

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 ± 10%	volts ←
Current at 6.3 volts	0.45	amp
Direct Interelectrode Capacitances: ⁰		
Grid No.1 to plate	0.4 max.	μmf ←
Grid No.1 to cathode & grid No.3, grid No.2, and heater	9	μmf
Plate to cathode & grid No.3, grid No.2, and heater	6	μmf

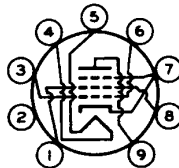
Characteristics, Class A₁ Amplifier:

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 μa = 100	-40	volts

Mechanical:

Operating Position	Any	←
Maximum Overall Length	3-1/16"	
Maximum Seated Length	2-13/16"	
Length, Base Seat to Bulb Top (Excluding tip)	2-7/16" ± 3/32"	
Maximum Diameter0.750" to 0.875"	
Dimensional Outline	See <i>General Section</i>	
BulbT6-1/2	
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.



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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

	<i>Fixed Bias</i>	<i>Cathode Bias</i>	
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.

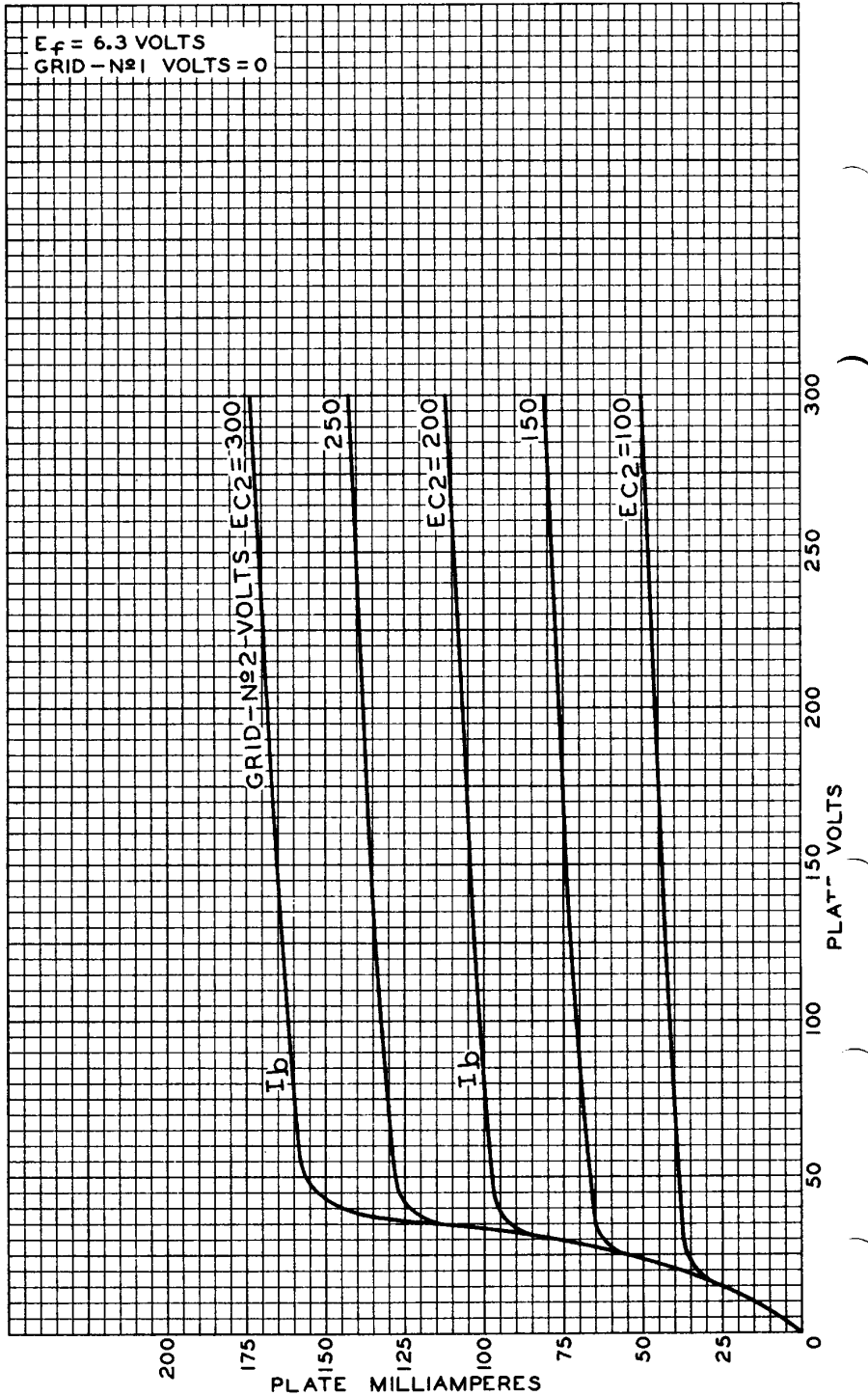
* Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center tap (B+) so as to supply 43 per cent of the plate signal voltage to grid No.2 of each output tube.

