

# PL177A

## Beam Pentode



The PL177A is a 75 watt radiation-cooled beam pentode incorporating a vane-type suppressor grid, to allow optimum performance with zero suppressor-grid voltage in many applications. Outstanding features of the PL177A are its capabilities for high power output at relatively low plate voltage and low distortion as a linear r-f or audio amplifier.

### ELECTRICAL CHARACTERISTICS

Filament - Thoriated Tungsten		
Voltage .....	6.0	volts
Current .....	3.2	amperes
Grid-Screen Amplification Factor .....	5	
Interelectrode Capacitances		
Grid - Plate .....	0.06	$\mu\text{fd}$
Input .....	7.5	$\mu\text{fd}$
Output .....	4.2	$\mu\text{fd}$
Transconductance .....	4500	$\mu\text{mhos}$

### MECHANICAL CHARACTERISTICS

Base .....	7-pin Septar, EIA E7-2
Maximum Overall Dimensions	
Length .....	4.38 inches
Diameter .....	2.38 inches

### MAXIMUM RATINGS - CCS (Continuous Commercial Service)

(Frequencies up to 175 Mc.)	Class AB1 R-F or Audio	Class C CW or FM	
DC Plate Voltage .....	2000	2000	max. volts
DC Screen-Grid Voltage .....	600	600	max. volts
DC Suppressor-Grid Voltage .....	100	100	max. volts
DC Plate Current .....	175	150	max. ma.
Screen-Grid Input .....	10	10	max. watts
Plate Dissipation .....	75	75	max. watts

(Revised 06/01/95)



## PENTA LABORATORIES

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ELECTRON TUBES FOR INDUSTRY



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## TYPICAL OPERATION - Class C C-W or FM Amplifier Grounded-Cathode Circuit

DC Plate Voltage .....	600	750	1000	1500	2000	volts
DC Screen-Grid Voltage .....	400	400	400	400	400	volts
DC Suppressor-Grid Voltage .....	0	0	0	0	0	volts
DC Control-Grid Voltage .....	-90	-90	-105	-115	-125	volts
DC Plate Current .....	150	150	150	150	150	ma.
DC Screen-Grid Current .....	18	17	16	14	12	ma.
DC Control-Grid Current.....	6	6	5	5	5	ma.
Peak R-F Grid Voltage .....	130	125	140	155	165	volts
Driving Power .....	0.75	0.75	0.70	0.75	0.80	watts
Screen-Grid Power Input .....	7.2	6.8	6.8	6.4	4.8	watts
Plate Power Input .....	90	112	150	225	300	watts
Plate Dissipation.....	30	38	40	45	50	watts
Useful Power Input .....	55	66	100	160	220	watts

