



TRIODE

The GL-880 is a three-electrode tube designed for use as a radio-frequency amplifier, oscillator, or Class B modulator. The anode is water-cooled

and capable of dissipating 20 kilowatts. The cathode is a pure-tungsten filament. Maximum ratings apply up to 25 megacycles.

TECHNICAL INFORMATION

GENERAL

Electrical	Minimum	Bogey	Maximum
Filament Voltage.....	12.6	13.2	volts
Filament Current.....	300	320	330 amperes
Filament Starting Current.....			480 amperes
Filament Cold Resistance.....		0.003	ohms
Amplification Factor, $I_b = 2.0$ amp, $E_c = -100$ v..	17	20	23
Interelectrode Capacitances			
Grid to Plate.....	21	24	27 $\mu\mu\text{f}$
Grid to Filament.....	28.8	35	41.2 $\mu\mu\text{f}$
Plate to Filament.....	1.0	2.0	3.0 $\mu\mu\text{f}$

GENERAL  ELECTRIC

Supersedes ETX-179A

TECHNICAL INFORMATION (CONT'D)

Mechanical

Mounting Position—Vertical, anode down

Type of Cooling—Water and Forced Air

Water Flow on Anode.....	20	Gallons, per Minute
Maximum Outgoing Water Temperature.....	70	C
Air Flow (to bulb and seals)*.....	20	cfm
Maximum Glass Temperature.....	150	C
Gasket Type No. JTC-11.....		
Net Weight, approximate.....	7	Pounds

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

AUDIO-FREQUENCY POWER AMPLIFIER AND MODULATOR—CLASS B

Maximum Ratings, Absolute Values	CCS†	
DC Plate Voltage.....	10,500 Max	Volts
Maximum Signal DC Plate Current†.....	5 Max	Amperes
Maximum Signal Plate Input†.....	40 Max	Kilowatts
Plate Dissipation†.....	15 Max	Kilowatts
Typical Operation	CCS†	CCS†
Unless otherwise specified, values are for two tubes		
DC Plate Voltage.....	7500	10,000 Volts
DC Grid Voltage.....	−340	−450 Volts
Peak AF Grid-to-Grid Voltage.....	1450	1680 Volts
Zero Signal DC Plate Current.....	1.0	1.0 Amperes
Maximum Signal DC Plate Current.....	6.7	7.0 Amperes
Effective Load Resistance, plate to plate.....	2300	3100 Ohms
Maximum Signal Driving Power, approximate.....	490	540 Watts
Maximum Signal Power Output, approximate.....	31.5	46 Kilowatts

*From a 3-inch diameter nozzle.

†Continuous Commercial Service.

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

RADIO-FREQUENCY POWER AMPLIFIER—CLASS B

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

Maximum Ratings, Absolute Values	CCS†	
DC Plate Voltage.....	10,500 Max	Volts
DC Plate Current.....	4.0 Max	Amperes
Plate Input.....	32.0 Max	Kilowatts
Plate Dissipation.....	20.0 Max	Kilowatts
Typical Operation	CCS†	CCS†
DC Plate Voltage.....	7500	10,000 Volts
DC Grid Voltage.....	−340	−460 Volts
Peak RF Grid Voltage.....	570	595 Volts
DC Plate Current.....	3.3	2.75 Amperes
DC Grid Current, approximate.....	0.013	0.009 Amperes
Driving Power, approximate§.....	1250	900 Watts
Power Output, approximate.....	8	9 Kilowatts

