

AMPEREX TUBE TYPE HF-175

AF Power Amplifier and Modulator RF Power Amplifier and Oscillator

GENERAL CHARACTERISTICS

RADIATION COOLED TRIODE

ELECTRICAL

Filament	Thoriated Tungsten
Voltage	10 volts (ac or dc)
Current	4 amperes
Amplification Factor	18
Grid to Plate Transconductance	4000 micromhos
@ plate current of 100 ma	
Direct Interelectrode Capacitances	
Grid to Plate	6.3 $\mu\mu\text{f}$
Grid to Filament	4.8 $\mu\mu\text{f}$
Plate to Filament	2.7 $\mu\mu\text{f}$

MECHANICAL

Maximum Overall Dimensions	
Length	9½ inches
Radius	2¾ inches
Base	Standard jumbo 4 pin bayonet
Mounting Position—Vertical	Base down
Horizontal	With plane of electrodes vertical
Net Weight (approx.)	8½ ounces
Shipping Weight (approx.) (one tube)	4 pounds

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MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

A.F. Power Amplifier and Modulator—Class B

Unless otherwise specified, values given are for 2 tubes

Typical Operation:	Maximum Rating per Tube		
	1750	2000	2000
D.C. Plate Voltage	1750	2000	2000
D.C. Grid Voltage ²	-78	-95	....
Load Resistance (ohms) (per tube)	2500	3250	....
Effective Load Resistance (ohms) (pl-pl)	10000	13000	....
Zero Sig. D.C. Plate Current (ma)	70	70	....
Max. Sig. D.C. Plate Current (ma)	350	332	200 ¹
Peak A.F. Grid to Grid Voltage	356	390	....
Max. Sig. Plate Input (watts)	....	....	500 ¹
Plate Dissipation (watts)	....	....	125 ¹
Max. Sig. Driving Power (watts) (approx.)	9	11	....
Max. Sig. Power Output (watts) (approx.)	350	415	....

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)	25	100

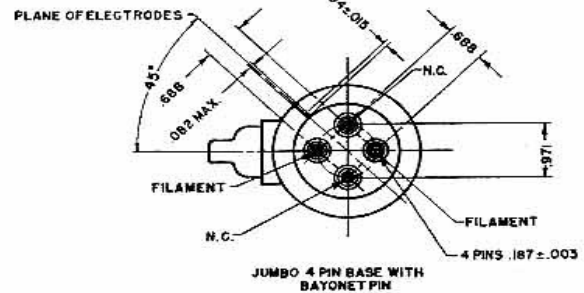
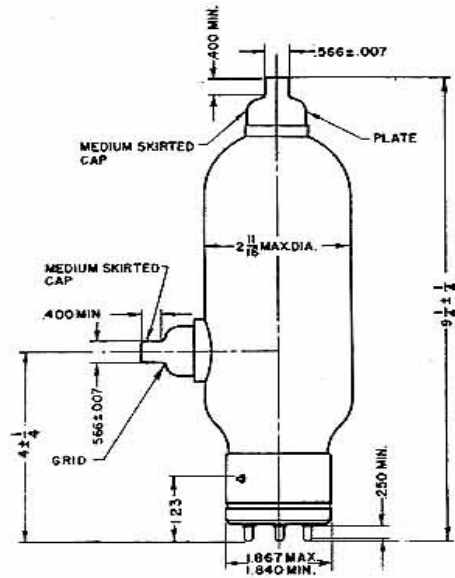
Typical Operation:	Maximum Rating per Tube		
	1750	2000	2000
D.C. Plate Voltage	1750	2000	2000
D.C. Grid Voltage ²	-80	-95	....
Peak R.F. Grid Voltage	100	105	....
D.C. Plate Current (ma)	100	97	150
D.C. Grid Current (ma) approx.)	1	0.5	....
Plate Input (watts)	175	194	200
Plate Dissipation (watts)	110	114	125
Grid Driving Power ³ (watts) (approx.)	3	3	....
Power Output (watts) (approx.)	65	80	....

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

Key-down conditions without modulation⁴

Plate Volts & Input Max. %	100	50
For Frequencies Indicated (mc)	25	100

Typical Operation:	Maximum Rating per Tube		
	1750	2000	2000
D.C. Plate Voltage	1750	2000	2000
D.C. Grid Voltage ²	-220	-250	-400



(continued from previous column)

Peak R.F. Grid Voltage	390	420	....
D.C. Plate Current (ma)	200	200	200
D.C. Grid Current (ma) (approx.)	25	23	....
Plate Input (watts)	350	400	500
Plate Dissipation (watts)	75	80	125
Driving Power (watts) (approx.)	9	9	....
Power Output (watts) (approx.)	275	320	....

NOTES:

¹Averaged over any audio-frequency cycle of sine-wave form.

²Grid voltages are given with respect to the filament operated on A.C. If D.C. is used, each stated value of grid voltage should be decreased by 5 volts and the circuit returns made to the negative end of the filament.

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

⁴Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

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