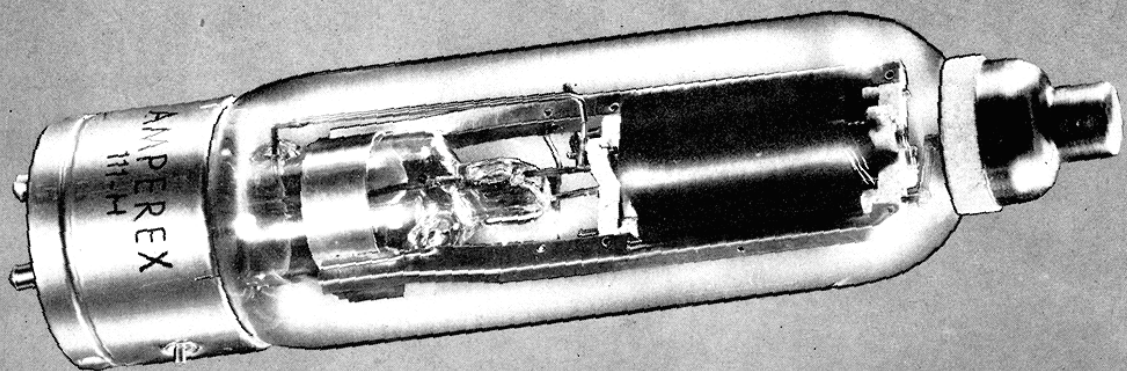


AMPEREX TRANSMITTING TUBE 111-H



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

The 111-H is one of a distinctive group of low voltage high current tubes, an original development of the Amperex Engineering Laboratories. It is in addition characterized by an extraordinarily high ratio of transconductance to interelectrode capacitance, a characteristic which is responsible for its outstanding efficiency in high frequency circuits.

GENERAL CHARACTERISTICS

RADIATION COOLED TRIODE

ELECTRICAL

Filament	Thoriated Tungsten
Voltage	10 to 10.5 volts
Current	2.5 amperes
Amplification Factor	23
Transconductance (grid to plate) $I_p = 100$ ma	4200 micromhos
Direct Interelectrode Capacitances	
Grid to Plate	4.6 $\mu\mu\text{f}$
Grid to Filament	5.0 $\mu\mu\text{f}$
Plate to Filament	2.9 $\mu\mu\text{f}$
Frequency for Maximum Ratings	30 megacycles

MECHANICAL

Maximum Overall Dimensions	
Length	8½ inches
Greatest Radius	2½ inches
Base	Standard Jumbo 4-pin Bayonet
Mounting Position—Vertical	Base up or down
Horizontal	Plane of electrodes vertical
Net Weight (approx.)	5 ounces
Shipping Weight (approx.) (one tube)	2 pounds

111-H

111-H—AMPEREX TRANSMITTING TUBE

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

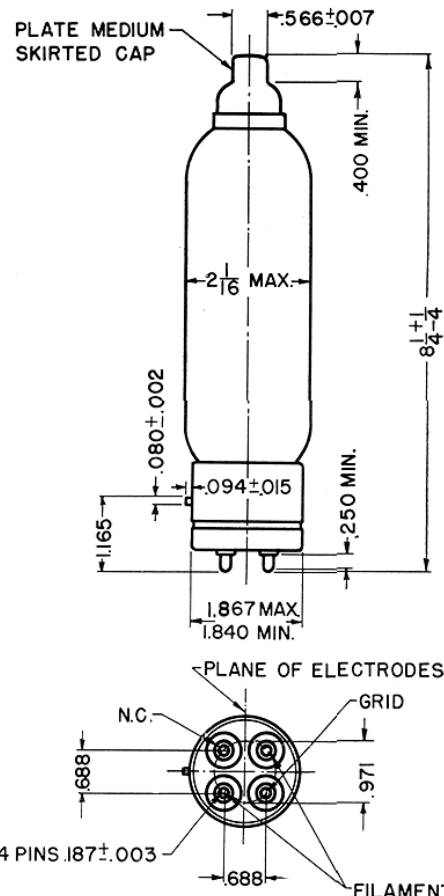
Audio Frequency Power Amplifier or Modulator—Class B			
	Maximum Rating per Tube	Typical Operation Two Tubes	
A.C. Filament Voltage	...	10	10
D.C. Plate Voltage	1750	1500	1750
D.C. Grid Voltage	...	-52	-62
Load Resistance (per tube) (ohms)	...	3000	4000
Effective Load Resistance (Plate to Plate) (ohms)	...	12000	16000
Zero-Signal Plate Current (ma)	...	50	40
Peak A.F. Grid to Grid Voltage	...	254	324
Max. Signal Plate Current (ma)	150	270	270
Max. Signal Input (watts)	240	...	...
Plate Dissipation (watts)	75	...	...
Max. Signal Driving Power (approx.) (watts)	...	2	9
Max. Signal Power Output (approx.) (watts)	...	260	350

