ADVANCE DATA

DESCRIPTION

The Sylvania SC-3561 is a 3 gun, electrostatically focused and deflected cathode-ray tube, for displaying simultaneously, 3 independently controlled traces. It features mono-accelerator design for maximum pattern linearity and deflection factor uniformity. All deflection plate leads are brought through the neck. In addition to high vertical deflection sensitivity, an independent astigmatism electrode connection is provided, also brought through the neck, so that maximum resolution can be attained by the use of dynamic control of both focus and astigmatism voltages.

CHARACTERISTICS

GENERAL DATA[1]

Focusing Method	Electrostatic			
Deflection Method	Electrostatic			
Phospor*	P1	P2	P7	P11
Fluorescence	Green	Blue-Green	Blue	Blue
Phosphorescence	—	Green	Yellow	—
Persistence	Medium	Long	Long	Short

*In addition to the types shown, the SC-3561P- can be supplied with several other screen phosphors.

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current (3 Guns in Parallel)	1.62 to 1.98 Amperes
Direct Interelectrode Capacitances (Approx.)	Each Gun
Cathode to All	5.5 pf
Grid No. 1 to All*	6.5 pf
D1 to D2	2.5 pf
D3 to D4	1.5 pf
D1 to All Other Electrodes	7.5 pf
D2 to All Other Electrodes	7.5 pf
D3 to All Other Electrodes	4.5 pf
D4 to All Other Electrodes	4.5 pf
*Value for B Gun Only	10 pf

MECHANICAL DATA

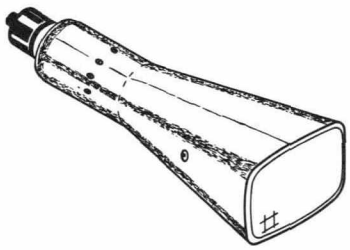
Overall Length	18 ½ ± ⅜ Inches
Minimum Useful Screen Diameter	3 ¼ x 5 ¼ Inches
Bulb Contact (Recessed Small Ball Cap)	J1-22
Basing	See Diagram
Base and Contact Alignment	See Diagram
Trace Alignment	
D1-D2 Trace Aligns with D3-D4 Trace (Each Gun)	90 ± 1 Degree
D1-D2 Traces of the 3 Guns are Parallel	± 1 Degree

MAXIMUM RATINGS (Absolute Maximum Values)

Anode Voltage	5500 Volts	dc
Focus Electrode Voltage	3000 Volts	dc
Grid No. 1 Voltage		
Negative Bias Value	220 Volts	dc
Positive Bias Value	0 Volt	dc
Positive Peak Value	2 Volts	dc
Peak Heater to Cathode Voltage		
Heater Negative with Respect to Cathode	200 Volts	
Heater Positive with Respect to Cathode	200 Volts	
Peak Voltage Between Anode and Astigmatism Electrode, or Any Deflecting Plate	750 Volts	

QUICK REFERENCE DATA

Three Independent Guns
6 1/32" x 4 1/32" Direct Viewed
Oscilloscope Tube
Round Glass Type
Electrostatic Focus
Electrostatic Deflection
Monaccelerator Design
All Deflection Plate Leads Brought Through the Neck Wall



For Basing Diagram See Page 3

SYLVANIA ELECTRONIC TUBES

A Division of Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS

SENECA FALLS, NEW YORK

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File Under
SPECIAL AND GENERAL PURPOSE CATHODE RAY TUBES

TYPICAL OPERATING CONDITIONS

Anode Voltage	5000 Volts	dc
Astigmatism Electrode Voltage	5000 Volts	dc
Focus Electrode Voltage	1500-2500 Volts	dc
Grid No. 1 Voltage[2]	−50 to −90 Volts	dc
Line Width "A"[3]	.016 Inch	Max.
Deflection Factors		
D1-D2	120-150 Volts Per Inch	
D3-D4	65 to 85 Volts Per Inch	
Deflection Factor Uniformity[4]	1 ½ Percent	Max.
Undeflected Spot Positions[5]	Within ½ Inch Square	
Useful Scan[6]		
D1-D2	Full Screen	
D3-D4	±1 ½ Inches	
Interaction Factor[7]	6×10^{-5} In./Volts	Max.
Pattern Distortion[8]		

