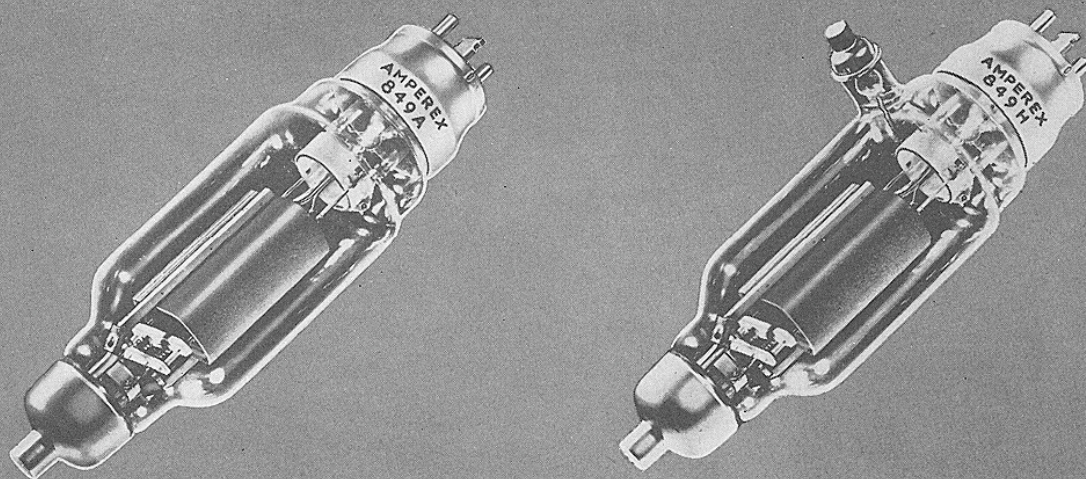


AMPEREX TRANSMITTING TUBES 849-A/849-H



A.F. Power Amplifier or Modulator R.F. Power Amplifier or Oscillator

The Amperex 849-A supersedes the 849. It is the older model redesigned along modern engineering principles. In its physical configurations and major electrical characteristics it is identical with the 849. Its performance capabilities are far greater.

The Amperex 849-H is identical in all but its interelectrode capacitances with the 849-A. The only other point of difference is the grid connection which terminates in an arm extending from the side of the glass envelope. It is designed for more efficient operation at high frequencies and may be operated at full ratings up to 30 megacycles in many classes of service.

GENERAL CHARACTERISTICS

RADIATION COOLED TRIODE

ELECTRICAL

	849-A	849-H
Filament	Thoriated Tungsten	
Voltage	11.0 volts	10.0 volts
Current	7.7 amperes	11.5 amperes
Amplification Factor	19	19
Grid to Plate Transconductance		
At Plate Current of 200 ma.	7600 micromhos	7600 micromhos
Direct Interelectrode Capacitances		
Grid to Plate	11.5 $\mu\mu\text{f}$	11.5 $\mu\mu\text{f}$
Grid to Filament	14.0 $\mu\mu\text{f}$	10.0 $\mu\mu\text{f}$
Plate to Filament	1.8 $\mu\mu\text{f}$	1.8 $\mu\mu\text{f}$

MECHANICAL

Maximum Overall Dimensions		
Length	14 $\frac{3}{8}$ inches	14 $\frac{3}{8}$ inches
Radius	2 $\frac{1}{32}$ inches	4 inches
Base	Standard Jumbo 3 Pin	
Mounting Position—Vertical	Base up or down	
Net Weight (approx.)	2 pounds	2 pounds
Shipping Weight (approx.) (one tube)	7 pounds	7 pounds

**849-A /
849-H**

849-A/849-H — AMPEREX TRANSMITTING TUBES

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

A.F. Power Amplifier and Modulator—Class A

Typical Operation:				Maximum Rating per Tube
D.C. Plate Voltage	2500	3000	4000	4000
D.C. Grid Voltage	-100	-130	-185	....
Peak A.F. Grid Voltage	94	124	180	....
D.C. Plate Current (ma)	135	120	100	....
Plate Input (watts)	338	360	400	400
Plate Dissipation (watts)	256	255	250	400
Load Resistance (ohms)	12000	18000	30000	....
Power Output (watts)	82	105	150	....
Distortion (% Second Harmonic)	3	2.5	4	....

