

**MECHANICAL DATA**

Bulb . . . . .	T-9
Base . . . . .	Intermediate Shell Octal 7-Pin (B7-233 or B8-142)
Outline . . . . .	9-11
Basing . . . . .	8KG
Cathode . . . . .	Coated Unipotential
Mounting Position . . . . .	Any

**ELECTRICAL DATA**

**HEATER CHARACTERISTICS**

Heater Voltage . . . . .	6.3 Volts
Heater Current . . . . .	0.8 Amperes
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 $\mu\mu\text{f}$
Input . . . . .	10 $\mu\mu\text{f}$
Output . . . . .	5.0 $\mu\mu\text{f}$

**RATINGS (Design Maximum Values)**

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

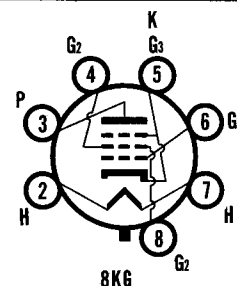
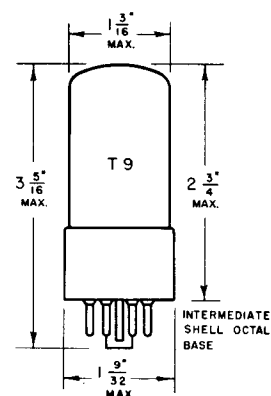
**CHARACTERISTICS AND TYPICAL OPERATION**

	Pentode Operation		Ultra-Linear Operation <sup>2</sup> Class AB1 — Push-Pull
	S. T. — Class A1 Amp		
Plate Voltage . . . . .	300	400	425 Volts
Grid No. 2 Voltage . . . . .	300	Note 2	Note 2 Volts
Grid No. 1 Voltage . . . . .	-10	-20.5	— Volts
Cathode Resistor . . . . .	—	—	185 Ohms
Peak AF Grid Voltage . . . . .	10	20.5	21 Volts
Zero Signal Plate Current . . . . .	60	80	88 Ma
Max. Signal Plate Current . . . . .	75	138	104 Ma
Zero Signal Grid No. 2 Current . . . . .	8	11.5	13 Ma
Max. Signal Grid No. 2 Current . . . . .	15	26.4	17.5 Ma
Transconductance . . . . .	10.2K	—	— $\mu\text{mhos}$
Plate Resistance (Approx.) . . . . .	29K	—	— Ohms
Load Resistance . . . . .	3K	—	— Ohms
Load Resistance (PL to PL) . . . . .	—	6600	6600 Ohms
Power Output . . . . .	11	32	26 Watts
Total Harmonic Distortion . . . . .	13	1.0	2 Percent

**QUICK REFERENCE DATA**

Sylvania Type 7591 is a power output tube, contained in a T-9 envelope, capable of furnishing 43 watts of power output at very low distortion when operated as a Push-Pull Class AB1 Amplifier.

In ultra-linear operation a power output of 32 watts is available with a 400 volt plate voltage.



**SYLVANIA ELECTRONIC TUBES**

A Division of  
Sylvania Electric Products Inc.

**RECEIVING TUBE OPERATIONS EMPORIUM, PA.**

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File Under  
**RECEIVING TUBES**

