



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)

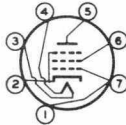
BOTTOM VIEW

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. °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 mhos
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 mhos
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.

‡: 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

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

MAY 3, 1954

TUBE DIVISION

TENTATIVE DATA 2

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY