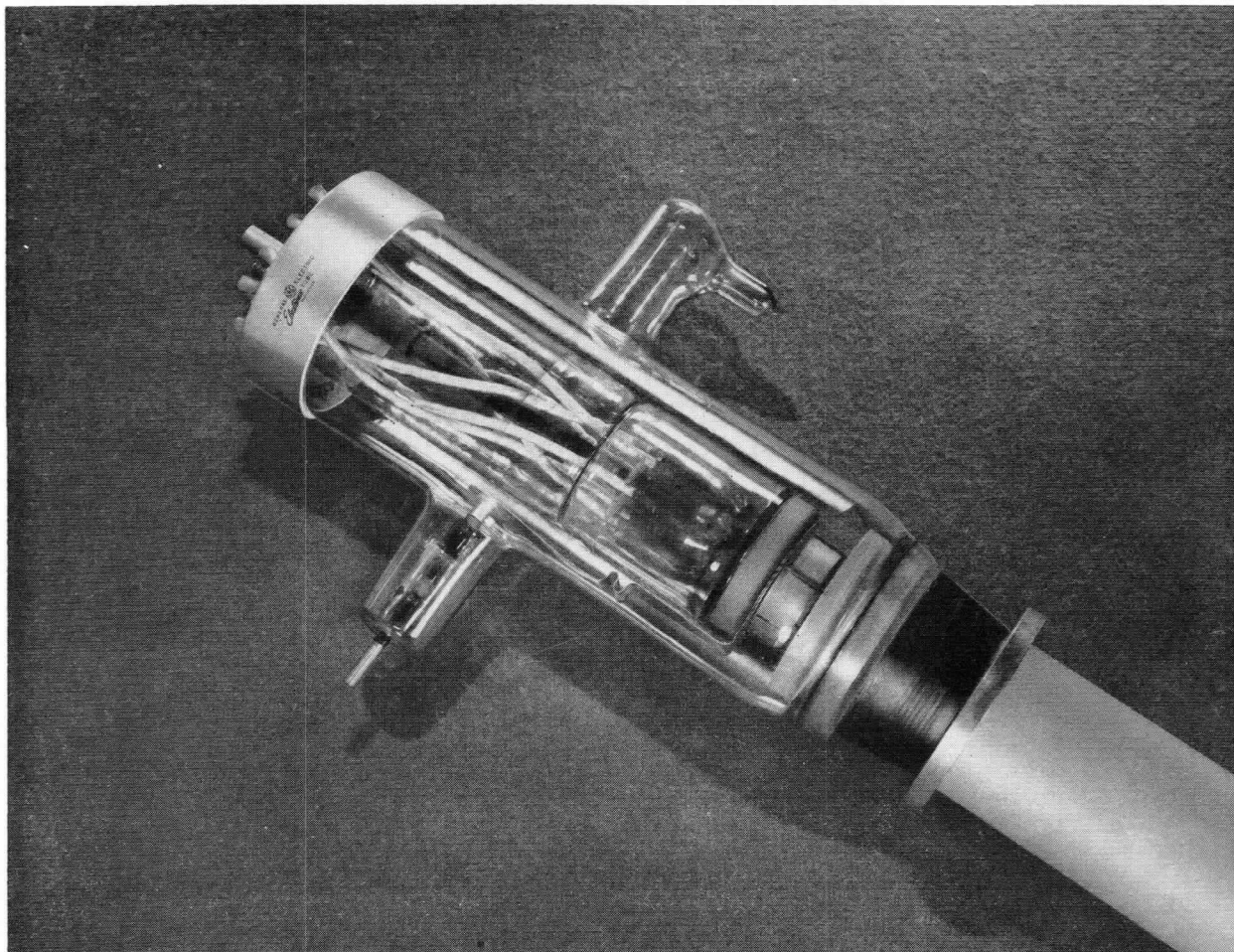




TRIODE

The GL-898-A is a three-electrode power tube designed for use as a radio-frequency amplifier, oscillator, or Class B modulator. The filament consists of three sections and can be operated on

d-c, single-phase, or three-phase filament excitation. The plate is capable of dissipating 50 to 100 kilowatts.