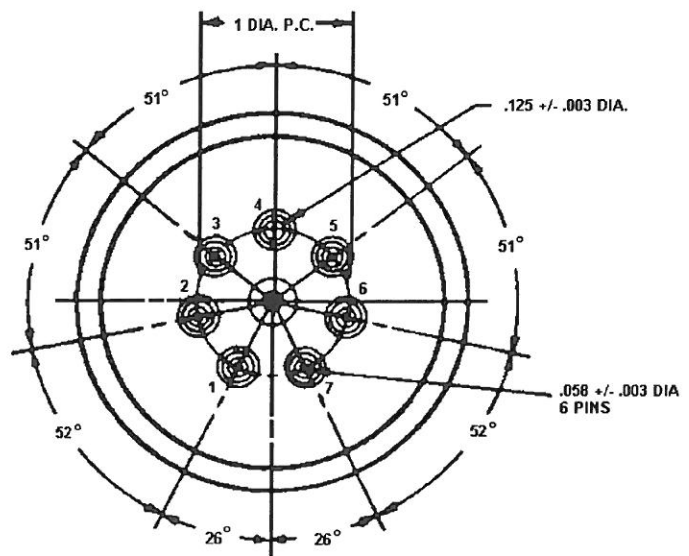
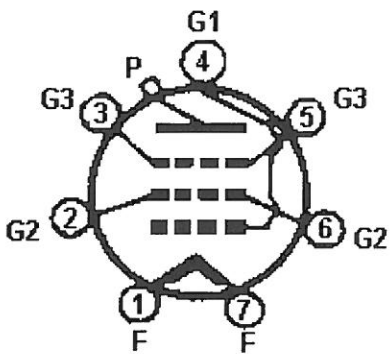
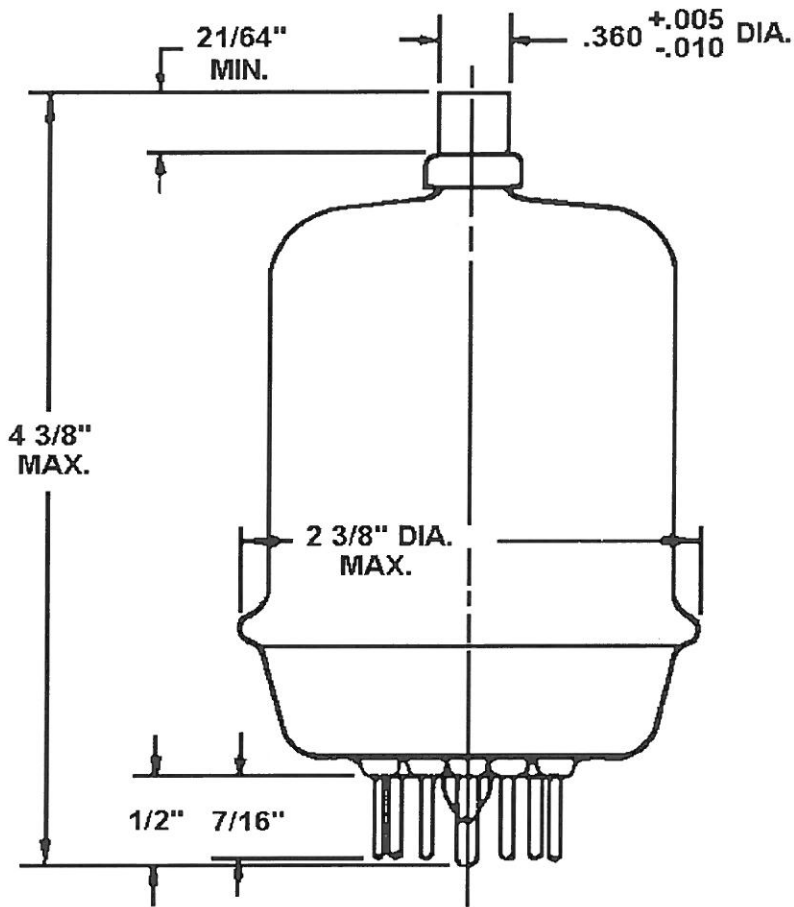
## TYPICAL OPERATION - Class AB1 Linear R-F Amplifier Single-Sideband, Suppressed Carrier Grounded-Cathode Circuit

DC Plate Voltage .....	100	1500	2000	volts
DC Screen-Grid Voltage .....	600	600	600	volts
DC Suppressor-Grid Voltage .....	0	0	0	volts
DC Control-Grid Voltage .....	-98	-110	-115	volts
Zero-Signal DC Plate Current .....	40	30	25	ma.
Zero-Signal DC Screen Current .....	0	0	0	ma.
Maximum-Signal DC Plate Current.....	175	175	175	ma.
Maximum-Signal DC Screen Current.....	10	8	7	ma.
Maximum-Signal Peak R-F Grid Voltage .....	96	108	112	volts
Maximum-Signal Plate Power Input.....	175	262	350	watts
Maximum-Signal Plate Dissipation .....	70	110	125	watts
Maximum-Signal Useful Power Output .....	96	140	210	watts