A.F. Power Amplifier and Modulator—Class B

Typical Operation:				Maximum Rating per Tube
Unless otherwise specified, values are for 2 tubes.				
D.C. Plate Voltage	2500	3000	3000	4000
D.C. Grid Voltage	-118	-140	-140	....
Load Resistance (ohms) (per tube)	2000	3200	2000	....
Effective Load Resistance (ohms) (pl-pl)	8000	12800	8000	....
Zero Sig. D.C. Plate Current (ma)	120	100	100	....
Max. Sig. D.C. Plate Current ¹ (ma)	585	530	900	500
Peak A.F. Grid to Grid Voltage	416	480	600	....
Max. Sig. Plate Input (watts) ¹	1460	1590	2700	1350
Plate Dissipation (watts) ¹	620	490	800	500
Plate Dissipation (watts) ²	....	....	920	....
Max. Sig. Driving Power (watts) (approx.)	35	55	110	....
Minimum Grid Input Resistance (ohms) (approx.)	1600	500	250	....
Max. Sig. Power Output (watts) (approx.)	840	1100	1900	....

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)	20	40
Typical Operation:		Maximum Rating <u>per Tube</u>
D.C. Plate Voltage	2000 2500 3000	3500
D.C. Grid Voltage	-80 -110 -140	....
Peak R.F. Grid Voltage	110 135 160	....
D.C. Plate Current (ma)	215 240 250	350
D.C. Grid Current (ma) (approx.)	8 4 2	....
Plate Input (watts)	430 600 750	750
Plate Dissipation (watts)	285 395 475	500

(Continued)

Plate Load Resistance (ohms)	2800	3100	3550	....
Driving Power (watts) (approx.) ³	15	20	25	....
Plate Power Output (watts) (approx.)	145	205	275	....
F.C.C. Broadcast Rating (For final stage use) (watts)	125	....	250	250

Plate Modulated R.F. Power Amplifier Class C—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)	20	40
Typical Operation:		Maximum Rating per Tube
D.C. Plate Voltage	2500	3000
D.C. Grid Voltage	....	....
Total	-310	-500
Fixed Bias	-150	....
From Grid Resistor (ohms)	2000	....
Peak R.F. Grid Voltage	490	....
D.C. Plate Current (ma)	305	500
D.C. Grid Current (ma) (approx.)	80	100
Driving Power (watts) (approx.)	40	....
Plate Input (watts)	760	1250
Plate Load Resistance (ohms)	4100	....
Plate Dissipation (watts)	130	400
Plate Power Output (watts)	630	....

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

Key-down conditions per tube without modulation⁴

Plate Volts & Input Max. %	100	50
For Frequencies Indicated (mc)	20	40
Typical Operation:	Maximum Rating per Tube	
D.C. Plate Voltage	2500	3000 3500
D.C. Grid Voltage	—300	—300 —500
Peak R.F. Grid Voltage	530	520
D.C. Plate Current (ma)	500	500 500
D.C. Grid Current (ma) (approx.)	97	93 100
Plate Load Resistance (ohms)	2450	3000
Plate Input (watts)	1250	1500 1750
Plate Dissipation (watts)	270	300 500
Driving Power (watts) (approx.)	46	44
Plate Power Output (watts)	980	1200

NOTES:

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

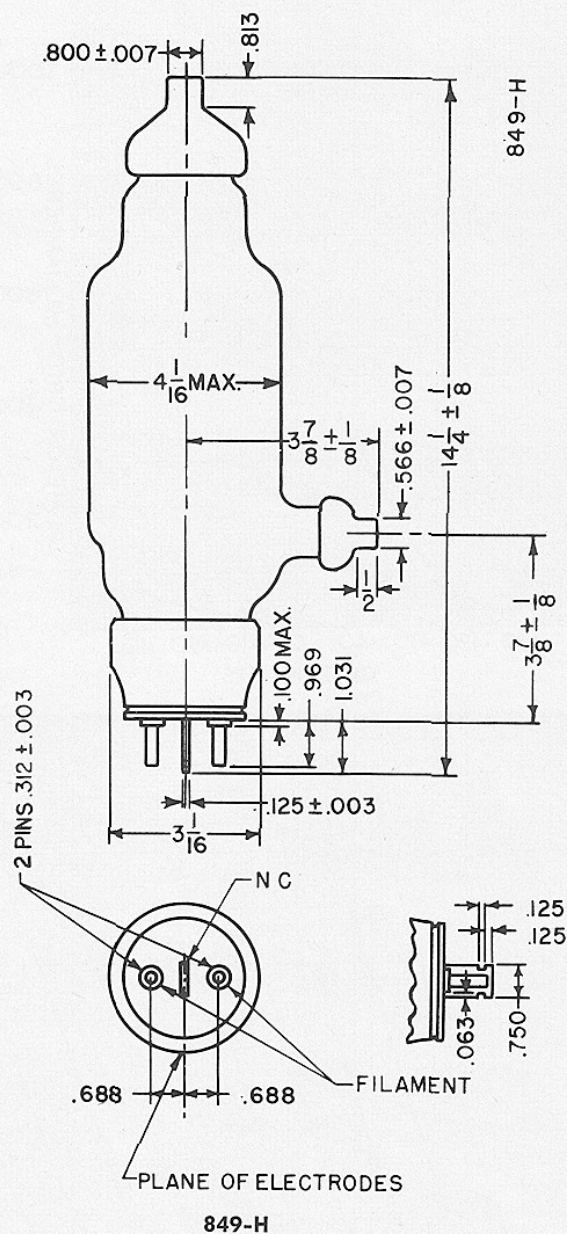
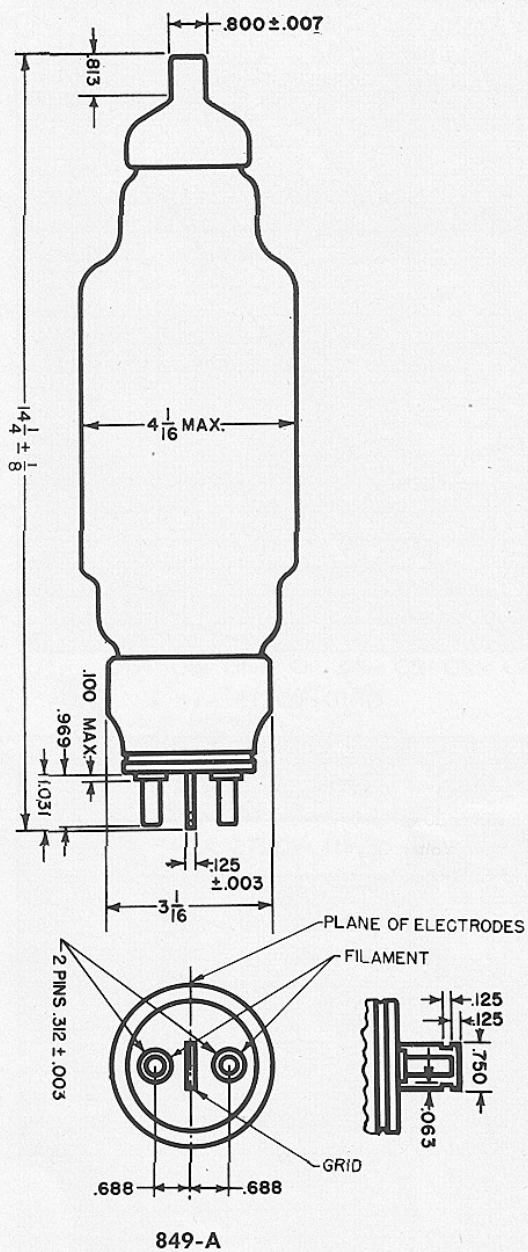
² Average over any audio-frequency cycle of sine wave form under approximately 70% of maximum drive conditions.