TECHNICAL INFORMATION

GENERAL

Number of Electrodes.....3

Electrical

Cathode—Filamentary

Filament Voltage, per section.....33 Volts

Filament Current, per section.....70 Amperes

Average Characteristics, $E_b = 20.5$ kv, $I_b = 3.0$ amperes, $E_f = 33$ volts

Grid Voltage.....-100 Volts

Amplification Factor.....45

Grid-Plate Transconductance, $I_b = 3.0$ amperes.....17,500 Micromhos

Direct Interelectrode Capacitances

Grid to Plate.....62 $\mu\mu\text{f}$

Grid to Filament.....52 $\mu\mu\text{f}$

Plate to Filament.....4.2 $\mu\mu\text{f}$

Frequency for Maximum Ratings.....1.6 Megacycles

GENERAL  ELECTRIC

§Supersedes pages 1 and 2 dated 5-46.

TECHNICAL INFORMATION (CONT'D)

Mechanical

Mounting Position—Vertical, anode down

Net Weight, approximate.....30 Pounds

Shipping Weight, appropriate.....175 Pounds

Thermal

Type of Cooling—Water and Forced Air

Maximum Outlet Temperature.....70 C

Water Flow.....15 to 25 Gallons per Minute

Jacket Type.....7651927

Maximum Incoming Air Temperature.....50 C

Flow

To Bulb.....15 Cubic Feet per Minute

To Stem.....3 Cubic Feet per Minute

Gasket.....Cat. No. 5182028P1

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

CLASS B AUDIO-FREQUENCY POWER AMPLIFIER (TWO TUBES)	Typical Operation	Maximum Ratings
DC Plate Voltage.....	12,000	15,000 Volts
Maximum Signal Plate Current*, per tube.....		7.5 Amperes
DC Maximum Signal Plate Input*, per tube.....		100 Kilowatts
Plate Dissipation*, per tube.....		50 Kilowatts
DC Grid Voltage.....	-100	Volts
Peak AF Grid Input Voltage.....	2200	Volts
Zero Signal Plate Current.....	2	Amperes
Maximum Signal Plate Current.....	13	Amperes
Maximum Signal Driving Power, approximate.....	6	Kilowatts
Effective Load, plate-to-plate.....	2000	Ohms
Maximum Signal Plate Power Output, approximate.....	90	Kilowatts

CLASS B RADIO-FREQUENCY POWER AMPLIFIER

Carrier Conditions per Tube for Use with a Maximum Modulation Factor of 1.0

DC Plate Voltage.....	12,000	15,000	18,000	20,000	Volts
DC Grid Voltage.....	-100	-175	-250	....	Volts
⊕ DC Plate Current.....	2.8	3.5	4.2	5	Amperes
Plate Input.....				100	Kilowatts
Plate Dissipation.....				75	Kilowatts
Peak RF Grid Input Voltage.....	525	650	775	....	Volts
Driving Power†, approximate.....	0.5	0.75	1.1	....	Kilowatts
Plate Power Output, approximate.....	11	17.5	25	....	Kilowatts

CLASS C RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR—PLATE-MODULATED

Carrier Conditions per Tube for Use with a Maximum Modulation Factor of 1.0

DC Plate Voltage.....	12,000	12,000	Volts
DC Grid Voltage.....	-800	-3000	Volts
DC Plate Current.....	5	5	Amperes
DC Grid Current, approximate.....	1	1.25	Amperes
Plate Input.....		60	Kilowatts
Plate Dissipation.....		50	Kilowatts
Peak RF Grid Input Voltage.....	2000	....	Volts
Driving Power.....	2	....	Kilowatts
Plate Power Output.....	45	....	Kilowatts

CLASS C RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Key-Down Conditions per Tube Without Modulation

DC Plate Voltage.....	12,000	15,000	18,000	20,000	Volts
DC Grid Voltage.....	-800	-900	-1000	-3000	Volts
DC Plate Current.....	6.25	7.5	8.33	10	Amperes
DC Grid Current, approximate.....	0.8	0.85	0.9	1	Amperes
Plate Input.....				200	Kilowatts
Plate Dissipation.....				100	Kilowatts
Peak RF Grid Input Voltage, approximate.....	2050	2300	2550	....	Volts
Driving Power, approximate.....	1.6	2	2.4	....	Kilowatts
Plate Power Output, approximate.....	50	75	100	....	Kilowatts

* Averaged over any audio-frequency cycle.

