



12AQ5

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BEAM POWER AMPLIFIER

MINIATURE TYPE

GENERAL DATA**Electrical:**

Heater, for Unipotential Cathode:

Voltage	12.6	ac or dc volts
Current	0.225	amp

Direct Interelectrode Capacitances

(Approx., without external shield):

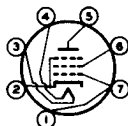
Grid No.1 to Plate . .	0.35	μf
Input	8.3	μf
Output	8.2	μf

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding Tip) . .	2" $\pm$ 3/32"
Maximum Diameter	3/4"
Bulb	T-5-1/2
Base	Small-Button Miniature 7-Pin (JETEC No.E7-1)

BOTTOM VIEW

Pin 1-Grid No.1
Pin 2-Grid No.3,
Cathode
Pin 3-Heater



Pin 4-Heater
Pin 5-Plate
Pin 6-Grid No.2
Pin 7-Grid No.1

AF POWER AMPLIFIER - Class A₁**Maximum Ratings, Design-Center Values:**

PLATE VOLTAGE	250 max.	volts
GRID-No.2 (SCREEN) VOLTAGE	250 max.	volts
PLATE DISSIPATION	12 max.	watts
GRID-No.2 INPUT	2 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode .	90 max.	volts
Heater positive with respect to cathode .	90 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)*	250 max.	$^{\circ}\text{C}$

Typical Operation and Characteristics:

Plate Voltage	180	250	volts
Grid-No.2 Voltage	180	250	volts
Grid-No.1 (Control- Grid) Voltage	-8.5	-12.5	volts
Peak AF Grid-No.1 Voltage	8.5	12.5	volts
Zero-Signal Plate Current	29	45	ma
Max.-Signal Plate Current	30	47	ma

* See next page.

AUG.1, 1953

TUBE DEPARTMENT

TENTATIVE DATA 1

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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BEAM POWER AMPLIFIER

Zero-Signal Grid-No.2			
Current (Approx.)	3	4.5	ma
Max.-Signal Grid-No.2			
Current (Approx.)	4	7	ma
Plate Resistance (Approx.) . . .	58000	52000	ohms
Transconductance	3700	4100	μ hos
Load Resistance	5500	5000	ohms
Total Harmonic Distortion	8	8	per cent
Max.-Signal Power Output	2.0	4.5	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed bias	0.1 max.	megohm
For cathode bias	0.5 max.	megohm

AF POWER AMPLIFIER - Class AB₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE	250 max.	volts
GRID-No.2 (SCREEN) VOLTAGE	250 max.	volts
PLATE DISSIPATION	12 max.	watts
GRID-No.2 INPUT	2 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode .	90 max.	volts
Heater positive with respect to cathode .	90 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)*	250 max.	°C

Typical Operation:

Unless otherwise indicated, values are for 2 tubes

Plate Voltage	250	volts
Grid-No.2 Voltage	250	volts
Grid-No.1 (Control-Grid) Voltage#	-15	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage . .	30	volts
Zero-Signal Plate Current	70	ma
Max.-Signal Plate Current	79	ma
Zero-Signal Grid-No.2 Current (Approx.) . .	5	ma
Max.-Signal Grid-No.2 Current (Approx.) . .	13	ma
Plate Resistance (Approx. per tube)	60000	ohms
Transconductance (Per tube)	3750	μ hos
Effective Load Resistance (Plate to plate) .	10000	ohms
Total Harmonic Distortion	5	per cent
Max.-Signal Power Output	10	watts

- * High ambient temperature and shielding may necessitate a reduction in operating dissipation. When tube shields are used, it is advisable to paint the inside and outside surfaces of the tube shield a dull black and to provide ventilation slots to reduce operating temperature.

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Maximum Circuit Values Per Tube:▲

Grid-No.1-Circuit Resistance:§

For fixed bias	0.1 max.	megohm
For cathode bias	0.5 max.	megohm

§ The type of input coupling used should not introduce too much resistance in the grid-No.1 circuit. Transformer- or impedance-coupling devices are recommended.

▲ If the grid-No.1-circuit resistance is common to two tubes, the indicated maximum values per tube should be halved.

Curves shown under Type 6V6 also apply to 12AQ5