



RADIO MANUFACTURERS ASSOCIATION
ENGINEERING DEPARTMENT

Release No. 516

September 5, 1946

RMA TYPE 678
GRID-CONTROLLED MERCURY
VAPOR RECTIFIER

sponsor:
Westinghouse Electric Corp.

GENERAL CHARACTERISTICS

Air-Cooled Triode	
Filament Voltage.....	5.0 Volts
Filament Current.....	7.5 Amperes
Filament Heating Time*.....	1 Minute
Tube Voltage Drop.....	15 Volts
Typical Control Bias at 10,000 Volts**.....	-50 Volts
Typical Control Bias at 15,000 Volts**.....	-75 Volts
Capacitance, Anode Grid.....	10 uuf
Mounting Position.....	Pin Base Down
Temperature Range, Optimum, Condensed	
Mercury, for 10,000 Volts.....	35-50°C
Temperature Range, Optimum, Condensed	
Mercury, for 15,000 Volts.....	35-45°C

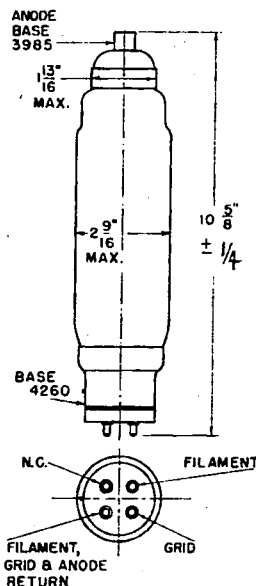
MAXIMUM RATINGS

25 to 150 Cycles

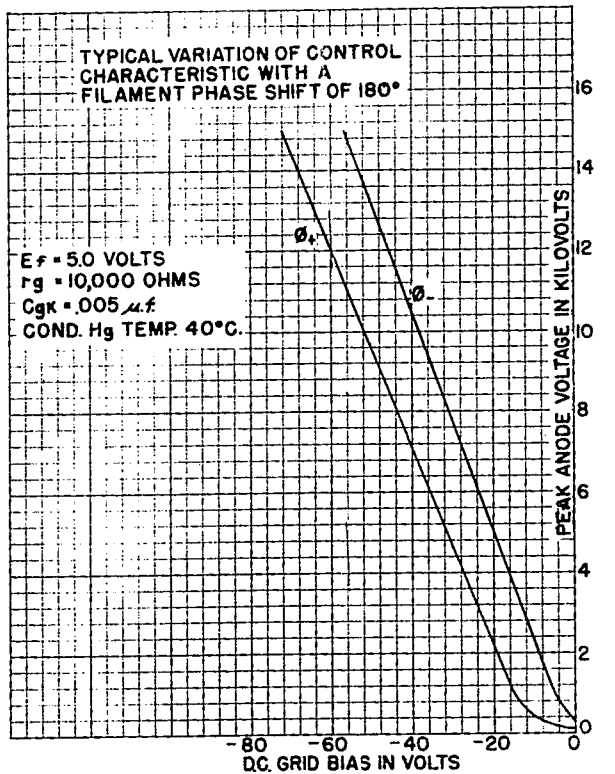
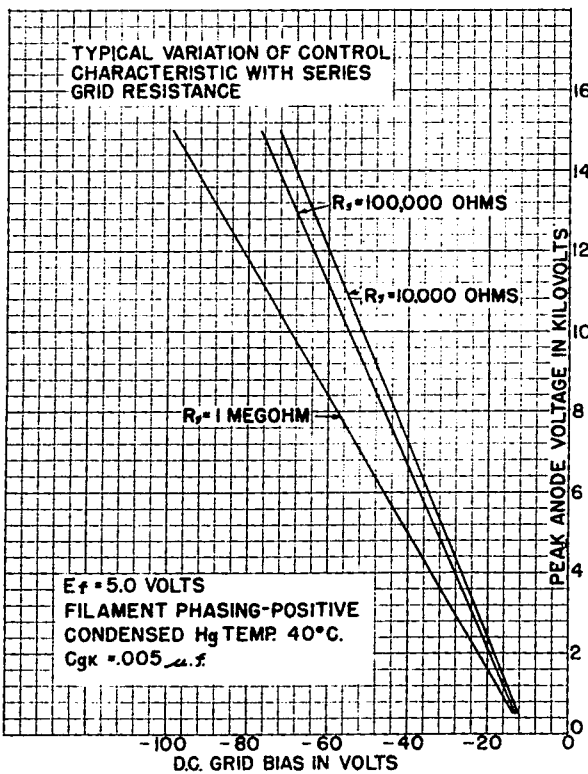
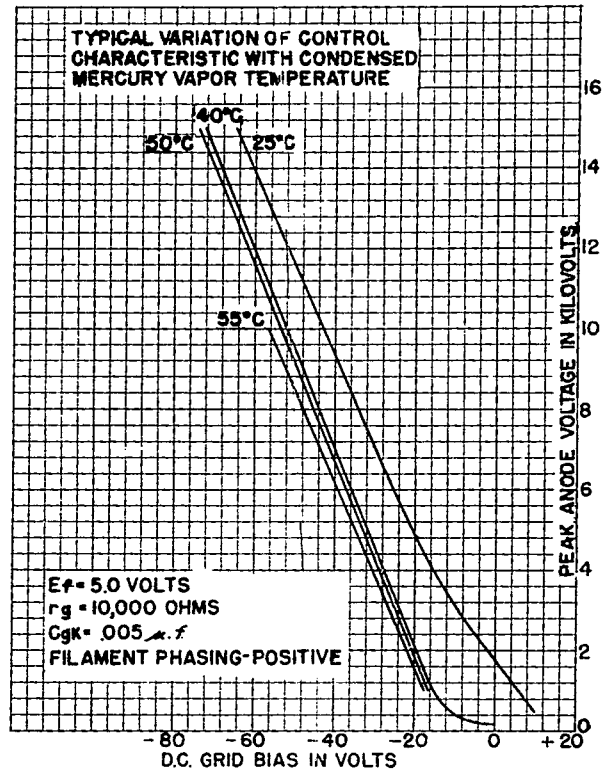
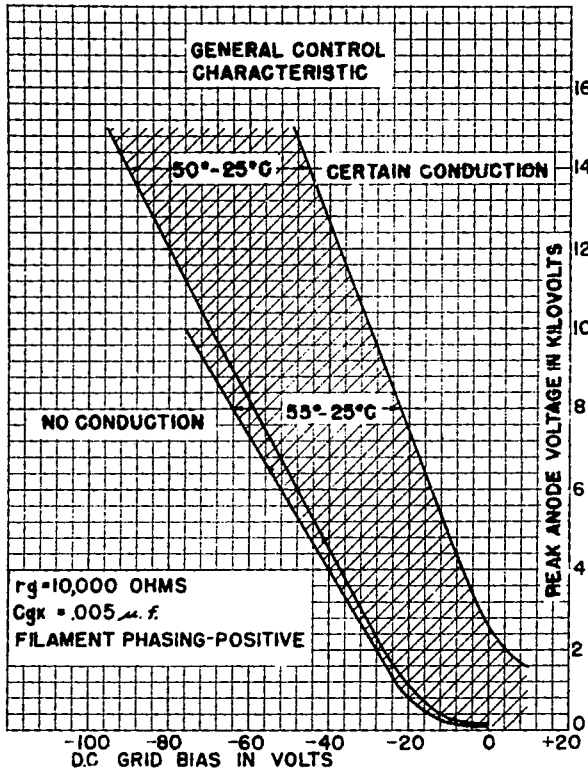
Anode Voltage, Peak Forward.....	10,000 Volts	15,000 Volts
Anode Voltage, Peak Inverse.....	10,000 Volts	15,000 Volts
Anode Current, Average.....	1.6 Amperes	1.6 Amperes
Anode Current, Peak.....	6 Amperes	6 Amperes
Anode Current, Surge, Design Only.....	50 Amperes	50 Amperes
Grid Voltage, Peak Negative, before Conduction.....	500 Volts	500 Volts
Grid Voltage, Peak Positive, Anode Negative.....	10 Volts	10 Volts
Grid Current, Average Positive, Anode Positive.....	0.1 Ampere	0.1 Ampere
Grid Current, Peak Positive, Anode Positive.....	1 Ampere	1 Ampere
Averaging Time, Anode and Grid Currents.....	One period of the supply frequency.	1 Cycle
Temperature Range, Condensed Mercury.....	25 to 55°C	25 to 50°C
Frequency Range.....	25 to 150 cps	25 to 150 cps

*The minimum heating time refers only to the filament. Sufficient additional time must be allowed, during cold weather periods, to permit the condensed mercury temperature to rise to the minimum condensed mercury temperature limit.

**This typical bias value is valid when using a 100,000-ohm resistor and a 0.01 microfarad grid to cathode by-pass condenser.



RMA TYPE 678



General Control Characteristic Curve.

The Control Characteristic shown is intended only to indicate the range of control necessary.

It should be noted that any individual tube will have a characteristic spread much narrower than the composite curve shown. If temperature control is used, the characteristic spread is still further reduced.