**RATINGS (Design Maximum Rating System)**
**Rectifier Service**

| | |
|---|---|
| Peak Inverse Plate Voltage (Max.) | 330 Volts |
| Steady State Peak Plate Current (Max.) | 720 Ma |
| DC Output Current | |
| Without Panel Lamp (Max.) | 120 Ma |
| With Panel Lamp and Shunting Resistor (Max.) | 110 Ma |
| Without Panel Lamp and No Shunting Resistor (Max.) | 70 Ma |
| Heater-Tap Voltage When Panel Lamp Fails, RMS (Max.) | 16.5 Volts |

**CHARACTERISTICS AND TYPICAL OPERATION**
**Half-Wave Rectifier with Panel Lamp Number 40 or Number 47**

| | | | | |
|---|---|---|---|---|
| Heater Voltage (Pin 3 to Pin 4) | 45 | 45 | 45 | 45 Volts |
| Heater-Tap Voltage (Pin 4 to Pin 6) | 5.5 | 5.5 | 5.5 | 5.5 Volts |
| Heater Current (Between Pins 3 and 6) | 150 | 150 | 150 | 150 Ma |
| AC Plate-Supply Voltage, RMS | 117 | 117 | 117 | 117 Volts |
| Filter Input Capacitor | 40 | 40 | 40 | 40 μf |
| Total Effective Plate-Supply Impedance | 15 | 15 | 15 | 15 Ohms |
| Panel-Lamp Shunting Resistor | 450 | 200 | 100 | 75 Ohms |
| DC Output Current | 70 | 80 | 90 | 100 Ma |

**Half-Wave Rectifier without Panel Lamp**

| | |
|---|---|
| Heater Voltage (Pin 3 to Pin 4) | 50 Volts |
| Heater-Tap Voltage (Pin 4 to Pin 6) | 7.5 Volts |
| Heater Current (Between Pins 3 and 4) | 150 Ma |
| AC Plate Supply Voltage, RMS | 117 Volts |
| Filter Input Capacitor | 40 μf |
| Total Effective Plate Supply Impedance | 15 Ohms |
| DC Output Current | 110 Ma |
| DC Output Voltage at Filter Input (Approx.) | |
| For DC Output Current of 55 Ma | 130 Volts |
| For DC Output Current of 110 Ma | 110 Volts |

**Tube Voltage Drop**

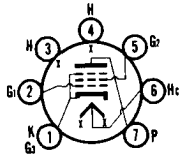
| | |
|---|---|
| For Ib = 240 Ma DC | 21 Volts |

# 50HC6

# AUDIO POWER AMPLIFIER

## Beam Power Pentode

| | |
|---|---|
| Construction | Miniature T-5½ |
| Base | Button 7 Pin, E7-1 |
| Basing | 7FZ |
| Outline | 5-3 |
| Maximum Diameter | 0.750 In. |
| Maximum Seated Height | 2.375 In. |
| Maximum Overall Height | 2.625 In. |



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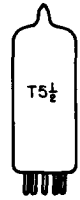



## ELECTRICAL DATA
### HEATER OPERATION

| | |
|---|---|
| Heater Voltage | 50 Volts |
| Heater Current | 150 Ma |
| Heater Tap Voltage | 7.0 Volts |
| Maximum Heater-Cathode Voltage | |
| Heater Negative with Respect to Cathode | |
| Total DC and Peak | 200 Volts |
| Heater Positive with Respect to Cathode | |
| DC | 100 Volts |
| Total DC and Peak | 200 Volts |

**DIRECT INTERELECTRODE CAPACITANCES (Unshielded)**

| | |
|---|---|
| Grid No. 1 to Plate | 0.5 Pf |
| Input: g1 to (h + k + g2 + g3) | 17 Pf |
| Output: p to (h + k + g2 + g3) | 9.0 Pf |

