

ADVANCE DATA

DESCRIPTION

The SC-4014 is a 7" flat face, 2 gun cathode ray tube with electrostatic deflection and focus. It features linear post deflection acceleration for maximum pattern linearity and deflection factor uniformity. It is intended for applications where line widths less than 0.020 inches are required. The SC-4014 can be supplied with a variety of phosphors. The screen is aluminized for high brightness. This tube is potted in its mu-metal shield and is provided with color coded leads for all connections.

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Electrostatic
Faceplate	Clear

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current (2 Guns in Parallel)	$0.60 \pm 10\%$ Ampere

MECHANICAL DATA

Overall Tube Length	$20\frac{7}{8} \pm \frac{1}{4}$ Inches
Minimum Useful Screen Diameter	$6\frac{1}{8}$ Inches
Basing	Color Coded Leads
Angle Between D1-D2 and D3-D4	
Traces of Each Gun	90 ± 1 Degree
Angle Between D1-D2 and D3-D4	
Traces of the 2 Guns are Parallel	± 1 Degree

MAXIMUM RATINGS (Absolute Maximum Values)

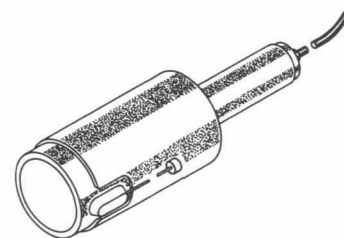
Anode No. 3 Voltage	15,000 Volts	dc
Anode No. 2 Voltage	4500 Volts	dc
Anode No. 1 (Focus Electrode) Voltage	1550 Volts	dc
Grid No. 1 Voltage		
Negative Bias Value	220 Volts	dc
Positive Bias Value	0 Volt	dc
Positive Peak Value	2 Volts	
Peak Voltage Anode No. 2 to Any Deflecting Plate	± 550 Volts	
Peak Heater-Cathode Voltage		
Heater Negative with Respect to Cathode	200 Volts	
Heater Positive with Respect to Cathode	200 Volts	
Modulation (Anode 3 Current = 25 μ a)	36 Volts	Max.

TYPICAL OPERATING CONDITIONS

Anode No. 3 Voltage	12,400 Volts	dc
Anode No. 2 Voltage	2900 Volts	dc
Grid No. 1 Voltage (For Spot Cutoff)	-35 to -65 Volts	dc
Anode No. 1 Voltage (For Focus) ¹	750-1050 Volts	dc
Deflection Factors		
D1-D2	116 to 134 Volts/in.	
D3-D4	116 to 134 Volts/in.	
Line Width "A" ²	0.020 Inches	Max.
Useful Scan ³		
D1-D2	$2\frac{5}{8}$ Inches	Min.
D3-D4	$2\frac{5}{8}$ Inches	Min.
Spot Position ⁴	—	
Maximum Ib3 at Cutoff	60 μ a	dc
Interaction Factor ⁵	5×10^{-5} Inches/V	dc
Gun to Gun Tracking ⁶	—	
Pattern Distortion ⁷	—	

QUICK REFERENCE DATA

2 Gun Design
7" Flat Face
Electrostatic Focus
Electrostatic Deflection
Linear Post Acceleration
Aluminized Screen
Potted in Mu-Metal
Color Coded Leads



For Basing
Diagram See
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**SYLVANIA ELECTRIC
PRODUCTS INC.**

