



## 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

|                               |               |         |
|-------------------------------|---------------|---------|
| Focusing Method               | Electrostatic |         |
| Deflection Method             | Magnetic      |         |
| Deflection Angle, Approximate | 70            | Degrees |

### Direct Interelectrode Capacitances, Approximate

|                                    |     |               |
|------------------------------------|-----|---------------|
| Cathode to all other electrodes    | 4.5 | $\mu\text{f}$ |
| Grid No. 1 to all other electrodes | 6.5 | $\mu\text{f}$ |

### Optical Data

|                 |                           |              |        |        |        |
|-----------------|---------------------------|--------------|--------|--------|--------|
| Phosphor Number | 4                         | 7            | 12     | 19     | 25     |
| Fluorescence    | White                     | White        | Orange | Orange | Orange |
| Phosphorescence | -----                     | Yellow-Green | Orange | Orange | Orange |
| Persistence     | Medium to<br>Medium Short | Long         | Long   | Long   | Medium |

|           |           |
|-----------|-----------|
| Faceplate | Spherical |
|-----------|-----------|

### Mechanical Data

|                                |                          |
|--------------------------------|--------------------------|
| Overall Length (seated height) | 12 1/4 $\pm$ 3/16 Inches |
| Greatest Diameter of Bulb      | 12 7/16 $\pm$ 1/8 Inches |
| Minimum Useful Screen Diameter | 11 Inches                |
| Bulb Contact                   | J1-21                    |
| Base *                         | E9-37                    |
| Basing                         | 9HT                      |

- \* 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

± 10

Degrees

J1-21 cap on same side as Pins No. 1 and 9

#### 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<sup>1</sup>

0 to 450

Volts DC

Grid No. 2 Voltage

300

Volts DC

Grid No. 1 Voltage<sup>2</sup>

-15 to -45

Volts DC

Line Width A<sup>3</sup>

.018

Inch Max.

Spot Position (Undelected)<sup>4</sup>

5/8

Inch

#### MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance

1.5

Max. Megohms

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Allen B. Du Mont Laboratories

Divisions of Fairchild Camera and Instrument Corp.

Clifton, New Jersey



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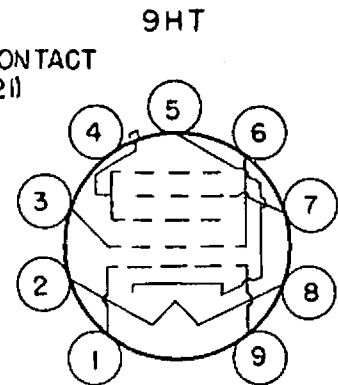
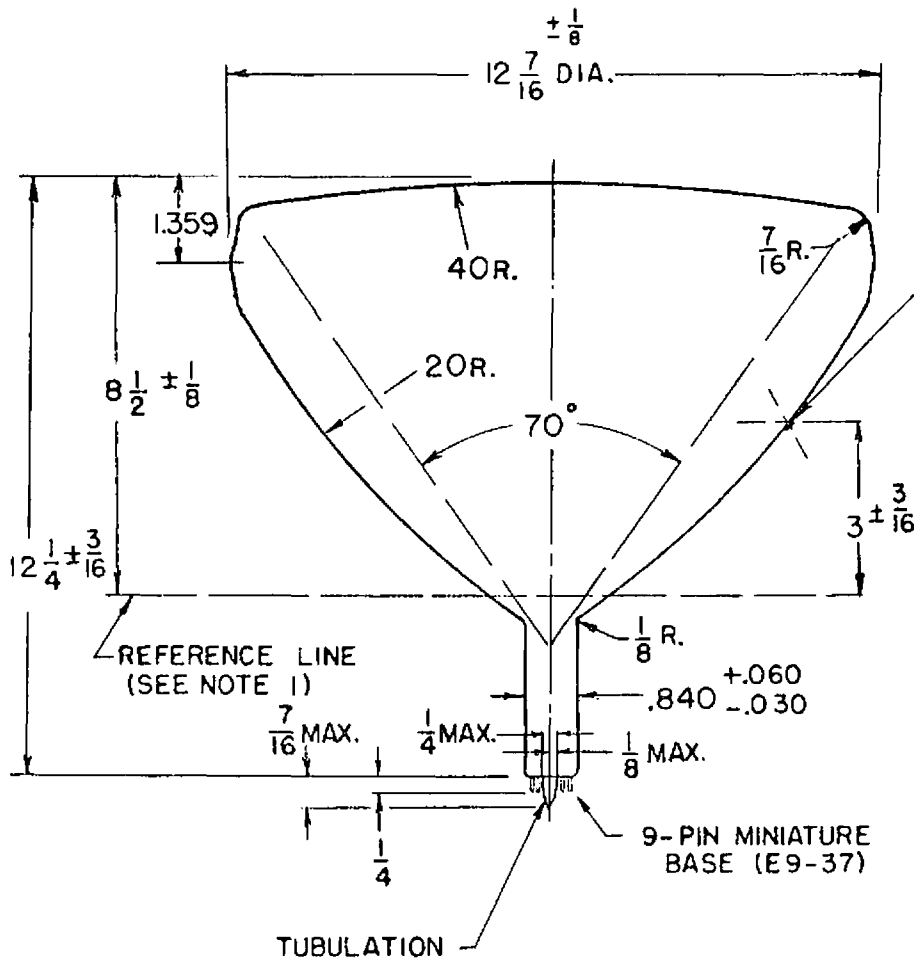
TYPE 12AWP-

N O T E S

1. With Grid No. 1 voltage adjusted to produce an accelerator current of 25  $\mu$ A.
2. Visual extinction of undeflected, focused spot.
3. Measured in accordance with MIL-E-1 specifications at an accelerator current of 25  $\mu$ A.
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.

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# 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, (METEC NO.128)