R.F. Power Amplifier—Class B—Telephony			
(Carrier conditions for use with modulation factors up to 1.0)			
	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	...	10	10
D.C. Plate Voltage	1500	1500	1500
D.C. Grid Voltage	...	-55	-55
Peak R.F. Grid Voltage	...	80	80
D.C. Plate Current (ma)	100	175	175
Plate Input (watts)	115	112	112
D.C. Grid Current (approx.) (ma)	...	1.5	1.5
Plate Dissipation (watts)	75	70	70
Grid Driving Power at Modulation Peak (approx.) (watts)	...	3	3
Power Output (approx.) (watts)	...	42	42

R.F. Power Amplifier—Class C—Telegraphy			
	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	...	10	10
D.C. Plate Voltage	1500	1000	1250
D.C. Grid Voltage	-500	-120	-200
Peak R.F. Grid Voltage	...	250	330
D.C. Plate Current (ma)	160	150	130
Plate Input (watts)	225	150	162
D.C. Grid Current (approx.) (ma)	30	21	18
Plate Dissipation (watts)	75	44	42
Driving Power (approx.) (watts)	...	5	6
Power Output (approx.) (watts)	...	106	120
Frequency Limit for Above Operation (mc.)	30	...	...

Plate Modulated R.F. Power Amplifier—Class C			
(Carrier conditions for use with modulation factor of 1.0)			
	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	...	10.5	10.5
D.C. Plate Voltage	1250	1000	1250
D.C. Grid Voltage (Total)	-300	-200	-250
Fixed Bias (approx.) (Voltage)	...	-30	-40
Grid Resistor (approx.) (ohms)	...	8500	10000
Peak R.F. Grid Voltage	...	330	380
D.C. Plate Current (ma)	120	120	110
Plate Input (watts)	140	120	137
D.C. Grid Current (approx.) (ma)	30	20	21
Plate Dissipation (watts)	50	30	32
Driving Power (approx.) (watts)	...	6.5	8
Plate Power Output (approx.) (watts)	...	90	105
Frequency Limit for Above Operation (mc.)	30	...	...
F.C.C. Broadcast Rating (watts)	75	...	...
(Nearest Classification for Final Stage Use)	...	...	...

Grid Modulated R.F. Power Amplifier—Class C			
(Carrier conditions for use with modulation factor of 1.0)			
	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	...	10.0	10.0
D.C. Plate Voltage	1500	1500	1500
D.C. Grid Voltage (Fixed Voltage)	-300	-280	-280
Peak R.F. Grid Voltage	...	340	340
D.C. Plate Current (ma)	100	72	72
Plate Input (watts)	110	108	108
D.C. Grid Current (approx.) (ma)	...	1.5	1.5
Plate Dissipation (watts)	75	66	66
Grid Driving Power at Modulation Peak (approx.) (watts)	...	6	6
Power Output (approx.) (watts)	...	42	42
Frequency Limit for Above Operation (mc)	30	...	...



