

Display Cathode-Ray Tube

12"-Rectangular 70°-Magnetic Deflection
Display Cathode-Ray Tube Having Integral
Protective Window and P4 Phosphor Screen

ELECTRICAL

Heater Current at 6.3 volts 0.6 A

Focus Method Electrostatic

Deflection Method Magnetic

Direct Interelectrode Capacitances (Typical):

Grid No.1 to all other electrodes 6 pF

Cathode to all other electrodes 5 pF

External conductive coating
to anode $\left\{ \begin{array}{l} 1300 \text{ max. pF} \\ 700 \text{ min. pF} \end{array} \right.$

OPTICAL

Faceplate, Spherical Filterglass

Light transmission at center (Approx.) 37%

Phosphor P4-Sulfide Type, Aluminized

Tube Dimensions:

Overall length 16.60 max. in

Neck length 7.56 ± 0.25 in

Greatest width 10.94 ± 0.12 in

Greatest height 8.56 ± 0.12 in

Bulb See Dimensional Outline

Anode Cap Recessed Small Cavity Cap
(JEDEC No.J1-21)

Base Small-Shell Duodecal,
Arrangement 1,
6-Pin (JEDEC No.B6-63)

Operating Position Any

Weight (Approx.) 9-1/2 lb

MAXIMUM AND MINIMUM RATINGS, Absolute-Maximum Values

Unless otherwise specified, values are positive with respect to cathode.

Anode Voltage 16,000 max. V

Grid-No.3 (Focusing-Electrode) Voltage 2700 max. V

Grid-No.2 Voltage 400 max. V

Grid-No.1 Voltage:

Negative bias value 80 max. V

Positive bias value 0 max. V



Positive peak value	2 max. V
Peak Heater-Cathode Voltage:	
Heater negative with respect to cathode. .	180 max. V
Heater positive with respect to cathode. .	180 max. V
Heater Voltage (ac or dc):	
Under operating conditions ^b	$\left\{ \begin{array}{l} 6.9 \text{ max. V} \\ 5.7 \text{ min. V} \end{array} \right.$

RECOMMENDED OPERATING VALUES

Unless otherwise specified, values are positive with respect to cathode. Raster size 6 inches by 8 inches. Standard TV Scan.

Anode Voltage	12000 V
Anode Current	100 μ A
Grid-No.3 (Focusing-Electrode)	
Voltage for an Anode Current of 100 microamperes	1400 to 1800 V
Grid-No.2 Voltage	340 V
Grid-No.1 Voltage for Visual Extinction of Focused Raster	
	-68 to -38 V
See accompanying <i>Cutoff Design Chart</i>	

TYPICAL PERFORMANCE DATA

At recommended operating values, unless otherwise specified.

Anode Current	70 to 30% of cathode current
Grid-No.3 Current	30 to 70% of cathode current
Typical Trace Luminance ^c	See accompanying <i>Typical Trace Luminance Characteristic</i>
Typical Center Line Width ^d	0.010 in
Spot Position	See footnote ^e

MAXIMUM CIRCUIT VALUE

Grid-No.1 Circuit Resistance	1.5 max. M Ω
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^b For maximum cathode life, it is recommended that the heater supply be regulated at 6.3 volts.

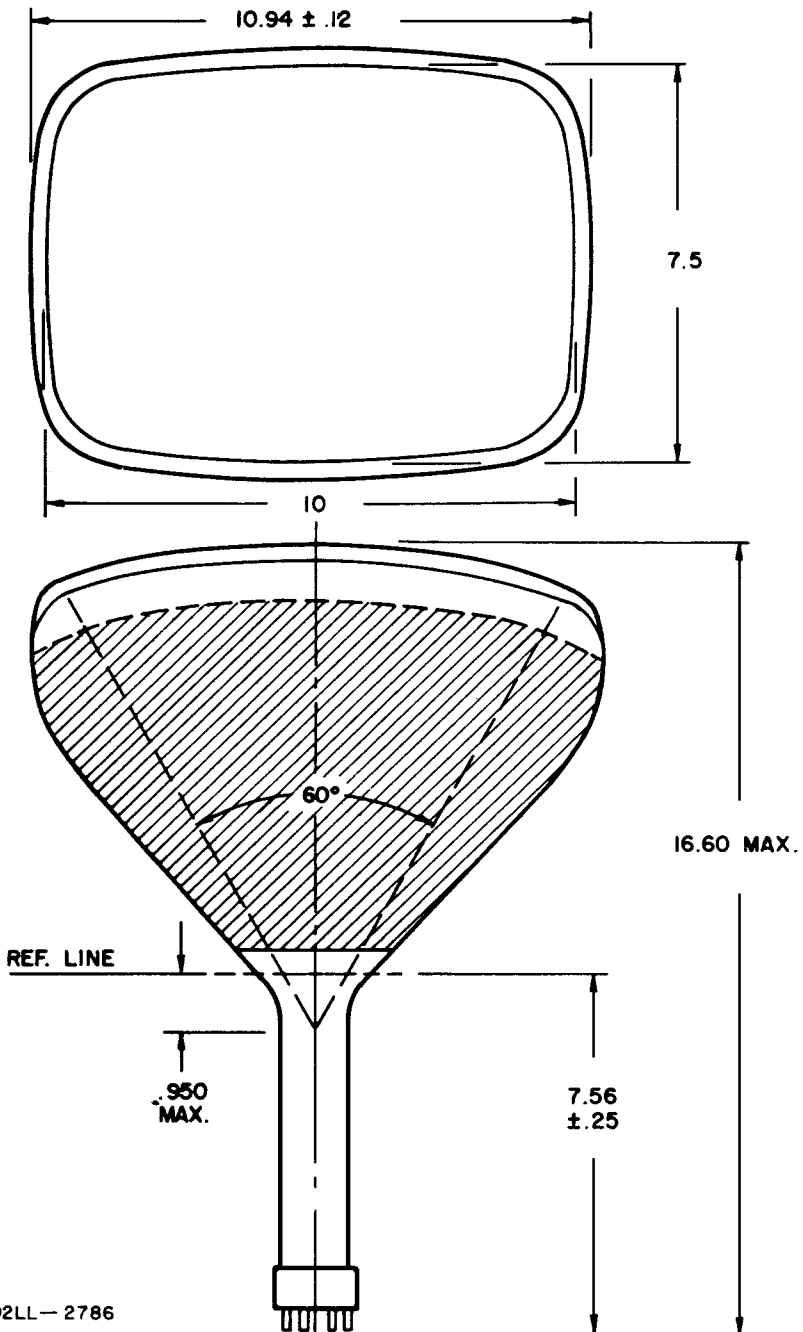
^c Average luminance (brightness) at the center of a single trace scanned at a given sweep speed and refreshed at a given rate.

^d Measured by shrinking raster technique at an anode current of 100 microamperes.

^e The center of the undeflected, unfocused spot will fall within a circle having a 0.8 inch diameter concentric with the center of the tube face.

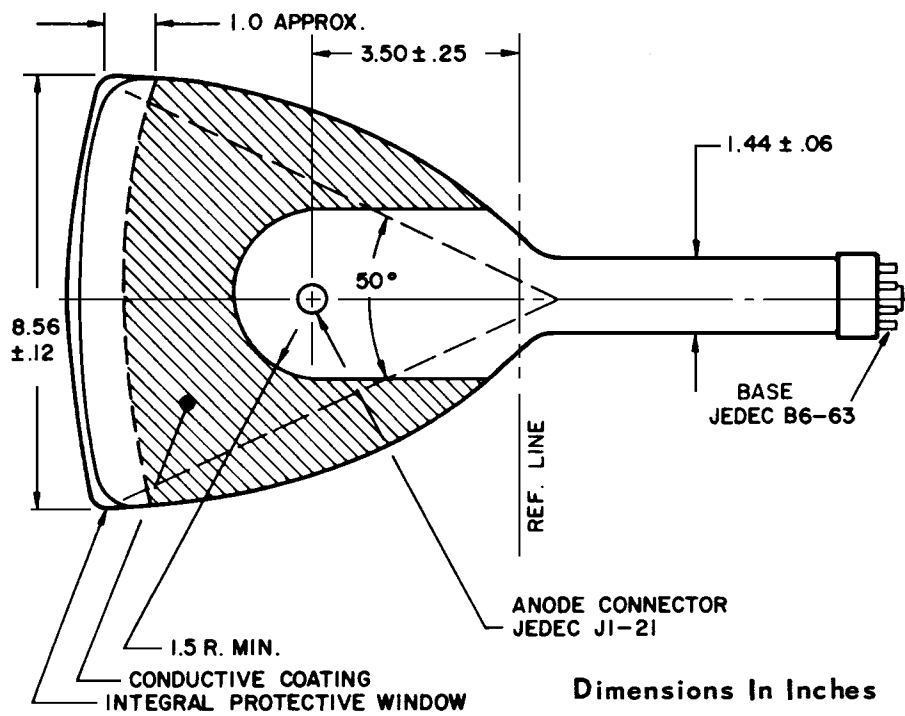
X-RADIATION WARNING

Because the 4557 is designed to be operated at anode voltages as high as 16,000 volts, shielding of the 4557 for X-radiation may be needed to protect against possible injury from prolonged exposure at close range.

DIMENSIONAL OUTLINE Dimensions In Inches

See accompanying *Inch Dimension Equivalents in Millimeters.*

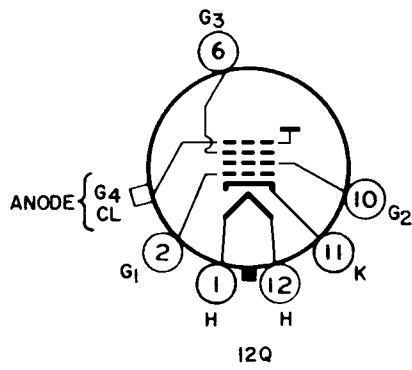
DIMENSIONAL OUTLINE(Top Right Side View)



