

May 8, 1961

LOW MU POWER TRIODE TYPE 7982

The 7982 is a three element tube designed for service as a modulator or AF amplifier. Electrical characteristics make it particularly suitable for Class AB₁ or AB₂ circuits. The anode is capable of dissipating 35 KW CCS with water cooling. The cathode is a single phase, thoriated tungsten filament.

ELECTRICAL:

Cathode.....	Thoriated Tungsten Filament
Filament:	
Voltage.....	7.0 Volts
Current.....	265 Amperes
Starting Current (max.).....	1000 Amperes
Amplification Factor: Grid Volts = -450,	
Plate Amperes = 5.0.....	5.5
Maximum Usable Cathode Current.....	60 Amperes
Direct Interelectrode Capacitances:	
Grid to Plate.....	78 $\mu\mu\text{f}$
Grid to Filament.....	68 $\mu\mu\text{f}$
Plate to Filament.....	7 $\mu\mu\text{f}$

MECHANICAL:

Mounting Position.....	Vertical, Anode Down
Type of Cooling (Note 3).....	Water
Water Flow Required.....	30 GPM
Static Pressure (at 30 GPM).....	8 PSI
Maximum Outlet-Water Temperature.....	70 °C
Maximum Grid and Filament Seal Temperature.....	180 °C
Net Weight.....	18 Pounds

MAXIMUM RATINGS:

Absolute Maximum Values

DC Plate Voltage.....	10 max.	Kilovolts
DC Plate Current.....	10 max.	Amperes
Plate Power Input (Note 1).....	75 max.	Kilowatts
Plate Dissipation (Note 1).....	35 max.	Kilowatts
Grid Dissipation.....	800 Max.	Watts

TYPICAL OPERATING CHARACTERISTICS:

(Values for Two Tubes)

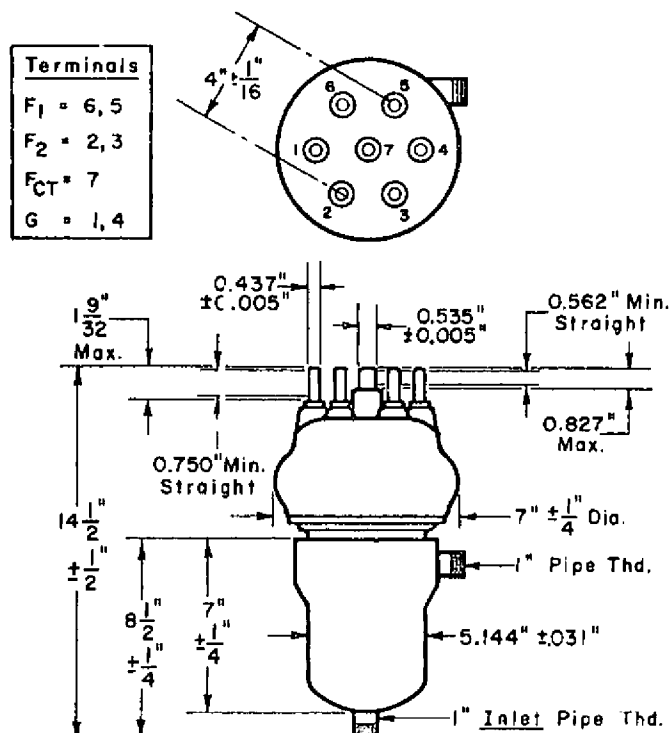
AF Power Amplifier & Modulator Service

Class AB₁ Operation

DC Plate Voltage.....	8	9	10	Kilovolts
DC Grid Voltage.....	-1700	-1900	-2200	Volts
Peak AF Grid-to-Grid Voltage.....	3350	3750	4350	Volts
Zero Signal DC Plate Current.....	0.5	0.5	0.5	Amperes
Maximum Signal DC Plate				
Current.....	6.4	7.4	8.2	Amperes
Effective Plate-to-Plate Load				
Impedance.....	2400	2400	2400	Ohms
Driving Power.....	0	0	0	Watts
Maximum Signal Power Output.....	30	39.5	49.5	Kilowatts

Class AB₂ Operation

DC Plate Voltage.....	8	9	10	Kilovolts
DC Grid Voltage.....	-1700	-1900	-2200	Volts
Peak AF Grid-to-Grid Voltage.....	3700	4100	4700	Volts
Zero Signal DC Plate Current.....	0.5	0.5	0.5	Amperes
Maximum Signal DC Plate				
Current.....	7.4	8.4	9.3	Amperes
Effective Plate-to-Plate Load				
Impedance.....	2400	2400	2400	Ohms
Driving Power.....	50	55	61	Watts
Maximum Signal Power Output.....	40	51	65	Kilowatts



