



50B5

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# BEAM POWER AMPLIFIER

MINIATURE TYPE

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

Voltage . . . . . 50 . . . . . ac or dc volts

Current . . . . . 0.15 . . . . . amp.

Direct Interelectrode Capacitances (Approx.):<sup>o</sup>

Grid-No.1 to Plate . . . . . 0.5 . . . . .  $\mu\text{f}$

Input . . . . . 13 . . . . .  $\mu\text{f}$

Output . . . . . 6.5 . . . . .  $\mu\text{f}$

### Mechanical:

Mounting Position . . . . . Any

Maximum Overall Length . . . . . 2-5/8"

Maximum Seated Length . . . . . 2-3/8"

Length from Base Seat

to Bulb Top (excluding tip) . . . . . 2"  $\pm$  3/32"

Maximum Diameter . . . . . 3/4"

Bulb . . . . . T-5-1/2

Base . . . . . Miniature Button 7-Pin

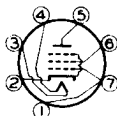
Basing Designation for BOTTOM VIEW . . . . . 7BZ

Pin 1-Grid No.1

Pin 2-Cathode,

Grid No.3

Pin 3-Heater



Pin 4-Heater

Pin 5-Plate

Pin 6-Grid No.2

Pin 7-Grid No.1

## CLASS A<sub>1</sub> AMPLIFIER

### Maximum Ratings, Design-Center Values:

PLATE VOLTAGE . . . . . 117 max. volts

GRID-No.2 (SCREEN) VOLTAGE . . . . . 117 max. volts

PLATE DISSIPATION . . . . . 5.5 max. watts

GRID-No.2 DISSIPATION . . . . . 1.25 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. . . . . 90 max. volts

Heater positive with respect to cathode. . . . . 90 max. volts

### Typical Operation and Characteristics:

Plate Voltage . . . . . 110 . . . volts

Grid-No.2 Voltage . . . . . 110 . . . volts

Grid-No.1 Voltage . . . . . -7.5 . . . volts

Peak A-F Grid-No.1 Voltage . . . . . 7.5 . . . volts

Zero-Signal Plate Current . . . . . 49 . . . ma.

Max.-Signal Plate Current . . . . . 50 . . . ma.

<sup>o</sup>with no external shield.

50B5



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Zéro-Signal Grid-No.2 Current (Approx.) . . . . .	4	. . . . .	ma.
Max.-Signal Grid-No.2 Current (Approx.) . . . . .	8.5	. . . . .	ma.
Plate Resistance (Approx.) . . . . .	14000	. . . . .	ohms
Transconductance . . . . .	7500	. . . . .	μmhos
Load Resistance . . . . .	2500	. . . . .	ohms
Total Harmonic Distortion . . . . .	9	. . . . .	%
Max.-Sig. Power Output . . . . .	1.9	. . . . .	watts

### Maximum Circuit Values (for maximum rated conditions):

Grid-No.1-Circuit Res. . . . .	{	fixed bias . . . . .	0.1	. . . . .	megohm
		cathode bias . . . . .	0.5	. . . . .	megohm