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

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

849-A/
849-H

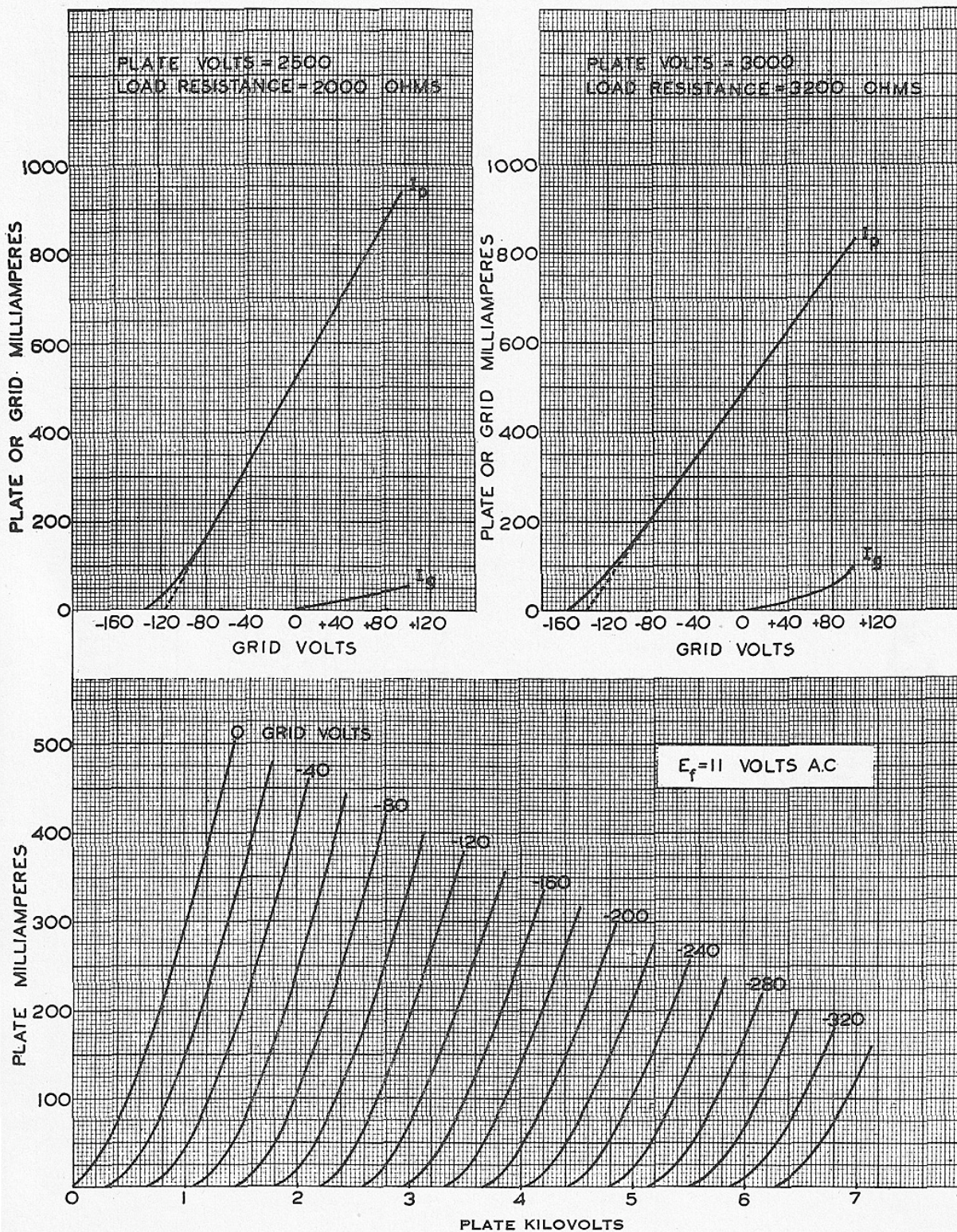
AMPEREX TRANSMITTING TUBES 849-A/849-H



**849-A/
849-H**

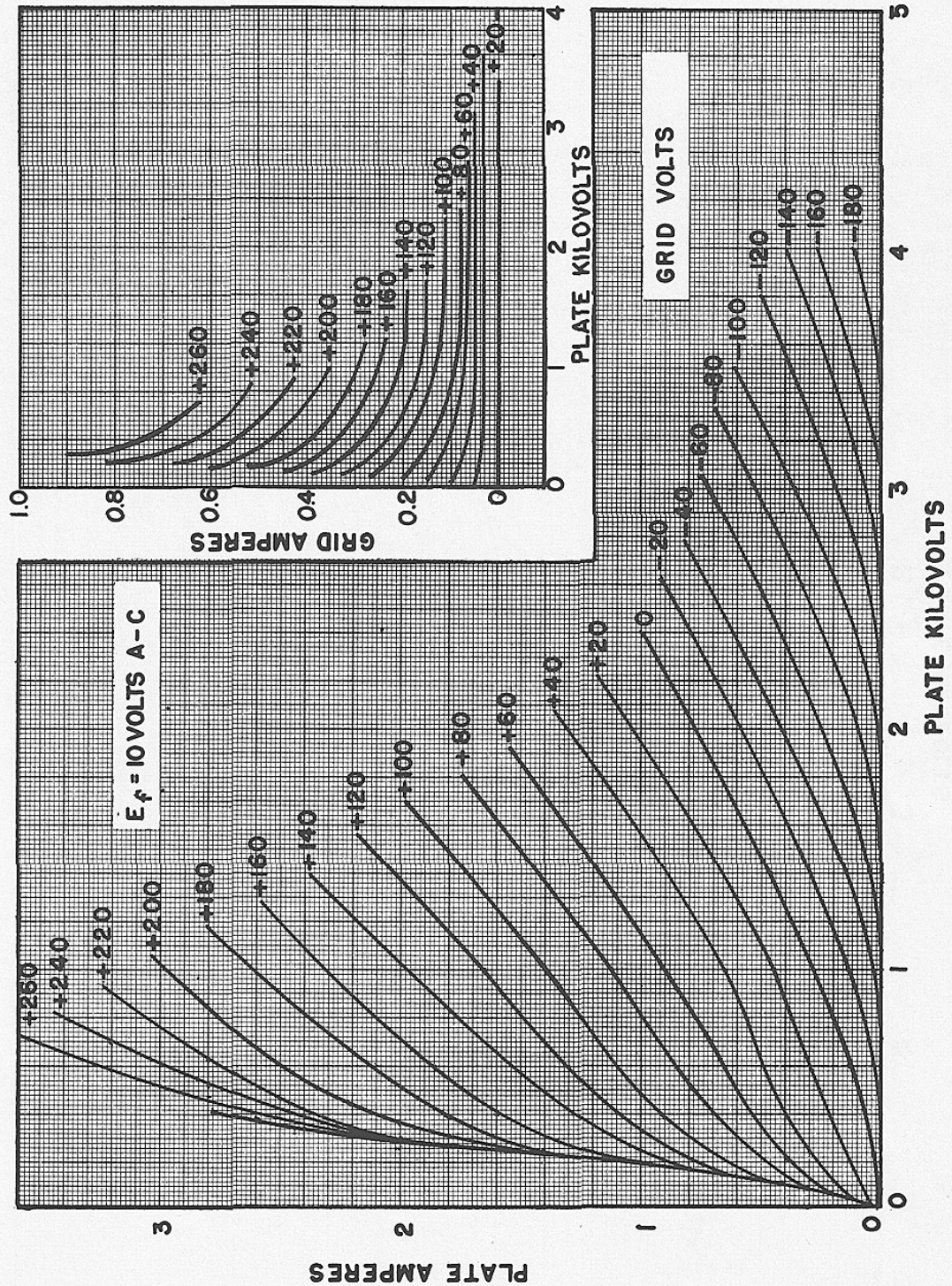
849-A/849-H — AMPEREX TRANSMITTING TUBES

849-A TRANSFER CHARACTERISTICS A F POWER AMPLIFIER AND MODULATOR CLASS-B



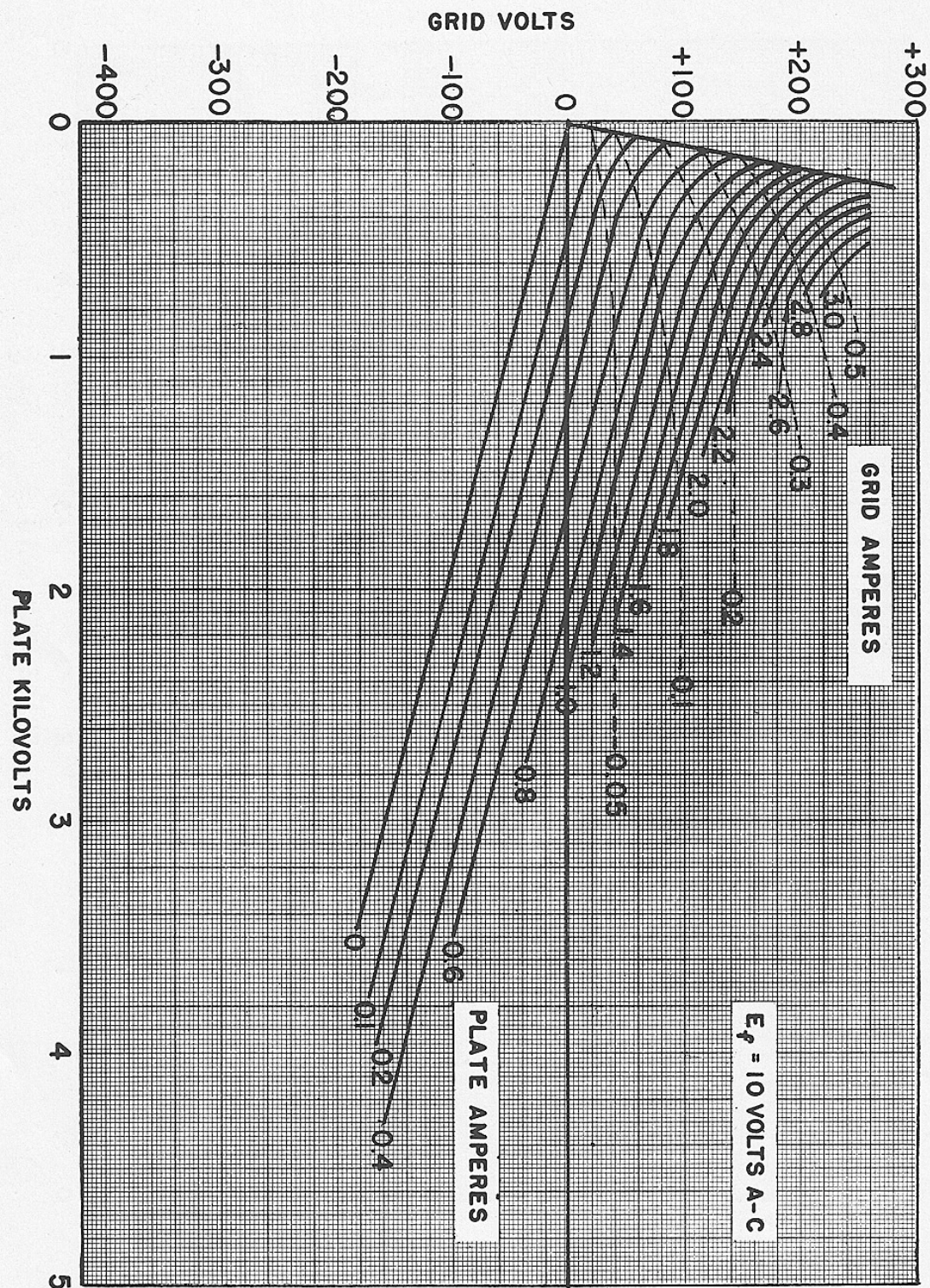
849-A/
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AMPEREX TRANSMITTING TUBES 849-A/849-H



849-A/
849-H

849-A/849-H — AMPEREX TRANSMITTING TUBES



849-A/
849-H