† At crest of audio-frequency cycle.

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

⊕ Denotes a change.

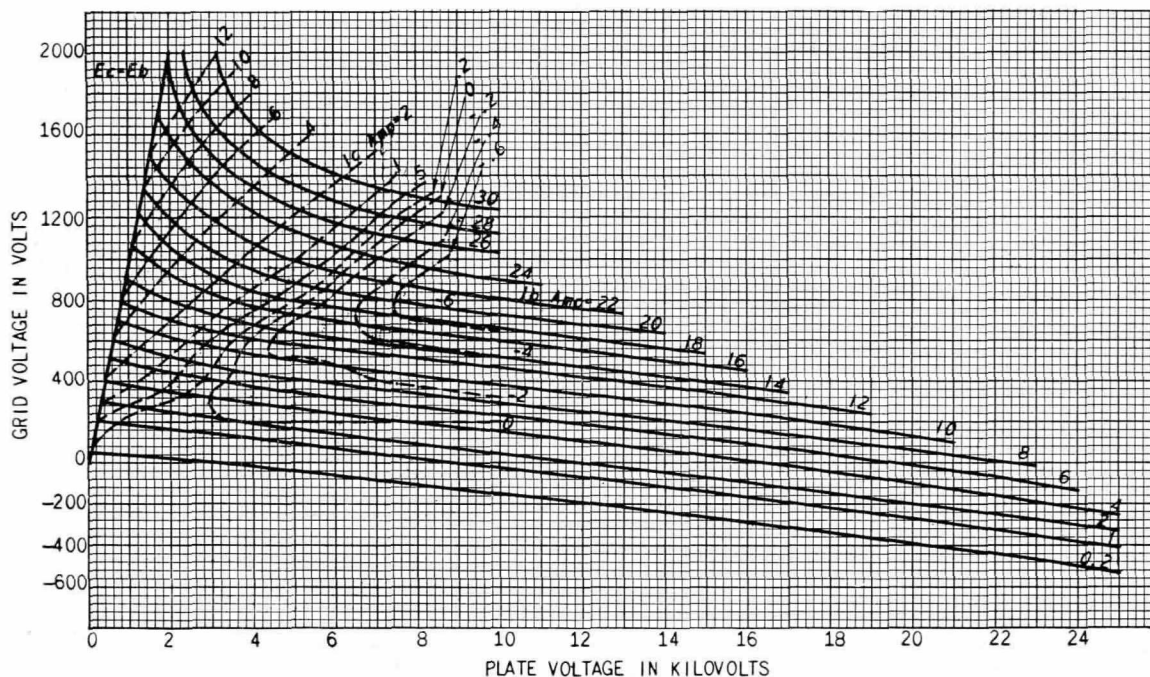
APPLICATION NOTES

Plate series protective resistors (see paragraph describing plate circuit under Installation in the Instructions)

Series resistor	10	20	40	50 ohms
Maximum power output of rectifier	100	250	640	1600 kilowatts

