



**DESCRIPTION**

Sylvania Type SC-3863 is an electrostatic charge printing tube designed for use in high speed printing equipment. It is a cathode ray tube which has as a target for the beam, an array of fine, closely spaced, wires extending through the bulb wall. Deflection and modulation of the beam striking the wires will produce charge patterns on a dielectric in contact with the outer surface of the tube.

The fine focus beam of the SC-3863, the small wire size and close spacing in the array, and the low capacitance between wire elements, permit high resolution along with extremely rapid printing. The SC-3863 can be used for single line scanning, and the .160" height of the array permits two-dimensional scanning for other types of operation. The useful printing width of the array is 2 3/4 inches.

**CHARACTERISTICS**

**ELECTRICAL DATA**

Focusing Method . . . . .	Magnetic
Deflection Method . . . . .	Magnetic
Horizontal Deflection Angle (Approx.) . . . . .	24 Degrees
Heater Current at 6.3 Volts . . . . .	600 ± 30 Ma
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes . . . . .	5 pf
Grid No. 1 to All Other Electrodes . . . . .	8 pf

**MECHANICAL DATA**

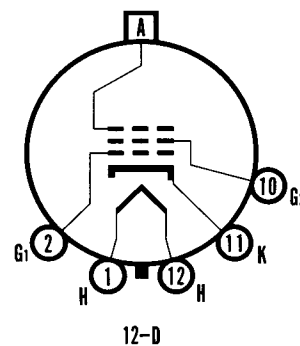
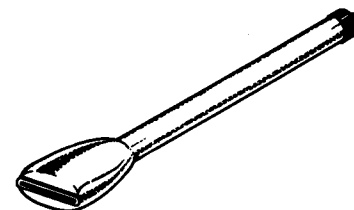
<b>Printing Head</b>	
0.001" Diameter Conductive Elements Spaced Approximately 0.004" on Centers in Both Directions.	
Minimum Useful Printing Array Width . . . . .	2.750 Inches
Minimum Useful Printing Array Height . . . . .	0.160 Inches
Array Thickness (Approx.) . . . . .	0.050 Inches
Overall Length . . . . .	18 ± 3/8 Inches
Width . . . . .	3 1/4 ± 1/32 Inches
Height . . . . .	1 3/4 ± 1/32 Inches
Neck Length . . . . .	13 5/8 ± 1/4 Inches
Neck Diameter . . . . .	1 7/16 ± 1/16 Inches
Bulb Contact . . . . .	C1-3
Base . . . . .	B5-57
Basing . . . . .	12D
Weight (Approx.) . . . . .	1 Pound

**MAXIMUM RATINGS (Absolute Maximum Values)**

Unless Otherwise Specified, All Voltages are Positive with Respect to Cathode.	
Maximum Anode Voltage . . . . .	25,000 Volts
Maximum Grid No. 2 Voltage . . . . .	700 Volts
Grid No. 1 Voltage	
Maximum Negative Value . . . . .	155 Volts
Maximum Negative Peak Value . . . . .	200 Volts
Maximum Positive Value . . . . .	0 Volt
Maximum Heater Voltage . . . . .	6.9 Volts
Minimum Heater Voltage . . . . .	5.7 Volts
Maximum Heater-Cathode Voltage	
Heater Negative with Respect to Cathode . . . . .	200 Volts
Heater Positive with Respect to Cathode . . . . .	200 Volts

**QUICK REFERENCE DATA**

Electrostatic Charge Printing Tube  
 Magnetic Deflection  
 Magnetic Focus  
 High Speed Printing  
 High Resolution  
 Printing Dimensions  
 .16" x 2.75" Minimum



**SYLVANIA ELECTRIC PRODUCTS INC.**

Electronic Components Group  
 ELECTRONIC TUBE DIVISION  
 SENECA FALLS, NEW YORK

