



DESCRIPTION

The Sylvania Type SC-3397 is a 4 1/2" round faced, glass Cathode Ray Tube featuring electrostatic focusing and deflection. It is constructed in accordance with Mil-E-1.

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Electrostatic
Phosphor*	P7
Fluorescence	Blue-Green
Phosphorescence	Green
Persistence	Long
Faceplate	Clear-Flat

*In addition to the P7 phosphor, the SC-3397 can be supplied with several other screen phosphors.

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current	1.2 ± 10 % Amperes

Direct Interelectrode Capacitances (Each Gun)

	Min.	Max.
Cathode to All	3.1	5.8 pf
Grid No. 1 to All	4.2	7.9 pf
D1 to D2	1.7	3.1 pf
D3 to D4	0.7	1.3 pf
D1 to All Except D2	2.7	6.1 pf
D2 to All Except D1	2.7	6.1 pf
D3 to All Except D4	2.1	4.0 pf
D4 to All Except D3	2.1	5.0 pf

MAXIMUM RATINGS (Absolute Maximum Values) (Each Gun)

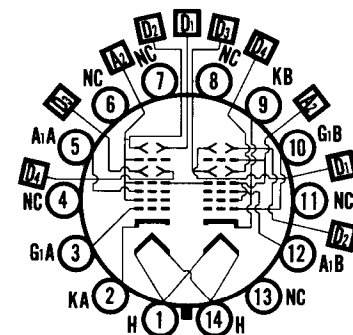
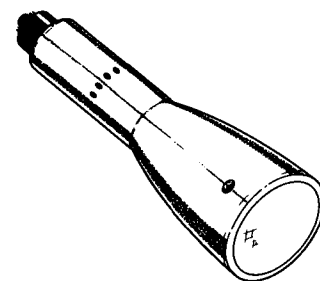
Anode No. 3 Voltage	6600 Volts	
Anode No. 2 Voltage ¹	2860 Volts	dc
Ratio of Anode No. 3 Voltage to Anode No. 2 Voltage	2.3:1 Max.	
Anode No. 1 Voltage	1100 Volts	dc
Grid No. 1 Voltage		
Negative Bias Value	220 Volts	dc
Positive Bias Value	0 Volt	dc
Positive Peak Value	2 Volts	
Grid No. 2 Voltage	2860 Volts	dc
Grid No. 3 Voltage	2860 Volts	dc
Peak Heater-Cathode Voltage		
Heater Negative with Respect to Cathode	200 Volts	dc
Heater Positive with Respect to Cathode	200 Volts	dc
Peak Voltage Between Anode No. 2 and any Deflection Plate	550 Volts	
Post Accelerator Helix Resistance	200-600 Megohms	

TYPICAL OPERATING CONDITIONS (Each Gun)

Anode No. 3 Voltage	4000 Volts	dc
Anode No. 2 Voltage	2000 Volts	dc
Anode No. 1 Voltage for Focus	400 to 600 Volts	dc
Grid No. 1 Voltage for Cutoff ²	-45 to -75 Volts	dc
Grid No. 2 Voltage	2000 Volts	dc
Grid No. 3 Voltage	1850-2150 Volts	dc

QUICK REFERENCE DATA

Radar Indicator Tube
2 Independent Guns
4 1/2" Direct Viewed
Round Glass Type
Electrostatic Focus
Electrostatic Deflection
Clear, Flat Faceplate

SYLVANIA
ELECTRONIC TUBES

A Division of
Sylvania Electric Products Inc.

PICTURE TUBE
OPERATIONS

SENECA FALLS, NEW YORK

Prepared and Released By The
TECHNICAL PUBLICATIONS SECTION
EMPORIUM, PENNSYLVANIA

DECEMBER, 1963

PAGE 1 OF 3

File Under

SPECIAL AND GENERAL
PURPOSE CATHODE RAY TUBES

DEFLECTION FACTOR³

Deflecting Plates 1-2	54 to 66 Volts	dc/Inch
Deflecting Plates 3-4	40 to 50 Volts	dc/Inch
Modulation (Anode 3 Current = 25 μ a)	45 Volts	Max.
Line Width (Anode 3 Current = 25 μ a)	0.030 Inches	Max.
Pattern Distortion ⁴	2 ½ Percent	Max.
Useful Scan (Deflection Plates 1-2 and 3-4) ⁵	4 Inches	
Undelected Spot Position	Note 6	

CIRCUIT VALUES (Each Gun)

Grid No. 1 Circuit Resistance	1.5 Megohms Max.
Deflection Circuit Resistance	5 Megohms Max.

