

# PL-8432

## Ceramic Beam Pentode



### DESCRIPTION

The PL-8432 is a forced-air cooled, 1000-watt plate dissipation ceramic-envelope beam pentode featuring compact construction. This tube is especially suited for low-distortion Class-AB<sub>1</sub> linear r-f amplifier use, where a single tube will deliver over 1500 watts of useful power output. The excellent characteristics of the PL-8432 also provide outstanding performance in Class-AB<sub>2</sub>, Class-B and Class-C service.

### ELECTRICAL CHARACTERISTICS

Cathode — Coated Unipotential	
Heater Voltage	6.0 volts
Heater Current	8.2 amperes
Minimum Cathode Heating Time	3 minutes
Grid-Screen mu Factor	3.4
Transconductance (1000 v. Eb, 500 v. Ec <sub>2</sub> , 1 a. I <sub>b</sub> )	23,000 μmhos
Interelectrode Capacitances	
Grid-Plate	0.09 μμf
Input	42 μμf
Output	20 μμf

### MECHANICAL CHARACTERISTICS

Base	7-pin Septar, EIA E 7-2
Base Connections	See base diagram
Maximum Overall Dimensions	
Length	4.75 inches
Diameter	3.53 inches
Net Weight	2.5 pounds
Cooling	
Volume of air through cooler (at 1000 watts plate dissipation; 40°C max. incoming air temperature)	37 c.f.m., minimum
Pressure Drop (at 37 c. f. m.)	
Cooler only	0.10 in. water
Cooler plus PL-209A socket	0.18 in. water
Recommended Socket	PL-209A
Mounting Position	Any

### MAXIMUM RATINGS

#### CCS (Continuous Commercial Service)

	<u>Class-C</u> <u>CW or FM</u>	<u>Class-AB<sub>2</sub></u> <u>Audio or RF</u>	<u>Class-AB<sub>1</sub></u> <u>Audio or RF</u>	
D-C Plate Voltage	3000	3000	3000	volts
D-C Screen-Grid Voltage	500	500	600	volts
D-C Suppressor-Grid Voltage	75	75	75	volts
D-C Control-Grid Voltage	-200			volts
D-C Plate Current	1000	800	800	ma.
D-C Control-Grid Current	10	10		ma.
Control-Grid Dissipation	5	5		watts
Screen-Grid Input	30	30	30	watts
Plate Dissipation	1000	1000	1000	watts