**CHARACTERISTICS AND TYPICAL OPERATION (Con't.)**

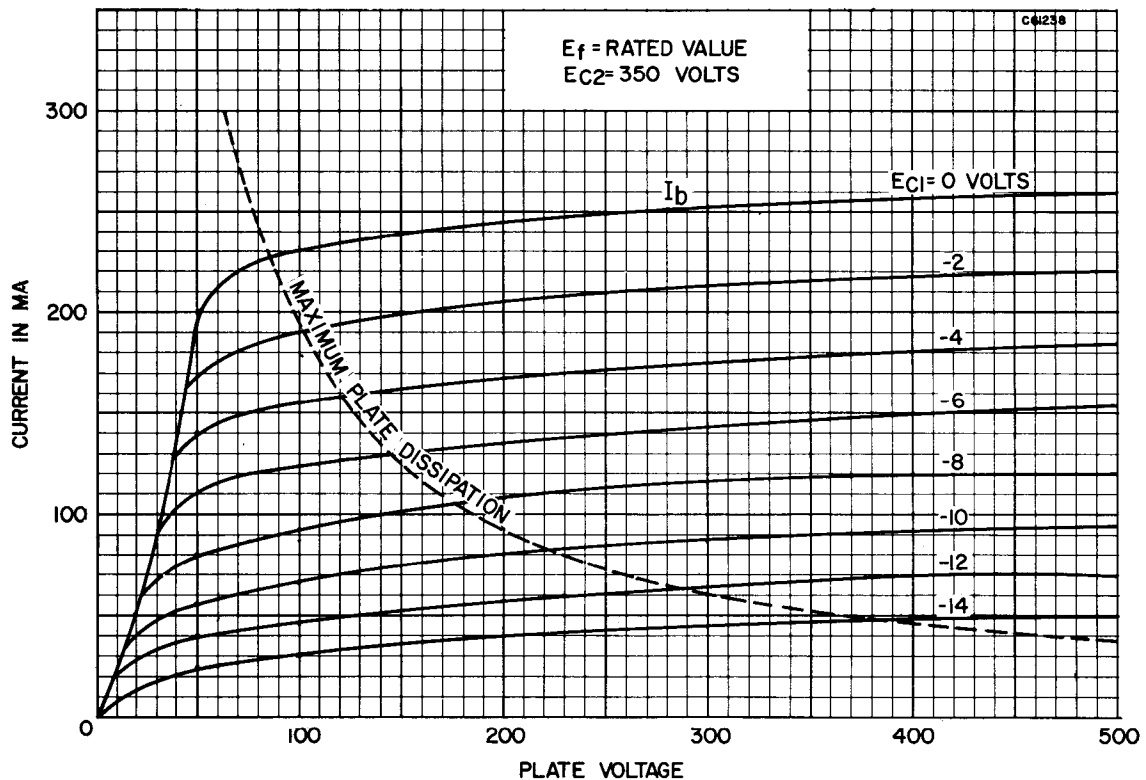
**Pentode Operation (Class AB1 Push-Pull Amp.)**

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 . . . . .	2.5	2	1.5	1.5	1.5	2 Percent

