

AMPEREX TUBE TYPE 5867 / AX-9901

5867 / AX-9901

The 5867/AX-9901 is a three-electrode tube designed for use as a radio-frequency power amplifier and oscillator, suitable for grounded grid circuits. The anode is capable of dissipating 250 watts. The cathode is a thoriated tungsten filament. Maximum ratings apply up to 100 megacycles. At reduced ratings it may be operated up to 140 megacycles.

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Audio-Frequency Power Amplifier and Modulator—Class B

Maximum Ratings, Absolute Values

D.C. Plate Voltage	3000 volts max.
Maximum Signal D.C. Plate Current ¹	400 ma max.
Maximum Signal Plate Input ¹	900 watts max.
Plate Dissipation ¹	250 watts max.

Unless otherwise specified, values are for two tubes

D.C. Plate Voltage	1500	2000	2500	3000
D.C. Grid Voltage	150	150	200	250
Peak R.F. Grid Voltage	47.5	68.5	90	110
Zero-Signal D.C. Plate Current	375	425	460	465
Maximum Signal D.C. Plate Current	100	100	100	100
Effective Load Resistance, plate to plate	4650	6450	9650	14,200
Maximum Signal Driving Power, approx.	30	34	38	32
Maximum Signal Power Output, approx.	860	1170	1250	1280

Radio-Frequency Power Amplifier—Class B

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

D.C. Plate Voltage	3000	3000
D.C. Grid Voltage	150	150
Peak R.F. Grid Voltage	47.5	68.5
Zero-Signal D.C. Plate Current	375	425
Maximum Signal D.C. Plate Current	100	100
Effective Load Resistance, plate to plate	4650	6450
Maximum Signal Driving Power, approx.	30	34
Maximum Signal Power Output, approx.	860	1170

Radio-Frequency Power Amplifier—Class C—Telegraphy

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

D.C. Plate Voltage	3000	3000
D.C. Grid Voltage	150	150
Peak R.F. Grid Voltage	47.5	68.5
Zero-Signal D.C. Plate Current	375	425
Maximum Signal D.C. Plate Current	100	100
Effective Load Resistance, plate to plate	4650	6450
Maximum Signal Driving Power, approx.	30	34
Maximum Signal Power Output, approx.	860	1170

Radio-Frequency Power Amplifier—Class C—Telephony

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

D.C. Plate Voltage	3000	3000
D.C. Grid Voltage	150	150
Peak R.F. Grid Voltage	47.5	68.5
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GENERAL CHARACTERISTICS

ELECTRICAL DATA

Filament Voltage	4.75	5.0	5.25
Filament Current at Bogey Voltage	13.5	14.1	14.7
Amplification Factor	22	25	28
I _b =90 ma, E _b =3000 volts	—	—	3000
Peak Cathode Current ¹	—	—	3000
Direct Interelectrode Capacitances			
Grid-Plate	4.7	5.3	5.9
Grid-Filament	6.3	7.0	7.7
Plate-Filament	0.13	0.15	0.18

MECHANICAL DATA

Mounting Position	vertical, base up or down
Maximum Glass Temperature ² at bottom seals	180° C
Maximum Glass Temperature ² at plate seal	220° C
Net Weight, approximate	6 ounces

¹Represents maximum usable cathode current (plate current plus grid current) for any condition of operation.

²In cases where the maximum permissible temperatures are likely to be exceeded, as would normally be the case at frequencies above 30 Mc/s with full ratings, a low velocity air flow should be directed on the anode seal and the bottom of the envelope.

