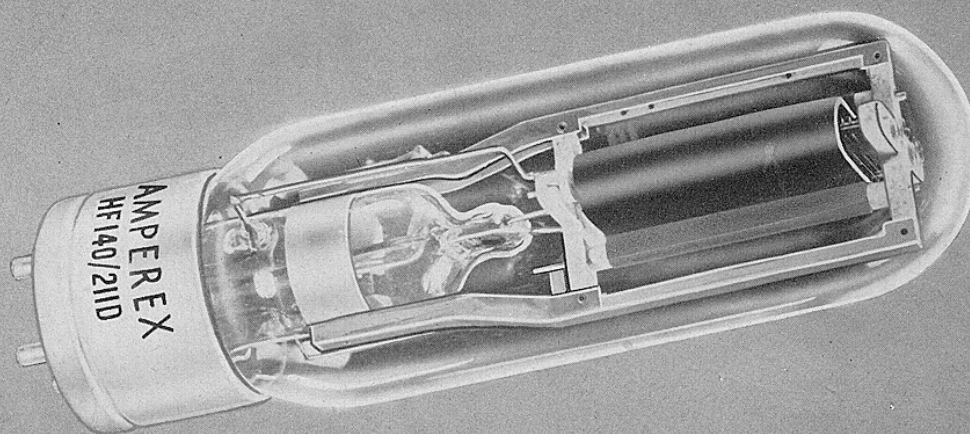


AMPEREX TRANSMITTING TUBE HF-140 / 211-D



For Replacement Only, Superseded by Type HF-120/211-B

AF Power Amplifier or Modulator
RF Power Amplifier or Oscillator

GENERAL CHARACTERISTICS

RADIATION COOLED TRIODE

ELECTRICAL

Filament	Thoriated Tungsten
Voltage	10 volts
Current	3.25 amperes
Amplification Factor	12
Grid to Plate Transconductance, $I_p = 100 \text{ ma}$	4500 micromhos
Direct Interelectrode Capacitances	
Grid to Plate	13.0 $\mu\mu\text{f}$
Grid to Filament	5.5 $\mu\mu\text{f}$
Plate to Filament	4.5 $\mu\mu\text{f}$
Frequency for Maximum Ratings	15 megacycles

MECHANICAL

Overall Dimensions	
Maximum Length	7 $\frac{7}{8}$ inches
Maximum Diameter	2 $\frac{5}{16}$ inches
Base	Standard Jumbo 4-Pin Bayonet
Mounting Position—Vertical	Base Up or Down
Horizontal	Plane of Electrodes Vertical
Net Weight (approx.)	8 ounces
Shipping Weight (approx.) (one tube)	3 pounds

**HF-140/
211-D**

HF-140 / 211-D AMPEREX TRANSMITTING TUBE

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

A.F. Power Amplifier or Modulator—Class A

	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	.....	10	10
D.C. Plate Voltage	1250	1000	1250
D.C. Grid Voltage	.....	—55	—77
Peak A.F. Grid Voltage	.....	50	72
D.C. Plate Current (ma)	.....	70	60
Plate Dissipation (watts)	75	70	75
Load Resistance (ohms)	.....	7600	9200
Power Output (watts)	.....	12.2	20
Distortion (% Second Harmonic)	.....	2.5	5

A.F. Power Amplifier or Modulator—Class B

	Maximum Rating per Tube	Typical Operation Two Tubes	
A.C. Filament Voltage	.....	10	10
D.C. Plate Voltage	1250	1000	1250
D.C. Grid Voltage	.....	—77	—95
Load Resistance (per tube) (ohms)	.....	1725	2250
Effective Load Resistance (plate to plate) (ohms)	.....	6900	9000
Zero Signal Plate Current (ma)	.....	20	20
Peak A.F. Grid to Grid Voltage	.....	348	390
Max. Signal D.C. Plate Current (ma)	175	320	320
Max. Signal Plate Input (watts)	220	320	400
Plate Dissipation (watts)	100	.....	.....
Max. Signal Driving Power (approx) (watts)	.....	5.5	7
Max. Signal Plate Power Output (watts)	.....	216	280

R.F. Power Amplifier—Class B—Telephony

(Carrier conditions for use with modulation factor of 1.0)

	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	.....	10	10
D.C. Plate Voltage	1250	1000	1250
D.C. Grid Voltage	.....	—60	—80
Peak R.F. Grid Voltage	.....	100	100
D.C. Plate Current (ma)	150	130	106

(continued from previous column)

Plate Input (watts)	150	130	132
Plate Dissipation (watts)	100	88	86
D.C. Grid Current (approx.) (ma)	.....	2	1
Driving Power at Peak Modulation (approx.) (watts)	.....	3.5	2.5
Plate Power Output (watts)	.....	42	46
Frequency Limit for Above Operation (megacycles)	15	20	15

