DUMONT

CATHODE-RAY TUBE

TYPE 5BXP-

The Du Mont Type 5BXP- is a 4 5/8 x 2 5/8-inch, electrostatic focus and deflection cathode-ray tube. It uses a rectangular bulb designed to show only the useful scan.

The electron gun has a low voltage electrostatic focus lens, requiring only a small fraction of the accelerator voltage for focusing.

The faceplate of the 5BXP- is flat, allowing for more accurate visual observation.

GENERAL CHARACTERISTICS

Electrical Data

Focusing Method	Electrostatic	
Deflecting Method	Electrostatic	
Direct Interelectrode Capacitances, Approximate		
Cathode to all other electrodes	3.8	μμf
Grid No. 1 to all other electrodes	4.2	μμf
D1 to D2	3.0	μμf
D3 to D4	1.9	μμf
D1 to all other electrodes	6.1	μμf
D2 to all other electrodes	5.7	μμf
D3 to all other electrodes	4.2	μμf
D4 to all other electrodes	3.7	μμf

Optical Data

Phosphor Number	1	2	7	11
Fluorescence	Green	Green	Blue	Blue
Phosphorescence	-----	Green	Yellow	----
Persistence	Medium	Long	Long	Short

Mechanical Data

Overall Length	17 5/8 ± 1/4	Inches
Greatest Dimension of Bulb		
Width	4 5/8 ± 1/16	Inches
Height	2 5/8 ± 1/16	Inches
Minimum Useful Screen Dimensions		
Width (Major Axis)	4 1/8	Inches
Height (Minor Axis)	2 1/8	Inches
Neck Contacts	J1-25	

Allen B. Du Mont Laboratories, Inc.
Clifton, New Jersey

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FORM 609 EC-7-59-6M

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GENERAL CHARACTERISTICS (Mechanical Data) (Continued)

Base	B12-37	
Basing	14U	
Base Alignment:		
D1D2 trace aligns with Pin No. 5 and tube axis	± 10	Degrees
Positive voltage on D1 deflects beam approximately toward Pin No. 5		
Positive voltage on D3 deflects beam approximately toward Pin No. 2		
Trace Alignment:		
Angle between D3D4 and D1D2 traces	90 ± 1	Degrees
D1D2 trace aligns with major axis of tube face	± 3	Degrees

MAXIMUM RATINGS (Design Maximum Values)

Heater Voltage	6.3	Volts
Heater Current at 6.3 Volts	0.6 ± 10%	Ampere
Accelerator Voltage	6600	Max. Volts DC
Accelerator Input	6	Max. Watts
Focusing Electrode Voltage	1650	Max. Volts DC
Grid No. 1 Voltage		
Negative Bias Value	200	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
Peak Voltage between Accelerator and any deflection electrode	1200	Max. Volts

TYPICAL OPERATING CONDITIONS

Accelerator Voltage	2500	Volts DC
Focusing Electrode Voltage	0 to 300	Volts DC
Grid No. 1 Voltage [1]	-34 to -56	Volts DC
P1 Light Output [2]	15	Ft. L. Min.
Modulation [2]	45	Max. Volts DC
Line Width "A" [2]	.032	Inch Max.

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TYPICAL OPERATING CONDITIONS (Continued)

Accelerator Current [2]	800	Max. μADC
Deflection Factors:		
D1D2	40 to 50	Volts DC/Inch
D3D4	20 to 25	Volts DC/Inch
Deflection Factor Uniformity [3]	1%	Max.
Useful Scan:		
D1D2	4.12 (± 2.06 min. from tube face center)	Inches
D3D4	2.12 (± 1.06 min. from tube face center)	Inches
Pattern Distortion [4]		
Spot Position [5]	Within a 5/16-inch radius circle	

CIRCUIT DESIGN VALUES

Focusing Current for any operating condition	-15 to +15	μADC
Grid No. 1 Voltage [1]	-13.6 to -22.4 Volts DC per Kilovolt of Accelerator Voltage	
Grid No. 1 Circuit Resistance	1.5	Max. Megohms
Deflection Factors:		
D1D2	16 to 20 Volts DC/Inch/KV of Accelerator Voltage	
D3D4	8 to 10 Volts DC/Inch/KV of Accelerator Voltage	
Resistance in any Deflecting-Electrode Circuit [6]	1	Max. Megohms

