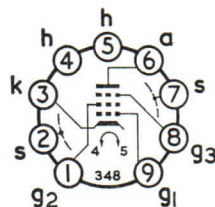


### LOW NOISE PENTODE



B9A Base

#### GENERAL

This low noise pentode is particularly suitable for use in the early stages of high gain audio amplifiers, microphone pre-amplifiers and tape recorders.

Heater Voltage	$V_h$ 6.3	V
Heater Current	$I_h$ 0.2	A

#### RATINGS

Maximum Anode Dissipation	$P_{a(max)}$	1.0	W
Maximum Screen Grid Dissipation	$P_{g2(max)}$	0.2	W
Maximum Anode Supply Voltage	$V_{a(b)max}$	550	V
Maximum Anode Voltage	$V_{a(max)}$	300	V
Maximum Screen Grid Supply Voltage	$V_{g2(b)max}$	550	V
Maximum Screen Grid Voltage	$V_{g2(max)}$	200	V
Maximum Heater to Cathode Voltage	$V_{h-k(max)}$		
Heater Negative		100	V
Heater Positive		50	V
Maximum Cathode Current	$I_{k(max)}$	6.0	mA
Maximum Control Grid to Cathode Resistance	$R_{g1-k(max)}$		
$P_a > 200$ mW		3.0	MΩ
$P_a < 200$ mW		10	MΩ

#### INTER-ELECTRODE CAPACITANCES\*

Input	$C_{in}$	3.8	pF
Output	$C_{out}$	5.1	pF
Anode to Grid 1	$C_{a-g1}$	< 0.05	pF
Grid 1 to Heater	$C_{g1-h}$	< 0.0025	pF

\* Measured without an external shield.

#### CHARACTERISTICS

Anode Voltage	$V_a$	250	V
Screen Grid Voltage	$V_{g2}$	140	V
Control Grid Voltage	$V_{g1}$	-2.2	V
Anode Current	$I_a$	3.0	mA
Screen Grid Current	$I_{g2}$	0.6	mA
Valve Anode Resistance ( $\delta v_a / \delta i_a$ )	$r_a$	2.5	MΩ
Mutual Conductance	$g_m$	2.2	mA/V
Inner Amplification Factor	$\mu_{g1-g2}$	38	

#### TYPICAL OPERATION—As an R.C. coupled A.F. Amplifier

Anode Supply Voltage	$V_{a(b)}$	200	250	300	400	V
Screen Grid Supply Voltage	$V_{g2(b)}$	200	250	300	400	V
Anode Load Resistance	$R_a$	220	220	220	220	kΩ
Series Screen Grid Resistance	$R_{g2}$	1.0	1.0	1.0	1.0	MΩ
Cathode Bias Resistance	$R_k$	2.2	2.2	2.2	2.2	kΩ
Grid Resistor of following stage		680	680	680	680	kΩ
R.M.S. Output Voltage at $D_{cot} = 5\%$	$V_{out(r.m.s.)}$	35	44	53	72	V
Voltage Gain		173	185	194	210	
Cathode Current	$I_k$	0.75	0.9	1.1	1.45	mA

