RADIOTRON

6V6-GT

BEAM POWER AMPLIFIER

Heater

Coated Unipotential Cathode

Voltage 6.3 a-c or d-c volts
Current 0.45 amp.

Direct Interelectrode Capacitances (Approx.):

- Grid to Plate 0.7 μF.
- Input 9.5 μF.
- Output 7.5 μF.

Maximum Overall Length 3-5/16" 
Maximum Seated Height 2-3/4" 
Maximum Diameter 1-5/16" 

Bulb T-9

Base Intermediate Shell Octal 7-Pin.

Pin 1-No Connection Pin 5-Grid
Pin 2-Heater Pin 7-Heater
Pin 3-Plate Pin 8-Cathode
Pin 4-Screen Any

Mounting Position

BOTTOM VIEW (G-7AC)

Maximum Ratings are Design-Centre Values.

SINGLE VALVE AMPLIFIER - Class A1

Plate Voltage 315 max. volts
Screen Voltage 285 max. volts
Plate Dissipation 12 max. watts
Screen Dissipation 2 max. watts

Typical Operation:

| Plate Voltage | 180 | 250 | 250 | 315 | volts |
| Screen Voltage | 180 | 100 | 250 | 225 | volts |
| Grid Voltage | -6.5 | -5 | -12.5 | -13 | volts |
| Cath. Bias Res. | 250 | 250 | 232 | 317 | ohms |
| Peak A-F Grid Volts | 6.5 | 5 | 12.5 | 13 | volts |
| Zero-Sig. Plate Cur. | 29 | 17.5 | 45 | 34 | mA. |
| Max.-Sig. Plate Cur. | 30 | 18.4 | 47 | 35 | mA. |
| Zero-Sig. Scrn.Cur. | 3 | 0.7 | 4.5 | 2.2 | mA. |
| Max.-Sig. Scrn. Cur. | 4 | 1.3 | 7 | 6 | mA. |

Plate Resistance .058 .094 .052 .077 meg.
Transconductance 3,700 3,440 4,100 3,750 μmhos.
Load Resistance 5,500 14,000 5,000 8,500 ohms
Total Harm. Dist. 8 5 8 12 %
Max.-Sig. Pwr. Output 2 1.5 4.5 5.5 watts

AMPLIFIER - Class A1 (Triode Connection)

Plate Voltage 300 max. volts
Plate & Screen Dissipation (Total) 12.5 max. watts

Typical Operation:

| Plate Voltage | 250 | 300 | volts |
| Grid Voltage | -15 | -20 | volts |
| Cathode Bias Res. | 400 | 513 | ohms |
| Zero-Sig. Plate Cur. | 37.5 | 39 | mA. |
| Amplification Factor | 9.8 | 9.8 |
| Plate Resistance | 2,400 | 2,400 | ohms |
| Transconductance | 4,000 | 4,000 | μmhos. |
| Load Resistance | 3,500 | 4,800 | ohms |
| Second Harm. Dist. | 5 | 5 | % |
| Max.-Sig. Pwr. Output | 1.0 | 1.65 | watts |

PUSH-PULL AMPLIFIER - Class AB1

Values are for two valves

| Plate Voltage | 250 | 285 | 315 | volts |

AMALGAMATED WIRELESS VALVE CO. PTY. LTD.

DECEMBER, 1944

SYDNEY, AUSTRALIA
**RADIOTRON**

**6V6-GT**

**BEAM POWER AMPLIFIER**

<table>
<thead>
<tr>
<th>Screen Voltage</th>
<th>250</th>
<th>285</th>
<th>250*</th>
<th>volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid Voltage A</td>
<td>-15</td>
<td>-19</td>
<td>-15.6*</td>
<td>volts</td>
</tr>
<tr>
<td>Peak A-F Volts (G-G)</td>
<td>30</td>
<td>38</td>
<td>50</td>
<td>volts</td>
</tr>
<tr>
<td>Zero-Sig. Plate Cur.</td>
<td>70</td>
<td>80</td>
<td>76.5</td>
<td>mA</td>
</tr>
<tr>
<td>Max.-Sig. Plate Cur.</td>
<td>79</td>
<td>92</td>
<td>70</td>
<td>mA</td>
</tr>
<tr>
<td>Zero-Sig. Screen Cur.</td>
<td>5</td>
<td>4</td>
<td>4.9</td>
<td>mA</td>
</tr>
<tr>
<td>Max.-Sig. Screen Cur.</td>
<td>13</td>
<td>13.5</td>
<td>10.5</td>
<td>mA</td>
</tr>
<tr>
<td>Eff. Load Res. (P-P)</td>
<td>10,000</td>
<td>8,000</td>
<td>12,000</td>
<td>ohms</td>
</tr>
<tr>
<td>Total Harm. Distortion</td>
<td>5</td>
<td>3.5</td>
<td>-</td>
<td>%</td>
</tr>
<tr>
<td>Max.-Sig. Pwr. Output</td>
<td>10</td>
<td>14</td>
<td>13</td>
<td>watts</td>
</tr>
</tbody>
</table>