CIRCUIT VALUES

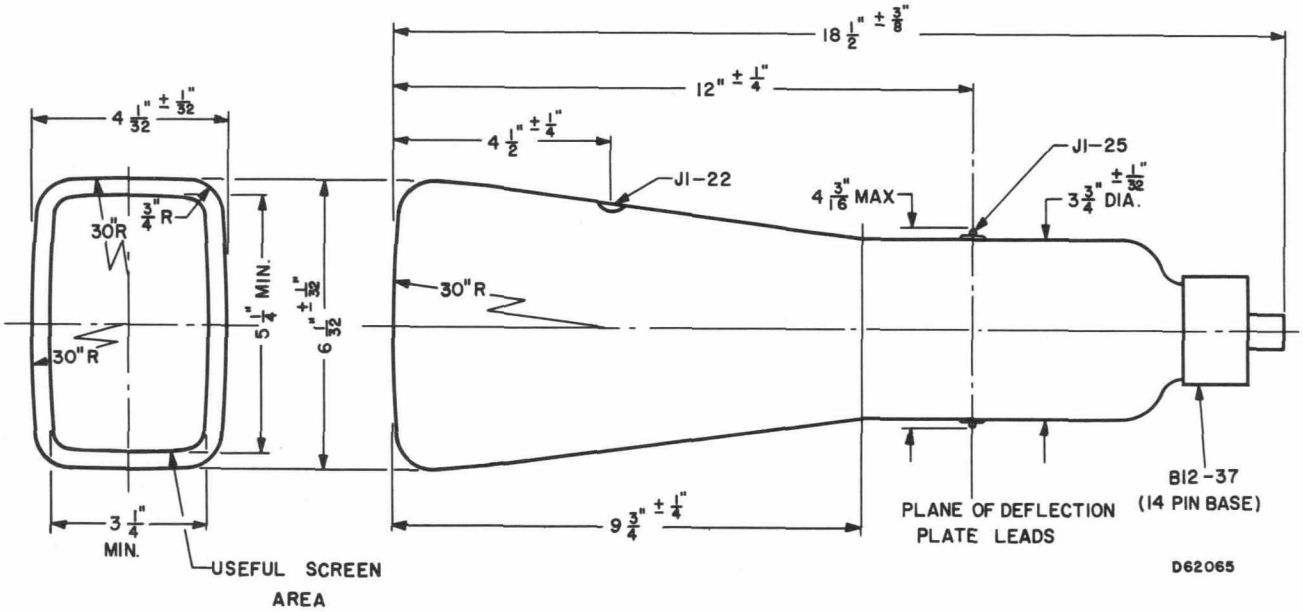
Grid No. 1 Circuit Resistance	1.5 Megohms	Max.
Deflection Circuit Resistance	1.0 Megohms	Max.

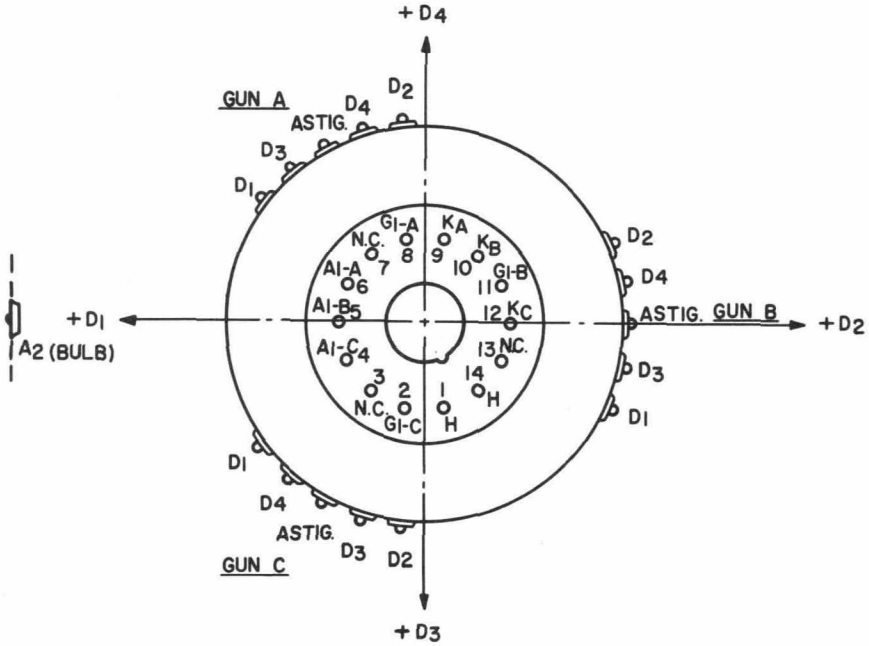
NOTES:

1. *Values are for each gun unless otherwise specified.*
2. *Visual extinction of undeflected focused spot.*
3. *Per MIL-E-1 and at a control grid voltage of 15 volts above spot cutoff.*
4. *The deflection factor (for both D1-D2 and D3-D4 plate pairs separately) for a deflection of 75 % of the minimum useful scan will not differ from the deflection factor at 25 % of the minimum useful scan be more than the indicated value.*
5. *Guns will be on parallel axes. Spot centering as follows:*
   One gun on horizontal center line ⅝" to left
   One gun ¾" above horizontal center line ⅝" to right
   One gun ¾" below horizontal center line ⅝" to right
6. *Useful scan shall be measured from the center of the square as specified in Note 5 for spot centering.*
7. *The deflection of one beam when balanced dc voltages are applied to the deflection electrodes of either of the other two guns shall be less than the specified value.*
8. *The total horizontal movement of the left or right end of a 5" horizontal trace, produced by any of the three guns, when deflected vertically ¾ inches above or below its normal position, shall not exceed .050 inches.*

   The total vertical movement of the upper or lower end of a 1 ½ inch vertical trace produced by any of the three guns, when any one or all beams are deflected horizontally for the full 5 inches of sweep, shall be less than .075 inches.

OUTLINE





VIEW FROM BASE END OF TUBE