



**DESCRIPTION**

The Sylvania SC-3875 is a 19" round rear window cathode ray tube intended for either simultaneously photographing the electron image or for optical projection of overlay information for comparator applications. It also features character writing deflection plates of high sensitivity for producing alpha-numeric symbols positioned with the main deflection yoke. The high resolution electron gun is designed for use with a single pole ion trap to eliminate ion blemishes. The optical viewing window has an approximate useful diameter of 2½ inches and is of ophthalmic quality.

**QUICK REFERENCE DATA**

- 19" Cathode Ray Tube
- Rear Viewing Window
- Electrostatic Focus
- Magnetic Deflection
- Electrostatic Character Writing
- Single Ion Trap

**CHARACTERISTICS**

**GENERAL DATA**

Focusing Method	Electrostatic
Character Writing	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	50 Degrees
Phosphor*	P14
Fluorescence	Blue
Phosphorescence	Yellow-Orange
Persistence	Medium to Long
Faceplate	Gray Filter Glass
Light Transmittance (Approx.)	75 Percent

\*In addition to the type shown, the SC-3875 can be supplied with several other phosphors.

**ELECTRICAL DATA**

Heater Voltage	6.3 Volts
Heater Current	0.6 ± 10 % Ampere
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes	5 pf
Grid No. 1 to All Other Electrodes	6.5 pf
D1 to D2	1.6 pf
D3 to D4	1.6 pf
Any One Plate to All	4.5 pf
Angle Between 1D2 and 3D4	90 + 1 Degrees

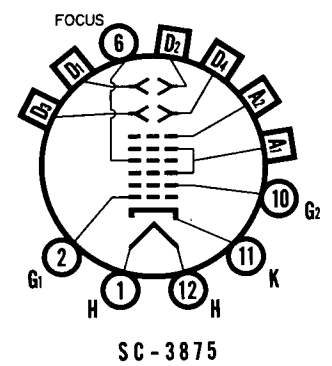
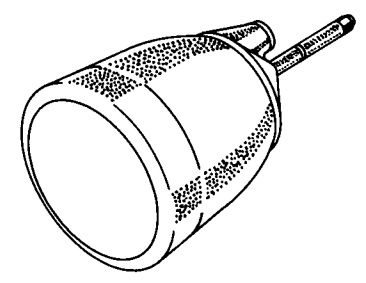
**MECHANICAL DATA**

Minimum Useful Screen Diameter	17 Inches
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Neck Contacts (5)	0.040" Diam. Wire
Base (Short Small Shell Duodecal 6-Pin)	B6-203
Basing	See Diagram

**RATINGS**

**MAXIMUM RATINGS (Absolute Maximum Values)**

Anode Voltage <sup>1</sup>	18,000 Volts
Grid No. 4 (Focusing Electrode) Voltage	-500 to +1100 Volts
Grid No. 2 Voltage	700 Volts
Grid No. 1 Voltage	
Negative Bias Value	180 Volts
Negative Peak Value	220 Volts
Positive Bias Value	0 Volt
Positive Peak Value	2 Volts
Peak Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	
During Warm-up Period Not to Exceed 15 Seconds	450 Volts
After Equipment Warm-up Period	200 Volts
Heater Positive with Respect to Cathode	200 Volts
Peak Voltage Between Anode and Any Deflection Plate	550 Volts



**SYLVANIA ELECTRIC PRODUCTS INC.**

Electronic Components Group  
**ELECTRONIC TUBE DIVISION**  
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File Under

SPECIAL AND GENERAL PURPOSE CATHODE RAY TUBES

TYPICAL OPERATING CONDITIONS (Grid Drive Service)

Anode Voltage <sup>1</sup> . . . . .	15,000 Volts	dc
Grid No. 4 Voltage for Focus . . . . .	0 to +400 Volts	dc
Grid No. 2 Voltage . . . . .	500 Volts	dc
Grid No. 1 Voltage Required for Cutoff <sup>2</sup> . . . . .	-35 to -72 Volts	dc
Deflection Factors (Approx.) <sup>3</sup>		
D1-D2 . . . . .	170 Volts	dc/In.
D3-D4 . . . . .	185 Volts	dc/In.
Line Width at 20 FTL . . . . .	0.025 In.	Max.
Spot Position . . . . .	Within 30 mm Diam. Circle	

CIRCUIT VALUES

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

NOTES:

1. Connect both bulb and neck anode contacts to anode supply.
2. Visual extinction of focused raster. Extinction of the stationary spot will require that these values be about 5 volts more negative.
3. Useful electrostatic deflection is limited to  $\pm 1''$  on each axis.
4. 20 FTL measured in  $10'' \times 10''$  raster scanned with T.V. standards.

WARNING:

*X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.*

OUTLINE