**Electronic Components Group
ELECTRONIC TUBE DIVISION
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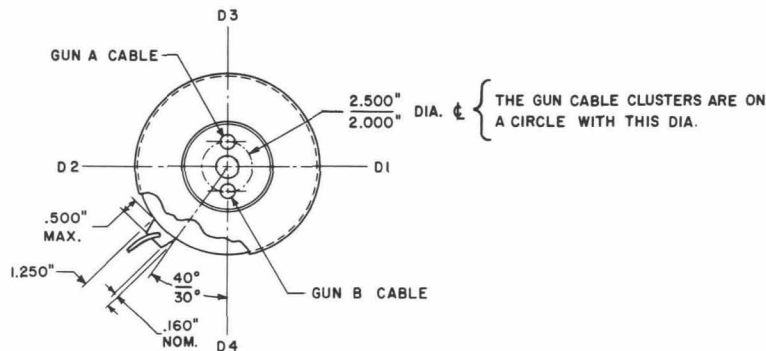
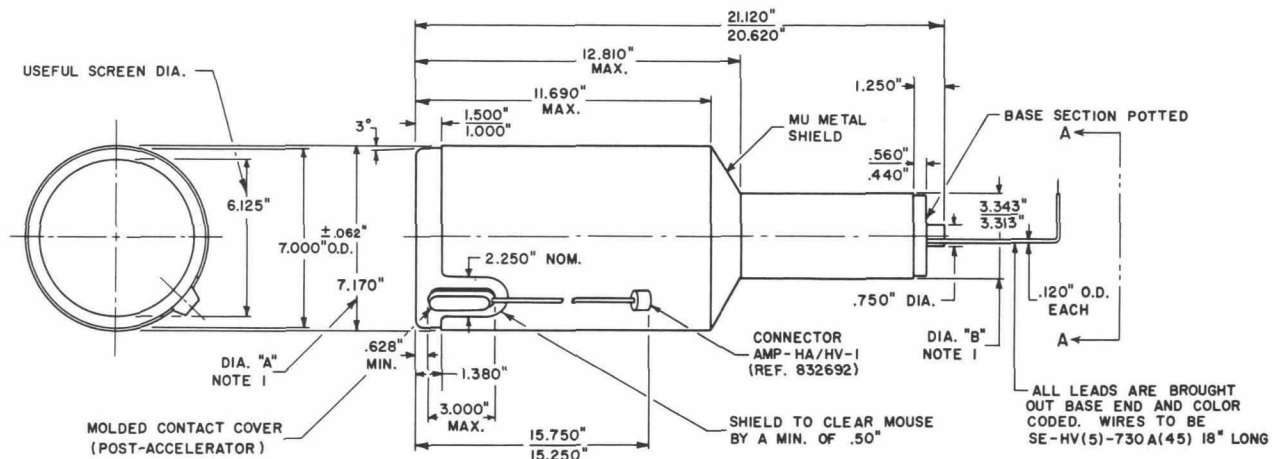
File Under

SPECIAL AND GENERAL
PURPOSE CATHODE RAY TUBES

NOTES:

1. Focus voltage at cutoff ($I_{b3} = 0$) not to exceed maximum value specified.
2. Per MIL-E-1 and at $I_{b3} = 25 \mu a$ (this current shall be in addition to the value of I_{b3} read at cutoff).
3. Measured from geometric center of the face.
4. The shielded undeflected focused spot of each gun shall fall within a $\frac{5}{8}$ inch square whose sides are parallel to the deflection axes. The center of this square will lie on the geometric center of the face.
5. The deflection of one beam when balanced dc voltages are applied to the deflection electrodes of the other, shall not be greater than the specified value.
6. Display a spot with gun "A" and a 0.120 inch high by 0.130 inch wide rectangle with gun "B". After appropriate centering and scale factor corrections have been made, the guns shall track such that the spot of gun "A" will stay within the rectangle of gun "B" at all points within a rectangle 4.50 inches high by 3.75 inches wide centered on the tube face.
7. Guns "A" and "B". With a 4.50 inch high (+D3 is top) by 3.75 inch wide rectangular raster centered on the face of the tube, the raster edges shall not deviate from straight parallel lines by more than 0.080 inch total on the upper and lower edges, and 0.080 on the right and left edges.