PULSE SERVICE

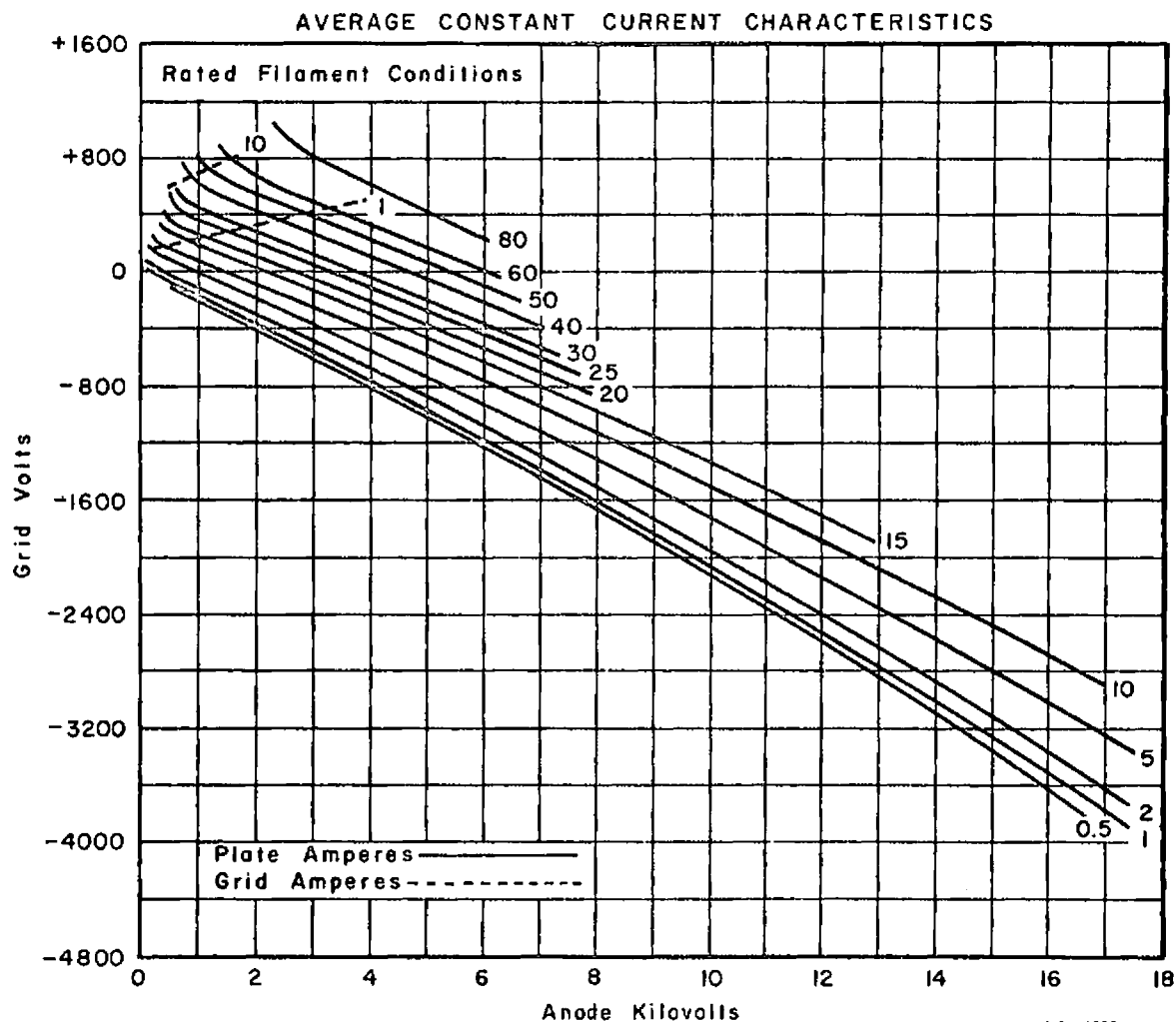
MAXIMUM RATINGS:

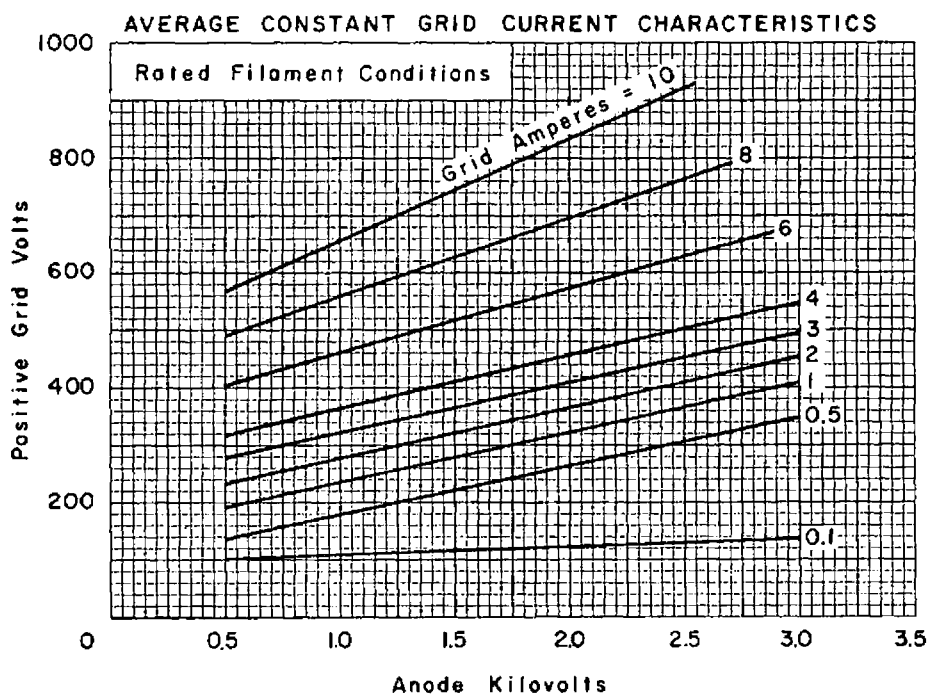
Absolute Maximum Values

DC Plate Voltage	20	max.	Kilovolts
DC Grid Voltage	-6000	max.	Volts
Peak Positive Grid Voltage	2500	max.	Volts
Peak Pulse Plate Current	88	max.	Ampere
Peak Pulse Grid Current	12	max.	Ampere
Plate Dissipation	35	max.	Kilowatts
Grid Dissipation	800	max.	Watts
Pulse Length	1000	max.	μseconds
Duty Factor	0.01	max.	
Peak Pulse Cathode Current (Note 2)	100	max.	Ampere

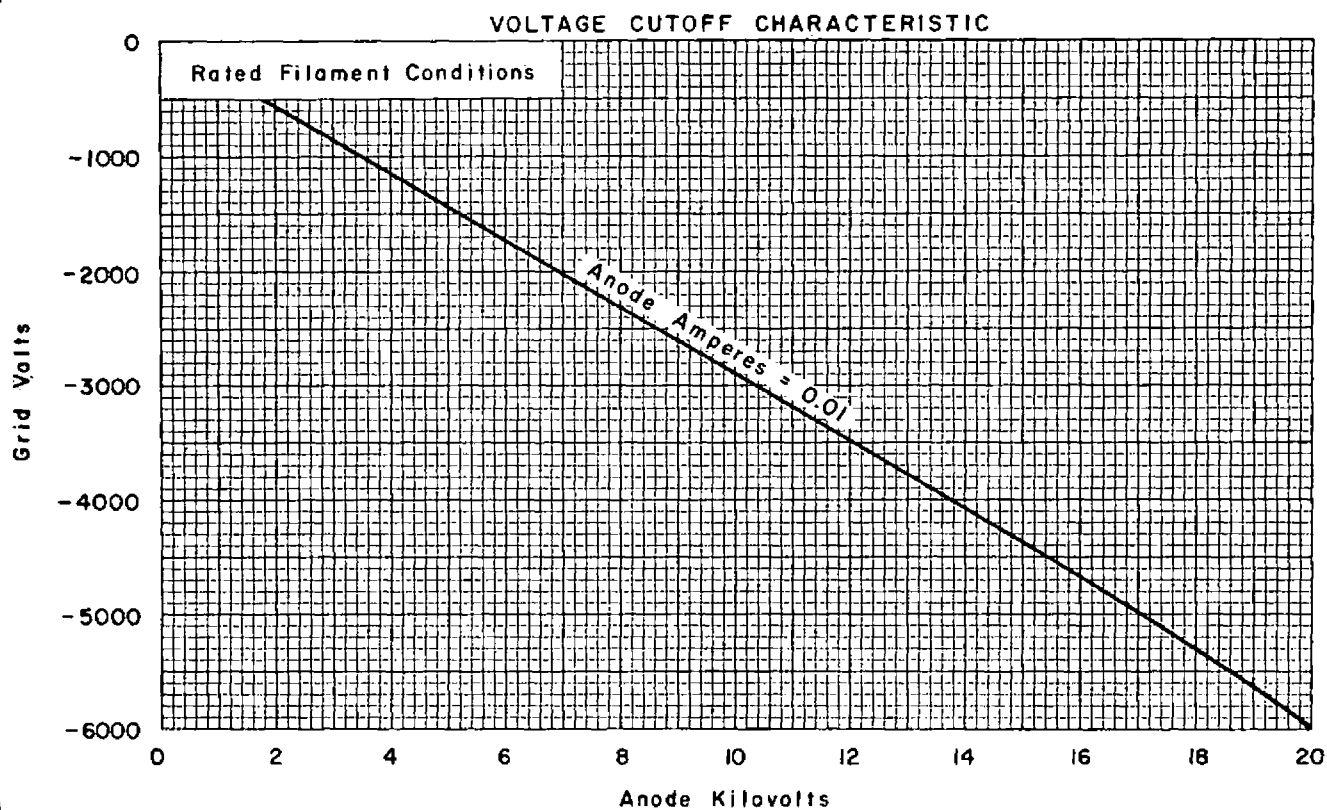
X-Ray Warning: The Maximum Ratings of the 7982 permit operation at voltages in excess of 16 KV. Therefore equipment design considerations should include the possible generation of soft x-rays.

