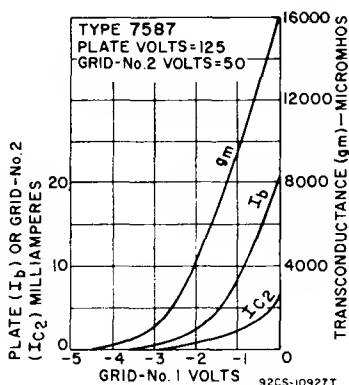


Class A₁ Amplifier

CHARACTERISTICS

Plate Supply Voltage	125	volts
Grid-No.2 Supply Voltage	50	volts
Cathode Resistor	68	ohms
Plate Resistance (Approx.)	0.2	megohm
Transconductance	10600	μ mhos
Plate Current	10	mA
Grid-No.2 Current	2.7	mA
Grid-No.1 Voltage (Approx.) for plate μ A = 10	-4.5	volts



Special Ratings & Performance Data

SHOCK RATING

Impact Acceleration	1000 max.	g
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FATIGUE RATING

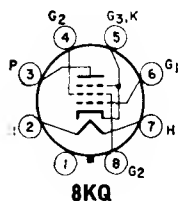
Vibrational Acceleration	2.5 max.	g
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Refer to chart at end of section.

7591

POWER PENTODE

7591A



Glass octal type used as audio-frequency power-output tube in high-quality audio applications. Outlines section, 13D; requires octal socket. Heater: volts (ac/dc), 6.3; amperes, 0.8; maximum heater-cathode volts, ± 200 peak, 100 average.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	550	volts
Grid-No.2 (Screen-Grid) Voltage	440	volts
Cathode Current	90	mA
Plate Dissipation	19	watts
Grid-No.2 Input	3.3*	watts

TYPICAL OPERATION AND CHARACTERISTICS

Plate Voltage	300	volts
Grid-No.2 Voltage	300	volts
Grid-No.1 (Control-Grid) Voltage	-10	volts
Peak AF Grid-No.1 Voltage	10	volts
Zero-Signal Plate Current	60	mA
Maximum-Signal Plate Current	75	mA
Zero-Signal Grid-No.2 Current	8	mA

Maximum-Signal Grid-No.2 Current	15	mA
Triode Amplification Factor ^a	16.8	
Plate Resistance (Approx.)	29000	ohms
Transconductance	10200	μmhos
Load Resistance	3000	ohms
Total Harmonic Distortion	13	per cent
Maximum-Signal Power Output	11	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.3	megohm
For cathode-bias operation	1	megohm

* Grid-No.2 input may reach 6 watts during peak levels of speech and music signals.

* Triode connection, grid No.2 connected to plate.

Push-Pull Class AB₁ Amplifier**MAXIMUM RATINGS (Same as for Class A₁ Amplifier)**

TYPICAL OPERATION (Values are for two tubes)	Fixed Bias	Cathode Bias	
Plate Supply Voltage	350	450	volts
Grid-No.2 Supply Voltage	350	400	volts
Grid-No.1 Supply Voltage	-15.5	-21	volts
Cathode-Bias Resistor			
(Common to both cathodes)	—	—	200 ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage	31	42	volts
Zero-Signal Plate Current	92	66	mA
Maximum-Signal Plate Current	130	144	mA
Zero-Signal Grid-No.2 Current	13	9.4	mA
Maximum-Signal Grid-No.2 Current	28.6	30	mA
Effective Load Resistance (Plate-to-plate)	6600	6600	ohms
Total Harmonic Distortion	2	1.5	per cent
Maximum-Signal Power Output	30	45	watts

7695

Refer to chart at end of section.

7717/6CY5

Refer to chart at end of section.

7724/14GT8

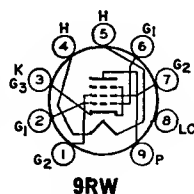
Refer to chart at end of section.

7788

Refer to chart at end of section.

7868**POWER PENTODE**

Novar type used in output stages of high-fidelity audio amplifiers and radio receivers. Outlines section, 11C or 30D; requires novar 9-contact socket. This tube, like other power-handling tubes, should be adequately ventilated.



Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.8	ampere
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances (Approx.):		
Grid No.1 to Plate	0.15	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	11	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	4.4	pF

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Maximum Values)**

Plate Voltage	550*	volts
Grid-No.2 (Screen-Grid) Voltage	440	volts
Average Cathode Current	90	mA
Plate Dissipation	19	watts
Grid-No.2 Input	3.3*	watts
Bulb Temperature (At hottest point)	240	°C