

AMPEREX TUBE TYPE 508/6246

R.F. Power Amplifier and Oscillator Class B Audio Amplifier or Modulator

GENERAL CHARACTERISTICS

WATER COOLED TRIODE

ELECTRICAL

Filament	Tungsten
Voltage	30 volts
Current	80 amperes
Amplification Factor	28
Transconductance (grid to plate) $I_p = 1.0$ amp	17000 microhms
Direct Interelectrode Capacitances	
Grid to Plate	17 $\mu\mu\text{f}$
Grid to Filament	26 $\mu\mu\text{f}$
Plate to Filament	2.5 $\mu\mu\text{f}$
Frequency for Maximum Ratings	40 megacycles

MECHANICAL

Overall Dimensions	
Length	25 $\frac{1}{4}$ inches
Maximum Radius	5 inches
Mounting Position	Vertical, Anode Down
Type of Cooling	Water
Water Jacket	Amperex Type #DW-2500
Water Flow ¹	8-15 gal. per min.
Pressure drop ² (approx.)	7 lbs. per sq. in.
Maximum Outlet Water Temperature	70° C.
Net Weight (approx.)	9 pounds
Shipping Weight (approx.) (one tube)	23 pounds

¹ Rated water flow must be continuous between the time any voltage is applied and for 5 minutes after voltage is removed.

² The approximate water pressure is measured directly across the jacket alone and does not include connecting piping.

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MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Audio Frequency Power Amplifier or Modulator—Class B

	Maximum Rating per Tube	Typical Operation Two Tubes
D.C. Plate Voltage	15000	15,000
D.C. Grid Voltage	.....	—400
Load Resistance (per tube) (ohms)	.....	1500
Effective Load Resistance (Plate to Plate) (ohms)	.....	6000
Zero Signal Plate Current (amp.)	.....	1.00
Peak A.F. Grid to Grid Voltage	.....	2000
Max. Signal Plate Current (amps.) ¹	4.0	6.0
Max. Signal Plate Input (kilowatts) ¹	60	90
Plate Dissipation (kilowatts) ¹	25	.....
Max. Signal Driving Power (watts) (approx.)	.....	550
Max. Signal Plate Power Output (kilowatts)	.....	61.5

¹ Averaged over any audio-frequency cycle.

R.F. Power Amplifier—Class B—Telephony

(Carrier conditions for use with a max. modulation factor of 1.0)

	Maximum Rating per Tube	Typical Operation One Tube
D.C. Plate Voltage	15000	15,000
D.C. Grid Voltage	.....	—400
Peak R.F. Grid Voltage	.....	600
D.C. Plate Current (amps.)	2.0	1.80
Plate Input (kilowatts)	30	27
Plate Dissipation (kilowatts)	20	.....
Driving Power (at Modulation Peak) (watts) (approx.)	.....	750
Plate Power Output (kilowatts)	.....	10

Plate Modulated R.F. Power Amplifier Class C—Telephony

(Carrier conditions for use with a max. modulation factor of 1.0)

	Maximum Rating per Tube	Typical Operation One Tube
D.C. Plate Voltage	12000	12,000
D.C. Grid Voltage	—3000	—1000
Peak R.F. Grid Voltage (approx.)	.....	1650
D.C. Plate Current (amps.)	2.0	2.0
Plate Input (kilowatts)	24	.....
D.C. Grid Current (approx.)	1.0	.485
Plate Dissipation (kilowatts)	12	.....
Driving Power (watts) (approx.)	.....	750
Plate Power Output (kilowatts)	.....	20

