

*product of the pioneer*

from JEDEC release #2641,  
Nov. 23, 1959

# DU MONT

## INDUSTRIAL CATHODE-RAY TUBES

**TYPES: 7AQP4,  
7AQP7, 7AQP16,  
7AQP19, 7AQP25**

### GENERAL CHARACTERISTICS

#### ELECTRICAL DATA

Focusing Method .....	Electrostatic
Deflecting Method .....	Magnetic
Deflecting Angle (Approximate) .....	70 Degrees
Direct Interelectrode Capacitances, Approximate	
Cathode to all other electrodes .....	3.0 $\mu$ mf
Grid No. 1 to all other electrodes .....	6.5 $\mu$ mf

#### OPTICAL DATA

Phosphor Number	4	7	16	19	25
Fluorescence	White	Blue	Violet	Orange	Orange
Phosphorescence	.....	Yellow	.....	Orange	Orange
Persistence	Short-to-medium	Long	Extremely Short	Long	Long
Faceplate .....	Clear, spherical				

#### MECHANICAL DATA

Overall Length (seated height) ..  $8\frac{1}{8} \pm \frac{3}{16}$  Inches  
 Greatest Diameter of Bulb ..  $7 \pm \frac{1}{16}$  Inches  
 Minimum Useful Screen Diameter .. 6 Inches  
 Bulb Contact .. J1-22  
 Base<sup>1</sup> .. E9-37  
 Basing .. 9HT  
 Bulb Contact Alignment:  
 Plane of J1-22 cap passes halfway between  
 Pins No. 1 and 9 ..  $\pm 10$  Degrees  
 J1-22 cap on same side as Pins No. 1 and 9  
 Weight, Approximate .. 2 $\frac{1}{4}$  Pounds

#### MAXIMUM RATINGS

##### (Absolute Maximum Values)

Heater Voltage .. 6.3 Volts  
 Heater Current at 6.3 Volts ..  $0.3 \pm 10\%$  Ampere  
 Accelerator Voltage .. 12,000 Max. 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<sup>2</sup> .. 10,000 Volts DC  
 Focusing Electrode Voltage<sup>3</sup>  
 - 50 to +350 Volts DC  
 Grid No. 2 Voltage .. 300 Volts DC  
 Grid No. 1 Voltage<sup>4</sup> .. -15 to -45 Volts DC  
 Line Width<sup>5</sup> .. .015 Inch Max.  
 Spot Position (Undelected)<sup>6</sup> ..  $\frac{3}{8}$  Inch

#### MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance .. 1.5 Max. Megohms

#### NOTES

1. 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.
2. Brilliance and definition decrease with decreasing accelerator voltage. In general, accelerator voltage should not be less than 7,000 volts.
3. With Grid No. 1 voltage adjusted to produce an accelerator current of 100  $\mu$ A.
4. Visual extinction of undeflected, focused spot.
5. Measured in accordance with MLE-1 specifications at an accelerator current of 100  $\mu$ A.
6. The center of the undeflected, focused spot will fall within a circle of  $\frac{3}{8}$ -inch radius concentric with the center of the tube face, with the tube shielded.  
 The P16, 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.

### FEATURES

- Space Saving Tube for Miniaturized Equipments
- Light Weight
- Short Overall Length
- Small Neck Diameter
- Miniature Base
- Low Heater Current
- Low Deflection Power Requirements
- Metallized Screen for High Light Output
- Other Phosphors Available

### APPLICATIONS

- Air-Borne Radar
- Radar
- Monitor
- Slave Display Unit

# DU MONT®

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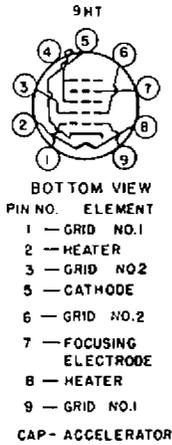
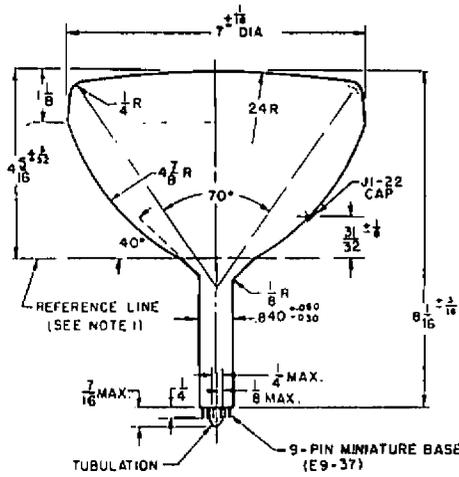
**ELECTRONIC TUBE  
SALES DEPARTMENT**

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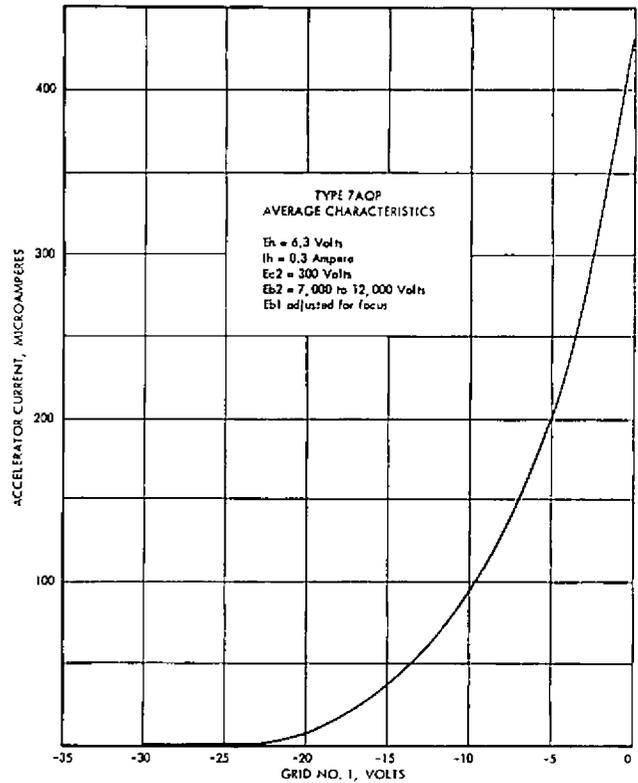
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# OUTLINE DRAWING TYPE 7AQP-



NOTES:  
1. REFERENCE LINE IS DETERMINED BY THE POINT WHERE LEADING EDGE OF JEDEC G-123 REFERENCE LINE GAUGE WILL STOP.

# AVERAGE CHARACTERISTICS TYPE 7AQP-



# ACCESSORIES

Base Socket Du Mont P/N 340031705 and 1 (one) Connector Du Mont P/N 36000500.