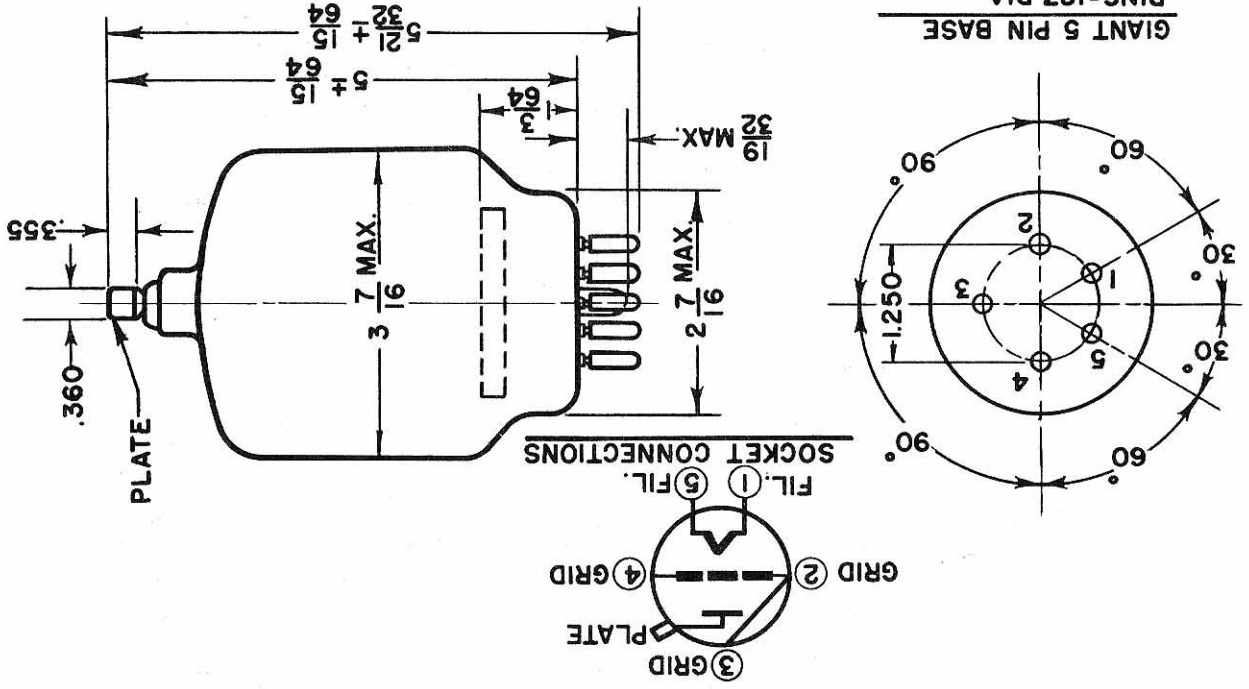
Electrical Data and Limits

Conditions	Limits	
	Min.	Max.
Grid Voltage	150	155
Grid Current	ic: —	— 350 ma
Plate Current	Ib: 162	230 298 ma
Plate Current	Ib: 55	90 125 ma
Plate Current	Ib: —	— 8 ma
Power Output	Po: 565	— watts
	Ic: 160	— ma
	Ic: 70	— ma

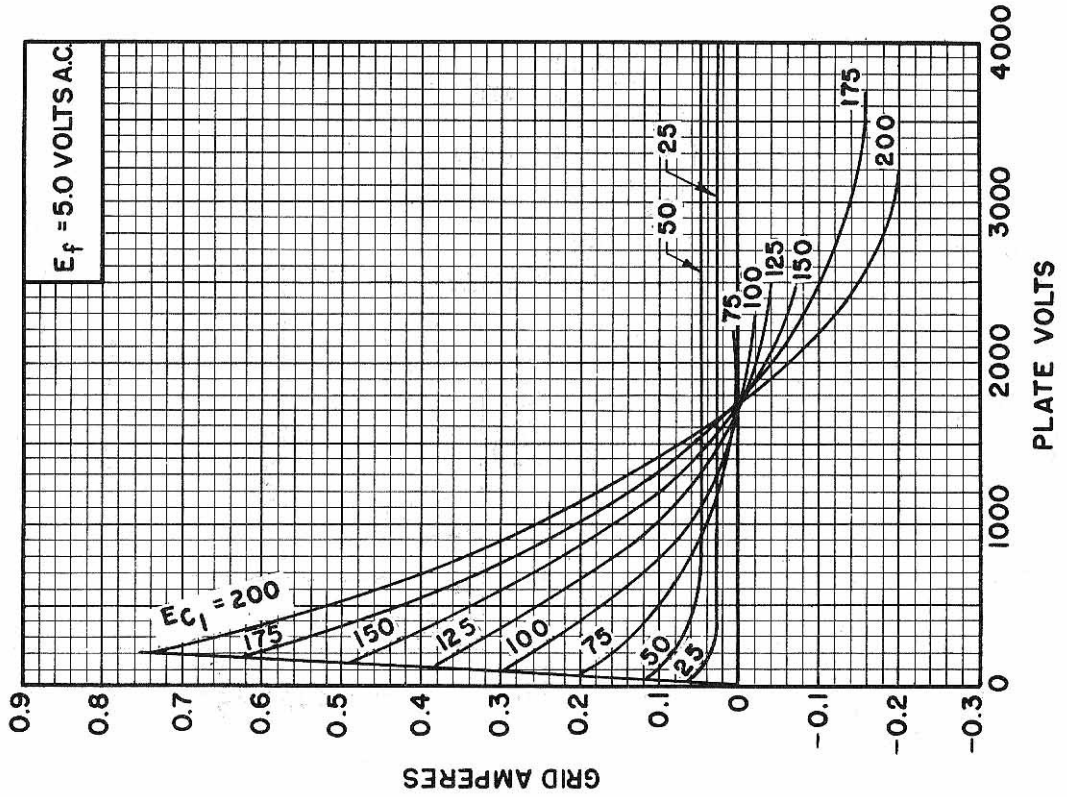
³Modulation essentially negative may be used if the positive peak of the envelope does not exceed 115 per cent of the carrier conditions.