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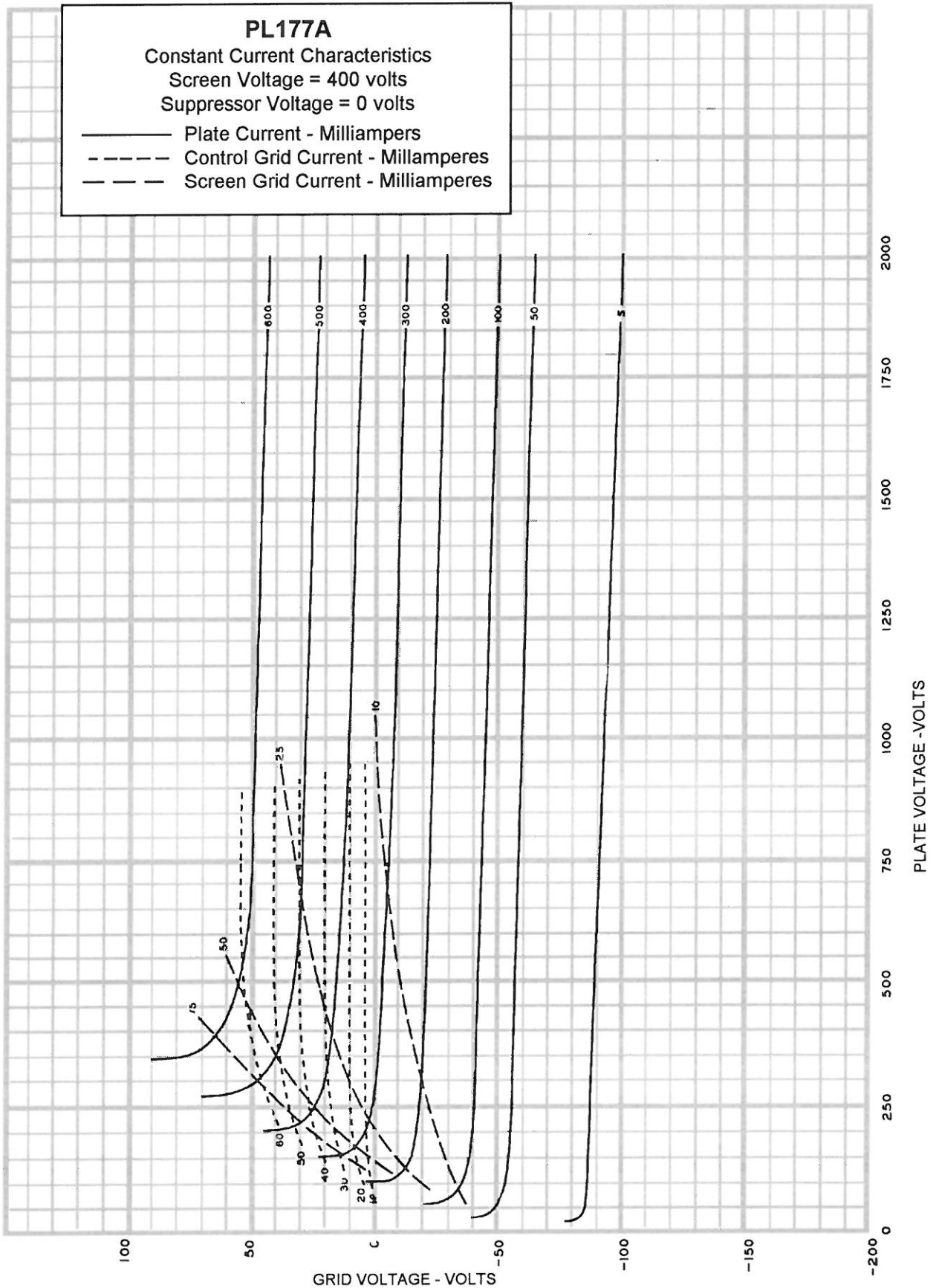
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