

# 5759

## GENERAL CHARACTERISTICS

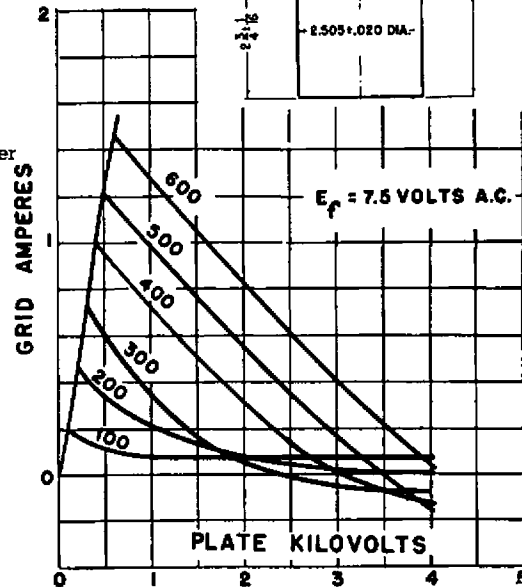
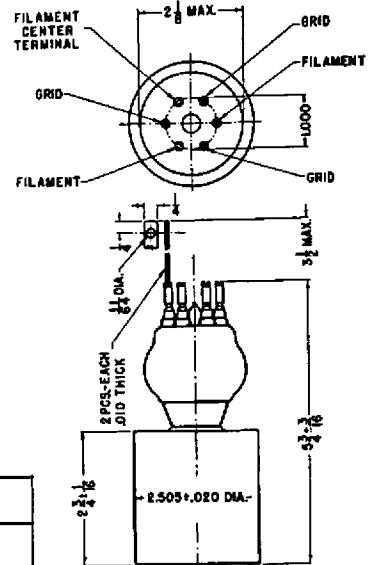
### FORCED AIR COOLED TRIODE

#### ELECTRICAL

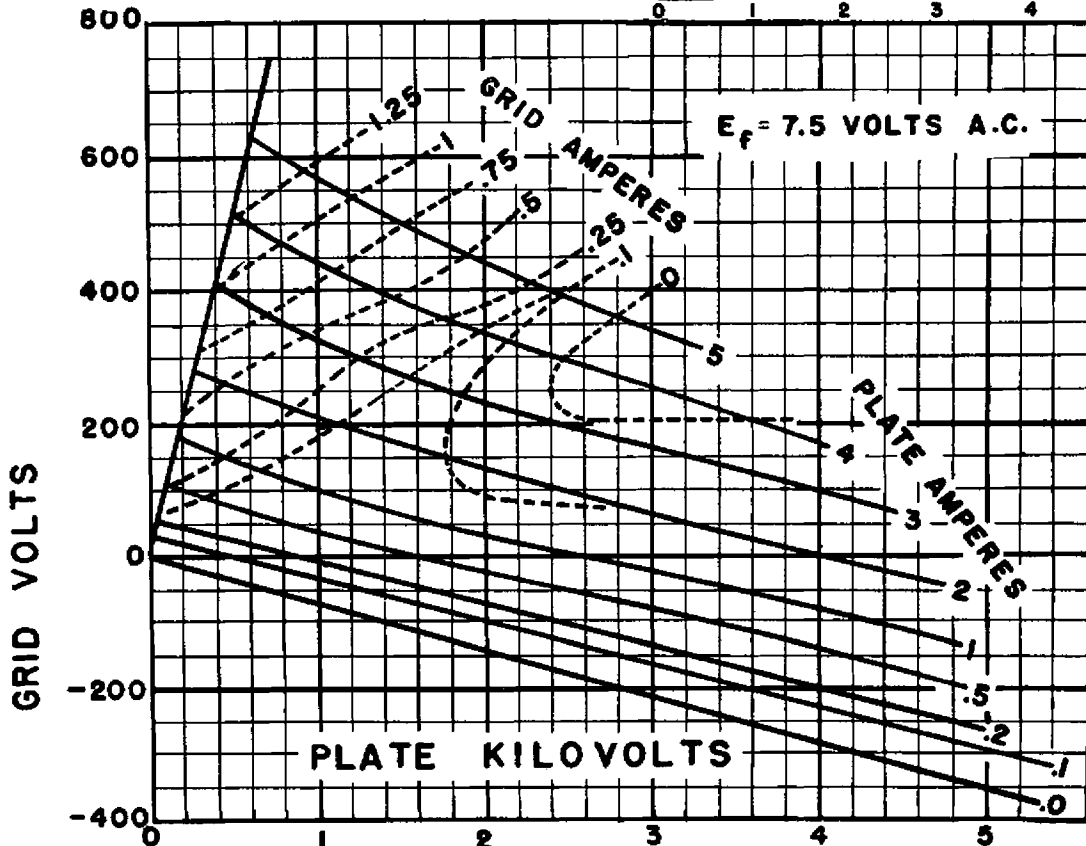
Filament . . . . .	Thoriated Tungsten
<b>Starting current must never exceed 36 amps.</b>	
Voltage . . . . .	7.5 volts
Current . . . . .	24 amperes
Amplification Factor . . . . .	17
Transconductance (Grid to Plate) $I_p = 1.0$ amp. . . . .	10,000 micromhos
<b>Direct Interelectrode Capacitances</b>	
Grid to Plate . . . . .	10 $\mu\text{mf}$
Grid to Filament . . . . .	14 $\mu\text{mf}$
Plate to Filament . . . . .	1.3 $\mu\text{mf}$
Frequency for Maximum Ratings . . . . .	150 megacycles