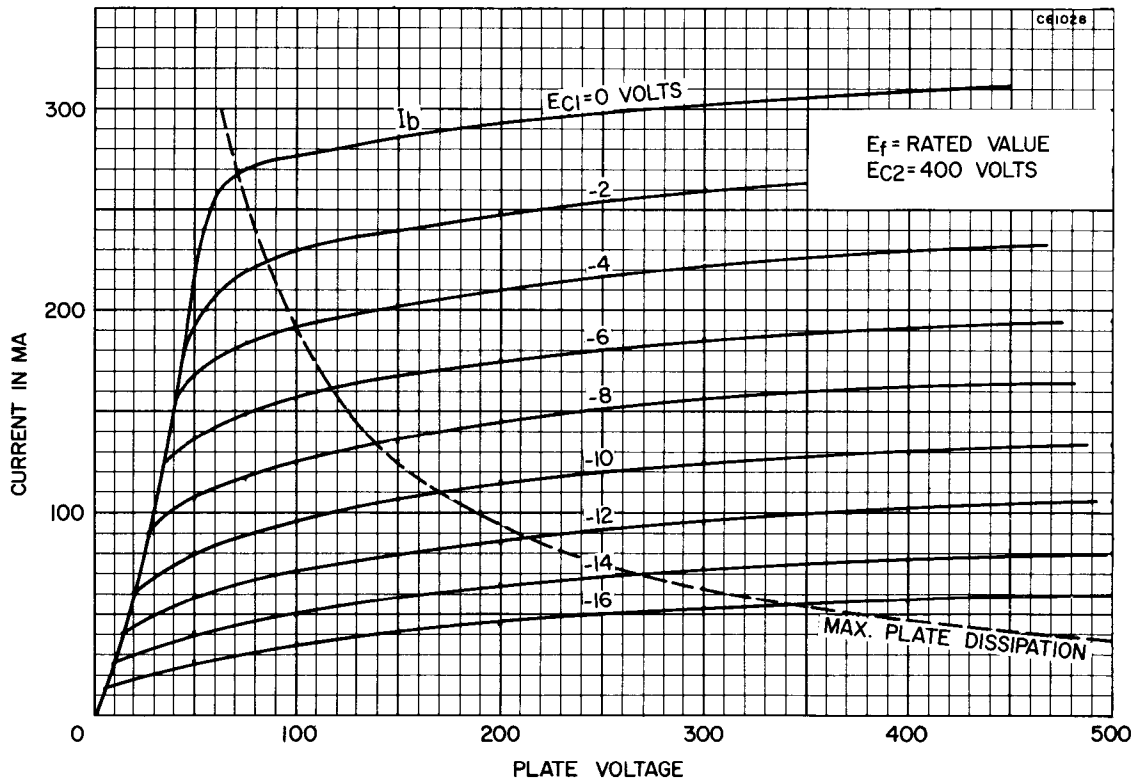
**NOTES**

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.