⁴Includes power transferred from driver stage.

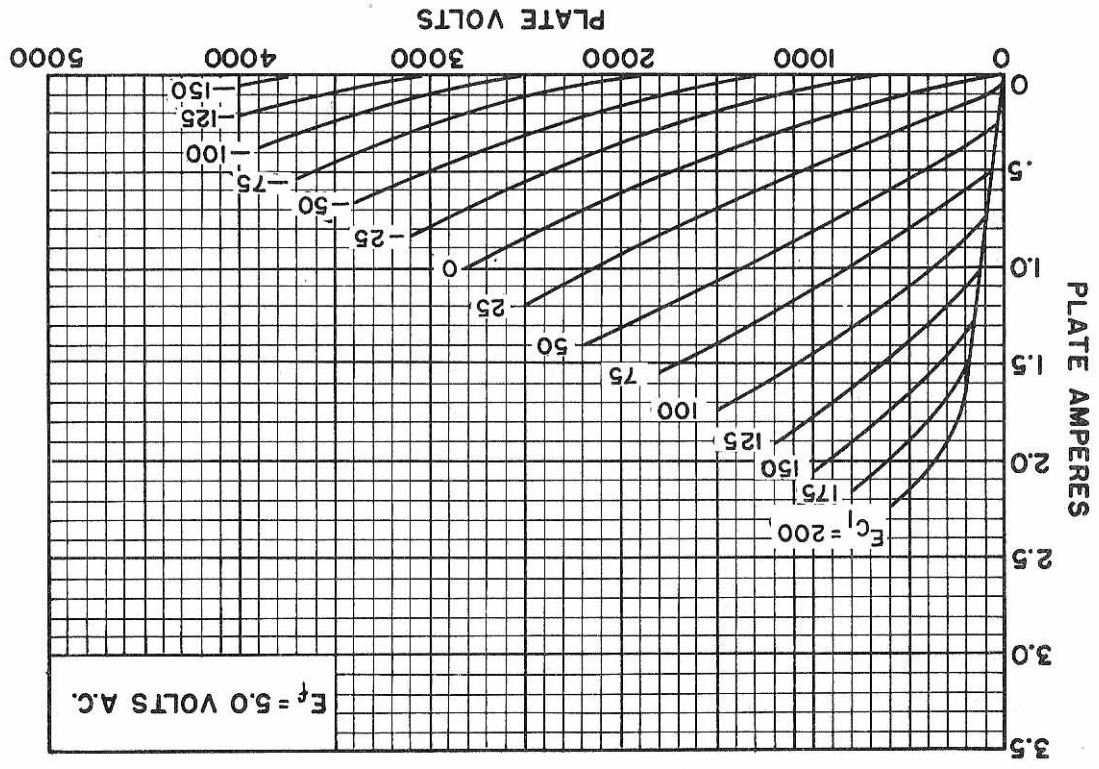
