PENTAGRID CONVERTER

Filament Coated Voltage 2.0 d-c volts
Current 0.12 amp.

Direct Inter-electrode Capacitances:
- Grid #4 to Plate 0.30 μf
- Grid #4 to Grid #2 0.30 μf
- Grid #1 to Grid #1 0.15 μf
- Grid #1 to Grid #2 1.5 μf
- Grid #2 to All Other Electrodes (R-F Input) 10 μf
- Grid #2 to All Other Electrodes (Osc. Output) 4 μf
- Grid #1 to All Other Electrodes (Mixer Output) 6 μf

Overall Length 4-9/32" to 4-17/32"
Maximum Diameter 1-9/16"
Bulb ST-12
Cap Small Metal
Base Small 6-Pin
Mounting Position BOTTOM VIEW (6L) Vertical

CONVERTER SERVICE

Plate Voltage 180 max. volts
Screen (Grids #3 & #5) Voltage 67.5 max. volts
Screen Supply Voltage 180 max. volts
Anode-Grid (Grid #2) Voltage 135 max. volts
Anode-Grid Supply Voltage 180 max. volts
Control-Grid (Grid #4) Voltage 0 min. volts
Plate Dissipation 0.3 max. watt
Screen Dissipation 0.2 max. watt
Anode-Gird Dissipation 0.4 max. watt
Total Cathode Current 9 max. ma.

Typical Operation:
- Filament 2.0 2.0 d-c volts
- Plate 135 180 volts
- Screen 67.5 67.5 volts
- Anode-Grid Supply 135 180 volts
- Control Grid -3 -3 volts
- Osc.-Grid (Grid #1) Resistor 50000 50000 ohms
- Plate Res. (approx.) 0.6 0.7 megohm
- Conversion Transcond. (approx.) 300 325 μhos
- Grid #4 bias of -14 volts 4 4 μhos
- Plate Cur. 1.3 1.5 ma.
- Screen Cur. 2.5 2.0 ma.
- Anode-Grid Cur. 3.1 4.0 ma.
- Oscillator-Grid Cur. 0.2 0.2 ma.
- Total Cathode Cur. 7.1 7.7 ma.

NOTE: The transconductance of the oscillator portion (not oscillating) is 1050 micromhos under the following conditions: plate volts, 180; screen volts, 67.5; anode-grid volts, 135; and oscillator-grid volts, 0.

* With shield-can connected to negative filament terminal.
Ω Horizontal operation permitted if pins 1 and 6 are in vertical plane.
▲ Applied through properly by-passed 20000-ohm voltage-dropping resistor.

A Typical Pentagrid Converter Circuit is shown under Type 146.

FEB. 2, 1940

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.
OPERATION CHARACTERISTICS

$E_f = 2.0$ VOLTS D.C.
SCREEN (GRIDS N=3 & N=5) VOLTS = 67.5
OSCILLATOR GRID (GRID N=1) RESISTOR - OHMS = 50000
OSCILLATOR GRID CURRENT - MILLIAMPERES = 0.2

<table>
<thead>
<tr>
<th>CURVE</th>
<th>PLATE VOLTS</th>
<th>ANODE-GRID (GRID N=2) SUPPLY VOLTS*</th>
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<tbody>
<tr>
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<td>135</td>
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<td>180</td>
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*APPLIED THROUGH 20000- OHM DROPPING RESISTOR

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**Conversions**

- Conversion Conductance (5C) Micromhos
- Plate Resistance (TP) Megohms
- Control Grid (GRID N=4) Volts

**Graph Details**

- Scale: 2.0, 1.5, 1.0, 0.5
- Measurement Units: Megohms (MΩ), Micromhos (μS)

**Date:** APRIL 23, 1936

RCA RADIotron DIVISION
RCA MANUFACTURING COMPANY, INC.

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