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

(Carrier conditions for use with modulation factor of 1.0)

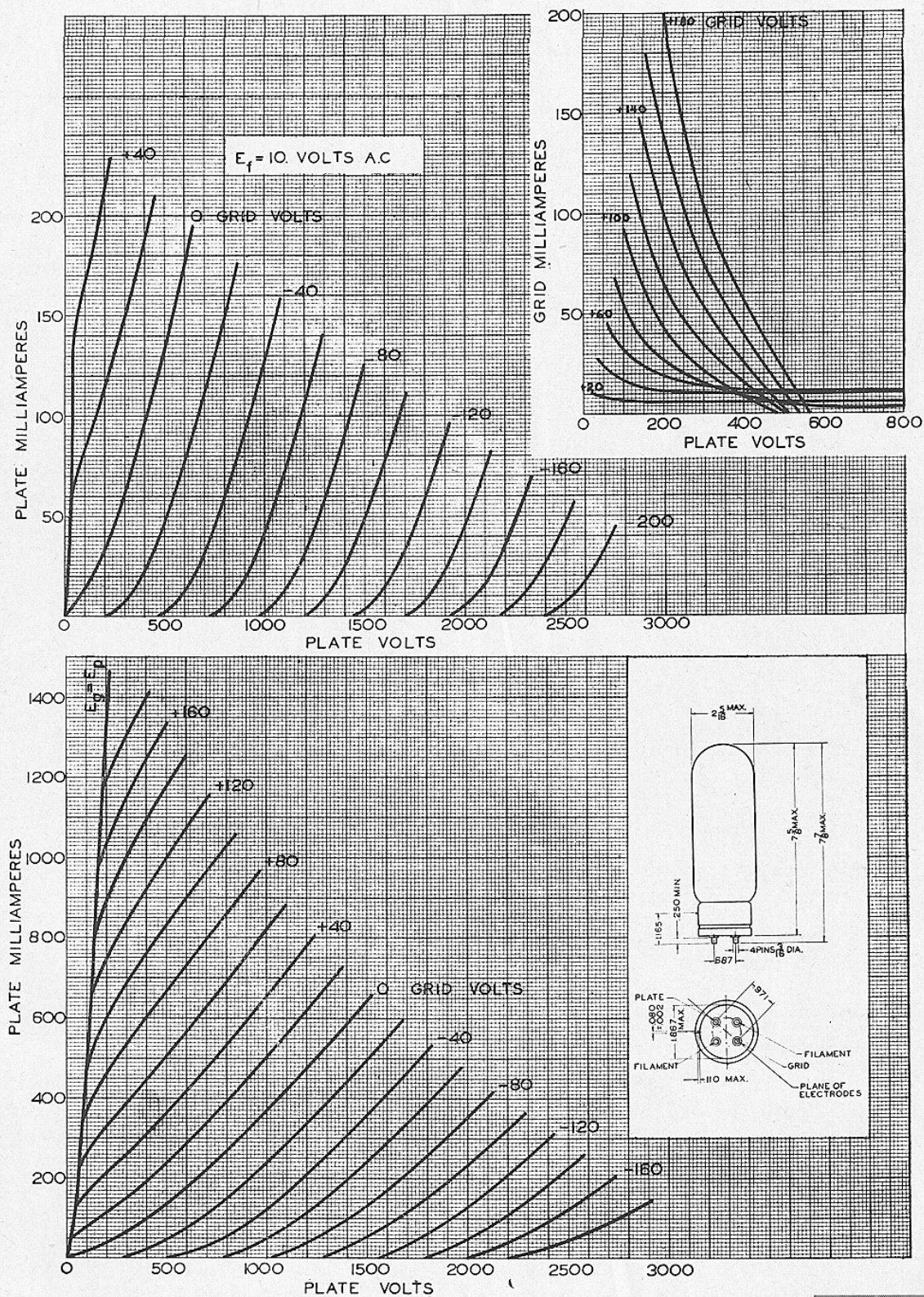
	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	.....	10	10
D.C. Plate Voltage	1250	1000	1250
D.C. Grid Voltage	—400	—260	—300
Peak R.F. Grid Voltage	.....	390	430
D.C. Plate Current (ma)	175	150	166
Plate Input (watts)	210	150	208
Plate Dissipation (watts)	67	35	60
D.C. Grid Current (approx.) (ma)	50	13	8
Driving Power (approx.) (watts)	.....	5	3.5
Plate Power Output (watts)	.....	115	148
Frequency Limit for Above Operation (megacycles)	3	15	3
F.C.C. Broadcast Rating (watts)	125	.....	125

