

Beam Power Tube

GENERAL DATA

Electrical:

Heater Characteristics and Ratings (*Design-Center Values*):

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	1.600	amp
Peak heater-cathode voltage:		

Heater negative with respect to cathode. 300^a max. volts

Heater positive with respect to cathode. 200^b max. volts

Direct Interelectrode Capacitances (Approx.):^c

Grid No.1 to plate.	0.85	μmf
Grid No.1 to cathode & grid No.3, grid No.2, base sleeve, and heater. .	14.0	μmf
Plate to cathode & grid No.3, grid No.2, base sleeve, and heater	12.0	μmf

Characteristics, Class A₁ Amplifier:

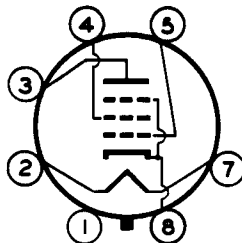
Triode Connection^d

Plate Voltage	250	450	400	volts
Grid-No.2 Voltage	250	450	225	volts
Grid-No.1 Voltage	-14	-46	-16.5	volts
Amplification Factor.	8	7.5	—	
Plate Resistance (Approx.)	12000	—	27000	ohms
Transconductance.	11000	—	9000	μmhos
Plate Current	140	150	87	ma
Grid-No.2 Current	12	—	4	ma
Grid-No.1 Voltage (Approx.) for plate ma. = 1	-40	—	-35	volts

Mechanical:

Operating Position.	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length.	4-3/4"
Maximum Seated Length	4-3/16"
Maximum Diameter.	2-1/16"
Bulb.	ST16
Base.	Large-Wafer Octal 8-Pin with Sleeve (JEDEC Group 1, No. B8-86)
Basing Designation for BOTTOM VIEW.	.7S

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



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



AF POWER AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE.	600 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE.	400 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Negative-bias value.	300 max.	volts
Positive-bias value.	0 max.	volts
CATHODE CURRENT.	175 max.	ma
GRID-No.2 INPUT.	6 max.	watts
PLATE DISSIPATION.	35 max.	watts
BULB TEMPERATURE (At hottest point on bulb surface)	250 max.	°C

Typical Operation and Characteristics:

Plate Voltage.	250	400	volts
Grid-No.2 Voltage.	250	225	volts
Grid-No.1 Voltage.	-14	-16.5	volts
Peak AF Grid-No.1 Voltage.	14	16.5	volts
Zero-Signal Plate Current.	140	87	ma
Max.-Signal Plate Current.	150	105	ma
Zero-Signal Grid-No.2 Current.	12	4	ma
Max.-Signal Grid-No.2 Current.	28	18	ma
Plate Resistance (Approx.)	12000	27000	ohms
Transconductance	11000	9000	μmhos
Load Resistance.	1500	3000	ohms
Total Harmonic Distortion.	7	13.5	%
Max.-Signal Power Output	12.5	20	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.05 max.	megohm
For cathode-bias operation	0.25 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

Same as for AF POWER AMPLIFIER — Class A₁

Typical Operation and Characteristics:

Values are for 2 tubes

	Fixed Bias		Cathode Bias	
Plate Supply Voltage	400	600	400	volts
Grid-No.2 Supply Voltage	275	300	300	volts
Grid-No.1 Voltage.	-23	-31	-	volts
Cathode Resistor	-	-	140	ohms
Peak AF Grid-No.1-to-Grid-No.1 Voltage.	46	62	53	volts
Zero-Signal Plate Current.	180	115	166	ma
Max.-Signal Plate Current.	270	273	190	ma
Zero-Signal Grid-No.2 Current.	9	4	7.5	ma
Max.-Signal Grid-No.2 Current.	44	41	39	ma
Effective Load Resistance (Plate to plate).	3500	5000	4500	ohms

Total Harmonic Distortion.	3	2.5	4	%
Max.-Signal Power Output	55	100	41	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.05 max.	megohm
For cathode-bias operation	0.25 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class A₁*Triode Connection^d***Maximum Ratings, Design-Center Values:**

PLATE VOLTAGE.	495 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE.	440 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Negative-bias value.	330 max.	volts
Positive-bias value.	0 max.	volts
CATHODE CURRENT.	192.5 max.	ma
GRID-No.2 INPUT.	6.6 max.	watts
PLATE DISSIPATION.	44 max.	watts
BULB TEMPERATURE (At hottest point on bulb surface)	250 max.	°C

Typical Operation and Characteristics:*Values are for 2 tubes*

Plate Voltage.	450	volts
Grid No.1 Voltage.	-46	volts
Peak AF Grid-No.1-to-Grid-No.1-Voltage . .	92	volts
Zero-Signal Plate Current.	150	ma
Max.-Signal Plate Current.	220	ma
Effective Load Resistance (Plate to plate)	4000	ohms
Total Harmonic Distortion.	2.5	%
Max.-Signal Power Output	28	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.05 max.	megohm
For cathode-bias operation	0.25 max.	megohm

^a The dc component must not exceed 300 volts.^b The dc component must not exceed 100 volts^c without external shield.^d Grid No.2 connected to plate.