#### MECHANICAL

<b>Maximum Overall Dimensions</b>	
Length . . . . .	9 7/16 inches
Diameter . . . . .	2 17/32 inches
Mounting Position—Vertical . . . . .	Radiator Down
Type of Cooling . . . . .	Forced Air
Plate Dissipation . . . . .	1.0 KW
Air Flow to Radiator . . . . .	50 CFM
Back Pressure . . . . .	1.4 inches water
Maximum Incoming Air Temperature . . . . .	45°C
Maximum Glass Temperature . . . . .	180°C
Net Weight (approx.) . . . . .	2 3/4 pounds
Shipping Weight (approx.) (one tube) . . . . .	4 pounds



### Power Amplifier and Oscillator **501-R**



### A.F. Power Amplifier and Modulator—Class B

	Maximum Rating per Tube	Typical Operation Two Tubes
D.C. Plate Voltage	3500	3500
D.C. Grid Voltage	—	—200
Effective Load Resistance (plate to plate) (ohms)	—	3820
Zero Signal D.C. Plate Current (amps)	—	0.100
Peak A.F. Grid to Grid Voltage	—	1200
Max. Signal D.C. Plate Cur. (amps) <sup>1</sup>	1.0	1.8
Max. Signal Plate Input (kw) <sup>1</sup>	3.0	....
Plate Dissipation (kw) <sup>1</sup>	1.0	....
Max. Signal Driving Power (approx.) (watts)	—	380
Max. Signal Power Output (kw)	—	4.7

### R.F. Power Amplifier—Class B—Telephony

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

	Maximum Rating per Tube	Typical Operation One Tube
D.C. Plate Voltage	3500	3000
D.C. Grid Voltage	—	—160
Peak R.F. Grid Voltage	—	230
D.C. Plate Current (amps)	0.800	0.370
Plate Input (kw)	1.5	....
Plate Dissipation (kw)	1.0	....
D.C. Grid Current	....	0
Driving Power (approx.) (watts) <sup>2</sup>	—	50
Power Output (kw)	—	0.375

### Plate Modulated R.F. Power Amplifier Class C—Telephony

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

	Maximum Rating per Tube	Typical Operation One Tube
D.C. Plate Voltage	2750	2500
D.C. Grid Voltage	—600	—600
Grid Resistor (ohms)	—	2900
Cathode Resistor (ohms)	—	45
Peak R.F. Grid Voltage	—	950
D.C. Plate Current (amps)	0.800	0.570
Plate Input (kw)	2.0	....
Plate Dissipation (kw)	.660	....
D.C. Grid Current (approx.) (ma)	150	100
Driving Power (approx.) (watts)	—	90
Power Output (kw)	....	1.0

### R.F. Power Amplifier and Oscillator—Class C Telephony

(Key-down conditions per tube without amplitude modulation<sup>3</sup>)

	Maximum Rating per Tube	Typical Operation One Tube
D.C. Plate Voltage	3500	3500
D.C. Grid Voltage	—750	—450
Peak R.F. Grid Voltage	—	880
D.C. Plate Current (amps)	1.0	0.860
Plate Input (kw)	3.0	....
Plate Dissipation (kw)	1.0	....
D.C. Grid Current (approx.) (ma)	150	150
Driving Power (approx.) (watts)	—	120
Plate Power Output (kw)	....	2.175

#### NOTES:

1. Averaged over any audio-frequency cycle of sine-wave form.
2. At crest of audio-frequency cycle with modulation factor of 1.0.
3. Modulation essentially negative may be used if the positive peak of the envelope does not exceed 115% of the carrier conditions.