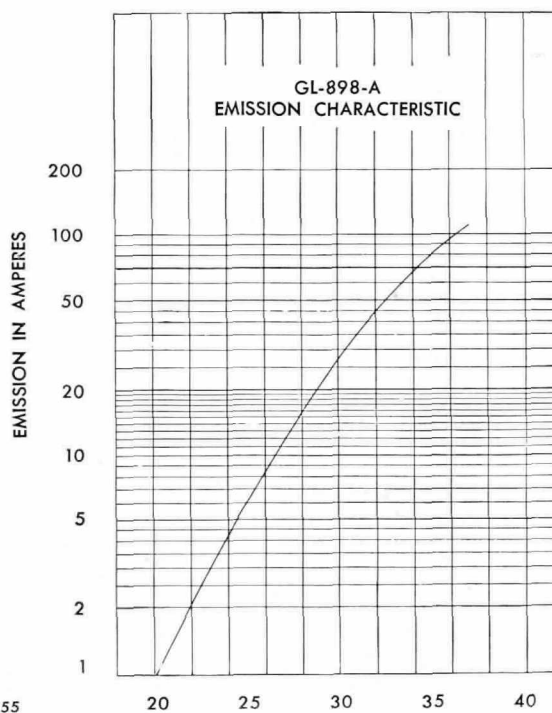
GL-898-A CHARACTERISTICS

($E_c = 33$ VOLTS A-C)



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12-10-45

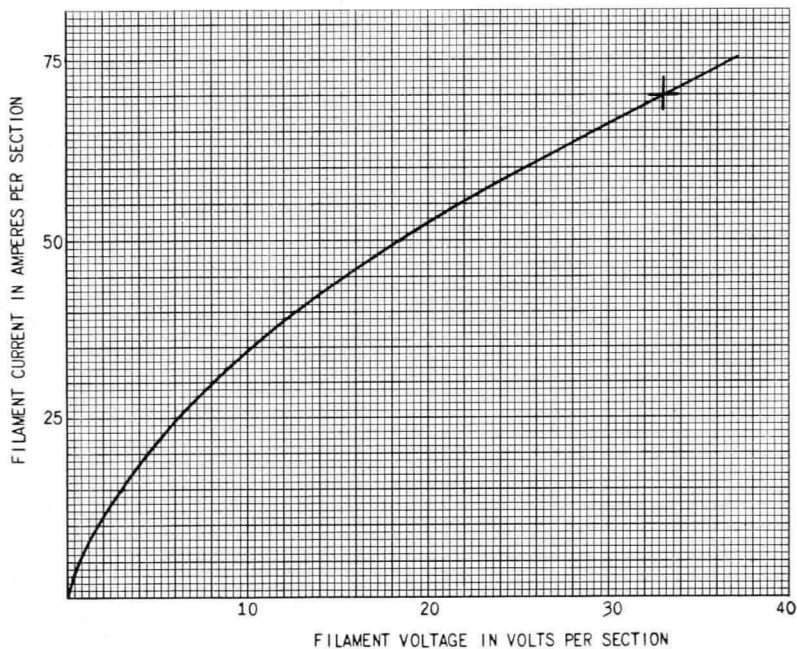


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FILAMENT VOLTAGE IN VOLTS (SINGLE-PHASE FILAMENT EXCITATION)

