POWER AMPLIFIER TRIODE TYPE WL-5986

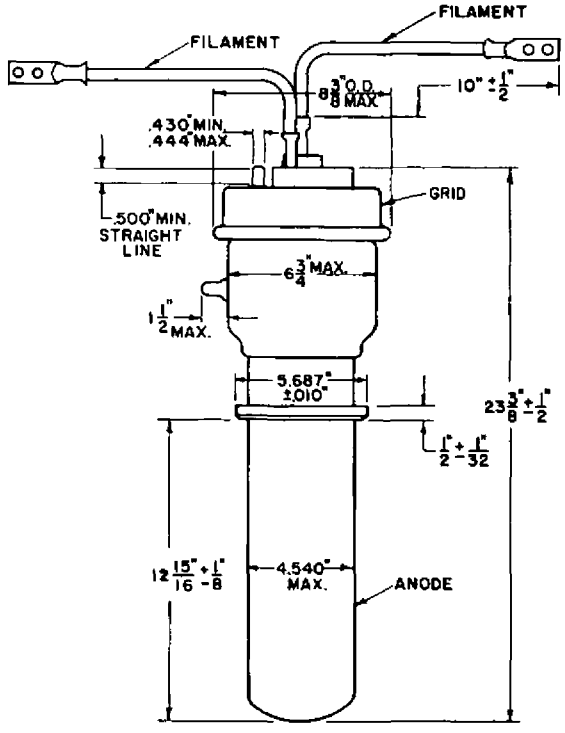
The WL-5986 is a three-electrode tube designed for use as an oscillator or amplifier. The anode is water cooled and is capable of dissipating 70 kilowatts. The cathode is a thoriated tungsten filament. Maximum ratings apply upto 15 megacycles.

ELECTRICAL:

	Min.	Bogey	Max.	
Cathode	Thoriated Tungsten Filament			
Filament:				
Voltage	11.5	12.0	12.5	Volts
Current at Bogey Voltage	275	300	315	Amperes
Heating Time	15	--	--	Seconds
Amplification Factor with Plate Amps=1.0 & Grid Volts= -200			37	
Direct Interelectrode Capacitances (approx.):				
Grid to Plate			37	μμf
Grid to Filament			90	μμf
Plate to Filament			6	μμf

MECHANICAL:

Mounting Position	Vertical, Anode Down
Type of Cooling	Water
Minimum Water Flow	30 GPM
Maximum Outlet Water Temperature	70 °C
Air Flow to Filament and Grid Seals	30 CFM
Maximum Bulb Temperature	180 °C
Maximum Seal Temperature	165 °C
Net Weight (approx.)	28 Pounds



Radio Frequency Power Amplifier and Oscillator Class C Telegraphy (Key down conditions pertube without modulation)

MAXIMUM RATINGS♦

Absolute Maximum Values:

DC Plate Voltage	17500	max.	Volts
DC Grid Voltage	-2400	max.	Volts
DC Plate Current	15.0	max.	Amperes
DC Grid Current	2.0	max.	Amperes
Plate Power Input	200	max.	Kilowatts
Plate Dissipation	70	max.	Kilowatts