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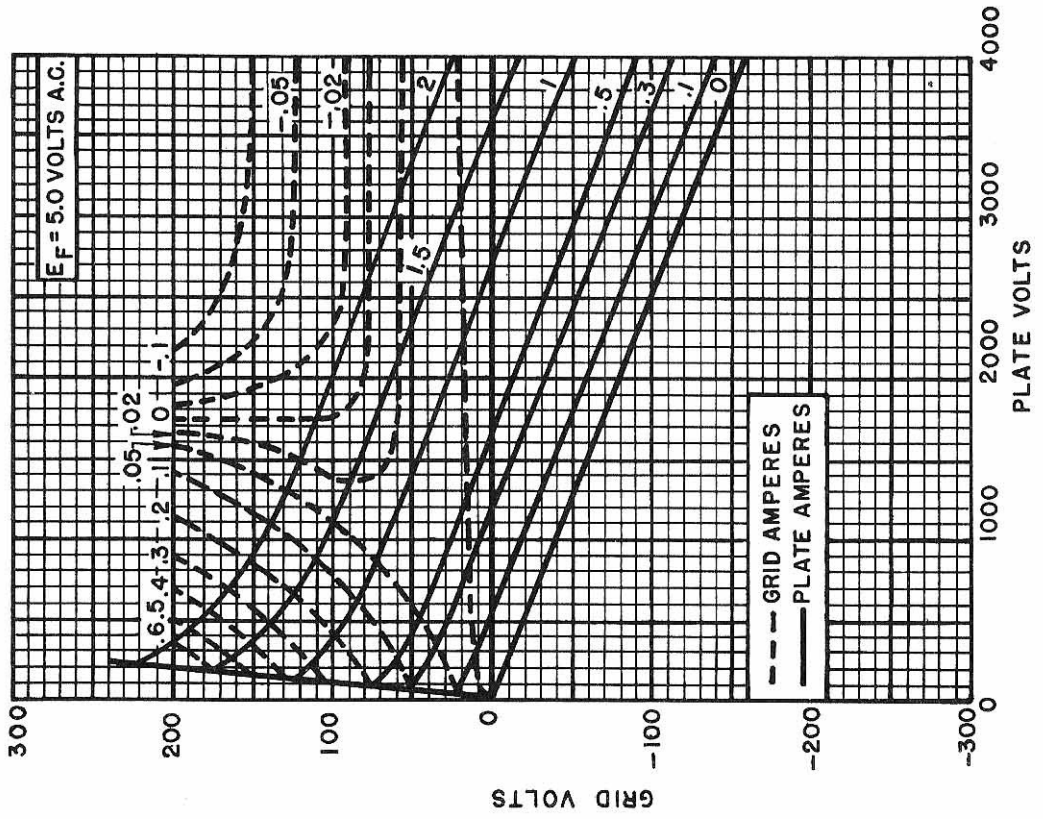