JUMBO 4 PIN BASE WITH BAYONET PIN

Self-Excited High Frequency Oscillator or Power Amplifier Class C

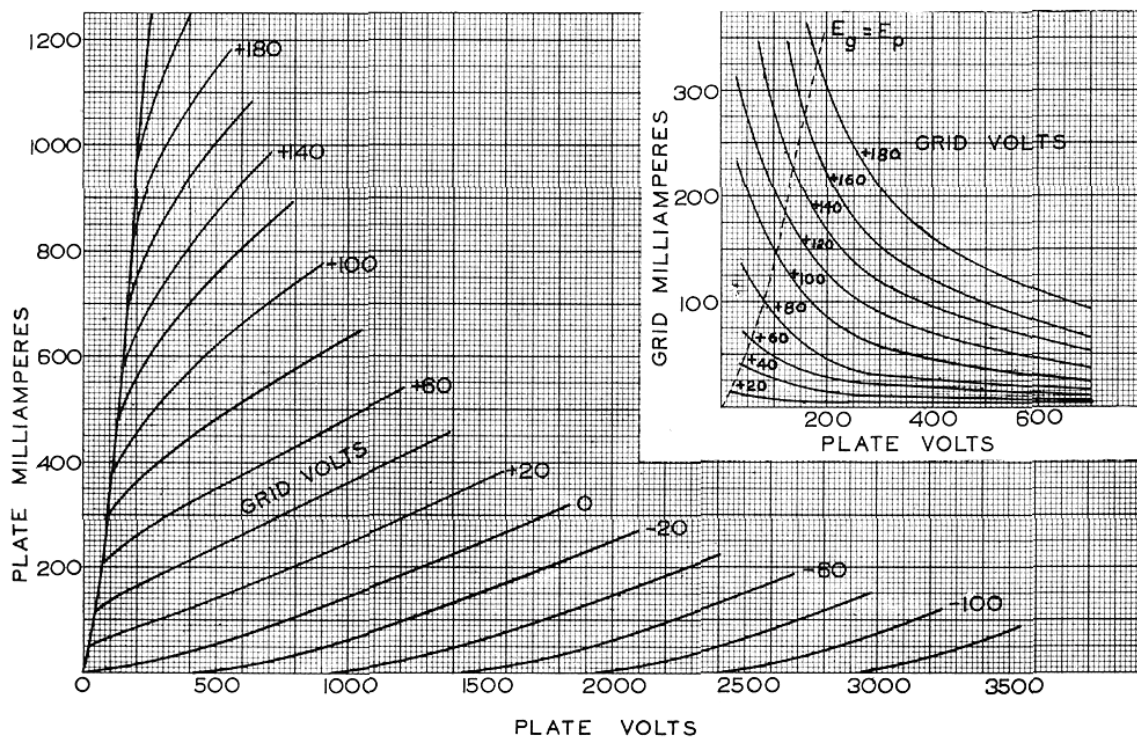
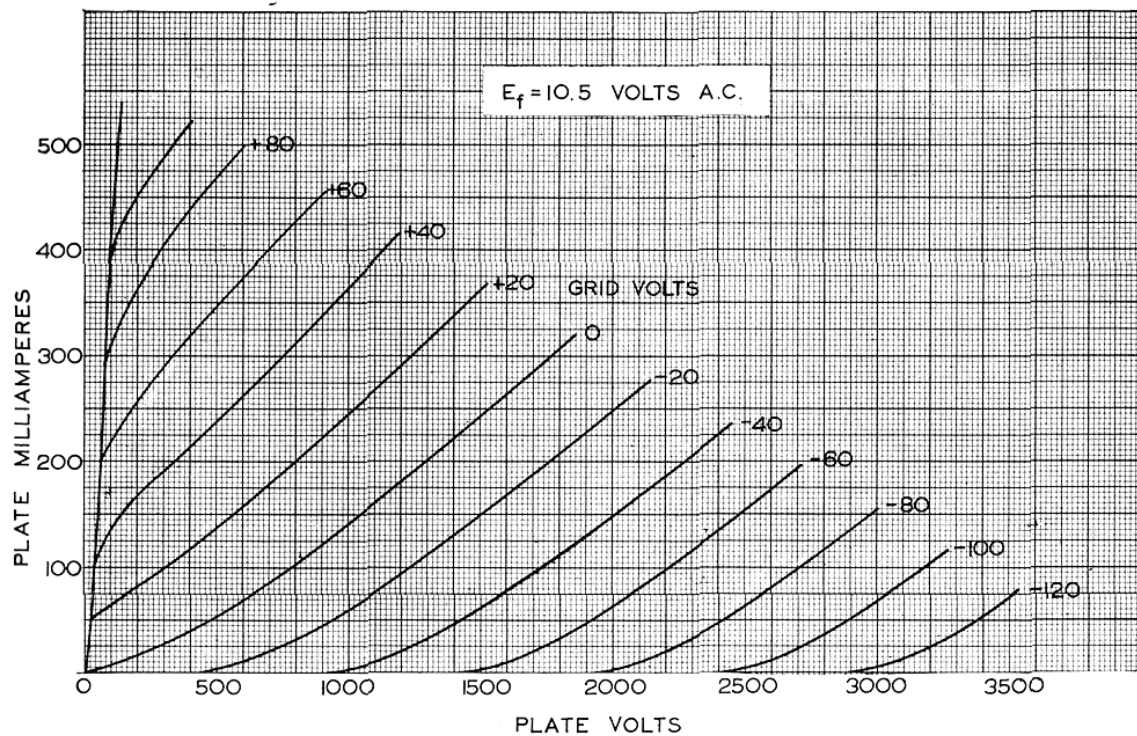
	Maximum Ratings for Operation at	
	30 mc.	60 mc.
D.C. Plate Voltage	1500	1200
Modulated D.C. Plate Voltage	1250	1000
A.C. Plate Voltage	1500	1500
D.C. Plate Current (ma)	160	160
D.C. Grid Bias Voltage	-500	-250
D.C. Grid Current (ma)	30	30
Plate Dissipation (watts)	75	60

