6W6-GT

BEAM POWER AMPLIFIER

GENERAL DATA

Electrical:
Heater, for Unipotential Cathode:
Voltage 6.3 ac or dc volts
Current 1.2 amp
Direct Interelectrode Capacitances (Approx.):
Grid No.1 to Plate 0.5 max. μμf
Input 15 μμf
Output 9 μμf

Characteristics as Beam Power Amplifier:
See AMPLIFIER—Class A1 below:

Characteristics as Triode-Connected Amplifier:
(Grid No.2 connected to plate)
Plate Voltage 225 volts
Grid-No.1 Voltage -30 volts
Amplification Factor 6.2
Plate Resistance 1600 ohms
Transconductance 3800 μμhos
Plate Current 22 ma
Grid-No.1 Voltage (Approx.) for plate current of 0.5 ma -42 volts

Mechanical:
Mounting Position Any
Maximum Overall Length 3-5/16"
Maximum Seated Length 2-3/4"
Maximum Diameter 1-9/32"
Bulb T-9
Base, Intermediate-Socket Octal 6-Pin or Intermediate-Socket Octal 7-Pin or Short Intermediate-Socket Octal 6-Pin with External Barriers or Short Intermediate-Socket Octal 7-Pin with External Barriers

Basing Designation for BOTTOM VIEW G-7AC

Pin 1—No Connection
Pin 2—Heater
Pin 3—Plate
Pin 4—Grid No.2
Pin 5—Grid No.1
Pin 7—Heater
Pin 8—Cathode, Grid No.3

AMPLIFIER—Class A1

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE 300 max. volts
GRID-No.2 (SCREEN) VOLTAGE 150 max. volts
PLATE DISSIPATION 10 max. watts
GRID-No.2 INPUT 1.25 max. watts

<- Indicates a change.

TENTATIVE DATA

OCT. 1, 1953

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
PEAK HEATER–CATHODE VOLTAGE:
- Heater negative with respect to cathode: 200 max. volts
- Heater positive with respect to cathode: 200 max. volts

Typical Operation and Characteristics:
- Plate Supply Voltage: 110 200 volts
- Grid-No.2 Voltage: 110 125 volts
- Grid-No.1 (Control-Grid) Voltage: -7.5 - volts
- Cathode-Bias Resistor: - 180 ohms
- Peak AF Grid-No.1 Voltage: 7.5 8.5 volts
- Zero-Signal Plate Current: 49 46 ma
- Max.-Signal Plate Current: 50 47 ma
- Zero-Signal Grid-No.2 Current: 4 2.2 ma
- Max.-Signal Grid-No.2 Current: 10 8.5 m
- Plate Resistance (Approx.): 13000 28000 ohms
- Transconductance: 8000 8000 μhos
- Load Resistance: 2000 4000 ohms
- Total Harmonic Distortion (Approx.): 10 10 %
- Max.-Signal Power Output: 2.1 3.8 watts

Maximum Circuit Values:
- Grid-No.1–Circuit Resistance:
  - For fixed-bias operation: 0.1 max. megohm
  - For cathode–bias operation: 0.5 max. megohm

VERTICAL DEFLECTION AMPLIFIER

Triode Connected—Grid No.2 Connected to Plate

Maximum Ratings, Design–Center Values Except As Noted:
For operation in a 525-line, 30-frame system:
- DC PLATE VOLTAGE: 300 max. volts
- PEAK POSITIVE–PULSE PLATE VOLTAGE: 1200 max. volts
- PEAK NEGATIVE–PULSE GRID–No.1 (CONTROL-GRID) VOLTAGE: -250 max. volts

CATHODE CURRENT:
- Peak: 140 max. ma
- DC: 40 max. ma

PLATE DISSIPATION: 7.5 max. watts

PEAK HEATER–CATHODE VOLTAGE:
- Heater negative with respect to cathode: 200 max. volts
- Heater positive with respect to cathode: 200 max. volts

Maximum Circuit Values:
- Grid-No.1–Circuit Resistance:
  - For cathode–bias operation: 2.2 max. megohms

\[\text{The dc component must not exceed 100 volts.}\]
\[\text{As described in "Standards of Good Engineering Practice for Television Broadcast Stations", Federal Communications Commission.}\]
\[\text{The duration of the voltage pulse must not exceed 15 per cent of one scanning cycle, in a 525-line, 30-frame system, 15 per cent of one scanning cycle is 2.5 milliseconds.}\]
\[\text{Under no circumstances should this absolute value be exceeded.}\]
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AVERAGE PLATE CHARACTERISTICS
PENTODE CONNECTION

$E_F = 6.3$ VOLTS
GRID-N$\#2$ VOLTS = 125

MAR. 20, 1953

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
6W6-GT
AVERAGE PLATE CHARACTERISTICS
TRIODE CONNECTION

$E_p = 6.3$ VOLTS
GRID-N°2 CONNECTED TO PLATE

MAR. II, 1953
TUBE DEPARTMENT
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