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*File Under*

SPECIAL AND GENERAL PURPOSE CATHODE RAY TUBES

**TYPICAL OPERATING CONDITIONS (Grid Drive Service)**

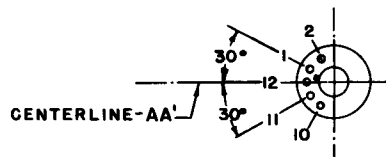
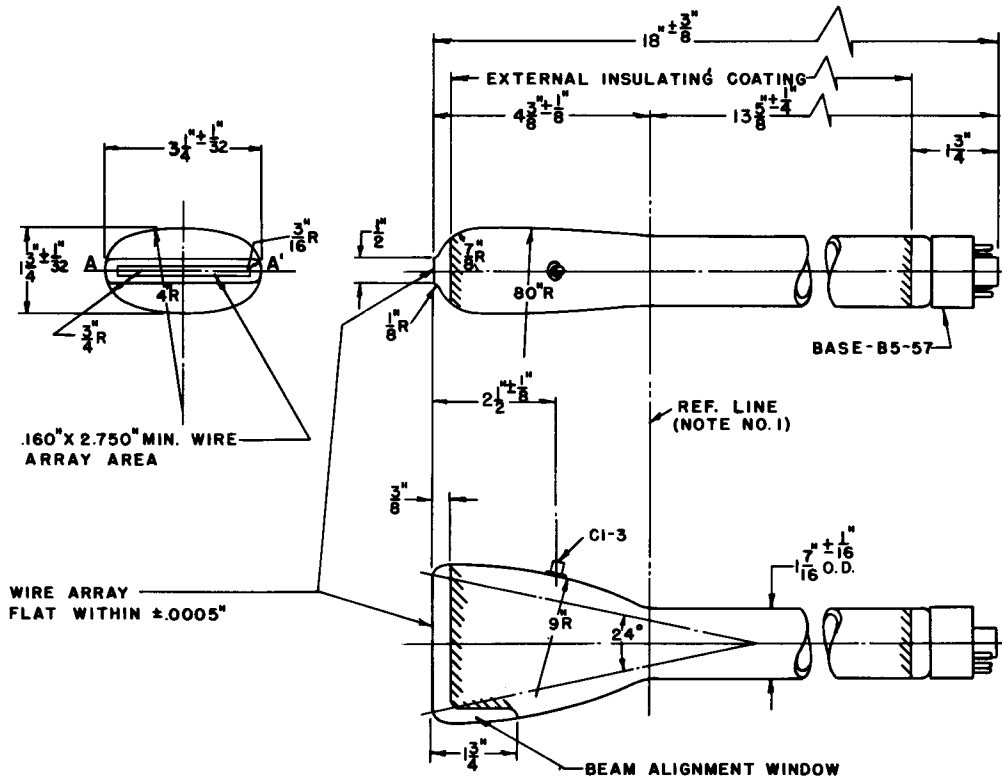
Unless Otherwise Specified, All Voltages are Positive with Respect to Cathode.

Anode Voltage	20,000 Volts	dc
Grid No. 2 Voltage	300 Volts	dc
Grid No. 1 Voltage for Cutoff	-40 to -77 Volts	dc
Focusing Coil Current <sup>1</sup>	70 ± 10 Ma	dc

**NOTE:**

1. For JEDEC Focus Coil No. 122 or equivalent, with the combined Grid No. 1 bias voltage and video-signal voltage adjusted to produce 100 µa anode current. Distance from tube face to center of air gap on focus coil is 7<sup>3</sup>/<sub>8</sub> inches.

**OUTLINE**



D61030A

**BOTTOM VIEW OF BASE**  
**(NOTE NO. 2)**

**DIAGRAM NOTES:**

1. Reference line determined by plane where JEDEC Gauge No. 112 (a cylinder 1.500" + .003" - .000" I.D. and 2" long) will stop against body of bulb.
2. Base Pin No. 12 aligns with horizontal centerline (A-A') within 30° and is on the side opposite the anode contact, (C1-3).