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AVERAGE PLATE CHARACTERISTICS



ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

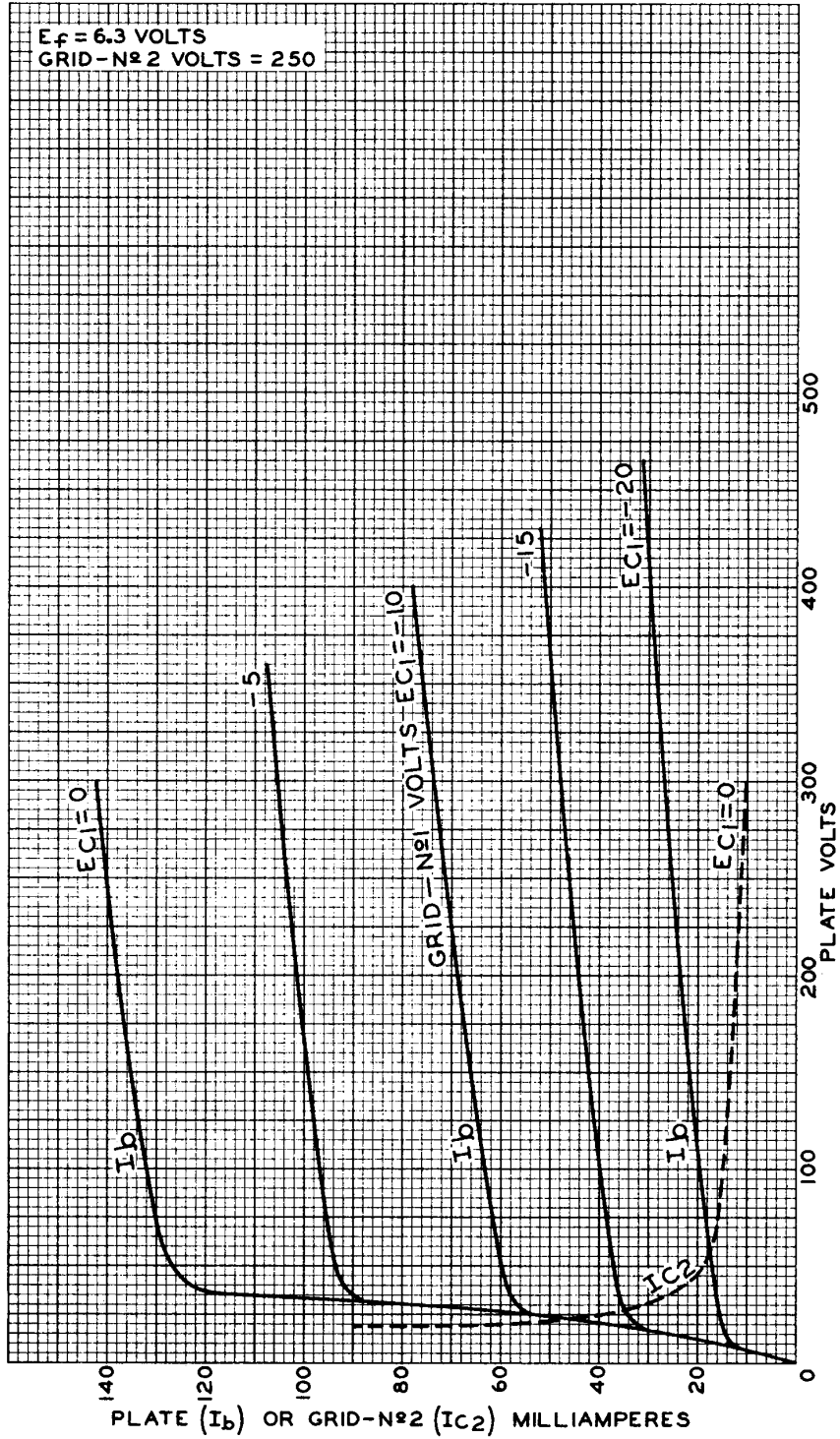
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AVERAGE CHARACTERISTICS



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OPERATION CHARACTERISTICS PUSH-PULL CLASS AB₁ OPERATION