PLATE-MODULATED RADIO-FREQUENCY POWER AMPLIFIER—CLASS C TELEPHONY

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

Maximum Ratings, Absolute Values	CCS†	
DC Plate Voltage.....	10,500 Max	Volts
DC Grid Voltage.....	−1200 Max	Volts
DC Plate Current.....	3.6 Max	Amperes
DC Grid Current.....	0.8 Max	Amperes
Plate Input.....	36 Max	Kilowatts
Plate Dissipation.....	12 Max	Kilowatts
Typical Operation	CCS†	CCS†
DC Plate Voltage.....	7500	10,000 Volts
DC Grid Voltage.....	−1000	−1200 Volts
Peak RF Grid Voltage.....	1560	1840 Volts
DC Plate Current.....	3.0	3.6 Amperes
DC Grid Current, approximate.....	0.57	0.64 Amperes
Driving Power, approximate.....	850	1100 Watts
Power Output, approximate.....	16.0	27.0 Kilowatts

TECHNICAL INFORMATION (CONT'D)

RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR—CLASS C TELEGRAPHY

Key-down conditions per tube without amplitude modulation π

Maximum Ratings, Absolute Values	CCS†	CCS†	
DC Plate Voltage.....	10,500	15,000 □ Max	Volts
DC Grid Voltage.....	-1200	-1600 □ Max	Volts
DC Plate Current.....	6.0	4.5 □ Max	Amperes
DC Grid Current.....	0.8	1.0 □ Max	Amperes
Plate Input.....	60	67.5 □ Max	Kilowatts
Plate Dissipation.....	20	20.0 □ Max	Kilowatts
Typical Operation	CCS†	CCS†	CCS†
DC Plate Voltage.....	7500	10,000	10,000 Volts
DC Grid Voltage.....	-600	-800	-1000 Volts
Peak RF Grid Voltage.....	1250	1460	1830 Volts
DC Plate Current.....	4.8	4.5	6.0 Amperes
DC Grid Current, approximate.....	0.79	0.78	0.8 Amperes
Driving Power, approximate.....	920	1000	1500 Watts
Power Output, approximate.....	24.0	33.0	40.00 Kilowatts

†Continuous Commercial Service.

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

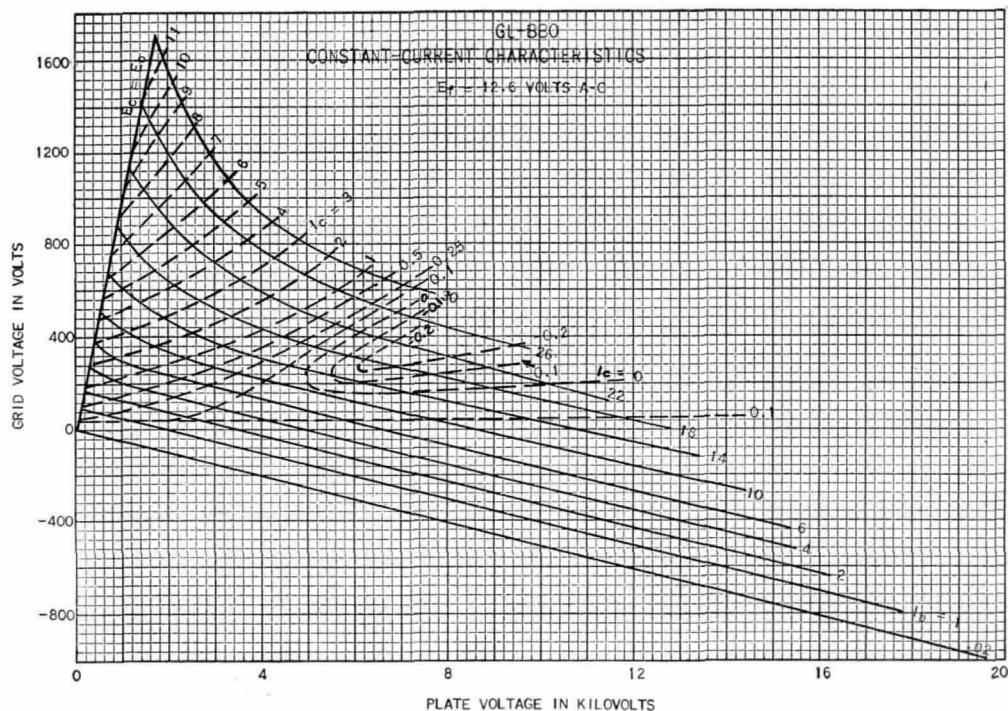
 π Modulation essentially negative may be used if the positive peak of the envelope does not exceed 115 per cent of the carrier conditions.