1. Averaged over any AF cycle of sine wave form.
2. A maximum of 160 amperes is permitted with 7.6 volts applied to filament. Continuous operation at elevated filament temperature will reduce length of service received.
3. 50 CFM air shall be directed on filament and grid seals.

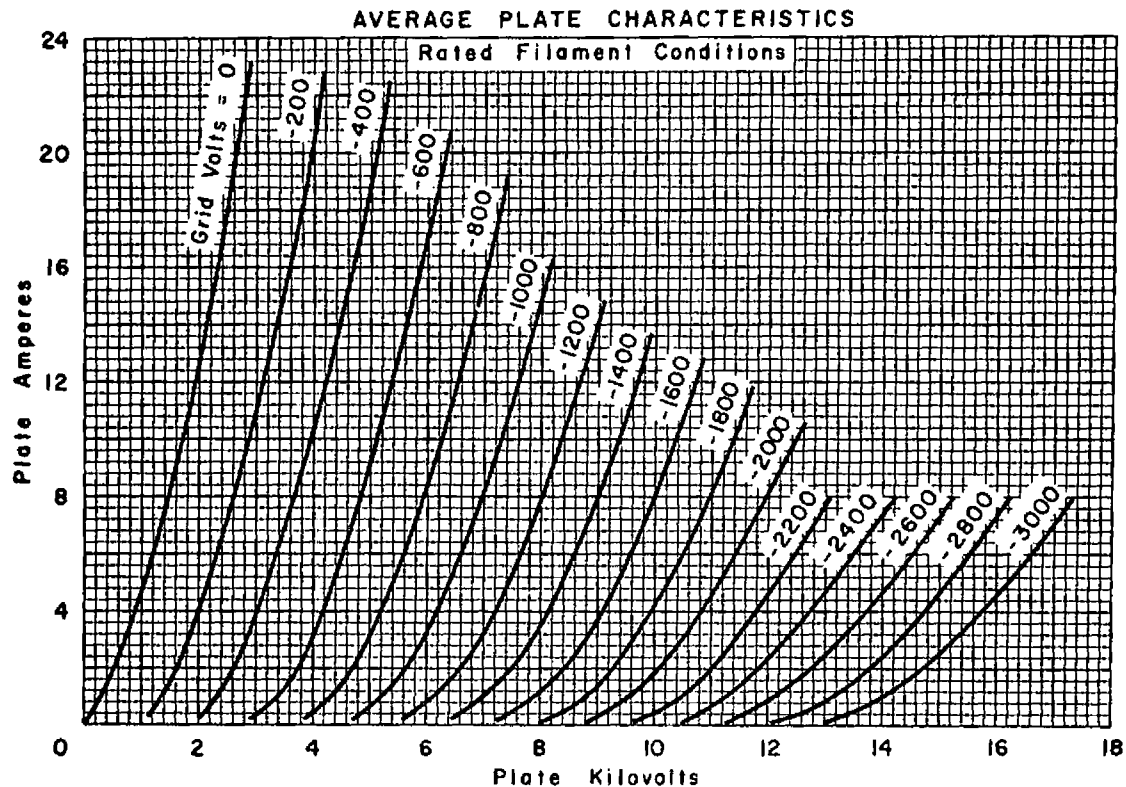




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