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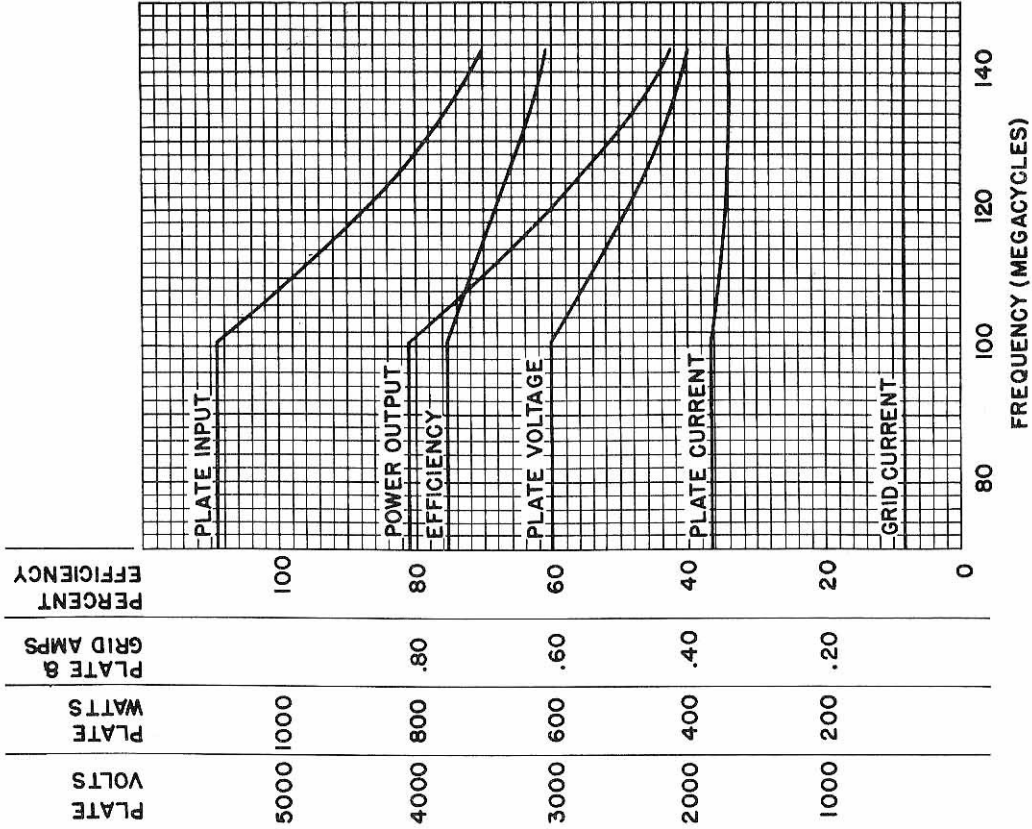
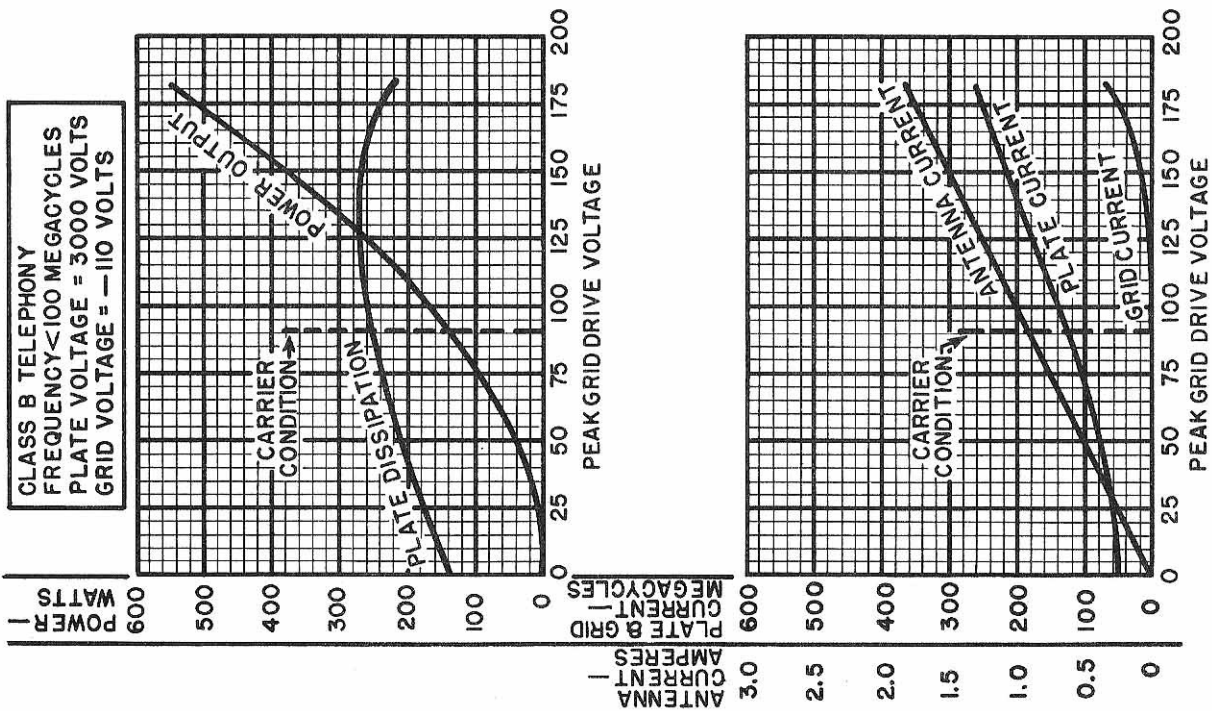