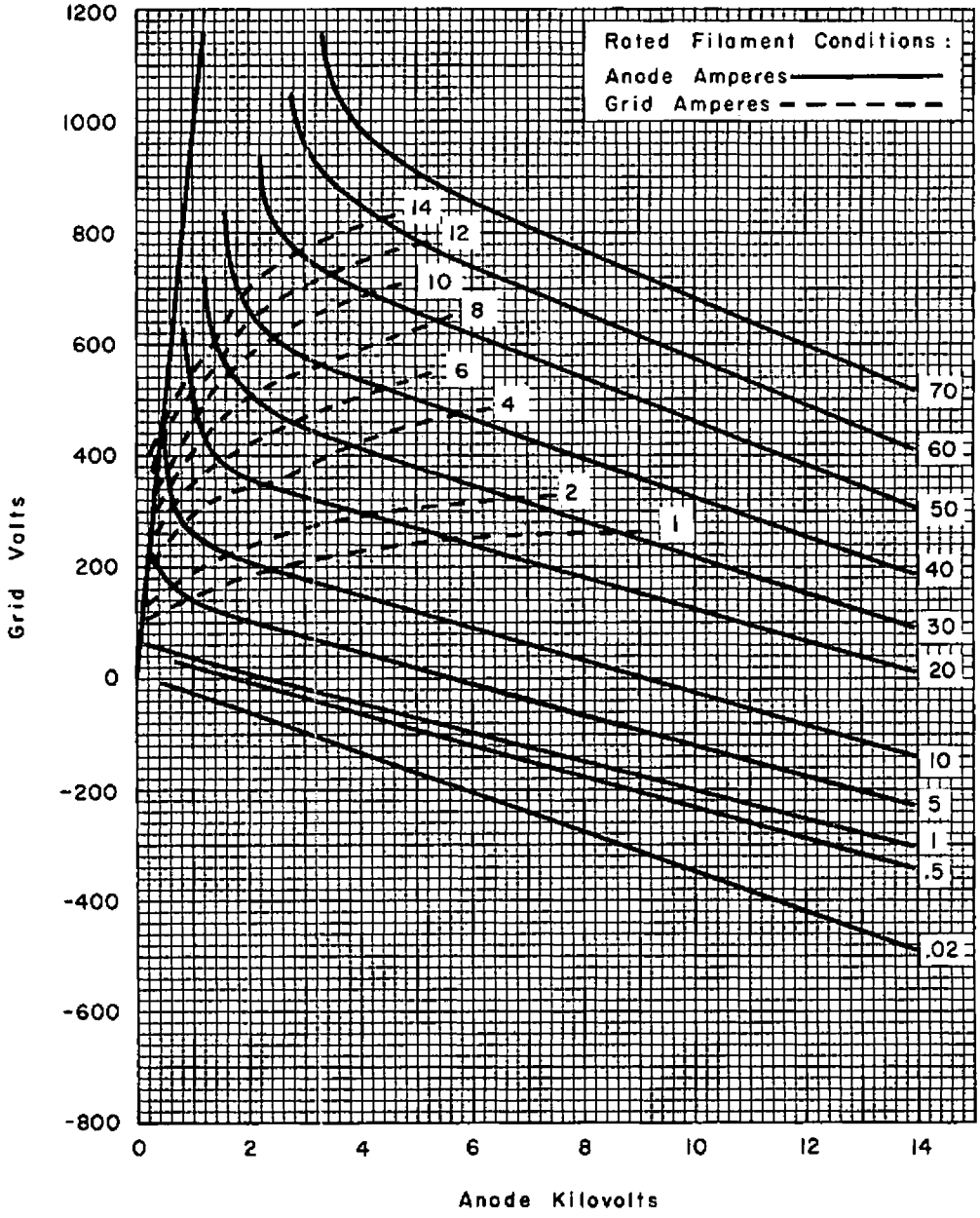
Typical Operating Characteristics:

DC Plate Voltage	1700	Volts
DC Grid Voltage	-1500	Volts
Peak RF Grid Voltage	2290	Volts
DC Plate Current	10.6	Amperes
DC Grid Current (approx.)	1.95	Amperes
Driving Power (approx.)	4.25	Kilowatts
Power Output (approx.)	136	Kilowatts

♦ Maximum ratings apply up to 15 megacycles. The tube may be operated at higher frequencies with reduced maximum plate voltage and plate power input as shown below. At the higher frequencies, special attention must be given to cooling. Increased air flow as high as 250 CFM may be required to maintain bulb and seal temperatures.

Frequency Derating Chart

Frequency	15	20	30	Megacycles
Maximum Permissable:				
DC Plate Voltage	100	90	78	Percent
Plate Power Input	100	90	78	Percent

from JEDEC release #2465, May 18, 1959

AVERAGE CONSTANT CURRENT CHARACTERISTICS