



**DESCRIPTION**

The Sylvania Types SC-3507, SC-3800 and SC-3876 are Cathode Ray Tubes with fiber optic strips inserted into the faceplate. They are intended for application of high resolution photographic recording. The fiber optics strip has an approximate active area  $8\frac{11}{16}$  inches long by  $\frac{1}{2}$  inch wide. The electron-optical system and fine grain screen achieve a very fine trace width with conventional focusing and deflection units and a simple beam centering magnet.

**CHARACTERISTICS**

**GENERAL DATA**

	SC-3507	SC-3876	SC-3800
Focusing Method . . . . .	Magnetic		Electrostatic
Deflection Method . . . . .	Magnetic		Magnetic
Deflection Angle (Approx.) . . .	55		55 Degrees
Phosphor (Fine Grain Aluminized)	P11		P11
Fluorescence . . . . .	Blue		Blue
Persistence . . . . .	Short		Short
Faceplate . . . . .	Fiber Optics		Fiber Optics

**MECHANICAL DATA**

Overall Length . . . . .	See Drawing
Neck Diameter . . . . .	$1\frac{7}{16}$ Inches
Face Dimensions . . . . .	$3\frac{1}{2} \times 10$ Inches
Bulb Contact . . . . .	J1-21
Base . . . . .	See Drawing

**FIBER OPTICS DATA**

Useful Screen Size . . . . .	$\frac{1}{2} \times 8\frac{11}{16}$ Inches
Fiber Size (Single Clad) . . . . .	8-20 Microns
Numerical Aperture . . . . .	0.8

**RATINGS**

**MAXIMUM RATINGS (Absolute Values)**

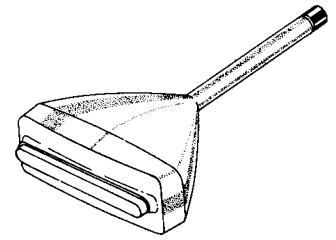
	SC-3507	SC-3800	SC-3876
Anode Voltage . . . . .	25,000	10,500	10,500 Volts
Focus Electrode Voltage . . . . .	—	2500	— Volts
Grid No. 2 Voltage . . . . .	2500	770	2500 Volts
Grid No. 1 Voltage . . . . .	0 to -150	0 to -150	0 to -150 Volts
Peak Heater Cathode Voltage			
Heater Negative with Respect to Cathode			
During Warm-up Period Not to			
Exceed 15 Secs. . . . .	450	400	400 Volts
After Equipment			
Warm-up . . . . .	165	165	165 Volts
Heater Positive with			
Respect to Cathode . . . . .	165	165	165 Volts

**TYPICAL OPERATING CONDITIONS**

Heater Voltage . . . . .	6.3	6.3	6.3 Volts	
Heater Current . . . . .	$0.6 \pm 10\%$	$0.6 \pm 10\%$	$0.6 \pm 10\%$ Amp	
Anode Voltage <sup>4</sup> . . . . .	20,000	10,000	10,000 Volts	
Focus Voltage . . . . .	—	1500-2500	— Volts	
Focus Electrode Current				
at $I_b = 5 \mu a$ . . . . .	—	50	— $\mu a$	Max.
Grid No. 2 Voltage . . . . .	2000	500	2000 Volts	
Grid No. 1 Voltage				
for Cutoff <sup>1</sup> . . . . .	-33 to -77	-33 to -77	-33 to -77 Volts	
Focusing Coil Current				
(Approx.) <sup>2</sup> . . . . .	100	—	80 Ma	
Line Width <sup>3</sup> . . . . .	0.002	0.005	0.004 Inch	Max.

**QUICK REFERENCE DATA**

Fiber Optics Tubes  
High Resolution  
Active Area  $8\frac{1}{2}'' \times 1\frac{1}{2}''$   
Very Fine Trace  
Focusing  
SC-3507 and SC-3876—  
Magnetic  
SC-3800—Electrostatic  
Deflection—Magnetic



**BASING**

	SC-3507	SC-3876	SC-3800
	Pin No.	Pin No.	Pin No.
Heater	1		1
Grid No. 1	2		2
Focus	—		6
Grid No. 2	10		10
Cathode	11		11
Heater	12		12

**SYLVANIA ELECTRIC PRODUCTS INC.**

Electronic Components Group  
ELECTRONIC TUBE DIVISION  
SENECA FALLS, NEW YORK

*A Technical Publication*

JUNE, 1964

PAGE 1 OF 2

File Under  
SPECIAL AND GENERAL  
PURPOSE CATHODE RAY TUBES

**CIRCUIT VALUES**

Grid No. 1 Circuit Resistance

SC-3507

1.5

SC-3800

1.5

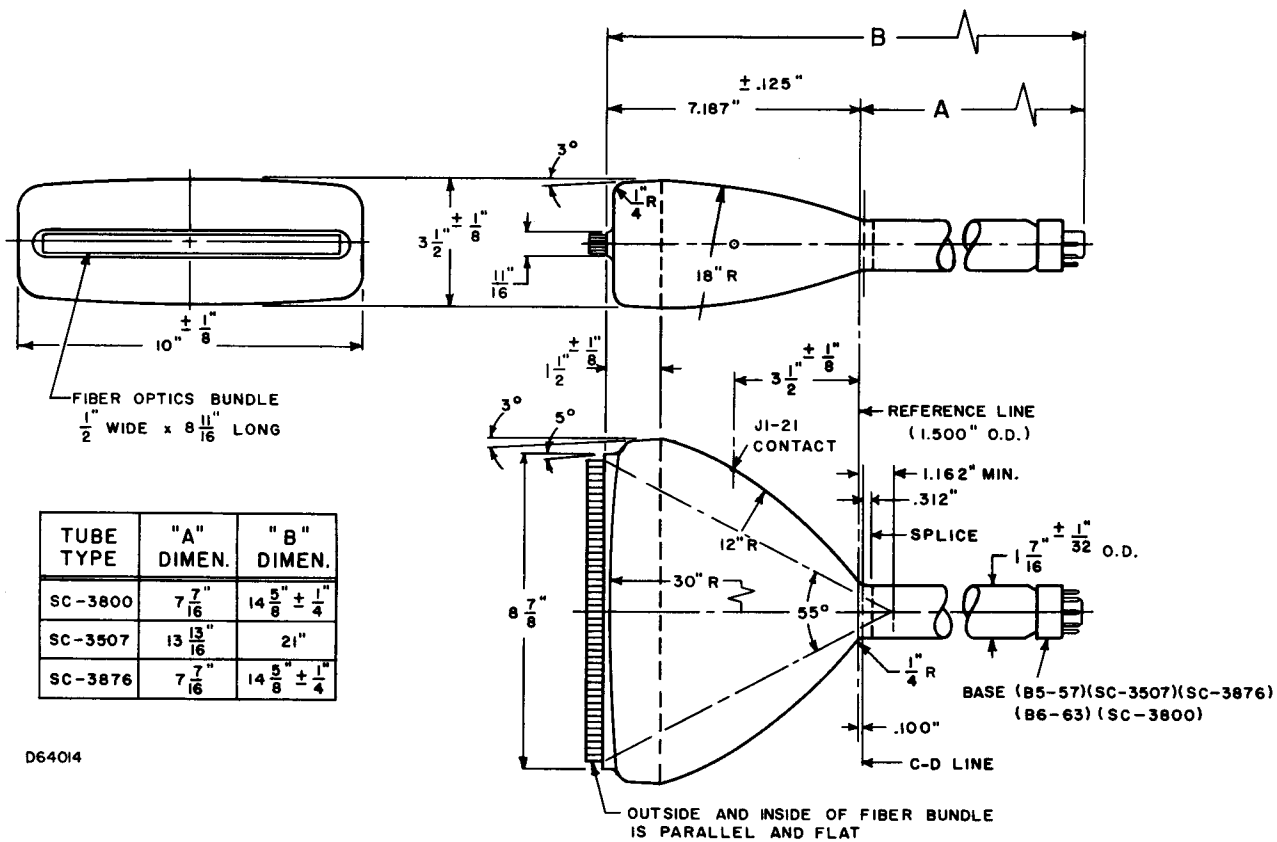
SC-3876

1.5 Megohms Max.

**NOTES:**

1. Visual extinction of undeflected focused spot.
2. For JEDEC focusing coil 106 or equivalent,  $2\frac{1}{2}$  inches from reference line.
3. Line width measured at  $5\ \mu\text{a}$  by the shrinking raster method. Variable strength (0-10 gauss) beam centering magnet must be used for optimum line width.
4. SC-3507 must be operated with A2 or screen grounded and cathode at -20 KV. SC-3800 and SC-3876 must be operated only with anode grounded and cathode at -10 KV.

**OUTLINE**



D64014