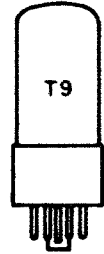
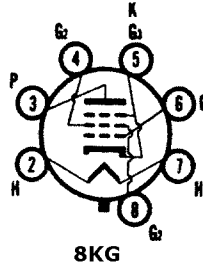


# 7591A

# AUDIO POWER AMPLIFIER

## Beam Power Pentode

Construction .....Octal T-9  
 Base .....Octal 7 Pin, B7-233 or B8-142  
 Basing .....8KG  
 Outline .....9-11  
 Maximum Diameter .....1.188 In.  
 Maximum Seated Height .....2.750 In.  
 Maximum Overall Height .....3.312 In.



## ELECTRICAL DATA

### HEATER OPERATION

Heater Voltage.....	6.3 Volts
Heater Current.....	800 Ma
Maximum Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	
Total DC and Peak.....	200 Volts
Heater Positive with Respect to Cathode	
DC.....	100 Volts
Total DC and Peak.....	200 Volts

### DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Grid No. 1 to Plate.....	0.25 Pf
Input.....	10 Pf
Output.....	5.0 Pf

### RATINGS (Design Maximum Rating System)

Plate Voltage (Max.).....	550 Volts
Grid No. 2 Voltage (Max.).....	440 Volts
Plate Dissipation (Max.).....	19 Watts
Grid No. 2 Dissipation (Max.) <sup>(1)</sup> .....	3.3 Watts
Cathode Current (Max.).....	85 Ma
Grid No. 1 Circuit Resistance	
Fixed Bias (Max.).....	0.3 Megohm
Self Bias (Max.).....	1.0 Megohm

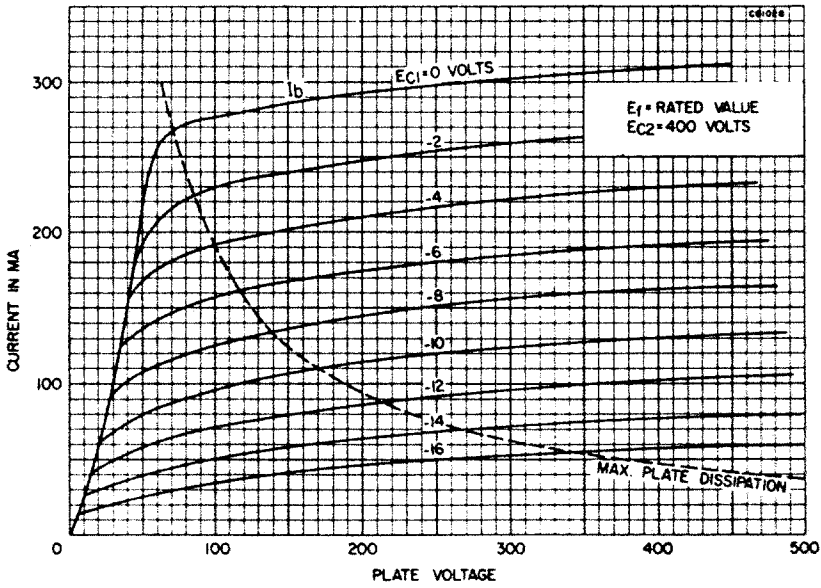
## CHARACTERISTICS AND TYPICAL OPERATION