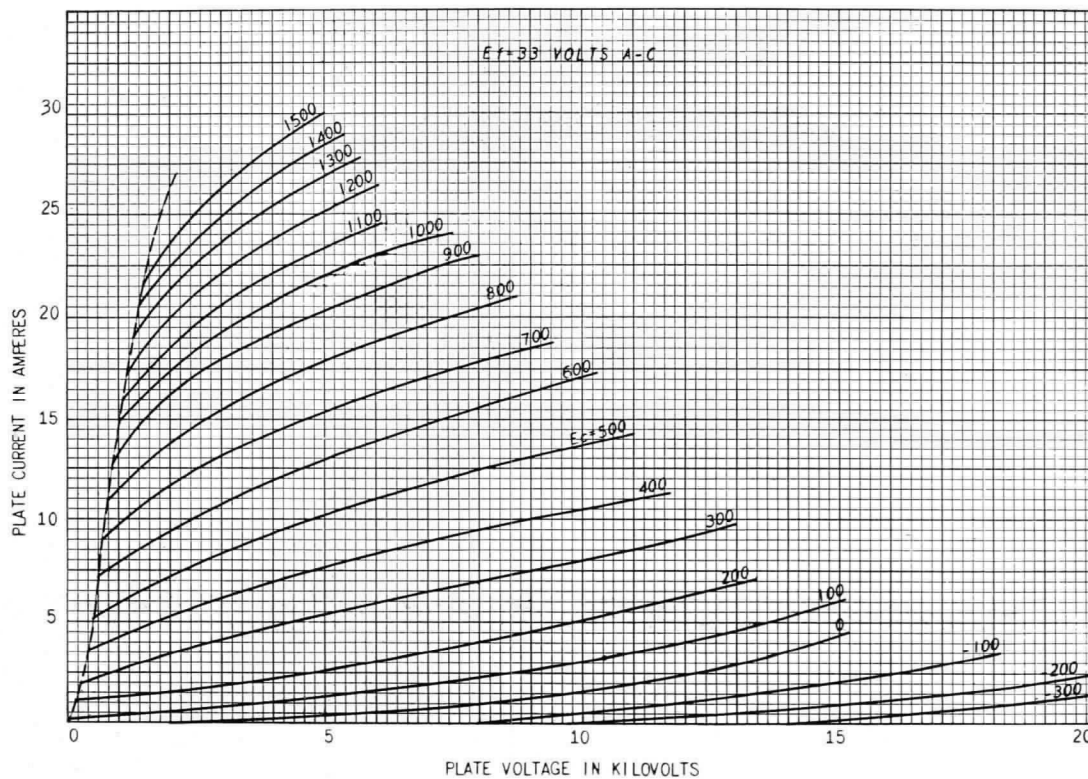
GL-898-A FILAMENT CHARACTERISTIC
(COLD RESISTANCE OF EACH SECTION OF FILAMENT=0.042 OHMS)



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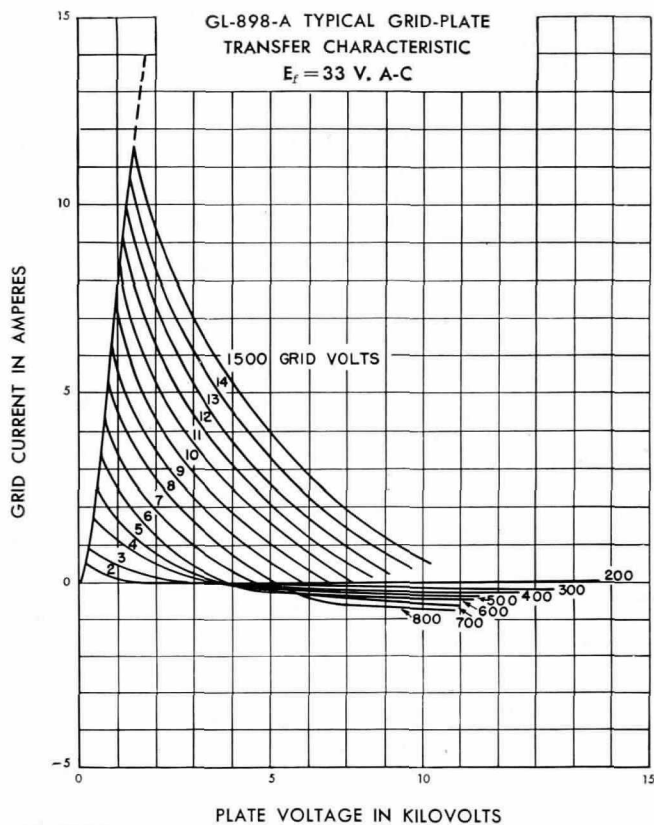
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GL-898-A
AVERAGE PLATE CHARACTERISTICS



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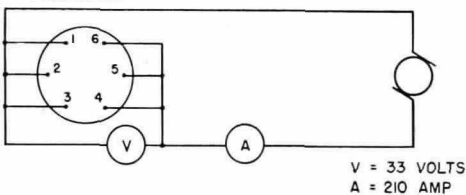
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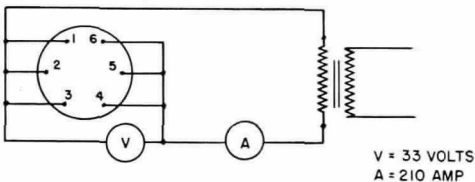
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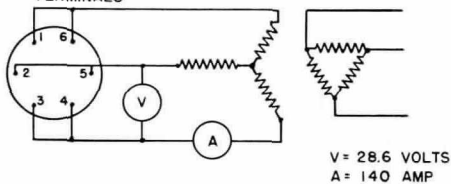
FILAMENT BASE
TERMINALS



