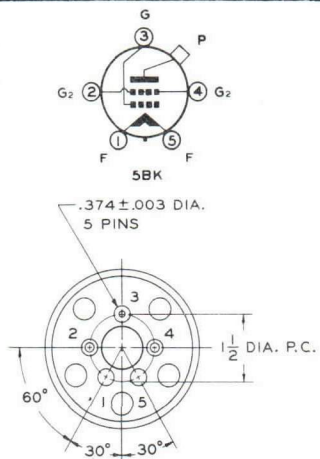
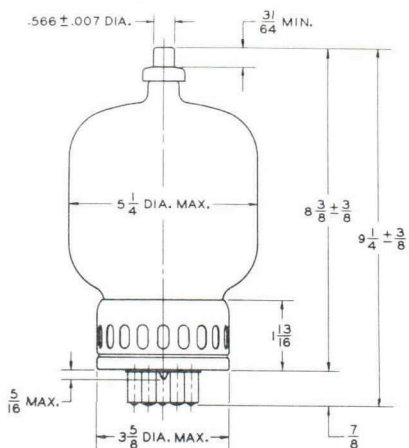




PL-8166/ 4-1000A Power Tetrode



The PL-8166/4-1000A is a beam power tetrode with a plate dissipation rating of 1000 watts. It is suitable for use as an r-f power amplifier and oscillator, and as an a-f amplifier and modulator. The PL-8166/4-1000A can be used at frequencies up to 110 Mc. Cooling of the tube is achieved by radiation from the plate and by circulation of forced-air through the base and around the envelope.

ELECTRICAL CHARACTERISTICS

Filament -- Thoriated Tungsten	
Voltage - - - - -	7.5 volts
Current - - - - -	21 amperes
Grid-Screen Amplification Factor - - - - -	7
Interelectrode Capacitances	
Grid-Plate - - - - -	0.25 μ fd.
Input - - - - -	28.0 μ fd.
Output - - - - -	8.1 μ fd.
Transconductance (2500 v Eb, 300 ma. Ib, 500 v. Ec2) - - -	10,000 μ mhos

MECHANICAL CHARACTERISTICS

Base - - - - -	5-pin metal shell (see drawing)
Maximum Overall Dimensions	
Length - - - - -	9.63 inches
Diameter - - - - -	5.25 inches
Mounting Position - - - - -	Vertical, base up or down

MAXIMUM RATINGS — C C S (Continuous Commercial Service)

	Class C CW or FM	Class C Telephony	
D-C Plate Voltage	6000	5000	max. volts
D-C Screen-Grid Voltage	1000	1000	max. volts
D-C Plate Current	700	600	max. ma.
Screen-Grid Input	75	75	max. watts
Plate Dissipation	1000	670	max. watts

27 January 1964



PENTA LABORATORIES, INC.

312 NORTH NOPAL STREET • SANTA BARBARA, CALIFORNIA



PL-8166/4-1000A

TYPICAL OPERATION — Class-C CW or FM Amplifier

Grounded-Cathode Circuit

(Frequencies up to 30 Mc.)

D-C Plate Voltage	3000	4000	5000	6000	volts
D-C Screen-Grid Voltage	500	500	500	500	volts
D-C Control-Grid Voltage	-150	-150	-200	-200	volts
D-C Plate Current	700	700	700	700	ma.
D-C Screen-Grid Current	146	137	147	140	ma.
D-C Control-Grid Current	38	39	45	42	ma.
Peak R-F Grid Voltage (approx.)	290	290	355	350	volts
Driving Power (approx.)	11	12	16	15	watts
Plate Power Input	2100	2800	3500	4200	watts
Plate Dissipation	670	700	690	800	watts
Plate Power Output	1430	2100	2810	3400	watts

TYPICAL OPERATION — Class-C Amplitude-Modulated Amplifier, Carrier Conditions

Grounded Cathode Circuit

(Frequencies up to 30 Mc.)

D-C Plate Voltage	3000	4000	5000	5500	volts
D-C Screen-Grid Voltage	500	500	500	500	volts
D-C Control-Grid Voltage	-200	-200	-200	-200	volts
D-C Plate Current	600	600	600	600	ma.
D-C Screen-Grid Current	145	132	130	105	ma.
D-C Control-Grid Current	36	33	33	28	ma.
Peak R-F Grid Voltage (approx.)	340	335	335	325	volts
Driving Power (approx.)	12	11	11	9	watts
Plate Power Input	1800	2400	3000	3300	watts
Plate Dissipation	410	490	560	670	watts
Plate Power Output	1390	1910	2440	2630	watts

