RAYONIC® 3MP1 CATHODE RAY TUBE

GENERAL DATA
Focusing Method .............................................................. Electrostatic
Deflecting Method ......................................................... Electrostatic
Phosphor Number ............................................................ P1
  Fluorescent Color ......................................................... Green
  Phosphorescent Color .................................................. None
Persistence ................................................................. Medium
Mounting Position ............................................................ Any

ELECTRICAL DATA
Heater Voltage ............................................................... 6.3 Volts
Heater Current .............................................................. 0.6 ± 10% Amperes
Direct Inter-electrode Capacitances (approx.)
  Cathode to all other electrodes ........................................ 7.5 μF
  Grid #1 to all other electrodes ........................................ 8.0 μF
  D1 to D2 ................................................................. 4.6 μF
  D3 to D4 ................................................................. 5.6 μF
  D1 to all other electrodes ............................................. 6.4 μF
  D2 to all other electrodes ............................................. 6.0 μF
  D3 to all other electrodes ............................................. 8.0 μF
  D4 to all other electrodes ............................................. 7.4 μF

MECHANICAL DATA
Overall Length ............................................................. 8 ± ¼ Inches
Greatest Diameter of Bulb ................................................ 3 ± ⅛ Inches
Minimum Useful Screen Diameter ...................................... 2¾ Inches
Bulb Number ............................................................... ASA J24P
Base-Small Shell Duodecal ................................................ JETEC B12-43
Basing ................................................................. JETEC 12F
Base Alignment
  D1D2 trace aligns with pin #4 and tube axis 0 ± 10 Degrees
  Positive voltage on D1 deflects beam approximately toward pin #4
  Positive voltage on D3 deflects beam approximately toward pin #1
  Angle between D3D4 and D1D2 traces; 90 ± 1 Degrees

Deflection Plates
  D1-D2 are nearest to the screen
  D3-D4 are nearest to the base

MAXIMUM RATINGS (Design Center Values)
Anode Voltage (A2) .................................................. 2750 Volts DC
Anode (A2) Input ........................................................... 6 Watts
Anode #1 (Focusing Electrode) Voltage ................................ 1000 Volts
Grid #1 (G1) Voltage
  Negative-Bias Value .................................................. 200 Volts DC
  Positive-Bias Value .................................................... 0 Volts DC
  Positive-Peak Value ................................................... 2 Volts
Peak Heater-Cathode Voltage
  Heater negative with respect to cathode
during warm-up (max. 15 seconds) ................................ 410 Volts
  after equipment warm-up .............................................. 125 Volts
  Heater positive with respect to cathode ................................ 125 Volts
  Peak Voltage between Anode #2 and any deflecting plate ........ 500 Volts

"REVISED NOVEMBER, 1958"
TUBE RATINGS

Focusing Electrode (A1) Current for any operating condition ........................................... -15 to +10 μAmps
Spot Position (Undelected) (Note 1) ....................................................................................... 15 Max. mm
A1 Voltage 12% to 30% of A2 Voltage
G1 Voltage 2.7% to 6.3% of A2 Voltage (Note 2)
Deflection Factors
D1 and D2 .......................................................................................................................... 115 to 145 Volts DC/inch/A2 Kilovolt
D3 and D4 .......................................................................................................................... 110 to 140 Volts DC/inch/A2 Kilovolt

OPERATING CONDITIONS

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<thead>
<tr>
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<th>Minimum</th>
<th>Typical</th>
<th>Typical</th>
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<tbody>
<tr>
<td>Anode Voltage (A2)</td>
<td>500</td>
<td>1000</td>
<td>2000</td>
</tr>
<tr>
<td>Focusing Electrode Voltage (A1)</td>
<td>60 to 150</td>
<td>120 to 300</td>
<td>240 to 600</td>
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<tr>
<td>Grid #1 Voltage (Note 2)</td>
<td>-13.5 to -31.5</td>
<td>-27 to -63</td>
<td>-54 to -126</td>
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<tr>
<td>Deflection Factor D1-D2</td>
<td>57.5 to 72.5</td>
<td>115 to 145</td>
<td>230 to 290 Volts DC/Inch</td>
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<tr>
<td>Deflection Factor D3-D4</td>
<td>55 to 70</td>
<td>110 to 140</td>
<td>220 to 280 Volts DC/Inch</td>
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MAXIMUM CIRCUIT VALUES

Grid #1 Circuit Resistance ................................................................................................. 1.5 Megohms
Resistance in any Deflecting Electrode Circuit (Note 3) .................................................. 1.0 Megohms

NOTES

1. With deflecting electrodes connected to Anode (A2).
2. For visual extinction of undetected focused spot.
3. The resistance in each deflecting electrode circuit should be approximately equal.

3MP2

The Waterman Rayonic Type 3MP2 is identical to the Type 3MP1 except that it has a green fluorescent, green phosphorescent, long persistence phosphor.

3MP7

The Waterman Rayonic Type 3MP7 is identical to the Type 3MP1 except that it has a blue fluorescent, yellow phosphorescent, long persistence phosphor. Use of 3MP7 at anode voltages below 1000 volts is not recommended.

3MP11

The Waterman Rayonic Type 3MP11 is identical to the Type 3MP1 except that it has a blue fluorescent, short persistence phosphor.

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Manufacturers of POCKETSCOPE®, CRAFTSCOPE®, PULSESCOPE®, PANELSCOPE®, PANELPACK®, RAKSCOPE®, SYSTEMAT®, RAYONIC® TUBES