FILAMENT BASE
TERMINALS



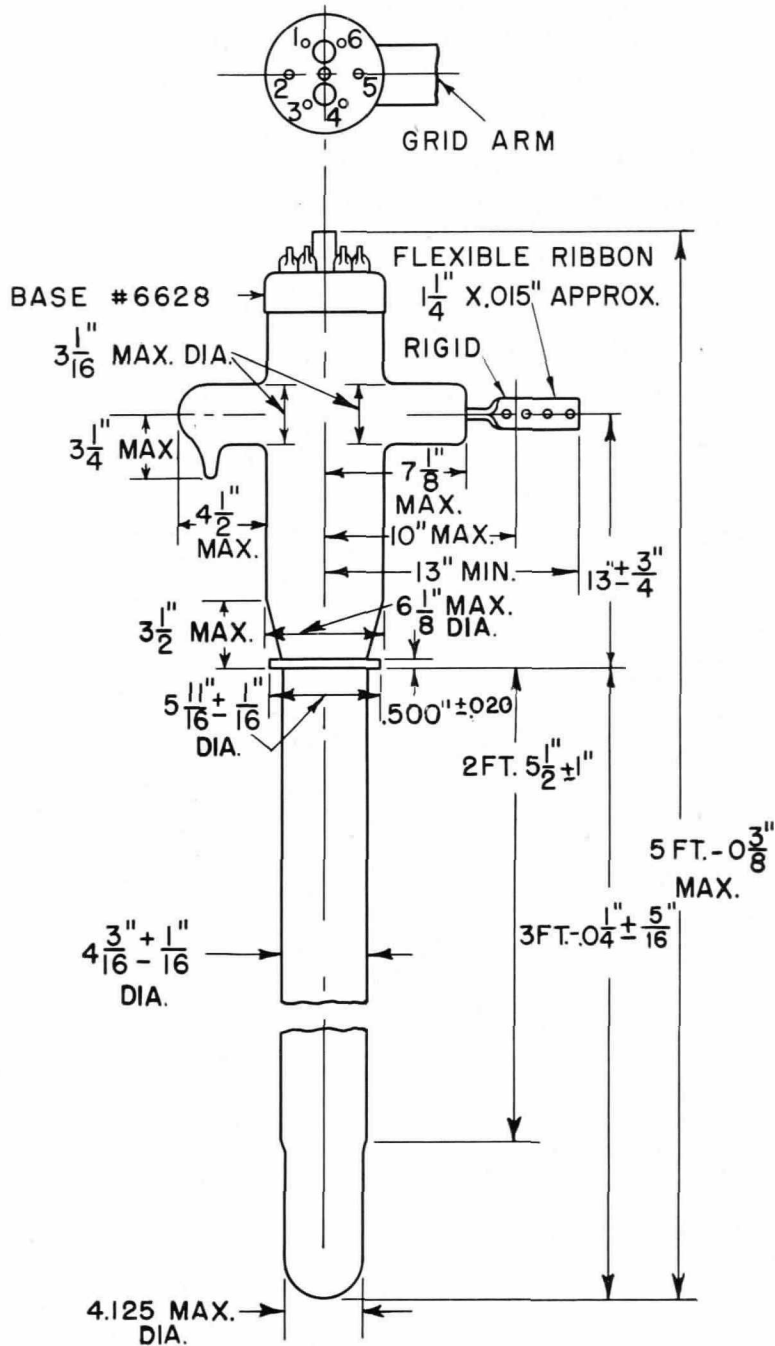
FILAMENT BASE
TERMINALS



FILAMENT CONNECTIONS AND EXCITATION CIRCUITS

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GL-898-A OUTLINE

K-5185285

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