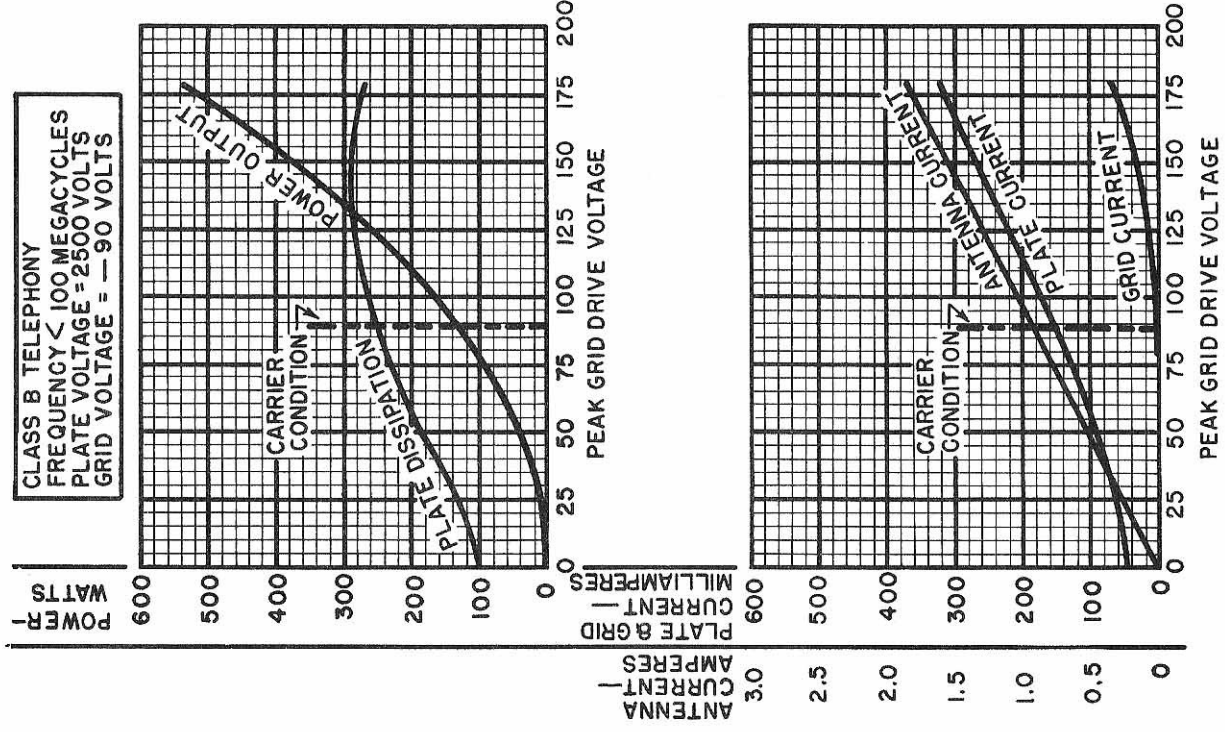
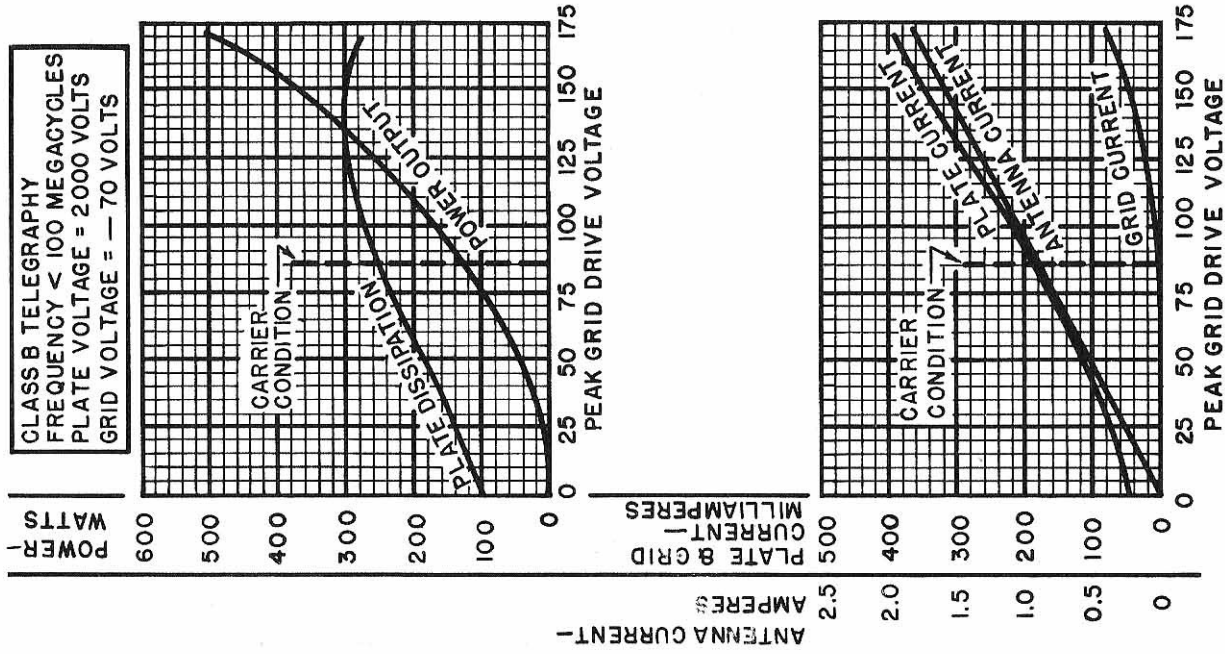