**RATINGS (Design Maximum Rating System)**

| | |
|---|---|
| Heater-Tap Voltage when Panel Lamp Fails, RMS (Max.) | 14 Volts |
| Plate Voltage (Max.) | 150 Volts |
| Screen Voltage (Max.) | 130 Volts |
| Plate Dissipation (Max.) | 5.5 Watts |
| Screen Dissipation (Max.) | 2.0 Watts |

**CHARACTERISTICS AND TYPICAL OPERATION**
**Class A1 Amplifier**

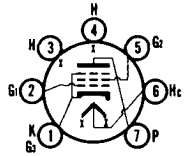
| | |
|---|---|
| Plate Voltage | 110 Volts |
| Screen Voltage | 115 Volts |
| Cathode-Bias Resistor | 62 Ohms |
| Peak AF Grid No. 1 Voltage | 3.0 Volts |
| Plate Resistance (Approx) | 11,000 Ohms |
| Transconductance | 14,600 μmhos |
| Zero-Signal Plate Current | 42 Ma |
| Maximum-Signal Plate Current | 42 Ma |
| Zero-Signal Screen Current | 11.5 Ma |
| Maximum-Signal Screen Current | 14.5 Ma |
| Load Resistance | 3000 Ohms |
| Total Harmonic Distortion (Approx.) | 7 Percent |
| Maximum-Signal Power Output | 1.4 Watts |

## AUDIO POWER AMPLIFIER

# 50HK6

**Beam Power Pentode**

| | |
|---|---|
| Construction | Miniature T-5½ |
| Base | Button 7 Pin, E7-1 |
| Basing | 7FZ |
| Outline | 5-3 |
| Maximum Diameter | 0.750 In. |
| Maximum Seated Height | 2.375 In. |
| Maximum Overall Height | 2.625 In. |



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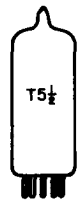


**ELECTRICAL DATA**
**HEATER OPERATION**

| | |
|---|---|
| Heater Voltage | 50 Volts |
| Heater Current | 150 Ma |
| Heater Tap Voltage (Without Panel Lamp) | 7 Volts |
| Maximum Heater-Cathode Voltage | |
| Heater Negative with Respect to Cathode | |
| Total DC and Peak | 200 Volts |
| Heater Positive with Respect to Cathode | |
| DC | 100 Volts |
| Total DC and Peak | 200 Volts |

**DIRECT INTERELECTRODE CAPACITANCES (Unshielded)**

| | |
|---|---|
| Grid No. 1 to Plate | 0.5 Pf |
| Input | 14.0 Pf |
| Output | 9.0 Pf |

**RATINGS (Design Maximum Rating System)**

| | |
|---|---|
| Heater Tap Voltage When Panel Lamp Fails, RMS (Max.) | 14 Volts |
| Plate Voltage (Max.) | 150 Volts |
| Screen Voltage (Max.) | 130 Volts |
| Plate Dissipation (Max.) | 5.5 Watts |
| Screen Dissipation (Max.) | 1.1 Watts |
| Grid No. 1 Circuit Resistance | |
| Fixed Bias (Max.) | 0.1 Megohm |
| Cathode Bias (Max.) | 0.5 Megohm |

**CHARACTERISTICS AND TYPICAL OPERATION**
**Class A1 Amplifier**

| | |
|---|---|
| Plate Voltage | 110 Volts |
| Screen Voltage | 110 Volts |
| Grid No. 1 Voltage | −7.5 Volts |
| Peak AF Grid No. 1 Voltage | 7.5 Volts |
| Plate Resistance (Approx.) | 10,000 Ohms |
| Transconductance | 7500 μmhos |
| Zero-Signal Plate Current | 49 Ma |
| Maximum-Signal Plate Current | 50 Ma |
| Zero-Signal Screen Current | 4.0 Ma |
| Maximum-Signal Screen Current | 8.5 Ma |
| Load Resistance | 2500 Ohms |
| Total Harmonic Distortion (Approx.) | 9 Percent |
| Maximum-Signal Power Output | 1.9 Watts |