7-PIN MINIATURE TYPE
With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:
Heater, for Unipotential Cathode:
Voltage (AC or DC) .................................. 18 volts
Current .............................................. 0.1 ± 6% amp
Warm-up time (Average) ......................... 20 sec

Direct Interelectrode Capacitances:

<table>
<thead>
<tr>
<th>Without External Shield</th>
<th>With External Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid No.1 to plate. ....</td>
<td>0.0035 max.</td>
</tr>
<tr>
<td>Grid No.1 to cathode,</td>
<td>0.0035 max. μμf</td>
</tr>
<tr>
<td>grid No.3 &amp; internal</td>
<td></td>
</tr>
<tr>
<td>shield, grid No.2,</td>
<td></td>
</tr>
<tr>
<td>and heater. ...........</td>
<td>6 μμf</td>
</tr>
<tr>
<td>Plate to cathode, grid</td>
<td>6 μμf</td>
</tr>
<tr>
<td>No.3 &amp; internal shield,</td>
<td></td>
</tr>
<tr>
<td>grid No.2,</td>
<td>5 μμf</td>
</tr>
<tr>
<td>and heater. ...........</td>
<td></td>
</tr>
</tbody>
</table>

Characteristics, Class A1 Amplifier:
Plate Supply Voltage ................................ 100 volts
Grid No.3 ...................................... Connected to cathode at socket
Grid-No.2 Supply Voltage .......................... 100 volts
Cathode Resistor ................................ 150 ohms
Plate Resistance (Approx.) ........................ 0.5 megohm
Transconductance .................. 4300 μhos
Plate Current .................................. 5 ma
Grid-No.2 Current ..................... 2 ma
Grid-No.1 Voltage (Approx.)
for plate μa = 10 ......................... −4.7 volts

Mechanical:
Operating Position ................................ Any
Maximum Overall Length ................................ 2−1/8"
Maximum Seated Length ................................ 1−7/8"
Length, Base Seat to Bulb Top (Excluding tip) .. 1−1/2" ± 3/32"
Diameter .................................. 0.650" to 0.750"
Dimensional Outline .................. See General Section
Bulb ........................................ T5−1/2
Base .................................. Small-Button Miniature 7-Pin (JEDEC No.E7−1)
Basing Designation for BOTTOM VIEW: 7BK

Pin 1 - Grid No. 1
Pin 2 - Grid No. 3, Internal Shield
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Plate
Pin 6 - Grid No. 2
Pin 7 - Cathode

RF AMPLIFIER and AUTODYNE CONVERTER

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE: 150 max. volts
GRID No. 3 (SUPPRESSOR GRID): Connect to cathode at socket
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE: 150 max. volts
GRID-No.2 VOLTAGE: See Grid-No.2 Input Rating Chart at front of Receiving Tube Section

GRID-No.2 INPUT:
For grid-No.2 voltages up to 75 volts: 0.6 max. watt
For grid-No.2 voltages between 75 and 150 volts: See Grid-No.2 Input Rating Chart at front of Receiving Tube Section

PLATE DISSIPATION: 2.5 max. watts
PEAK HEATER-CATHODE VOLTAGE:
- Heater negative with respect to cathode: 100 max. volts
- Heater positive with respect to cathode: 100 max. volts

* With external shield JEDEC No.316 connected to cathode.
AVERAGE CHARACTERISTICS

$E_t = 18$ VOLTS
GRID No. 3 CONNECTED TO CATHODE AT SOCKET.
GRID No. 2 VOLTS = 100
AVERAGE CHARACTERISTICS

$E_f = 18$ VOLTS
PLATE VOLTS = 100
GRID No.3 CONNECTED
TO CATHODE AT SOCKET.
GRID No.2 VOLTS = 100

TRANSCONDUCTANCE ($g_m$) — MICROHMS

GRID No.1 VOLTS

PLATE (Ck) OR GRID No.2 (Cl2) MILLIAMPERES

92CM: 11136RI

RADIO CORPORATION OF AMERICA
Electron Tube Division
Harrison, N. J.