□ These ratings apply only at a frequency of 1500 kilocycles or less.

Maximum ratings apply up to 25 megacycles. The tube may be operated at higher frequencies provided the maximum values of plate voltage and power input are reduced according to the tabulation below (other maximum ratings are the same as shown above). Special attention should be given to adequate ventilation of the bulb at these frequencies.

Frequency.....	25	50	100 Megacycles
Percentage of Maximum Rated Plate Voltage and Plate Input			
Class B—Maximum Plate Voltage.....	100	80	60 Percent
Maximum Plate Input.....	100	94	75 Percent
Class C—Plate Modulated.....	100	72	45 Percent
Class C—Unmodulated.....	100	75	50 Percent

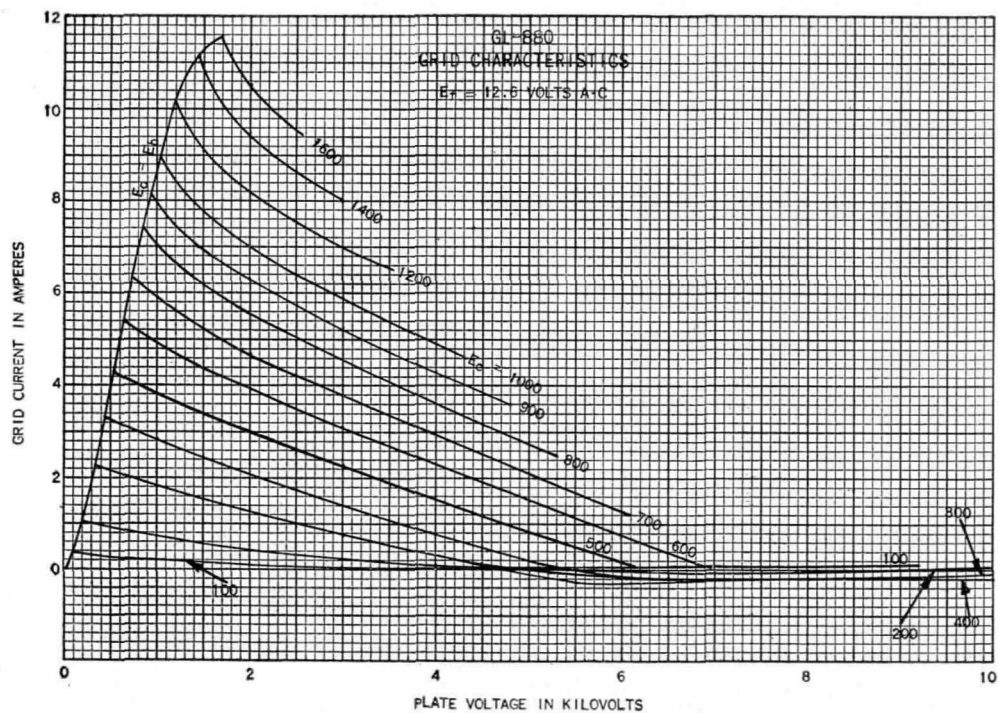
CONSTANT CURRENT CHARACTERISTICS

 $E_f = 12.6$ Volts A-c

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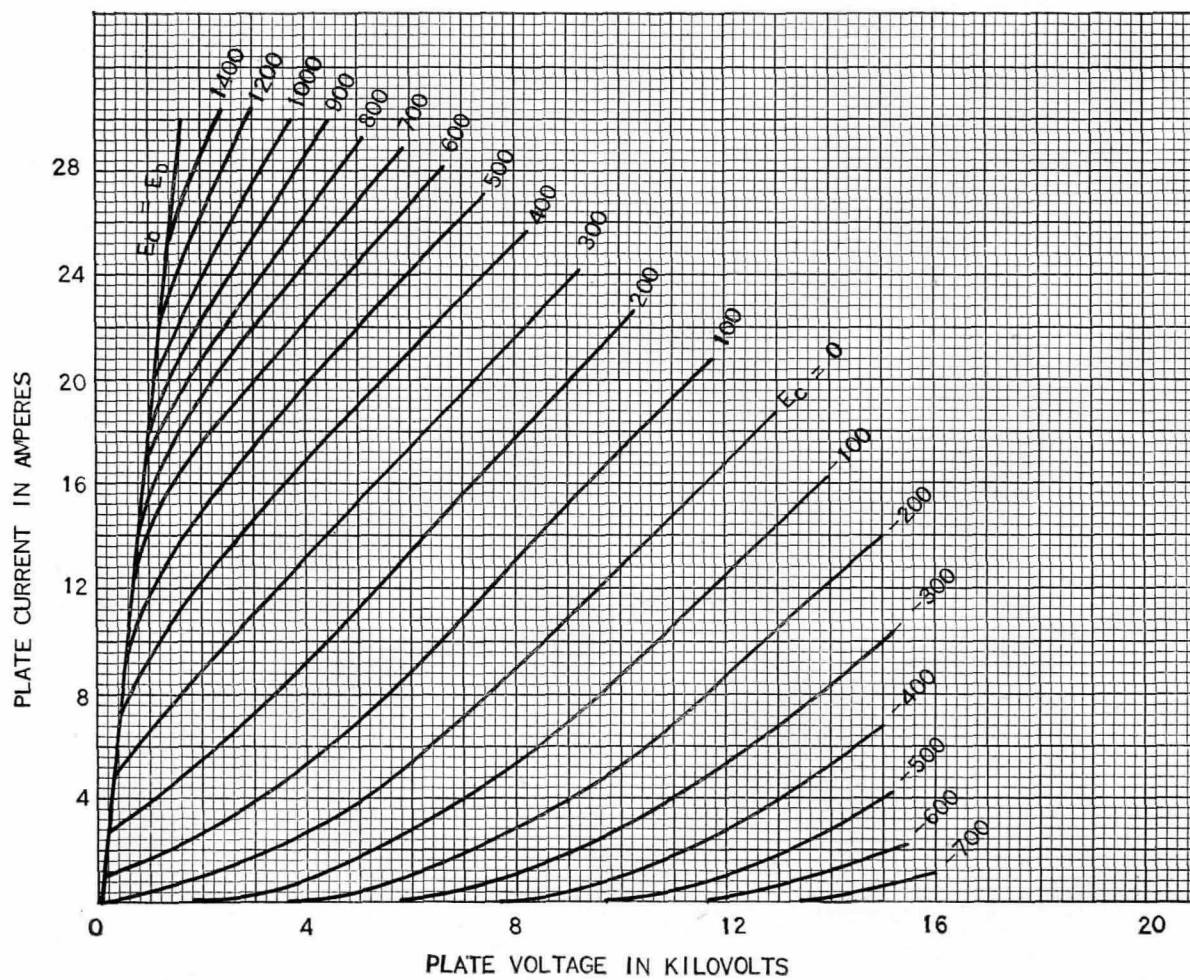
GRID CHARACTERISTICS

 $E_f = 12.6$ Volts A-c

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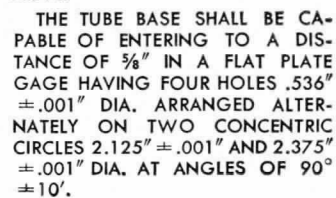
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PLATE CHARACTERISTICS

 $E_i = 12.6$ Volts A-c

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