

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	81 Degrees
Diagonal	92 Degrees
Vertical	66 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Short to Medium
Faceplate	Bonded Shield
(Gray Filter Glass Safety Plate	
Laminated Directly to Face of Tube)	
Light Transmittance of Faceplate	
Assembly (Approx.)	40 Percent

ELECTRICAL DATA

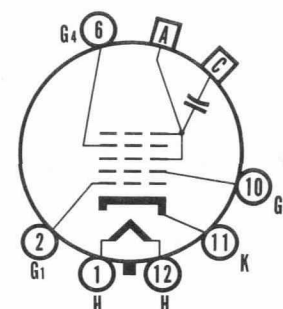
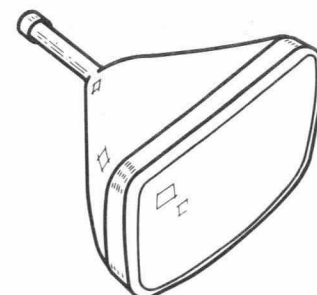
Heater Voltage	6.3 Volts	
Heater Current	$0.60 \pm 5\%$ Ampere	
Heater Warm-up Time ¹	11 Seconds	
Direct Interelectrode Capacitances (Approx.)	5 μmf	
Cathode to All Other Electrodes	6 μmf	
Grid No. 1 to All Other Electrodes	2500 μmf	Max.
External Conductive Coating to Anode ²	2000 μmf	Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	
Height	15 1/4 Inches
Width	19 5/16 Inches
Diagonal	22 5/16 Inches
Area	282 Sq. Inches
Neck Length	$6 \pm 3/16$ Inches
Overall Length	$18 \frac{13}{16} \pm 7/16$ Inches
Bulb	J187D or Equiv.
Safety Plate	FP198A or Equiv.
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B6-203
Basing	12L
Weight (Approx.)	34 1/2 Pounds

QUICK REFERENCE DATA

Television Picture Tube
23" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Bonded Shield
Gray Filter Glass
Aluminized Screen
Electrostatic Focus
92° Magnetic Deflection
No Ion Trap
External Conductive Coating



12-1

SYLVANIA ELECTRONIC TUBES

A Division of
Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS SENECA FALLS, NEW YORK

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File Under
TELEVISION PICTURE TUBES

RATINGS

MAXIMUM RATINGS (Design Maximum Values) Grid Drive Service

Anode Voltage	Max. 25,000 Volts	dc
	Min. 12,000 Volts	dc
Grid No. 4 Voltage (Focusing Electrode)	-550 to +1100 Volts	dc
Grid No. 2 Voltage	550 Volts	dc
Grid No. 1 Voltage		
Negative Bias Value	155 Volts	dc
Negative Peak Value	220 Volts	
Positive Bias Value	0 Volts	dc
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	

TYPICAL OPERATING CONDITIONS (Grid Drive Service)

Anode Voltage	20,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to +400 Volts	dc
Grid No. 2 Voltage	300 Volts	dc
Grid No. 1 Voltage Required for Cutoff ³	-35 to -72 Volts	dc

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Megohms Max.
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NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.
2. External conductive coating must be grounded.
3. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more negative.

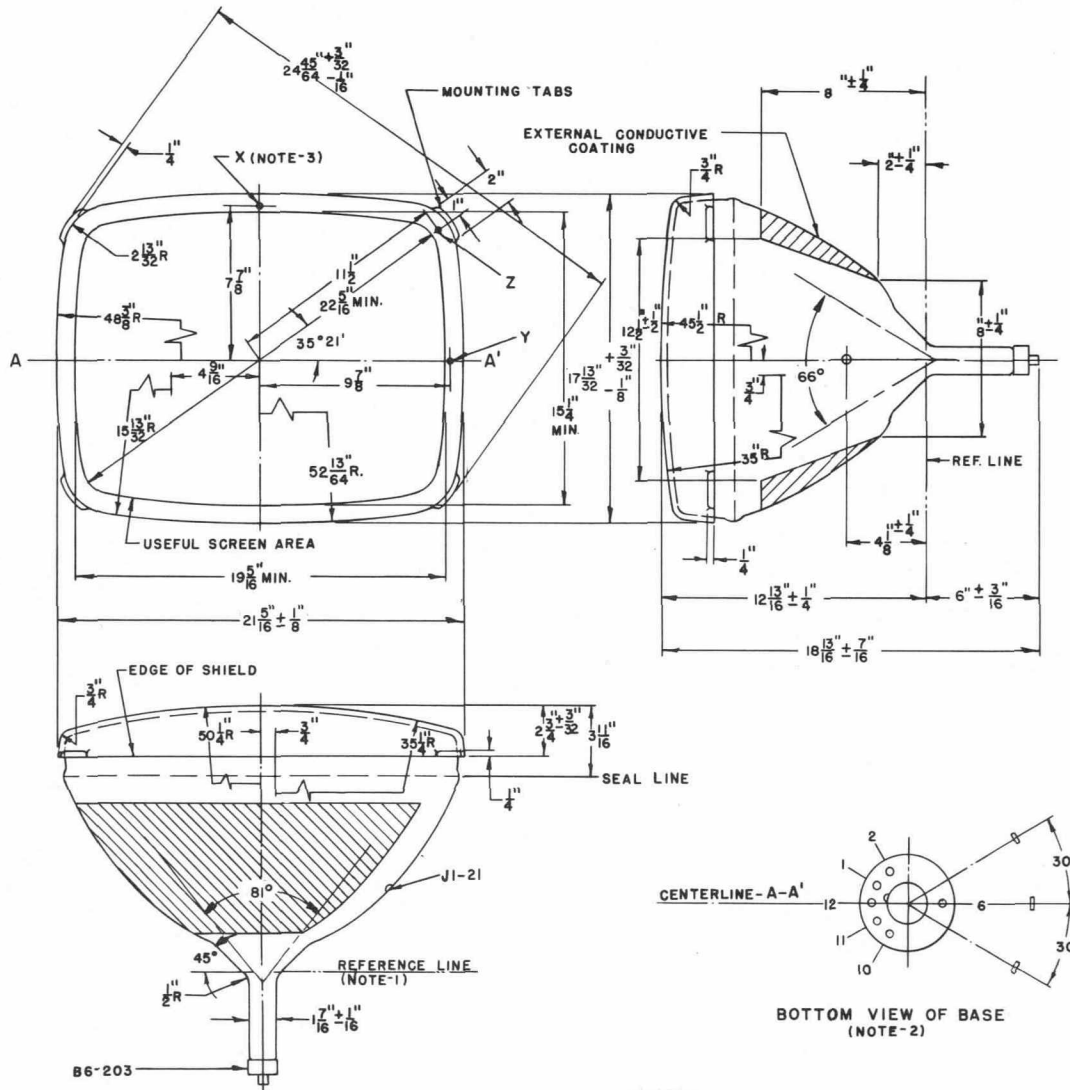
WARNING:

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

SYLVANIA
23AFP4

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D61006A

DIAGRAM NOTES:

1. Reference line is determined by plane C-C' of JEDEC No. 116 Reference Line Gauge, when the gauge is seated against the bulb.
2. Base Pin No. 6 aligns with horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.
3. Planes perpendicular to tube axis and passing through points X, Y and Z are located as follows:

Plane tangent to crown of face to plane of X: .758" Nom.

Plane of X to plane of Y = .463" ± .030".

Plane of X to plane of Z = .970" ± .030".