OUTLINE



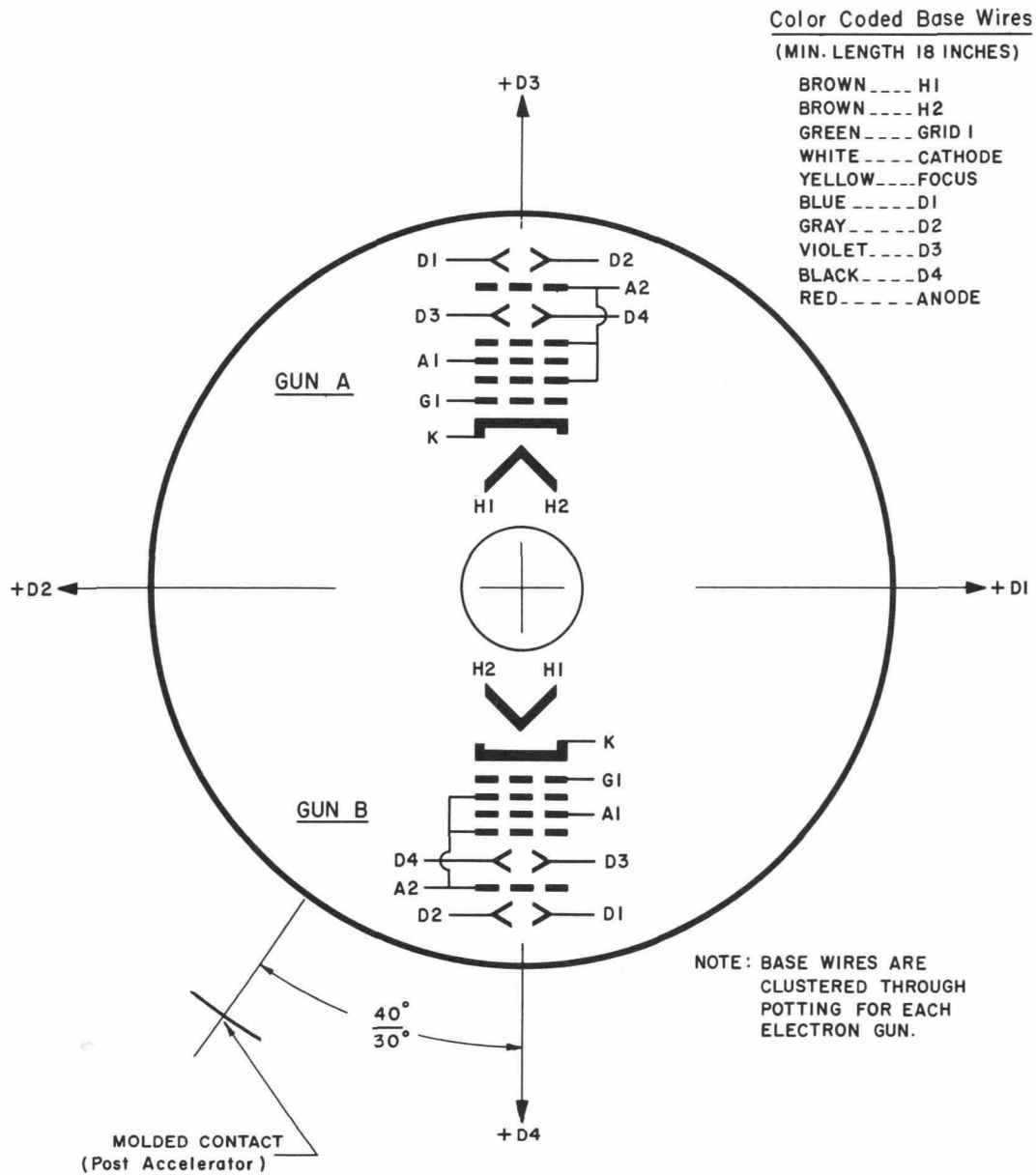
VIEW A-A

D64023A

DIAGRAM NOTE:

1. Diameter "A" to be concentric with Diameter "B" within 0.120 T.I.R.

BASING DIAGRAM



VIEW FROM BASE END OF TUBE

D64027