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

	Maximum Rating per Tube	Typical Operation One Tube	
A.C. Filament Voltage	.....	10	10
D.C. Plate Voltage	1250	1000	1250
D.C. Grid Voltage	—400	—250	—300
Peak R.F. Grid Voltage	.....	390	430
D.C. Plate Current (ma)	175	165	166
Plate Input (watts)	220	165	208
Plate Dissipation (watts)	100	40	60
D.C. Grid Current (approx.) (ma)	50	16	8
Driving Power (approx.) (watts)	.....	6	3.5
Plate Power Output (watts)		125	148
Frequency Limit for Above Operation (megacycles)	15	20	15

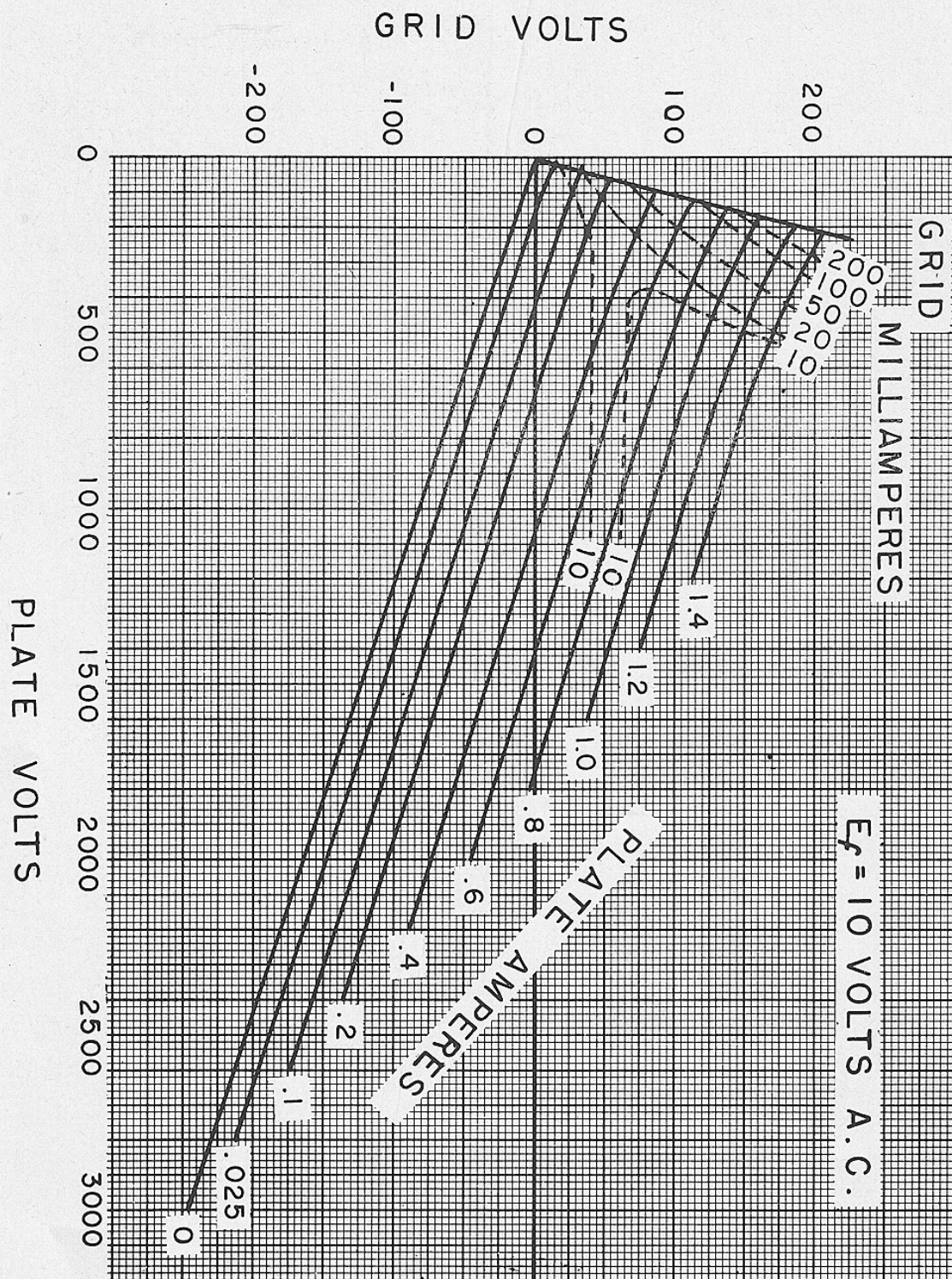
**HF-140/
211-D**

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