JAN. 2, 1946

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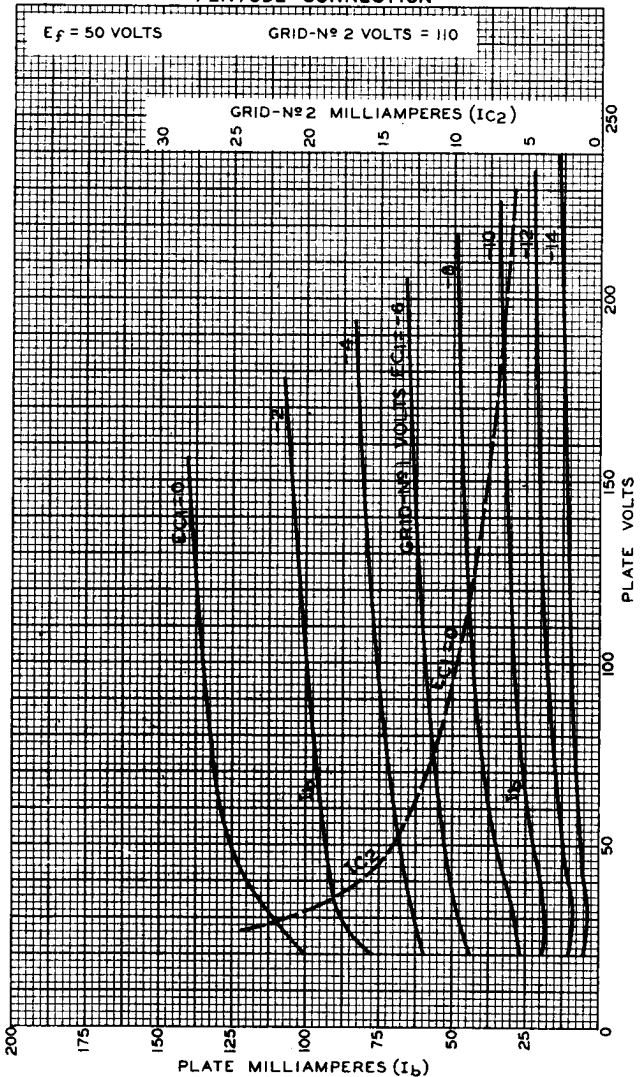
TENTATIVE DATA



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# AVERAGE PLATE CHARACTERISTICS PENTODE CONNECTION



OCT. 8, 1945

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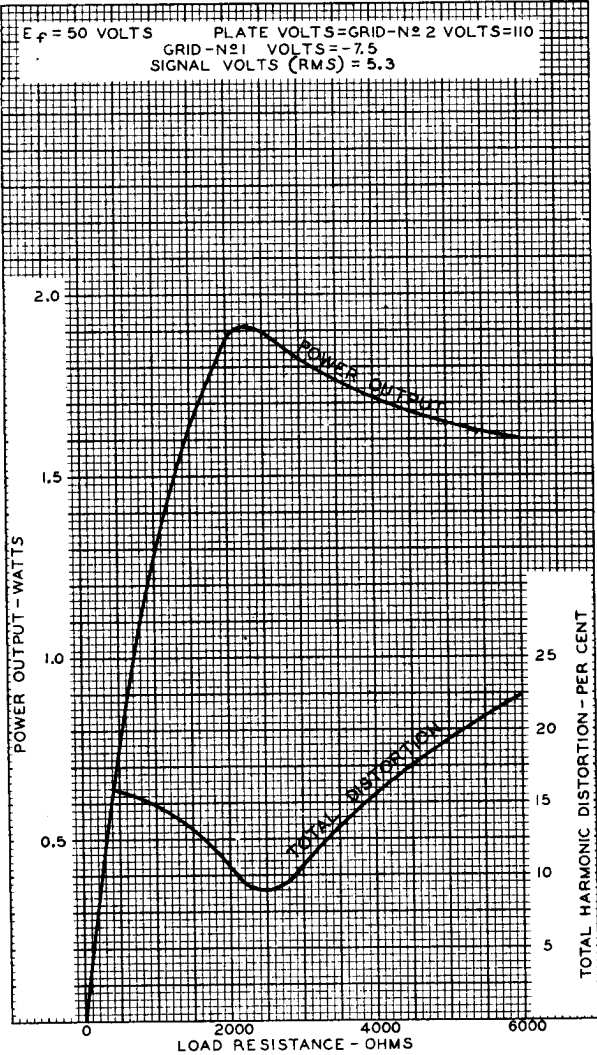
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# OPERATION CHARACTERISTICS PENTODE CONNECTION

$E_f = 50$  VOLTS      PLATE VOLTS = GRID- $\#2$  VOLTS = 110  
GRID- $\#1$  VOLTS = -7.5  
SIGNAL VOLTS (RMS) = 5.3



OCT. 24, 1945

RCA VICTOR DIVISION  
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