REMOTE-CUTOFF BEAM PENTODE

GENERAL DATA

Electrical:
Heater, for Unipotential Cathode:
Voltage ........ 6.3 ........ ac or dc volts
Current .......... 0.6 ........ amp
Mu-Factor, Grid No.2 to
Grid No.1 .... 5
Direct Interelectrode Capacitances:
Grid No.1 to Plate .... 0.018 ........ uF
Input ........... 7.5 ........ uF
Output .......... 1.6 ........ uF

Mechanical:
Mounting Position ...... Any
Overall Length ........ 6-1/2" ± 1/4"
Seated Length ........ 6" ± 1/4"
Maximum Diameter ....... 1-1/2"
Cap. ................... Small
Base ................. Small-Shell Duodecal 7-Pin
Basing Designation for BOTTOM VIEW .... 12J
Pin 1 - Heater Pin 10 - Grid No.2
Pin 2 - Grid No.1 Pin 11 - Cathode
Pin 6 - Grid No.3 Pin 12 - Heater
Pin 7 - Internal Con. Cap - Plate
Do Not Use

Bulb Temperature ...... 220 max. 0°C

VOLTAGE-CONTROL SERVICE

Maximum CCS* Ratings, Absolute Values:
DC PLATE VOLTAGE ....... 30000 max. volts
DC GRID-No.3 VOLTAGE .... 6600 max. volts
DC GRID-No.2 VOLTAGE .... 450 max. volts
DC GRID-No.1 VOLTAGE:
Negative bias value ...... -200 max. volts
Positive bias value ...... 0 max. volts
Positive peak value ...... 2 max. volts
MAX.-SIGNAL DC PLATE VOLTAGE .... 500 max. volts
MAX.-SIGNAL GRID-No.3 INPUT ........ 1 max. watt
MAX.-SIGNAL GRID-No.2 INPUT ....... 0.1 max. watt
PLATE DISSIPATION .......... 10 max. watts
PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode:
During equipment warm-up period
not exceeding 15 seconds .... 450 max. volts
After equipment warm-up period .... 165 max. volts
Heater positive with respect to cathode. 165 max. volts

*: see next page.

MAY 1, 1950 TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY TENTATIVE DATA
REMOTE-CUTOFF BEAM PENTODE

Typical Operation as Shunt Voltage-Regulator Tube in Accompanying Circuit

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Plate Voltage</td>
<td>20000</td>
</tr>
<tr>
<td>DC Grid-No.3 Voltage</td>
<td>30000</td>
</tr>
<tr>
<td>DC Grid-No.2 Voltage*</td>
<td>5500</td>
</tr>
<tr>
<td>DC Grid-No.2 Voltage</td>
<td>5500</td>
</tr>
<tr>
<td>DC Grid-No.1 Voltage**</td>
<td>200</td>
</tr>
<tr>
<td>DC Grid-No.1 Voltage</td>
<td>200</td>
</tr>
<tr>
<td>Peak Grid-No.1 Voltage</td>
<td>-60</td>
</tr>
<tr>
<td>Zero-Sig. DC Plate Cur.</td>
<td>-60</td>
</tr>
<tr>
<td>Max.-Sig. DC Plate Cur.</td>
<td>45</td>
</tr>
<tr>
<td>Zero-Sig. DC Grid-No.3 Cur.</td>
<td>20</td>
</tr>
<tr>
<td>Max.-Sig. DC Grid-No.3 Cur.</td>
<td>0</td>
</tr>
<tr>
<td>Zero-Sig. DC Grid-No.2 Cur.</td>
<td>0</td>
</tr>
<tr>
<td>Max.-Sig. DC Grid-No.2 Cur.</td>
<td>0</td>
</tr>
<tr>
<td>Grid-No.1 Bias (Approx.) for plate current of 10 μamp.</td>
<td>-52</td>
</tr>
<tr>
<td>Grid-No.1—Plate Transconductance</td>
<td>11</td>
</tr>
</tbody>
</table>

- Continuous Commercial Service.
- Subject to variation of ± 40% if grid-No.1 voltage is desired at indicated value.
- Subject to variation of ± 40% if grid-No.2 voltage is desired at indicated value.

Shunt Voltage-Regulator Circuit

![Shunt Voltage-Regulator Circuit Diagram]

NOTE: THE CONTROL VOLTAGE MAY BE TAKEN FROM THE LOAD CIRCUIT OR FROM A CIRCUIT SUPPLYING SIGNAL TO THE LOAD CIRCUIT, DEPENDING ON THE TYPE OF LOAD INVOLVED.

OPERATING NOTES

Operation of the 5890 with a plate voltage above approximately 16000 volts results in the production of soft x-rays which can constitute a health hazard on prolonged exposure unless the tube is adequately shielded. Relatively simple shielding should prove adequate, but the need for this precaution should be considered in equipment design.

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REMOTE-CUTOFF BEAM PENTODE

SMALL CAP

SMALL-SHELL DUODECAL 7-PIN BASE

92CS-7431

MAY 1, 1950

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
$E_f = 6.3$ VOLTS
PLATE VOLTS = 10000 - 30000
GRID - Nº 3 VOLTS = 5500
GRID - Nº 2 VOLTS = 200