## PENTA LABORATORIES, INC.

312 NORTH NOPAL STREET • SANTA BARBARA, CALIFORNIA



# PL-8432

## TYPICAL OPERATION — Class AB<sub>1</sub> Linear R-F Amplifier<sup>1</sup>

### Single-Sideband, Suppressed Carrier

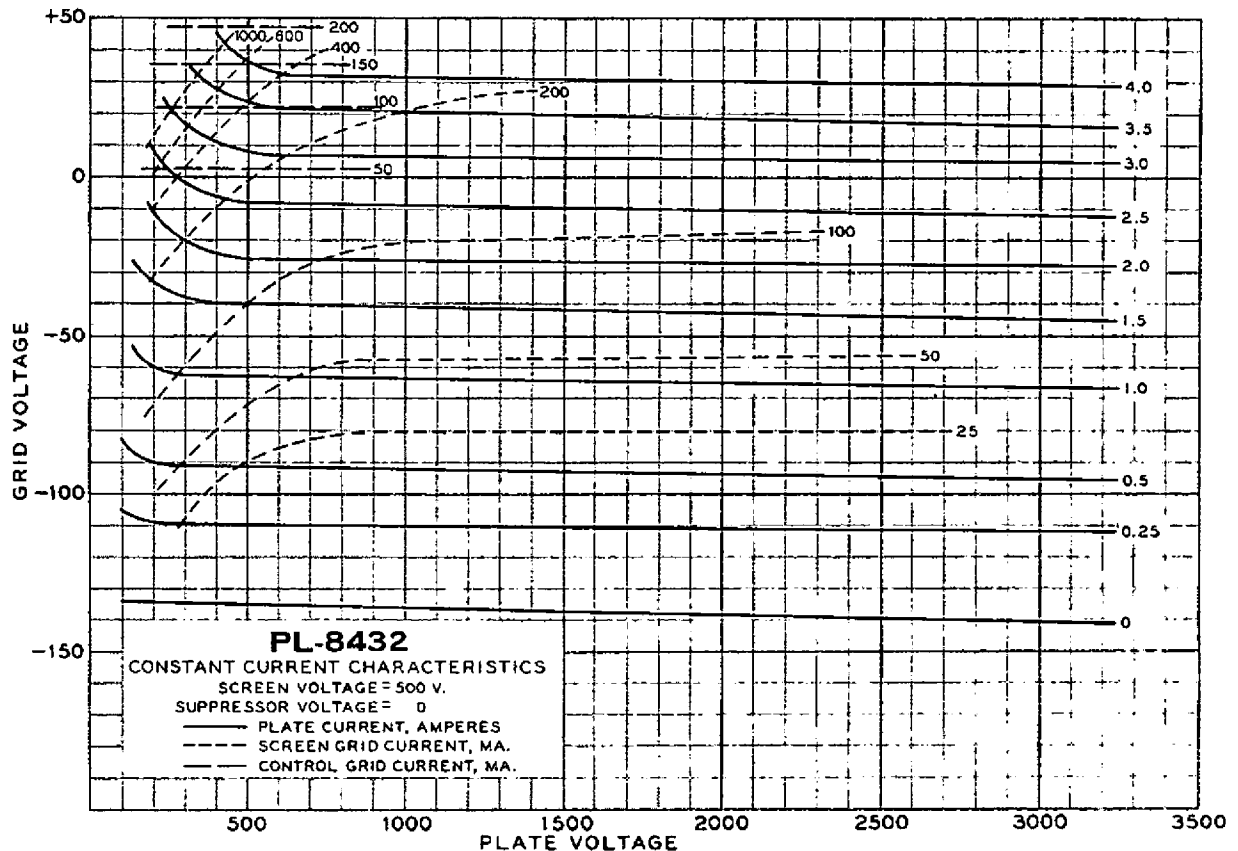
D-C Plate Voltage	2000	2500	3000	volts
D-C Screen-Grid Voltage	500	500	500	volts
D-C Suppressor-Grid Voltage	0	0	0	volts
D-C Control-Grid Voltage <sup>2</sup>	-110	-112	-115	volts
Zero-Signal D-C Plate Current	200	200	200	ma.
Zero-Signal D-C Screen Current	6	4	3	ma.
Maximum-Signal D-C Plate Current	760	780	800	ma.
Maximum-Signal D-C Screen Current	60	55	52	ma.
Maximum-Signal Peak R-F Grid Voltage	110	112	115	volts
Intermodulation Distortion Level <sup>3</sup>				
Third Order	-26	-27	-27	db
Fifth Order	-50	-45	-45	db
Maximum-Signal Power Input	1520	1950	2400	watts
Maximum-Signal Useful Power Output <sup>4</sup>	1030	1280	1540	watts

<sup>1</sup> D-C current values shown are for peak conditions, or for single-tone modulation at full signal.

