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# BEAM POWER TUBE

For high-fidelity audio-amplifier applications

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

Voltage . . . . .	6.3 . . . . .	ac or dc volts
Current . . . . .	0.9 . . . . .	amp

Direct Interelectrode Capacitances:<sup>o</sup>

Grid No.1 to plate. . . . .	1.5	$\mu\mu\text{f}$
Grid No.1 to cathode & grid No.3, grid No.2, and heater . . . . .	10	$\mu\mu\text{f}$
Plate to cathode & grid No.3, grid No.2, and heater. . . . .	7.5	$\mu\mu\text{f}$

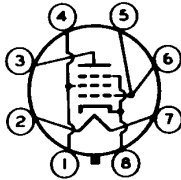
### Characteristics, Class A<sub>1</sub> Amplifier:

Plate Voltage . . . . .	250	volts
Grid-No.2 (Screen-Grid) Voltage . . . . .	250	volts
Grid-No.1 (Control-Grid) Voltage. . . . .	-14	volts
Plate Resistance (Approx.) . . . . .	22500	ohms
Transconductance. . . . .	6000	$\mu\text{mhos}$
Plate Current . . . . .	72	ma
Grid-No.2 Current . . . . .	5	ma

### Mechanical:

Operating Position. . . . .	Any
Maximum Overall Length. . . . .	4.62"
Maximum Seated Length . . . . .	4.06"
Maximum Diameter. . . . .	1.63"
Bulb. . . . .	T12
Base. . . . .	Small-Wafer Octal 8-Pin with Sleeve (JETEC No.B8-191)
Basing Designation for BOTTOM VIEW. . . . .	8HY

- Pin 1 - Grid No.2
- Pin 2 - Heater
- Pin 3 - Plate
- Pin 4 - Grid No.2
- Pin 5 - Grid No.1



- Pin 6 - Grid No.1
- Pin 7 - Heater
- Pin 8 - Cathode,  
Grid No.3

### PUSH-PULL AF POWER AMPLIFIER — Class AB<sub>1</sub>

#### Maximum Ratings, Design-Center Values:

PLATE VOLTAGE . . . . .	450 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE . . . . .	400 max.	volts
CATHODE CURRENT:		
Peak. . . . .	400 max.	ma
DC. . . . .	110 max.	ma
GRID-No.2 INPUT . . . . .	3.5 max.	watts
PLATE DISSIPATION . . . . .	25 max.	watts

<sup>o</sup>: See next page.

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<b>PEAK HEATER-CATHODE VOLTAGE:</b>				
Heater negative with respect to cathode.	200	max.	volts	
Heater positive with respect to cathode.	200 <sup>▲</sup>	max.	volts	
<b>Typical Operation with Fixed Bias:</b>				
<i>Values are for 2 tubes</i>				
Plate Voltage . . . . .	330	400	450	volts
Grid-No.2 Voltage . . . . .	330	300	350	volts
Grid-No.1 (Control-Grid) Voltage <sup>●</sup> . . . . .	-24	-25	-30	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage . . . . .	48	50	60	volts
Zero-Signal Plate Current . . .	122	102	95	ma
Max.-Signal Plate Current . . .	184	152	194	ma
Zero-Signal Grid-No.2 Current .	5.6	6	3.4	ma
Max.-Signal Grid-No.2 Current .	18.5	17	19.2	ma
Effective Load Resistance (Plate to plate) . . . . .	4500	6600	6000	ohms
Total Harmonic Distortion . . .	1	2	1.5	%
Max.-Signal Power Output . . . .	31.5	34	50	watts
<b>Typical Operation with Cathode Bias:</b>				
<i>Values are for 2 tubes</i>				
Plate-Supply Voltage . . . . .	400	380	volts	
Grid-No.2 Supply Voltage . . . .	300	380	volts	
Cathode Resistor . . . . .	200	180	ohms	
Peak AF Grid-No.1-to-Grid-No.1 Voltage . . . . .	57	68.5	volts	
Zero-Signal Plate Current . . . .	112	138	ma	
Max.-Signal Plate Current . . . .	128	170	ma	
Zero-Signal Grid-No.2 Current . .	7	5.6	ma	
Max.-Signal Grid-No.2 Current . .	16	20	ma	
Effective Load Resistance (Plate to plate) . . . . .	6600	4500	ohms	
Total Harmonic Distortion . . . .	2	3.5	%	
Max.-Signal Power Output . . . .	32	36	watts	
<b>Maximum Circuit Values:</b>				
Grid-No.1-Circuit Resistance: <sup>●</sup>				
For fixed-bias operation . . . . .	0.1	max.	megohm	
For cathode-bias operation . . . . .	0.5	max.	megohm	
<b>PUSH-PULL AF POWER AMPLIFIER — Class AB<sub>1</sub></b>				
<i>Grid No.2 of each tube connected to tap on plate winding of output transformer</i>				
<b>Maximum Ratings, Design-Center Values:</b>				
PLATE AND GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . . . . .			450	max. volts

0, ▲, ●: See next page.