GENERAL DESCRIPTION

Application: The Ken-Rad 1B7G is a filament type pentagrid converter tube, especially designed for service in low drain battery operated receivers. The 1B7G is a glass tube equipped with an octal base.

Physical Characteristics:

Bottom View

RATING AND CHARACTERISTICS

<table>
<thead>
<tr>
<th>Filament Voltage</th>
<th>1.4 Volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>.100 Ampere</td>
</tr>
</tbody>
</table>

CONVERTER OPERATION

- Plate Voltage: 90 Volts
- Screen Grid Voltage (Grids No. 3 and 5): 45 Volts
- Anode Grid Voltage (Grid No. 2): 90 Volts
- Control Grid Voltage (Grid No. 4): 0 Volts
- Oscillator Grid Resistor (Grid No. 1): 200,000 Ohms
- Plate Current: 1.5 Milliamperes
- Screen Current: 1.5 Milliamperes
- Oscillator Grid Current: 35 Microamperes
- Anode Grid Current: 1.6 Milliamperes
- Plate Resistance: .350 Megohms
- Conversion Conductance: 350 Microhms
- Conversion Conductance at -14.5 Volts: 2 Microhms Approx.
- Oscillator Em at Ec1 = 0: 900 Microhms

Direct Interelectrode Capacitances: (With tube shield connected to negative filament)

- Signal Grid to Mixer Plate (G4-P): .54 μF
- Signal Grid to Oscillator Plate (G4-G2): .36 μF
- Signal Grid to Oscillator Grid (G4-G1): .18 μF
- Oscillator Grid to Oscillator Plate (G1-G2): .90 μF
- Signal Input: G4 to (F+G1+G2+G5+Shield): 7.0 μF
- Oscillator Output: G5 to (F+G2+G4+G5+Shield): 4.2 μF
- Oscillator Input: G1 to (F+G1+G4+G5+Shield): 4.0 μF
- Mixer Output: P to (F+G1+G2+G5+Shield): 7.5 μF

from RMA release #169, March 28, 1939
CONVERSION CONDUCTANCE VS GRID NO. 4 VOLTAGE

E_f = 1.4 Volts
E_b = 90 Volts
E_{C_1-C_4} = 45 Volts
E_{C_2} = 90 Volts
I_{G_1} = 25 Microamperes
R_{G_1} = 200,000 Ohms

CONVERSION CONDUCTANCE VS OSCILLATOR GRID CURRENT

E_f = 1.4 Volts
E_b = 90 Volts
E_{C_1-C_4} = 45 Volts
E_{C_2} = 90 Volts
E_{C_4} = 0 Volts
R_{G_1} = 200,000 Ohms