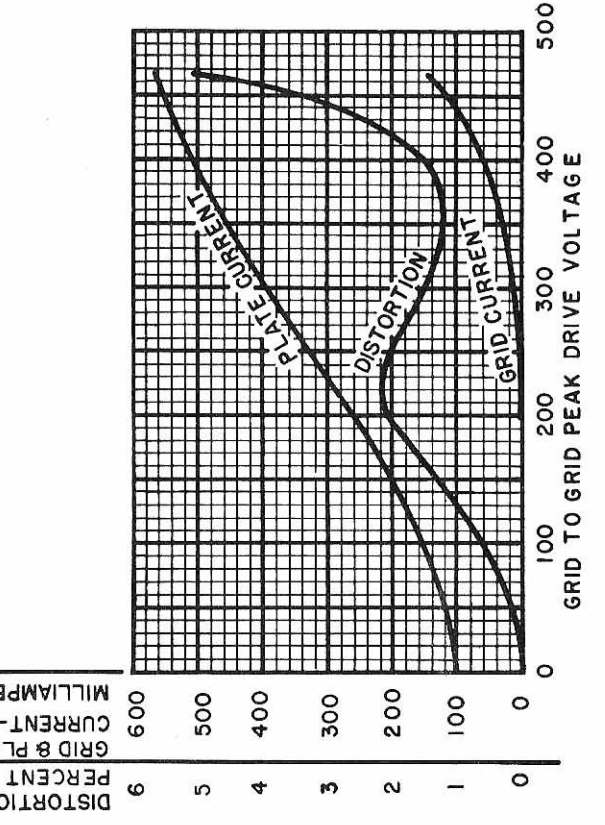
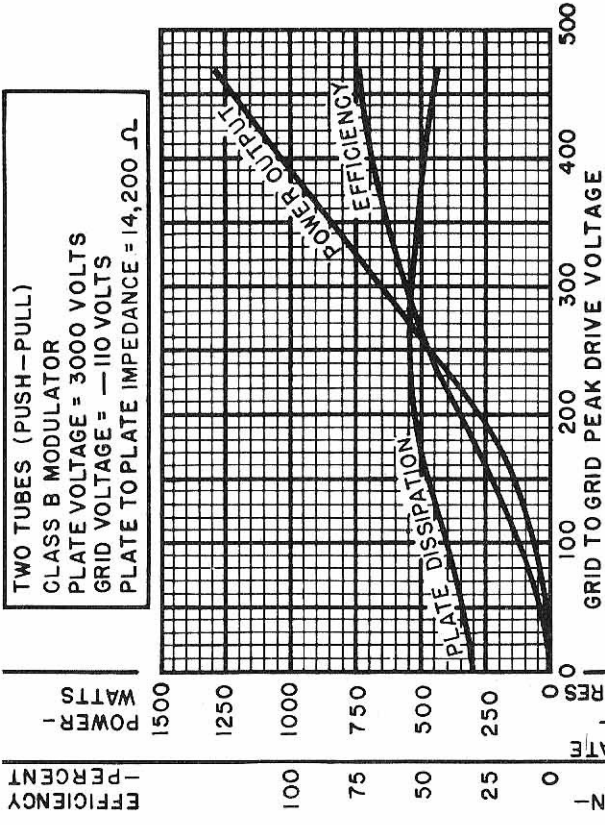
PLATE VOLTS	PLATE WATTS	PLATE AMPS	PERCENT EFFICIENCY
5000	1000		100
4000	800	.80	80
3000	600	.60	60
2000	400	.40	40
1000	200	.20	20
			0