MECHANICAL GENERAL

Minimum Useful Screen Diameter	4 ½ Inches
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base (Medium Shell Diheptal 12-Pin)	B12-37
Angle Between Traces D1-D2 and D3-D4	
Gun A	90 $\pm$ 1 Degree
Gun B	90 $\pm$ 1 Degree
Bulb Contact Alignment	
J1-21 Contact Aligns with D1-D2 Trace ⁷ (Gun A and Gun B)	$\pm$ 10 Degrees

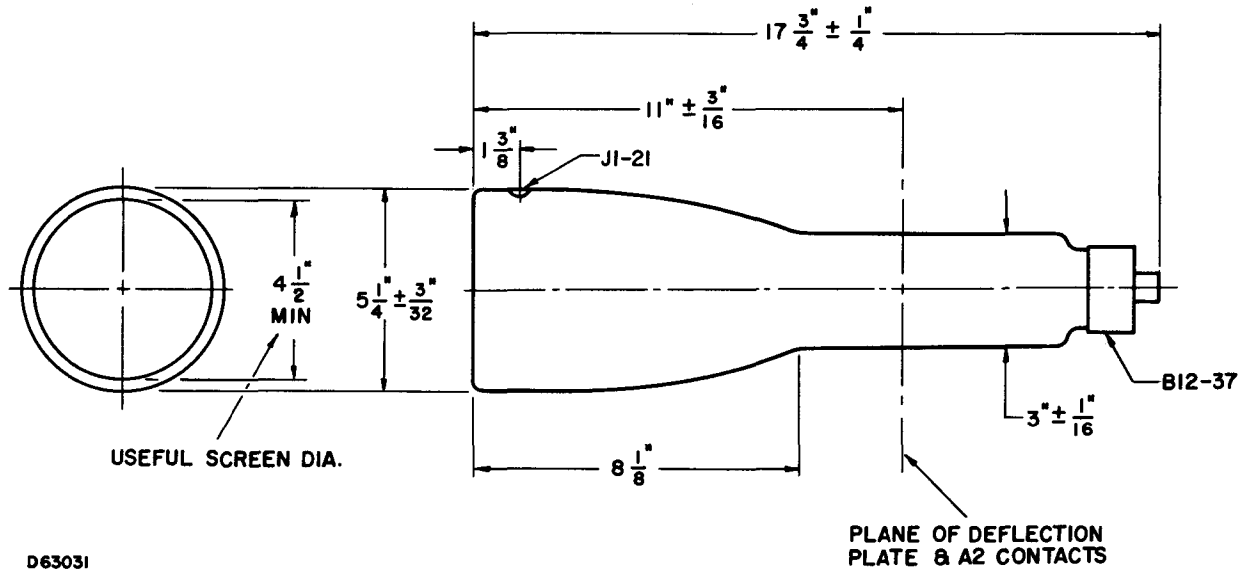
BASE ALIGNMENT

- D1-D2 Traces (Gun A and Gun B) shall be Mutually Parallel to Diagonal through Tube Axis and Pin No. 5
- D1-D2 Trace (Gun A) shall be Parallel to D1-D2 trace (Gun B) $\pm$ 1 Degree
- D3-D4 (Gun A) shall be Aligned with D3-D4 Trace (Gun B) $\pm$ 3 Degrees
- Positive Voltage on D1 (Gun A and Gun B) Deflects Beam Approx. Parallel to Diagonal through Tube Axis and Pin No. 5 toward the latter
- Positive Voltage on D3 (Gun A and Gun B) Deflects Beam Approx. toward Pin No. 2

NOTES:

1. The product of the Anode No. 2 Voltage and the Average Anode No. 2 Current should be limited to 6 watts.
2. Visual extinction of undeflected focused spot.
3. Deflection factor uniformity shall be not more than 2 %. Uniformity shall be measured in accordance with MIL-E-1, Section 4-12-11, for a scanned 3 inch square.
4. All edges of a raster pattern adjusted so its widest points just touch the sides of a 3.075 inch square will fall within the area bounded by the 3.075 inch square and an inscribed 2.925 inch square.
5. The useful scan shall be $\pm$ 2 inches from the tube face center.
6. The undeflected spot positions shall fall between circles of radius of $\frac{3}{16}$ and $\frac{1}{8}$ inches from the tube face center.
The spots of both sections of the cathode ray tube shall be symmetrically opposed around the tube axis.
7. J1-21 contact is on the same side and plane as Pin No. 5.

OUTLINE



D63031