Typical High Frequency Performance of 2 Tubes in Tuned-Grid Tuned-Plate Push-Pull Circuits

Frequency	30 mc.	60 mc.
Plate Voltage	1500 A.C.	1200 D.C.
Plate Current	280 ma	260 ma
Power Delivered to Load Circuit	260 watts	220 watts

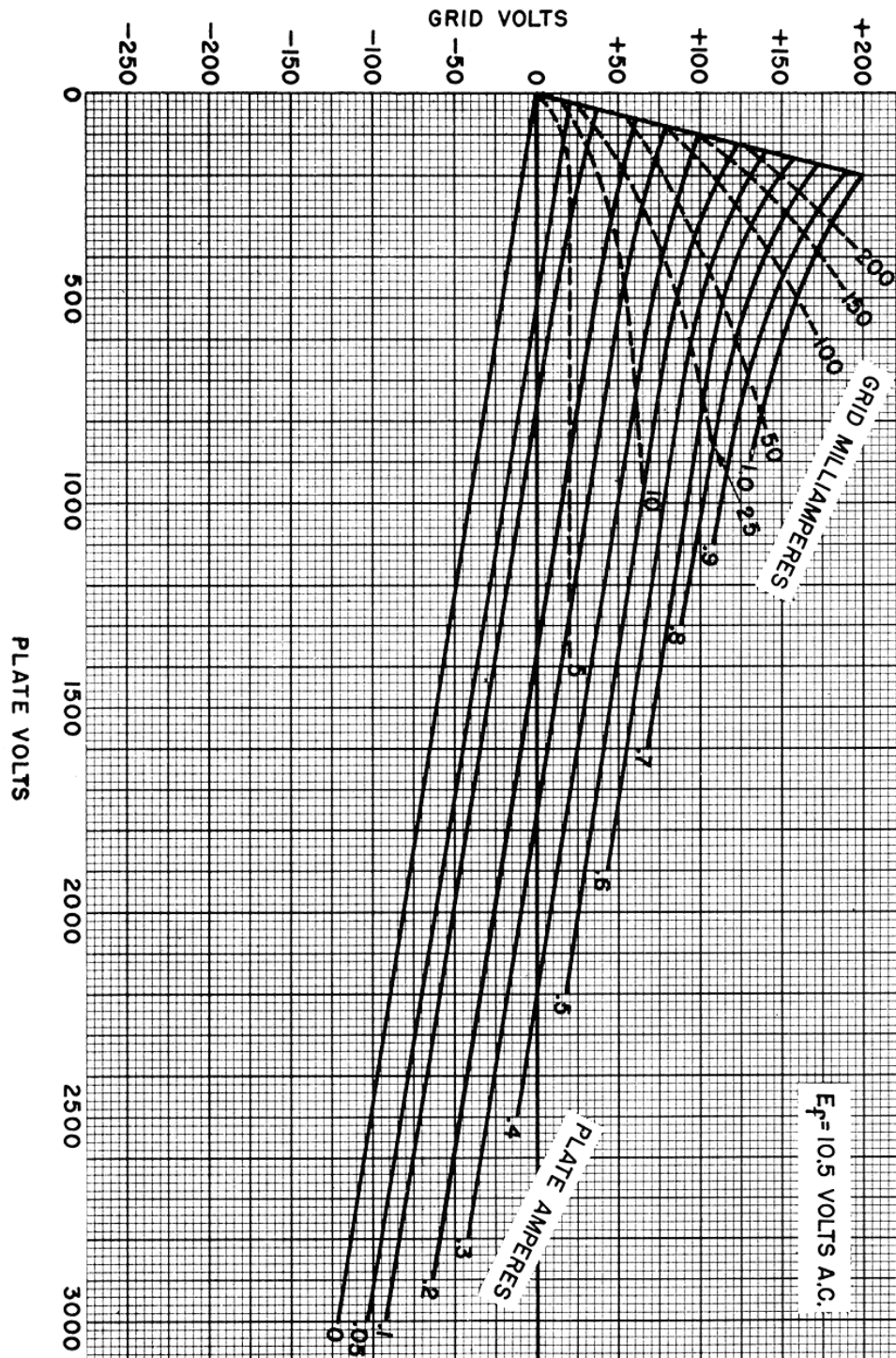
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111-H-AMPEREX TRANSMITTING TUBE



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