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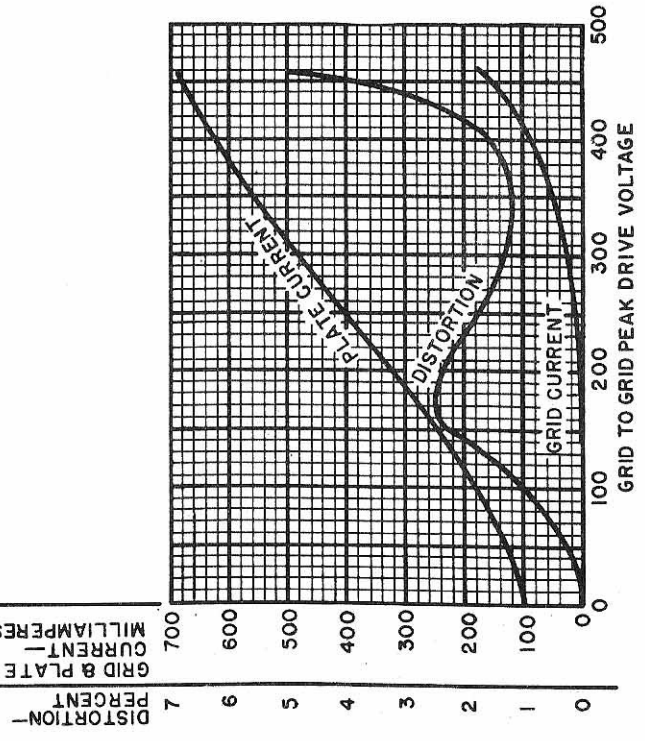
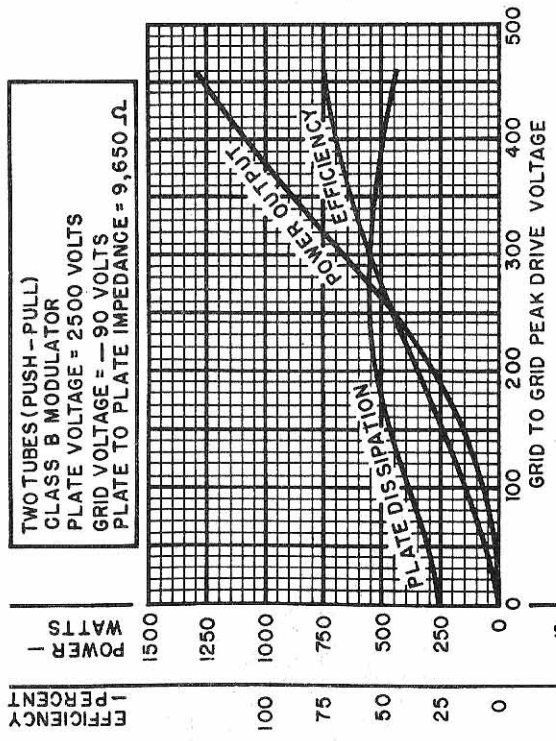
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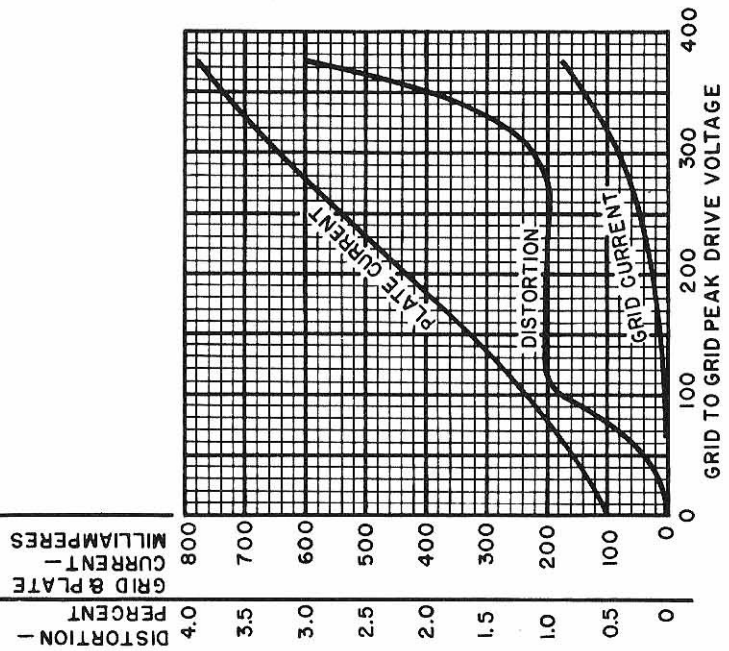
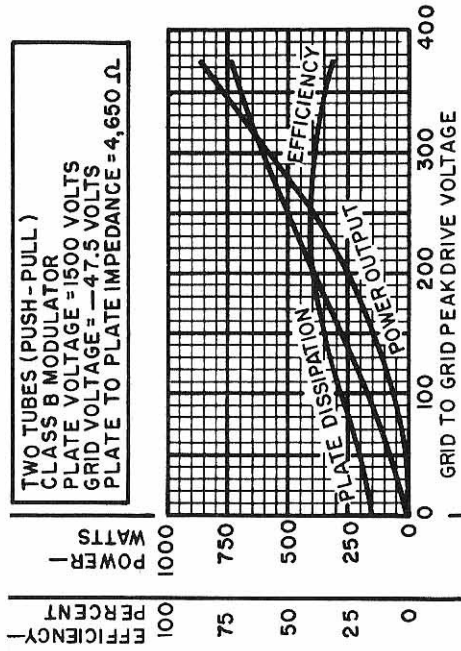
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