Inch Dimension Equivalents in Millimeters					
Inch	mm	Inch	mm	Inch	mm
.06	1.5	1.44	36.5	8.56	217.4
.12	3	1.5	38.1	10	254
.25	6.3	3.50	88.9	10.94	277.8
.950	24.1	7.5	190.5	16.60	421.6
1.0	25.4	7.56	192		

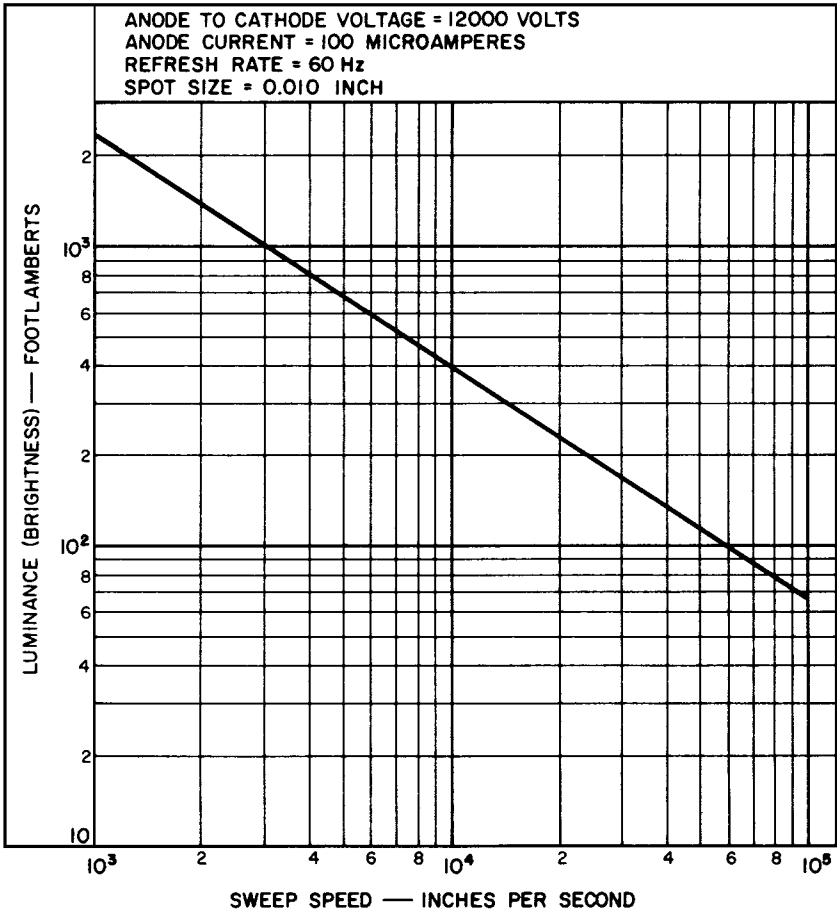
TERMINAL DIAGRAM (Bottom View)

- Pin 1: Heater
- Pin 2: Grid No.1
- Pin 6: Grid No.3
- Pin 10: Grid No.2
- Pin 11: Cathode
- Pin 12: Heater
- Cap: Anode (Grid No.4 and Collector)



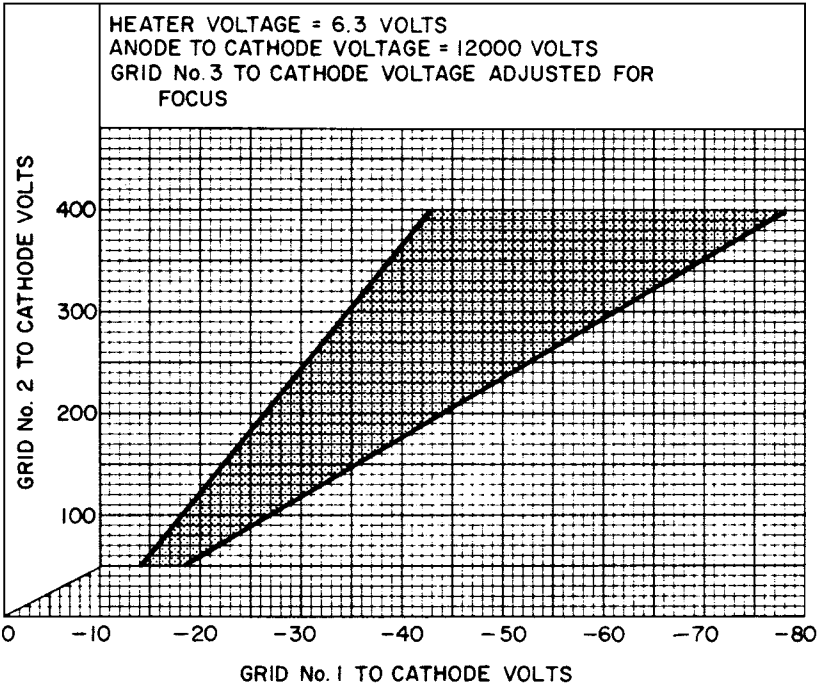
TYPICAL TRACE LUMINANCE CHARACTERISTIC

(Average brightness at center of single trace scanned at the refreshed at the indicated rate)



92LM - 2788

CUTOFF DESIGN CHART



92LS-2787