**PUSH-PULL AMPLIFIER (Triode Connection)**

Plate Voltage: 300 max. volts
Plate & Screen Dissipation (Total): 12.5 max. watts

Typical Operation:

<table>
<thead>
<tr>
<th>Plate Voltage</th>
<th>Class A1</th>
<th>300</th>
<th>volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid Voltage A</td>
<td>-20</td>
<td>-25</td>
<td>volts</td>
</tr>
<tr>
<td>Cathode Bias Resistor</td>
<td>25@</td>
<td>-</td>
<td>ohms</td>
</tr>
<tr>
<td>Peak A-F Volts (G-G)</td>
<td>40</td>
<td>50</td>
<td>volts</td>
</tr>
<tr>
<td>Zero-Sig. Plate Cur.</td>
<td>78</td>
<td>82</td>
<td>mA</td>
</tr>
<tr>
<td>Eff. Load Res. (P-P)</td>
<td>9,800</td>
<td>6,000</td>
<td>ohms</td>
</tr>
<tr>
<td>Max.-Sig. Power Output</td>
<td>3.3</td>
<td>4.75</td>
<td>watts</td>
</tr>
</tbody>
</table>

- The heater should be operated at 6.5 volts. Under maximum dissipation conditions, the heater voltage should never fluctuate so that it exceeds 7.0 volts. The potential difference between heater and cathode should be kept as low as possible.

- The type of input coupling used should not introduce too much resistance in the grid circuit. Transformer or impedance coupling devices are recommended. When the grid circuit has a resistance not higher than 0.1 megohm, fixed bias may be used; for higher values, cathode bias is required. With cathode bias, the grid circuit may have a resistance not to exceed 0.5 megohm, provided the heater voltage is not allowed to rise more than 10% above the rated value under any condition of operation.

- The requisite negative bias may be obtained from an external source or, alternatively, may be derived from a cathode bias resistor of the stated value. For this particular service the type of bias has only a small effect on the operation.

- Screen connected to plate at the socket.

- Conditions as used in Radiotron circuit A504. The two screens are fed through a common 3,000 ohm resistor from the plate supply voltage; a bleed resistor of 15,000 ohms is connected between the screens and the cathodes, the common cathode bias resistor being 150 ohms. Both screens and cathodes must be suitably bypassed.

* Nominal value; subject to variations from valve to valve.

<--- Indicates a change.
RADIotron
6V6-G (T)
AVERAGE PLATE CHARACTERISTICS

$E_F = 6.3\, \text{V.}$
SCREEN VOLTS = 285

PLATE $[I_p]$ OR SCREEN $[I_{c2}]$ MILLIAMPERES
AMALGAMATED WIRELESS VALVE CO. PTY. LTD.
AUGUST 1941
SYDNEY, AUSTRALIA
RADIOTRON
6V6-G (T)

AVERAGE PLATE CHARACTERISTICS
WITH EC1 AS VARIABLE

E_f = 6.3 VOLTS  SCREEN VOLTS = 250

LOAD LINE CORRECTED TO COMPENSATE
FOR EFFECTS OF RECTIFICATION
WITH LARGE SIGNALS
$E_f = 6.3 \text{ V.}$
SCREEN VOLTS = 225 V.
RADIOTRON
6V6-G(T)
AVERAGE PLATE CHARACTERISTICS
with E_C1 as variable

RADIOTRON 6V6-G
E_C1 = 100 V
E_F = 6-3 V

PLATE MILLIAMPERES

VOLTAGE

PLATE
6V6-G Data Sheet 4. Issued May, 1940.

RADIOTRON
6V6-G
TRIODE MUTUAL CHARACTERISTICS

$E_f = 0.3$ VOLTS
SCREEN TIED TO PLATE

AMALGAMATED WIRELESS VALVE CO. Pty. Ltd.
AUGUST 1941
SYDNEY, AUSTRALIA