CATHODE-RAY TUBE

TYPE 12AWP-

The Du Mont Type 12AWP- is a 12-inch, electrostatic focus, magnetic deflection cathode-ray tube suitable for radar applications. The tube is designed for miniaturized equipments, featuring short overall length, a small diameter neck, and a miniature base. A low current heater is employed, and in conjunction with the small diameter neck affords considerable reduction in power requirements. An aluminized screen is utilized for greater light output and to minimize screen charging effects.

GENERAL CHARACTERISTICS

Electrical Data

<table>
<thead>
<tr>
<th>Focusing Method</th>
<th>Electrostatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deflection Method</td>
<td>Magnetic</td>
</tr>
<tr>
<td>Deflection Angle, Approximate</td>
<td>70 Degrees</td>
</tr>
</tbody>
</table>

Direct Inter-electrode Capacitances, Approximate

| Cathode to all other electrodes | 4.5 µf |
| Grid No. 1 to all other electrodes | 6.5 µf |

Optical Data

<table>
<thead>
<tr>
<th>Phosphor Number</th>
<th>Fluorescence</th>
<th>Phosphorescence</th>
<th>Persistence</th>
<th>Color</th>
<th>Color</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>White</td>
<td>--</td>
<td>Medium to Medium Short</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
<tr>
<td>7</td>
<td>White</td>
<td>Yellow-Green</td>
<td>Long</td>
<td>Orange</td>
<td>Orange</td>
<td>Orange</td>
</tr>
</tbody>
</table>

Faceplate

Spherical

Mechanical Data

<table>
<thead>
<tr>
<th>Overall Length (seated height)</th>
<th>12 1/4 ± 3/16 Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greatest Diameter of Bulb</td>
<td>12 7/16 ± 1/8 Inches</td>
</tr>
<tr>
<td>Minimum Useful Screen Diameter</td>
<td>11 Inches</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bulb Contact</th>
<th>J1-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base *</td>
<td>E9-37</td>
</tr>
<tr>
<td>Basing</td>
<td>9HT</td>
</tr>
</tbody>
</table>

* A socket with a center opening to clear the tubulation should be used. Care should be taken in handling the tube to avoid damaging the exposed tubulation and bending the base pins.
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GENERAL CHARACTERISTICS (Mechanical Data) (Continued)

Bulb Contact Alignment:
Plane of J1-21 cap passes halfway between
Pins No. 1 and 9
J1-21 cap on same side as Pins No. 1 and 9

± 10 Degrees

MAXIMUM RATINGS (Absolute Maximum Values)

Heater Voltage 6.3 Volts
Heater Current at 6.3 Volts 0.3 ± 10% Ampere

Accelerator Voltage 13,000 Max. Volts DC
7000 Min. Volts DC

Focusing Electrode Voltage
-550 to +1100 Max. Volts DC

Grid No. 2 Voltage 770 Max. Volts DC

Grid No. 1 Voltage:
Negative Bias Value 180 Max. Volts DC
Positive Bias Value 0 Max. Volts DC
Positive Peak Value 0 Max. Volts

Peak Heater-Cathode Voltage
Heater negative with respect to cathode 180 Max. Volts
Heater positive with respect to cathode 180 Max. Volts

TYPICAL OPERATING CONDITIONS

Accelerator Voltage 10,000 Volts DC
Focusing Electrode Voltage 1 0 to 450 Volts DC
Grid No. 2 Voltage 300 Volts DC
Grid No. 1 Voltage 2 -15 to -45 Volts DC
Line Width A 3 .018 Inch Max.
Spot Position (Undeflected) 4 5/8 Inch

MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance 1.5 Max. Megohms

Allen B. Du Mont Laboratories
Divisions of Fairchild Camera and Instrument Corp.
Clifton, New Jersey

DE-4766-2
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NOTES

1. With Grid No. 1 voltage adjusted to produce an accelerator current of 25 µA.

2. Visual extinction of undeflected, focused spot.

3. Measured in accordance with MIL-E-1 specifications at an accelerator current of 25 µA.

4. The center of the undeflected, focused spot will fall within a circle of 3/8-Inch radius concentric with the center of the tube face, with the tube shielded.

5. The P12, P19 and P25 screens can be permanently damaged if current density is permitted to rise too high. To prevent burning, minimum beam current densities should be employed.
12 AWP
CATHODE-RAY TUBE

BOTTOM VIEW OF BASE

PIN NO. ELEMENT
1 - GRID NO.1
2 - HEATER
3 - GRID NO.2
5 - CATHODE
6 - GRID NO.2
7 - FOCUSING ELECTRODE
8 - HEATER
9 - GRID NO.1
CONTACT - ACCELERATOR

NOTE
1-REFERENCE LINE IS DETERMINED BY THE POINT WHERE LEADING EDGE OF 1.640" REFERENCE LINE GAUGE WILL STOP, (JETEC NO.128)

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