

BEAM-POWER PENTODE TYPE 8417

The 8417 is a glass octal, beam-power pentode designed for service as an output amplifier in high-fidelity, high-power sound systems. It has a 35 watt plate dissipation allowing design of push-pull amplifiers of 100 watts output. The 8417 features high power sensitivity and requires low drive for full power output. The 8417 is also suitable for use as a series tube in electronically regulated power supplies.

ELECTRICAL

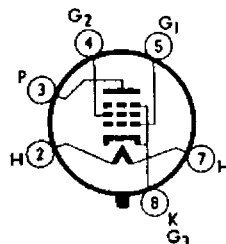
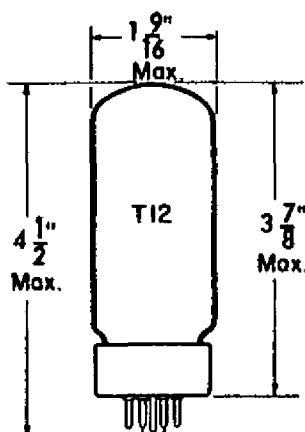
Cathode.....	Coated Unipotential
Heater:	
Voltage (ac or dc)	6.3 Volts
Current	1.6 Amperes
Direct Interelectrode Capacitances:	
Grid 1 - to - Plate	0.90 pf
Input	22 pf
Output	9.0 pf

MECHANICAL

Bulb	T-12
Base	Plaskon, Short Shell Octal, 6-Pin
Basing	7S
Mounting Position	Any

CHARACTERISTICS

Plate Voltage	300	Volts
Screen Voltage	300	Volts
Grid No. 1 Voltage	-12	Volts
Plate Current	100	Ma.
Screen Current	5.5	Ma.
Transconductance	23000	Micromhos
Plate Resistance	16000	Ohms
Triode Amplification Factor	16.5	-
Grid 1 Cutoff Voltage (Note 1)	-37	Volts



Note: Pin-out changed to conform with 7S (actual production).

RATINGS

Design-Maximum Values:

Plate Voltage	660 max.	Volts
Screen Voltage	500 max.	Volts
Plate Dissipation (Note 2)	35 max.	Watts
Screen Dissipation (Note 3)	5 max.	Watts
Cathode Current	200 max.	Ma.

Grid No. 1 Circuit Resistance:

With Fixed Bias	0.1 max.	Megohm
With Cathode Bias	0.25 max.	Megohm

Heater-Cathode Voltage:

Heater Negative with respect to Cathode		
Total DC + Peak	200 max.	Volts
Heater Positive with respect to Cathode		
DC Component	100 max.	Volts
Total DC + Peak	200 max.	Volts

Push-Pull Class AB1 - Ultra-Linear (Note 4)

Operation (Values for Two Tubes)

Plate Supply Voltage	455	Volts
Grid 1 Voltage	-25	Volts
Peak A.F. Grid-to-Grid Voltage	45	Volts
Zero Signal Plate Current	146	Ma.
Maximum Signal Plate Current	314	Ma.
Effective Load, Plate-to-Plate	3500	Ohms
Total Harmonic Distortion	2.5	Percent
Maximum Signal Power Output	70	Watts

Push-Pull Class AB1 - Pentode Connection (Values for Two Tubes)

Plate Supply Voltage	400	560	Volts
Screen Supply Voltage	275	300	Volts
Grid 1 Voltage	-13	-15	Volts
Peak AF Grid-to-Grid Voltage	24	29	Volts
Zero Signal Plate Current	150	132	124 Ma.
Max. Signal Plate Current	294	290	Ma.
Zero Signal Screen Current	4.4	3.6	Ma.
Max. Signal Screen Current	34	36	Ma.
Effective Load, Plate-to-Plate	2800	4200	Ohms
Total Harmonic Distortion	2.5	2.5	Percent
Maximum Signal Power Output	65	100	Watts

NOTES

1. For plate current of 1 milliamperes.
2. The bulb becomes hot during operation. To ensure adequate cooling, it is essential that free circulation of air be provided around the bulb.
3. Screen dissipation may be permitted to reach 8 watts during the periods of maximum input of speech and music signals.
4. Screen tapped at 40% of primary turns. Stated plate current includes screen current.

from JEDEC release #4321, July 1, 1963



Westinghouse Electric Corporation

Electronic Tube Division

Box 284, Elmira, New York

May 25, 1965

Mr. G. F. Hohn, Manager
EIA Engineering Laboratories
32 Green Street
Newark 2, New Jersey

Dear Mr. Hohn:

Please reregister type 8417 (registered on July 1, 1963 in Release Number 4321) as follows.

Item	As Registered	As Proposed	Units
Push-Pull Class AB1			
Pentode Operation			
Grid 1 Voltage	-15	-15.5	Volts
Peak A-F Grid to	29	31	Volts
Grid Voltage			
Zero-Signal Plate Current	124	100	mA
Max-Signal Plate Current	290	270	mA
Zero-Signal Screen Current	3.6	3.4	mA
Max-Signal Screen Current	36	31	mA
Total Harmonic Distortion	2.5	2.0	Percent

Thank you.

Very truly yours

J. A. Scott

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Commercial Engineering

JAS/cb

