

AMPEREX TUBE TYPE ZB-3200

An all glass radiation plus forced air cooled high-power triode especially suitable for use as a zero bias Class B modulator, Class B-RF Power Amplifier, and Class C. Telegraphy RF Power Amplifier.

GENERAL CHARACTERISTICS

ELECTRICAL

Filament	Tungsten
Voltage	21 to 22 volts
Current	40.5 amperes
The starting current must never exceed 2.0 times the normal current	
Amplification Factor	75
Grid to Plate Transconductance, $I_p = 1$ amp	5000 micromhos
Direct Interelectrode Capacitances	
Grid to Plate	10 $\mu\mu\text{f}$
Grid to Filament	13 $\mu\mu\text{f}$
Plate to Filament	2 $\mu\mu\text{f}$
Frequency for Maximum Ratings	10 megacycles

MECHANICAL

Overall Dimensions	
Maximum Length	21 $\frac{1}{4}$ inches
Maximum Radius	5 inches
Mounting Position—Vertical	Filament terminal end down

ACCESSORIES

External Grid Connector	Amperex Type I-66
Net Weight (approx.)	4 pounds
Shipping Weight (approx.) (one tube)	17 pounds

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MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

A.F. Power Amplifier and Modulator—Class B

Unless otherwise specified, values are for 2 tubes

	Typical Operation:			Maximum Rating per Tube
D.C. Plate Voltage	5000 ²	6000 ²	8000	10000
D.C. Grid Voltage	0	0	0	
Load Resistance (ohms) (per tube)	1450	2000	3050	
Effective Load Resistance (ohms) (pl-pl)	5800	8000	12200	
Zero Sig. D.C. Plate Current (ma)	50	100	240	
Max. Sig. D.C. Plate Current (amps)	1.4	1.25	1.45	1.5
Peak A.F. Grid to Grid Voltage	700	650	800	
Max. Sig. Plate Input (kw)	7.0	7.5	11.7	6
Plate Dissipation (kw) ¹ (per tube)	1.8	1.8	1.9	2.0
Max. Sig. Driving Power (watts)	55	25	160	
Max. Sig. Power Output (watts) (approx.)	3400	4000	8000	
Recommended Driver (tube type)	4-845	2-845	2-849A	

R.F. Power Amplifier—Class B—Telephony

Carrier conditions per tube for use with a maximum modulation factor of 1.0

Plate Volts & Input Max. %	100	50
For Frequencies Indicated (mc)	10	50
	Typical Operation:	
		Maximum Rating per Tube
D.C. Plate Voltage	6000	10000
D.C. Grid Voltage	0	
Peak R.F. Grid Voltage	275	
Plate Load Resistance (ohms)	3150	
D.C. Plate Current (ma)	510	750

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D.C. Grid Current (ma) (approx.)	25	
Plate Input (kw)	3.05	3.2
Plate Dissipation (kw)	2.05	2.2
Driving Power (watts) (approx.) ³	35	
Plate Power Output (kw)	1.0	
F.C.C. Rating for Use in Final Stage of Broadcast Transmitters (kw)	1.0	1.0

R.F. Power Amplifier or Oscillator Class C—Telegraphy

Unmodulated, Negatively Modulated, or Frequency Modulated Services

Plate Volts & Input Max. %	100	50
For Frequencies Indicated (mc)	10	50

Typical Operation:

		Maximum Rating per Tube
D.C. Plate Voltage	8000	10000
D.C. Grid Voltage	-400	-2000
Peak R.F. Grid Voltage	1050	
Plate Load Resistance (ohms)	4250	
D.C. Plate Current (amps)	0.96	1.25
D.C. Grid Current (ma) (approx.)	150	200
Plate Input (kw)	7.7	8.0
Plate Dissipation (kw)	1.9	2.5
Driving Power (watts) (approx.)	145	
Plate Power Output (kw) (approx.)	5.8	

NOTES:

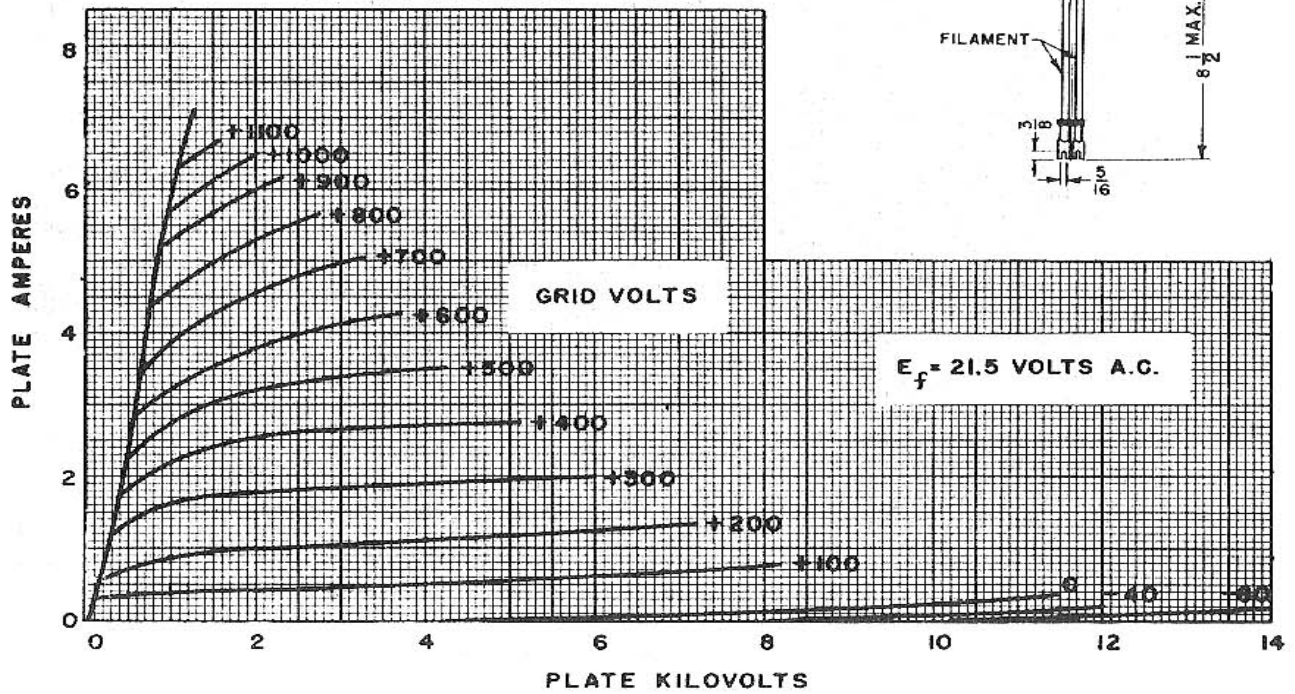
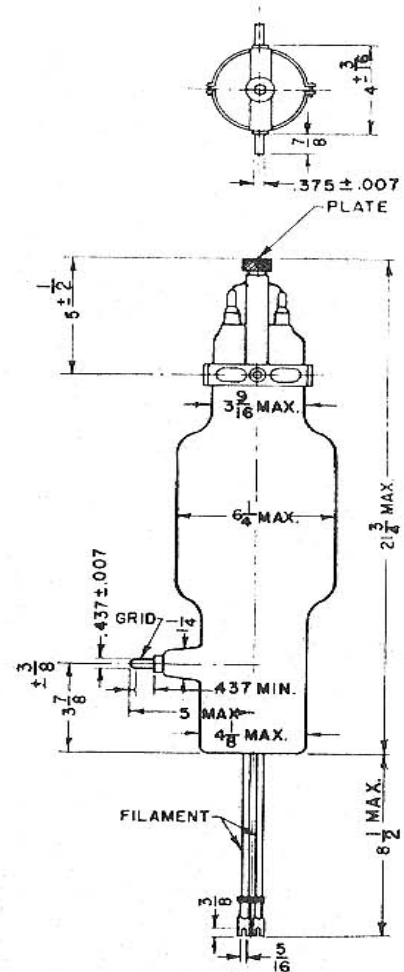
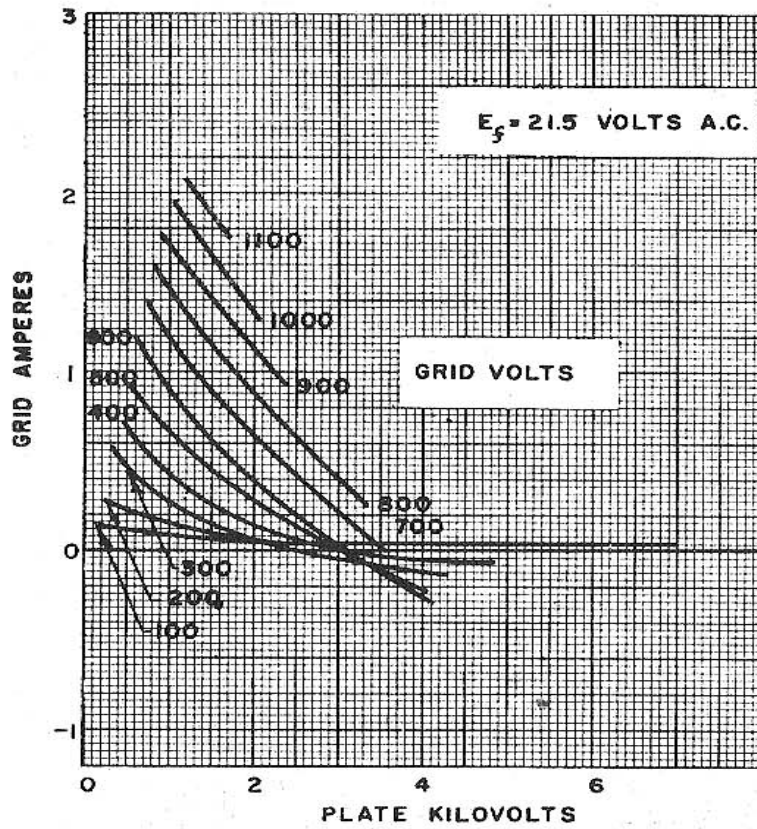
¹Under maximum-signal conditions, plate dissipation should not exceed 2.5 kilowatts when averaged over any audio frequency cycle of sine-wave form.

²Conditions suitable for use as a modulator for a plate modulated 5 kw broadcast transmitter.

³At crest of audio-frequency cycle with modulated factor of 1.0.

COOLING: Though this tube may in emergencies, and under conditions of low anode dissipation be operated without forced air cooling, an air flow of 200 to 400 cubic feet a minute broadly directed at the bottom of the tube and flowing upward around the bulb will assure optimum life.

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