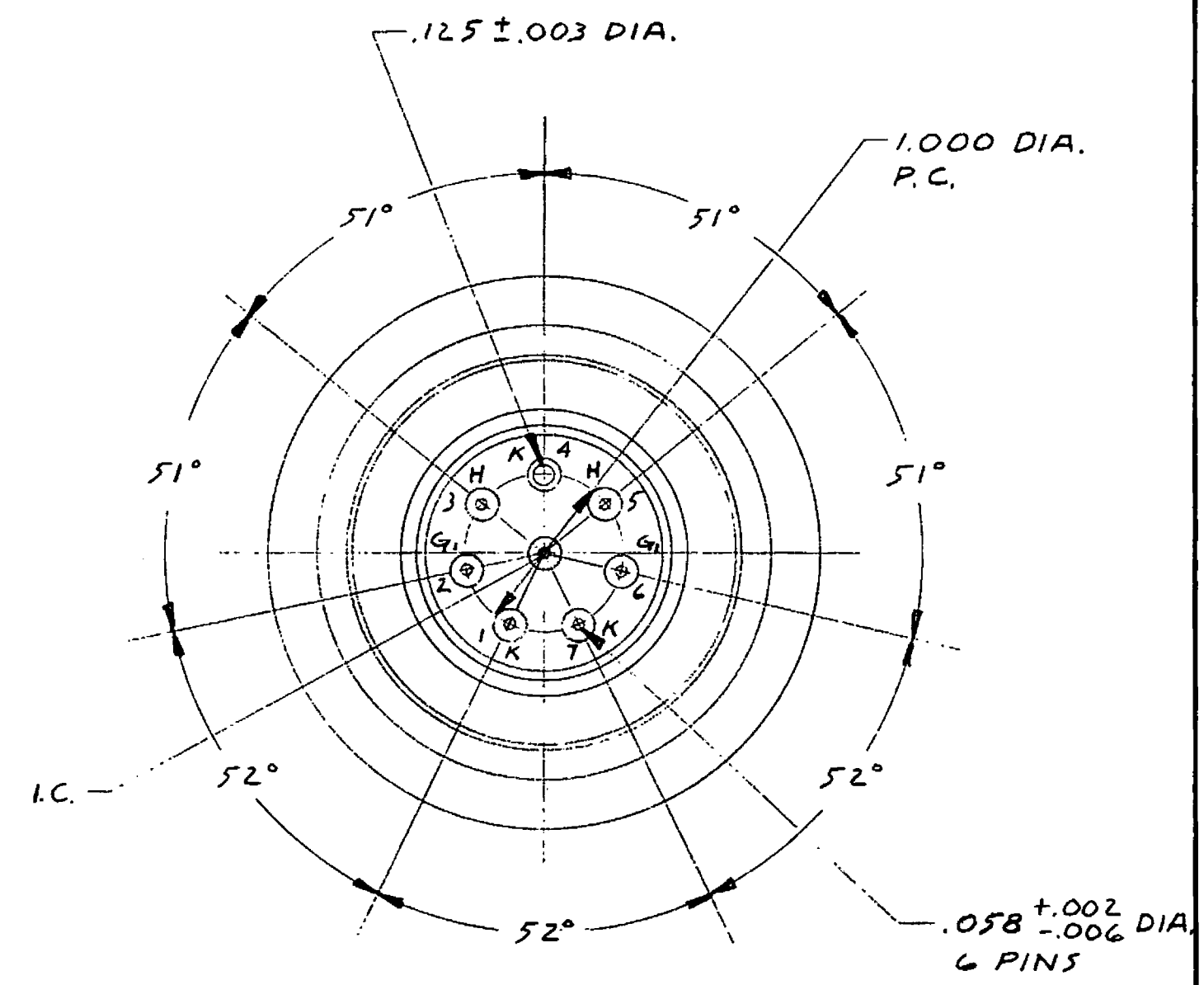
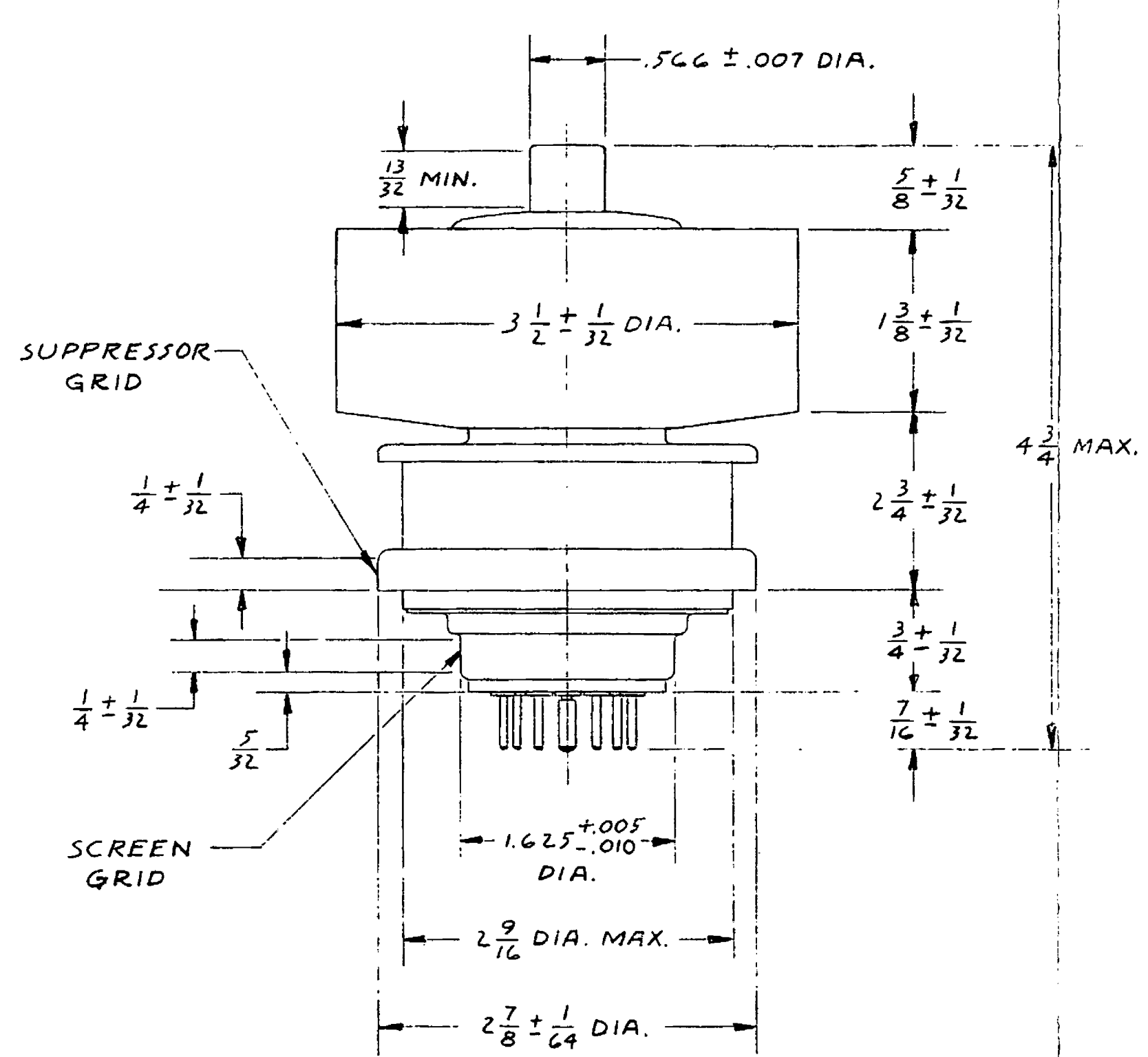
<sup>2</sup> Approximate value; adjust to give stated zero-signal plate current.


<sup>3</sup> At maximum output. Referenced against one tone of two equal-tone signals. No degenerative feedback.

<sup>4</sup> Single-tone or peak envelope power delivered to load from typical amplifier.



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NEXT ASSY. DWG. NO.		LIMITS UNLESS OTHERWISE SPECIFIED DECIMAL $\pm$ FRACTIONAL $\pm$ ANGULAR $\pm 1/2^\circ$		SCALE: FULL
DRAWN	1-11-63 <i>[Signature]</i>	PL-206 OUTLINE		SHEET 1 OF 1
CHECKED				256-430
APPROVED	<i>[Signature]</i>	 <b>PENTA LABORATORIES, INC.</b> 312 N. Nepal Street, Santa Barbara, California		