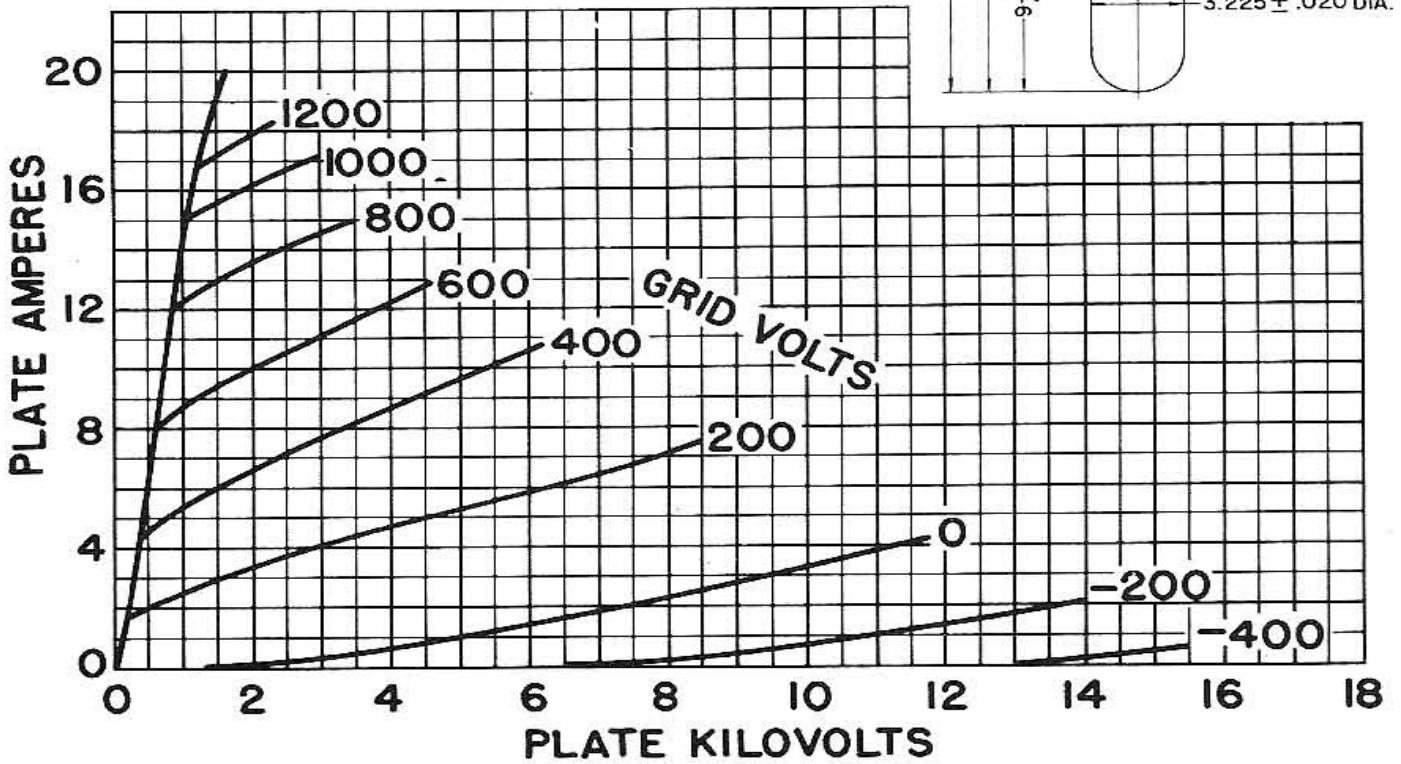
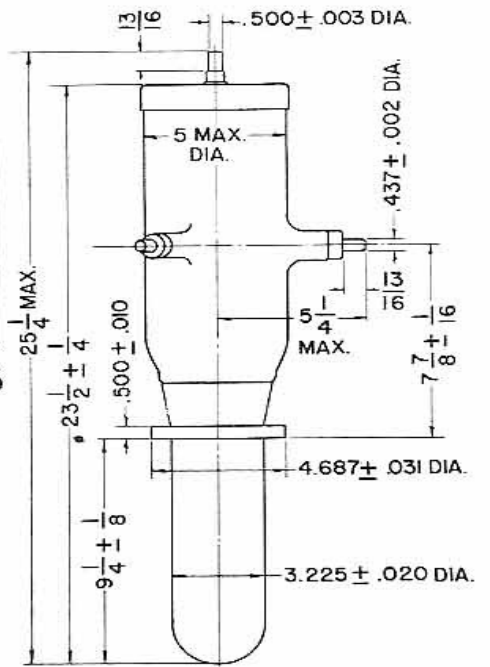
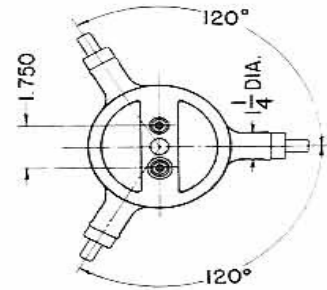
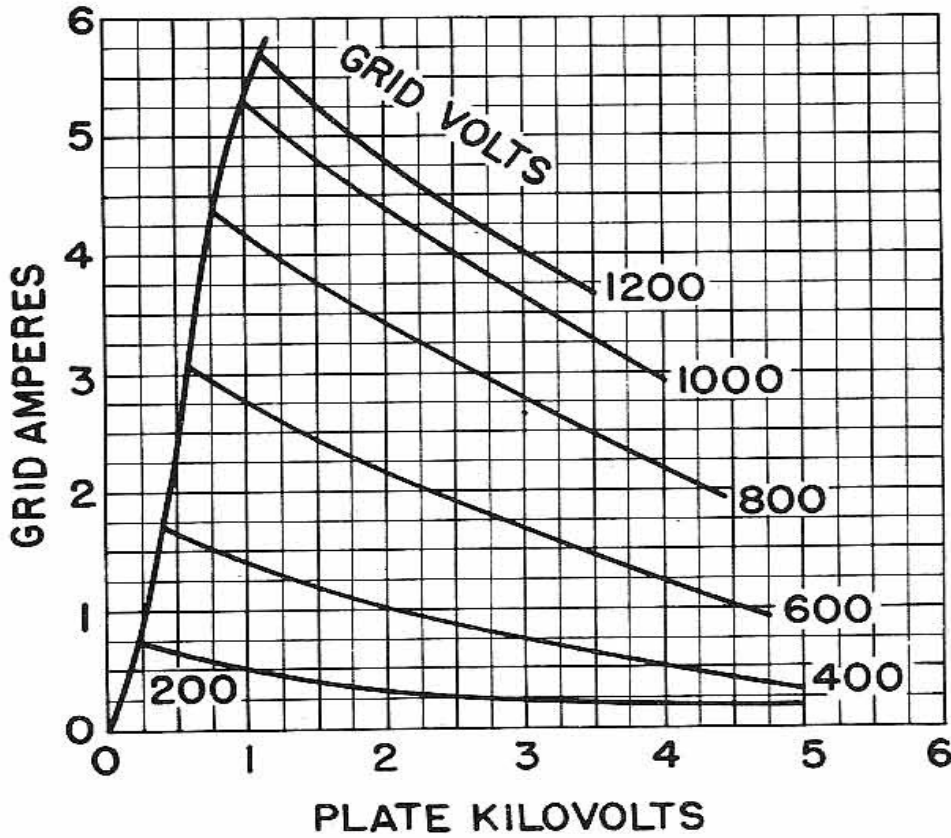
R.F. Power Amplifier and Oscillator—Class C Telephony

(Key-down conditions without modulation)²

	Maximum Rating per Tube	Typical Operation One Tube
D.C. Plate Voltage	15000	15,000
D.C. Grid Voltage	—3000	—900
Peak R.F. Grid Voltage (approx.)	.....	1,740
D.C. Plate Current (amps.)	4.0	3.75
Plate Input (kilowatts)	60	.....
D.C. Grid Current (amps) (approx.)	1.0	.42
Plate Dissipation (kilowatts)	25	.....
Driving Power (watts) (approx.)	.....	830
Plate Power Output (kilowatts)	.....	40.0

² Modulation, essentially negative, may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of carrier conditions.

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