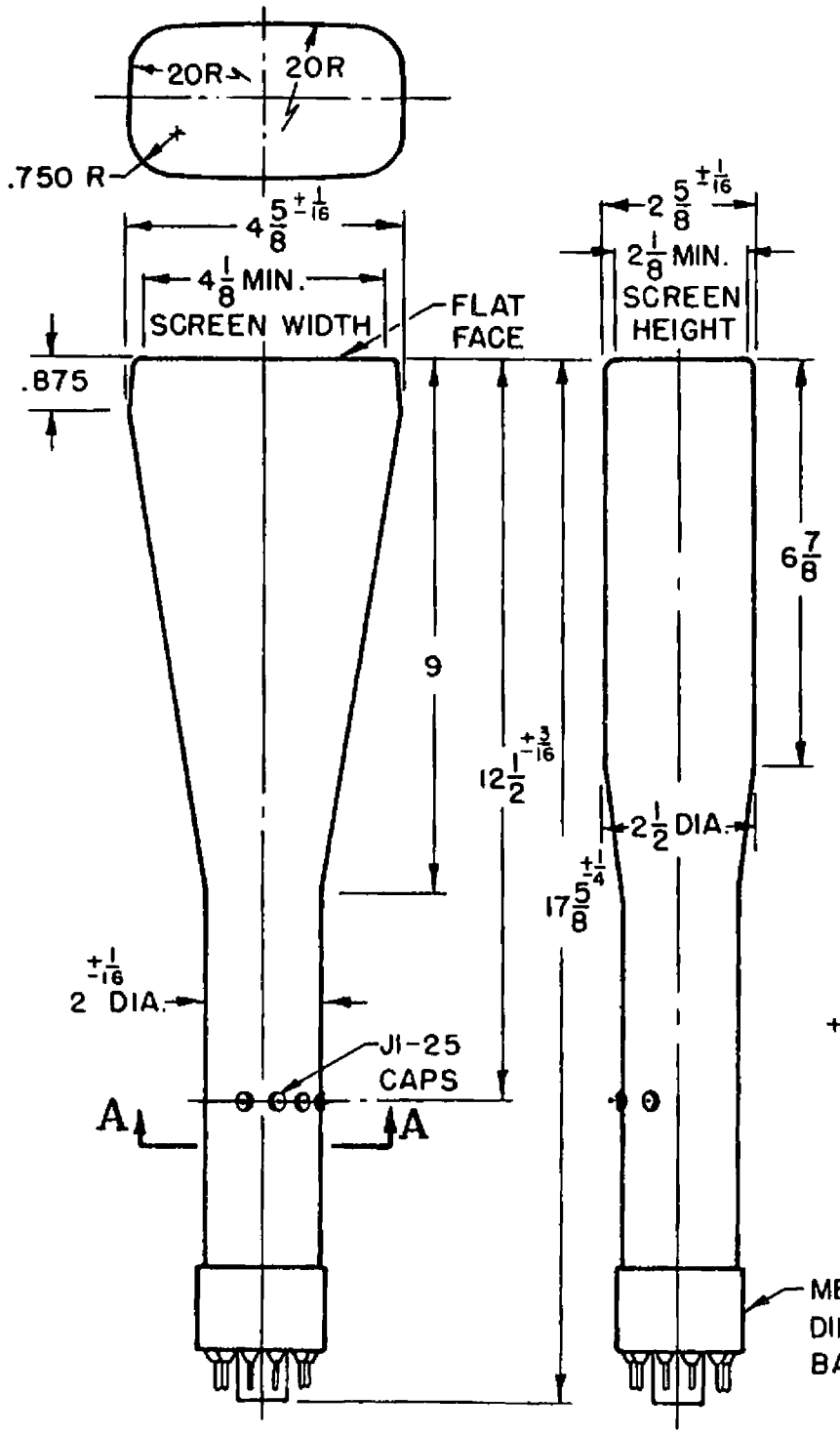
NOTES

1. Visual extinction of undeflected, focused spot.
2. Measured in accordance with MIL-E-1 specifications.
3. The deflection factor (for both D1D2 and D3D4 plate pairs, separately) for any deflection of less than 90% of the useful scan will not differ from the deflection factor for a deflection at 30% of the useful scan by more than the indicated value.
4. All portions of a raster pattern, adjusted so its widest points just touch the sides of a 1.744 x 3.195-inch rectangle, will fall within the area bounded by the 1.744 x 3.195-inch rectangle and an inscribed 1.676 x 3.105-inch rectangle.
5. When the tube is operated at typical operating conditions with Ec1 adjusted to avoid damage to the screen, with each of the deflecting electrodes connected to the accelerator, and with the tube shielded against external influences, the spot will fall within a 5/16-inch radius circle, centered on the tube face.
6. It is recommended that the deflecting-electrode circuit resistances be approximately equal.
7. An adjustable D.C. potential between the accelerator and the deflection plates may be used to secure best overall focus.

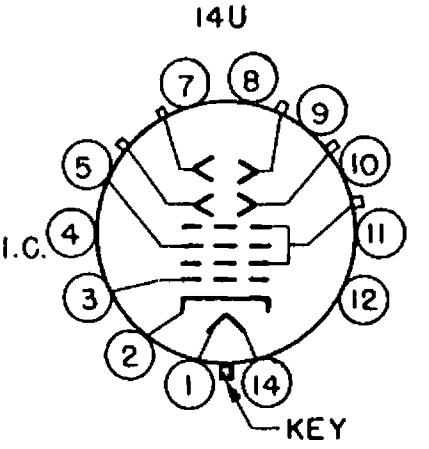
DU MONT

CATHODE - RAY TUBE

5BXP-

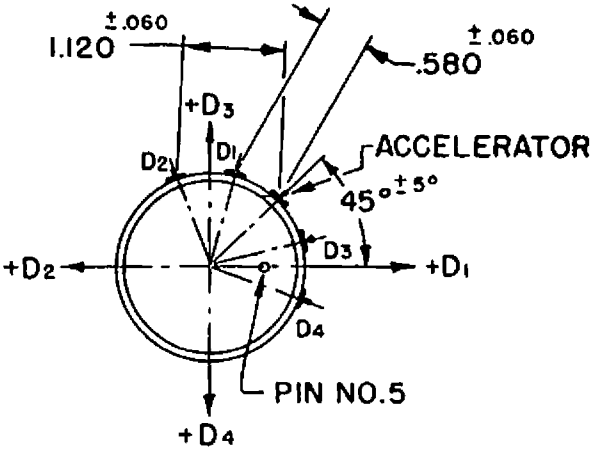


14U



BOTTOM VIEW

PIN NO.	ELEMENT
1	HEATER
2	CATHODE
3	GRID NO.1
4	INTERNAL CONNECTION
5	FOCUSING ELECTRODE
14	HEATER



SECTION A-A

Allen B. Du Mont Laboratories, Inc.
Clifton, New Jersey

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