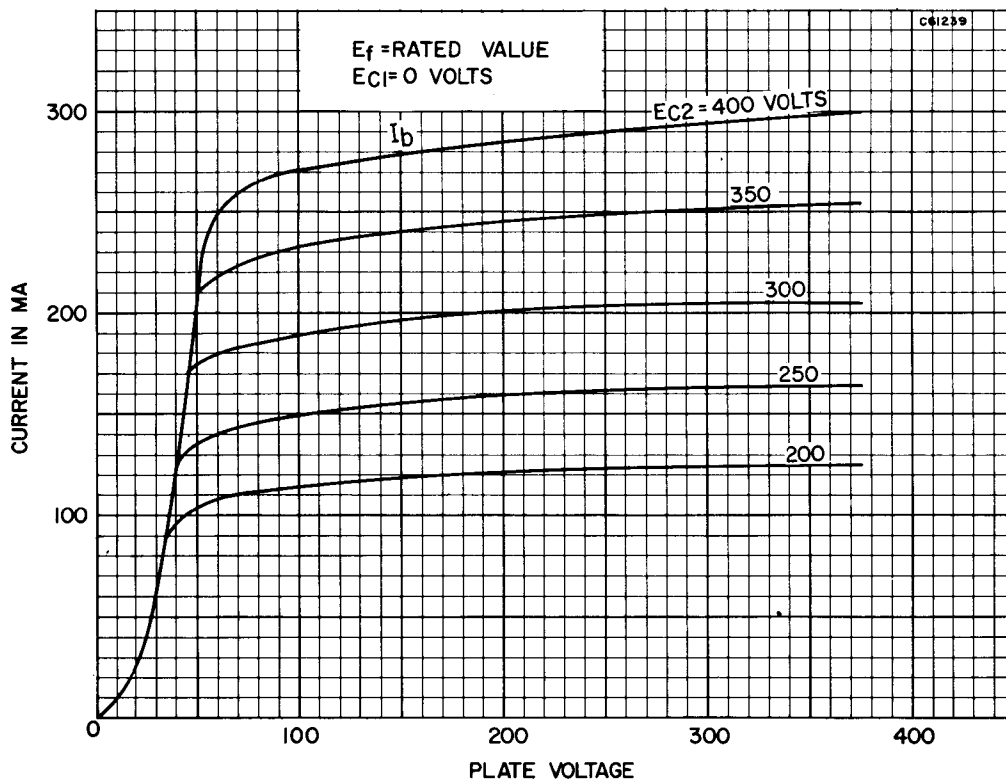
**AVERAGE PLATE CHARACTERISTICS**



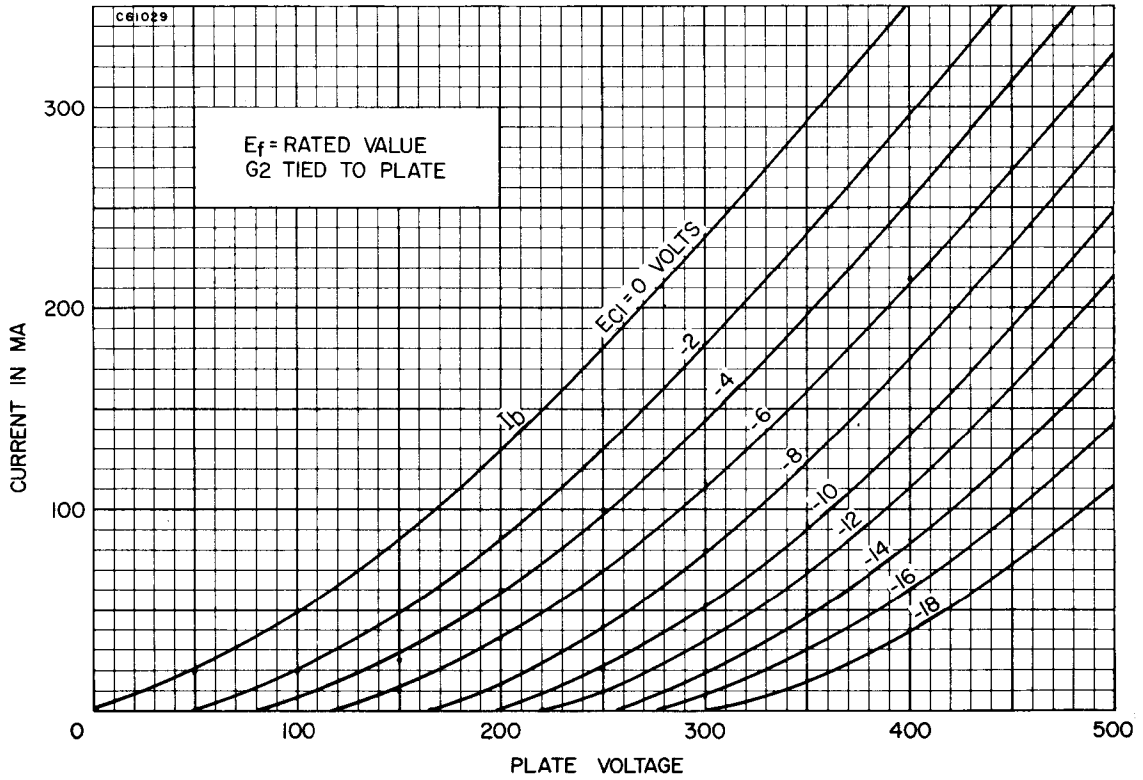
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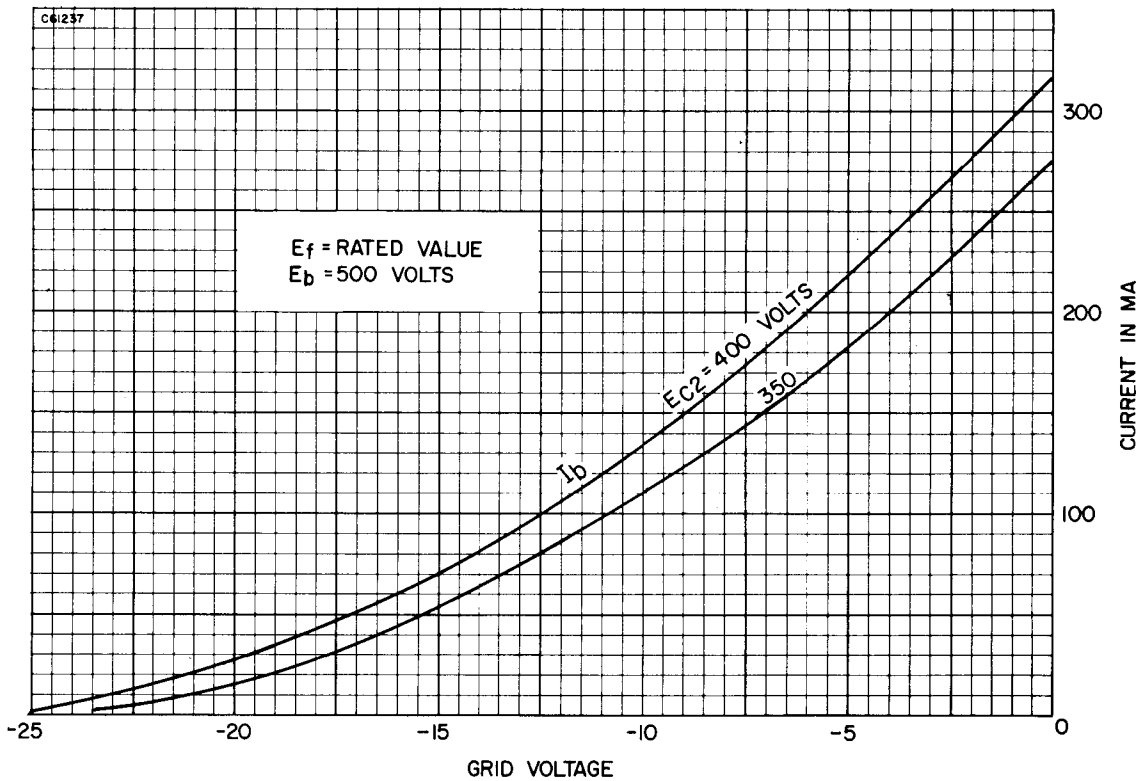
**AVERAGE PLATE CHARACTERISTICS**



