b)\max} = 550$ V.

‡ With $R_k \geq 39\Omega$, $R_{g1}(\max) = 0.5$ MΩ.

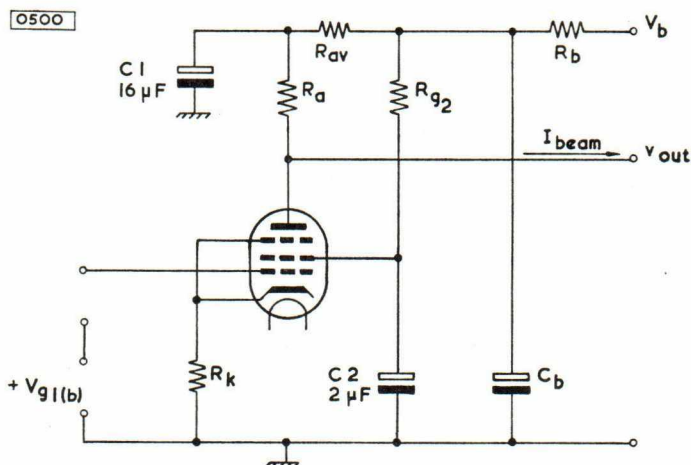
INTER-ELECTRODE CAPACITANCES

Input	C_{in}	20	pF
Output	C_{out}	4.0	pF
Anode to Grid 1	C_{a-g1}	0.075	pF
Maximum Anode to Grid 1	$C_{a-g1}(\max)$	0.1	pF

CHARACTERISTICS

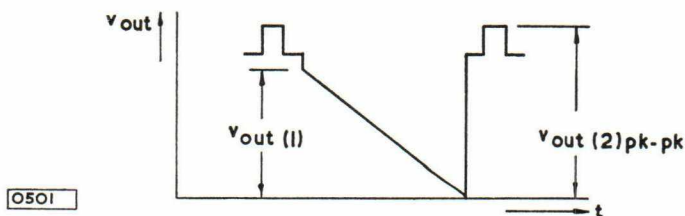
Anode Voltage	V_a	170	V
Suppressor Grid Voltage	V_{g3}	0	V
Screen Grid Voltage	V_{g2}	170	V
Cathode Resistor (decoupled)	R_k	36	Ω
Anode Current	I_a	30	mA
Screen Grid Current	I_{g2}	6.5	mA
Mutual Conductance	g_m	40	mA/V
Inner Amplification Factor	μ_{g1-g2}	70	

OPERATING CONDITIONS—Negative Modulation



Supply Voltage
Supply Resistor
Average Decoupling Resistor
Anode Load Resistor
Screen Grid Resistor
Cathode Resistor (no bypass capacitor)
Control Grid Supply Voltage

V_b	250	V
R_b	330	Ω
R_{av}	560	Ω
R_a	2.7	k Ω
R_{g2}	5.6	k Ω
R_k	39	Ω
$V_{g1(b)}$	+4.0	V



Output Voltage 1
Output Voltage 2 (peak to peak)
Video Linearity
Input Voltage (peak to peak)
Maximum beam current

$V_{out(1)}$	100	V
$V_{out(2)pk-pk}$	≥ 140	V
	≥ 0.8	
$V_{in(pk-pk)}$	approx. 5.0	V
$I_{beam(max)}$	7.0	mA

