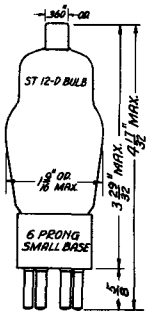
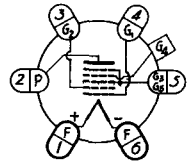
HEPTODE
PENTAGRID CONVERTER
Filament Type Glass Bulb




The 1A6 is a pentagrid type converter tube designed for service as a combined mixer and oscillator in battery operated superheterodyne receivers. The ratings and electrical characteristics are identical with those of the type 1D7G.



BOTTOM VIEW OF SOCKET

RATINGS

| | | |
|---|---|---|
| Filament Voltage | 2.0 d-c | volts |
| Filament Current | 0.060 | amp |
| Maximum Plate Voltage | 180 | volts |
| Maximum Screen Voltage | 67.5 | volts |
| Maximum Grid #2 Voltage | 135 | volts |
| Maximum Grid #2 Supply | 180† | volts |
| Minimum Grid #4 Bias | -3 | volts |
| Maximum Cathode Current | 9 | ma |

DIRECT INTERELECTRODE CAPACITANCES (approximate)

| | | |
|---|---|---|
| Grid #4 to Plate | 0.25* | µµf |
| Grid #4 to Grid #2 | 0.2 * | µµf |
| Grid #4 to Grid #1 | 0.1 * | µµf |
| Grid #1 to Grid #2 | 0.8 | µµf |
| Grid #4 to all other Elements (r-f input) | 10.5 | µµf |
| Grid #1 to all other Elements (osc. input) | 5 | µµf |
| Grid #2 to all other Elements (osc. output) | 6 | µµf |
| Plate to all other Elements (mixer output) | 9 | µµf |

FREQUENCY CONVERTER - SUPERHETERODYNE CIRCUIT

| | | | |
|---|---|---|---|
| Plate Voltage | 135 | 180 | volts |
| Screen (Grids #3 and #5) Voltage | 67.5 | 67.5 | volts |
| Anode Grid (#2) Voltage | 135 | 135 | volts |
| Anode Grid Supply Voltage | | 180 † | volts |
| Control Grid (#4) Bias | -3 | -3 | volts |
| Oscillator Grid (#1) Resistor | 50000 | 50000 | ohms |
| Plate Resistance | 0.4 | 0.5 | megohm |
| Conversion Transconductance | 275 | 300 | µmhos |
| Plate Current | 1.2 | 1.3 | ma |
| Screen Current | 2.5 | 2.4 | ma |
| Anode Grid Current | 2.3 | 2.3 | ma |
| Oscillator Grid Current | 0.2 | 0.2 | ma |
| Total Cathode Current | 6.2 | 6.2 | ma |
| Control Grid Bias | -22.5 | -22.5 | volts |
| (For Conversion Transconductance = 4 µmhos) | | | |

With plate voltage = 135 to 180 volts, screen voltage = 67.5 volts, anode grid voltage = 135 volts (no series resistor), control grid bias = -3 volts and oscillator grid voltage = 0 volts, the transconductance of the oscillator section (not oscillating) is 425 µmhos and the anode grid current is 2.3 ma.

†Applied through a 20000 ohm series resistor, by-passed by a 0.1 µf. condenser.
*With tube shield.

