RCA-6F7
TRIODE-PENTODE

Heater — Coated Uni-potential Cathode
Voltage 6.3 a-c or d-c volts
Current 0.3 amp.

Direct Interelectrode Capacitances:
Triode Unit:
Grid to Plate 2.0 µuf
Grid to Cathode 2.5 µuf
Plate to Cathode 3.0 µuf

Pentode Unit:
Grid to Plate 0.008 max. µuf
Input 3.2 µuf
Output 12.5 µuf

Overall Length 4-9/32" to 4-17/32" 1-9/16" to 2-11/32" 1-7/16" to 2-11/32"
Bulb ST-12 Small Metal
Cap Small 7-Pin
Base Pin 1-Heater Pin 5-Triode Grid
Pin 2-Pentode Plate 2 Pin 6-Cathode
Pin 3-Pentode Screen 6 Pin 7-Heater
Pin 4-Triode Plate 4 Cap — Pentode Grid

BOTTOM VIEW

AMPLIFIER SERVICE

<table>
<thead>
<tr>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>100 max.</td>
</tr>
<tr>
<td>Heater Voltage</td>
<td>-</td>
</tr>
<tr>
<td>Grid Voltage</td>
<td>-3</td>
</tr>
<tr>
<td>Amp. Fact.</td>
<td>8</td>
</tr>
<tr>
<td>Plate Res.</td>
<td>16000</td>
</tr>
<tr>
<td>Mut. Cond.</td>
<td>500</td>
</tr>
<tr>
<td>Mut. Cond. at -35 volts bias</td>
<td>-9</td>
</tr>
<tr>
<td>Plate Cur.</td>
<td>3.5</td>
</tr>
<tr>
<td>Screen Cur.</td>
<td>-1.6</td>
</tr>
</tbody>
</table>

CONVERTER SERVICE

<table>
<thead>
<tr>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>100 max.</td>
</tr>
<tr>
<td>Screen Voltage</td>
<td>-</td>
</tr>
<tr>
<td>Grid Voltage</td>
<td>#</td>
</tr>
<tr>
<td>Oscillator Plate Cur. (av.)</td>
<td>4 max.</td>
</tr>
</tbody>
</table>

Typical Operation:
Plate 100 250 volts
Screen 100 volts
Grid Bias # -10 volts
Plate Resistance 2 megoohms
Conversion Conductance - 300 µmhos
D.C. Plate Current 2.8 ma.
D.C. Grid Current 0.15 ma.
D.C. Screen Current 0.6 ma.
Oscillator Peak Voltage Input 7 volts

# Usually obtained by means of a grid leak.
** Grid bias should be at least .3 volts greater than the peak oscillator voltage applied to the pentode grid.
* May be obtained from 500-volt source through 6000-ohm dropping resistor.
** Obtained by means of 1700-ohm self-biasing (cathode) resistor.
* In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.
* Requires different socket than medium 7-pin base.
* With shield-can.

SEPT. 1, 1935
RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.
TYPICAL CIRCUITS

PENTODE I-F AMPLIFIER & BIASED TRIODE 2ND DETECTOR

BIASED TRIODE DETECTOR & PENTODE AUDIO AMPLIFIER

GRID-LEAK TRIODE DETECTOR & PENTODE AUDIO AMPLIFIER

DIODE DETECTOR & PENTODE AUDIO AMPLIFIER WITH DELAYED A.V.C.

APPROXIMATE VALUES

- \( C_1 = 5 \mu F \)
- \( C_2 = 0.05 \mu F \)
- \( C_3 = 0.1 \mu F \)
- \( C_4 = 0.0002 \mu F \)
- \( C_5 = 0.0006 \mu F \)
- \( C_6 = 0.01 \mu F \)
- \( C_7 = 0.5 \mu F \)
- \( C_8 = 0.0005 \) to 0.001 \( \mu F \)
- \( C_o = 0.00025 \mu F \)
- \( L = \) I-F CHoke COIL
- \( R_1 = \) OSCILLATOR GRID LEAK 0.1 MEGOHM
- \( R_2 = \) PENTODE LEAK 5,000 OHMS
- \( R_3 = \) PENTODE SELF-BIASING RES 1,000 OHMS
- \( R_4 = \) TRiode GRID LEAK 1.0 MEGOHM
- \( R_5 = \) PENTODE SELF-BIASING RES 5,000 OHMS
- \( R_6 = \) PENTODE SELF-BIASING RES 4,000 OHMS VAR.
- \( R_7 = \) DIODE LOAD 1.0 MEGOHM
- \( R_8 = \) PENTODE SELF-BIASING RES 5,000 OHMS
- \( R_9 = \) PENTODE SELF-BIASING RES 4,000 OHMS VAR.
- \( R_{10} = \) PENTODE SELF-BIASING RES 5,000 OHMS

The license extended to the purchaser of tubes appears in the License Notice accompanying them. Information contained herein is furnished without assuming any obligations.

SEPT. 1, 1935

RCA RADIOotron DIVISION
RCA MANUFACTURING COMPANY, INC.

CE-4302
AVERAGE PLATE CHARACTERISTICS
TRIODE UNIT

$E_f = 6.3$ VOLTS

PLATE MILLIAMPERES

PLATE VOLTS

DEC. 5, 1933 925-5426
AVERAGE PLATE CHARACTERISTICS
PENTODE UNIT

E_f = 6.3 VOLTS
SCREEN VOLTS = 100

PLATE VOLTS

PLATE MILLIAMPERES

AUG. 18, 1933
925-5360