	Pentode Operation		Ultra-Linear Operation <sup>(2)</sup>			
	S. T.-		Class AB1 - Push-Pull			
	Class A1 Amp.		Class AB1	Class AB1	Class AB1	Class AB1
Plate Voltage.....	300		400	425	450	450 Volts
Grid No. 2 Voltage.....	300		Note 2	Note 2	Note 2	Note 2 Volts
Grid No. 1 Voltage.....	-10		-20.5	—	—	— Volts
Cathode Resistor.....	—		—	185	—	185 Ohms
Peak AF Grid Voltage.....	10		20.5	21	—	21 Volts
Zero Signal Plate Current.....	60		80	88	—	88 Ma
Max. Signal Plate Current.....	75		138	104	—	104 Ma
Zero Signal Grid No. 2 Current.....	8		11.5	13	—	13 Ma
Max. Signal Grid No. 2 Current.....	15		26.4	17.5	—	17.5 Ma
Transconductance.....	10.2K		—	—	—	— $\mu$ mhos
Plate Resistance (Approx.).....	29K		—	—	—	— Ohms
Load Resistance.....	3K		—	—	—	— Ohms
Load Resistance (PL to PL).....	—		6600	6600	6600	6600 Ohms
Power Output.....	11		32	26	—	26 Watts
Total Harmonic Distortion.....	13		1.0	2	—	2 Percent
<b>Pentode Operation (Class AB1 Push-Pull Amp.)</b>						
Plate Voltage.....	300	350	400	450	450	450 Volts
Grid No. 2 Voltage.....	300	350	350	350	400	400 Volts
Grid No. 1 Voltage.....	-12.5	-15.5	-16	-16.5	-21	— Volts
Cathode Resistor.....	—	—	—	—	—	200 Ohms
Peak AF Grid to Grid Voltage.....	25	31	32	33	42	28 Volts
Zero Signal Plate Current.....	86	92	85	77	66	82 Ma
Max. Signal Plate Current.....	116	130	143	153	144	94 Ma
Zero Signal Grid No. 2 Current.....	12.6	13	11	9.6	9.4	11.5 Ma
Max. Signal Grid No. 2 Current.....	26	28.6	27	27	30	22 Ma
Load Resistance (PL to PL).....	6600	6600	6600	6600	6600	9000 Ohms
Power Output.....	23	30	37	43	45	28 Watts
Total Harmonic Distortion.....	2.4	2	1.5	1.5	1.5	2 Percent

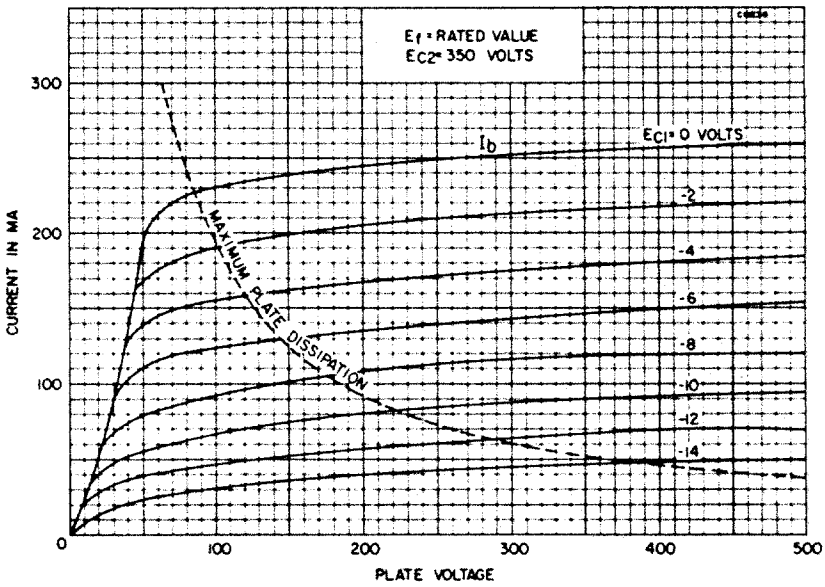
## NOTES:

- (1) Grid No. 2 Dissipation may be permitted to reach 6 watts during the periods of maximum input of speech and music signals. For efficient operation of Grid No. 2, the two Grid No. 2 connections, Pins 4 and 8, should be externally tied together.
- (2) Grid No. 2 tapped at 40% of the primary winding.

### AVERAGE PLATE CHARACTERISTICS



### AVERAGE PLATE CHARACTERISTICS



### AVERAGE TRANSFER CHARACTERISTICS