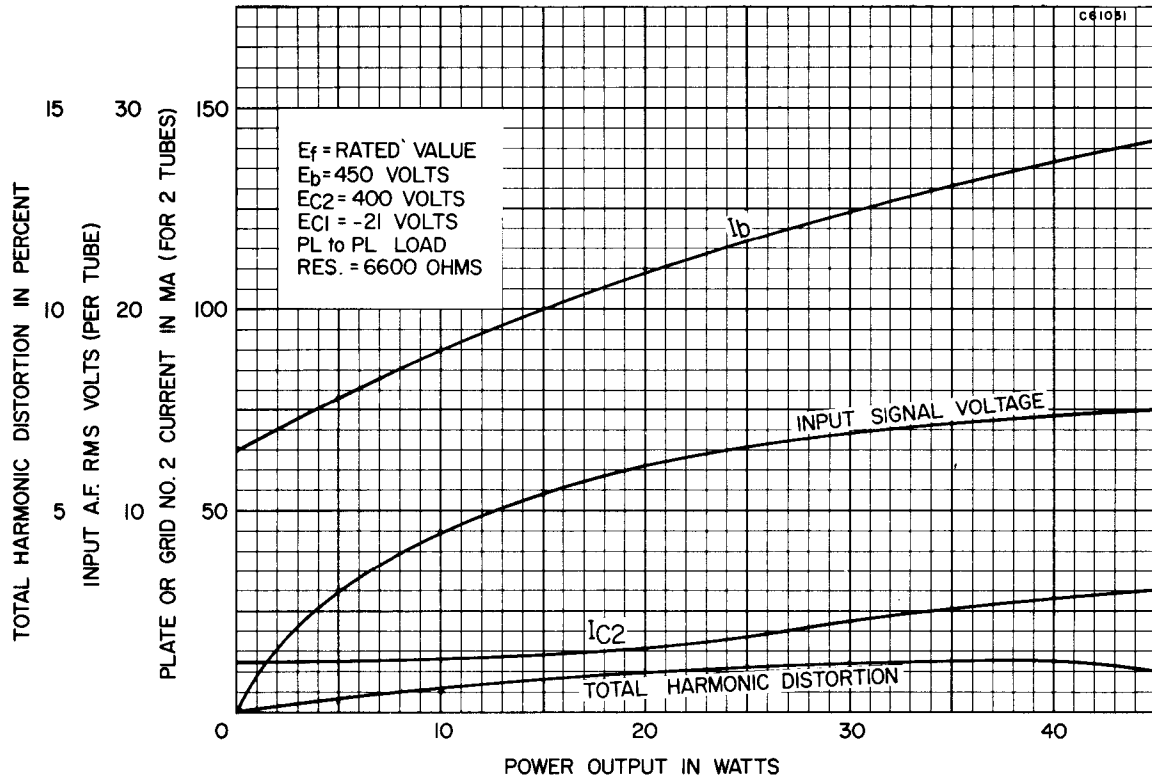
AVERAGE PLATE CHARACTERISTICS  
(Triode Connected)



AVERAGE TRANSFER CHARACTERISTICS



**OPERATIONAL CHARACTERISTICS**



**OPERATIONAL CHARACTERISTICS**  
 (Ultra-Linear Operation)

