

Beam Power Tube

9-PIN MINIATURE TYPE For High-Fidelity Audio- Amplifier Applications

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC) $6.3 \pm 10\%$ volts ←

Current at 6.3 volts. 0.45 amp

Direct Interelectrode Capacitances:^o

Grid No.1 to plate. 0.4 max. μf ←

Grid No.1 to cathode & grid No.3,
grid No.2, and heater 9 μf

Plate to cathode & grid No.3,
grid No.2, and heater 6 μf

Characteristics, Class A₁ Amplifier:

Plate Voltage 250 volts

Grid-No.2 Voltage 250 volts

Grid-No.1 Voltage -15 volts

Plate Resistance (Approx.) 73000 ohms

Transconductance. 4800 μmhos

Plate Current 46 ma

Grid-No.2 Current 3.5 ma

Grid-No.1 Voltage (Approx.) for
plate $\mu\text{a} = 100$ -40 volts

Mechanical:

Operating Position. Any ←

Maximum Overall Length. $3\text{--}1/16"$

Maximum Seated Length $2\text{--}13/16"$

Length, Base Seat to Bulb Top (Excluding tip) $2\text{--}7/16" \pm 3/32"$

Maximum Diameter. $0.750"$ to $0.875"$

Dimensional Outline See *General Section*

Bulb. T6-1/2

Base. Small-Button Noval 9-Pin (JEDEC No.E9-1)

Basing Designation for BOTTOM VIEW. 9EU

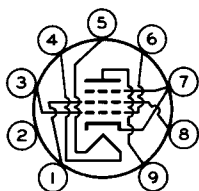
Pin 1-Grid No.2

Pin 2-No Connection

Pin 3-Grid No.1

Pin 4-Heater

Pin 5-Heater



Pin 6-Grid No.1

Pin 7-Grid No.3,
Cathode

Pin 8-Grid No.2

Pin 9-Plate

PUSH-PULL AF POWER AMPLIFIER — Class AB₁

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE 440 max. volts ←

GRID-No.2 (SCREEN-GRID) VOLTAGE 330 max. volts

← Indicates a change.



GRID-No.2 INPUT.	2	max.	watts
PLATE DISSIPATION.	12	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	200	max.	volts
Heater positive with respect to cathode.	200 [▲]	max.	volts
BULB TEMPERATURE (At hottest point			
on bulb surface)	250	max.	°C

Typical Operation with Fixed Bias:

Values are for 2 tubes

Plate Voltage.	250	350	400	volts
Grid-No.2 Voltage.	250	280	290	volts
Grid-No.1 (Control-Grid) Voltage [●]	-15	-22	-25	volts
Peak AF Grid-No.1-to-Grid-No.1				
Voltage.	30	44	50	volts
Zero-Signal Plate Current.	92	58	50	ma
Max.-Signal Plate Current.	105	106	107	ma
Zero-Signal Grid-No.2 Current.	7	3.5	2.5	ma
Max.-Signal Grid-No.2 Current.	16	14	13.7	ma
Effective Load Resistance (Plate				
to plate).	8000	7500	8000	ohms
Total Harmonic Distortion.	2	1.5	2	%
Max.-Signal Power Output	12.5	20	24	watts

Typical Operation with Cathode Bias:

Values are for 2 tubes

Plate Supply Voltage	300	310	volts
Grid-No.2 Supply Voltage	300	310	volts
Cathode Resistor	230	270	ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage	48	55	volts
Zero-Signal Plate Current.	80	77	ma
Max.-Signal Plate Current.	96	92	ma
Zero-Signal Grid-No.2 Current.	6	5	ma
Max.-Signal Grid-No.2 Current.	14	14	ma
Effective Load Resistance (Plate			
to plate).	5500	6000	ohms
Total Harmonic Distortion.	2	4	%
Max.-Signal Power Output	15	17	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance: [●]

For fixed-bias operation	0.5 max.	megohm
For cathode-bias operation	1 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class AB₁

*Grid No.2 of each tube connected to tap
on plate winding of output transformer*

→ Maximum Ratings, Design-Maximum Values:

PLATE AND GRID-No.2 (SCREEN-GRID)		
SUPPLY VOLTAGE	410 max.	volts

→ Indicates a change.



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BEAM POWER TUBE

GRID-No.2 INPUT.	1.75	max.	watts
PLATE DISSIPATION.	12	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200 [▲]	max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	250	max.	°C

Typical Operation:

Values are for 2 tubes

	Fixed Bias	Cathode Bias	
Plate-Supply Voltage	375	370	volts
Grid-No.2 Supply Voltage	*	#	volts
Grid-No.1 (Control-Grid) Voltage [●]	-33.5	-	volts
Cathode Resistor	-	355	ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage.	67	62	volts
Zero-Signal Cathode Current.	62	74	ma
Max.-Signal Cathode Current.	95	84	ma
Effective Load Resistance (Plate to plate).	12500	13000	ohms
Total Harmonic Distortion.	1.5	1.2	%
Max.-Signal Power Output	18.5	15	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:[●]

For fixed-bias operation	0.5 max.	megohm
For cathode-bias operation	1 max.	megohm

[○] Without external shield.[▲] The dc component must not exceed 100 volts.[●] The type of input coupling network used should not introduce too much resistance in the grid-No.1 circuit. Transformer- or impedance-coupling devices are recommended.^{*} Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center tap (B+) so as to apply 50 per cent of the plate signal voltage to grid No.2 of each output tube.[#] Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center tap (B+) so as to supply 43 per cent of the plate signal voltage to grid No.2 of each output tube.

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AVERAGE PLATE CHARACTERISTICS



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OPERATION CHARACTERISTICS PUSH-PULL CLASS AB₁ OPERATION

