CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	99 Degrees
Diagonal	110 Degrees
Vertical	82 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
23DJP4: External Surface of Safety Plate Treated to Reduce Specular Reflection	

ELECTRICAL DATA

Heater Voltage	6.3 Volts	
Heater Current	0.30 ± 5 % Ampere	
Heater Warm-up Time[1]	11 Seconds	
Direct Interelectrode Capacitances (Approx.)		
Cathode to All Other Electrodes	5 pf	
Grid No. 1 to All Other Electrodes	6 pf	
External Conductive Coating to Anode[2]	2500 pf	Max.
	2000 pf	Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	
Height	15 ¼ Inches
Width	19 5/16 Inches
Diagonal	22 5/16 Inches
Area	282 Sq. Inches
Neck Length	4 1/8 Inches
Overall Length	14 3/16 Inches
Bulb	J187A1 or Equiv.
Safety Plate	23DHP4-FP198A1 or Equiv. 23DJP4 - FP198B1 or Equiv.
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B7-208
Basing	8HR
Weight (Approx.)	32 ½ Pounds

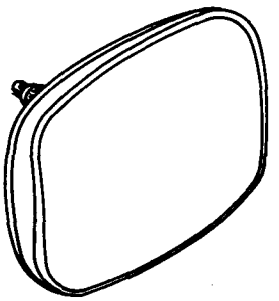
RATINGS

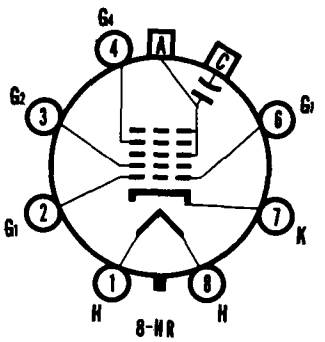
MAXIMUM RATINGS (Design Maximum Values)

Cathode Drive Service[3]		
Maximum Anode Voltage	22,000 Volts	dc
Minimum Anode Voltage	12,000 Volts	dc
Grid No. 4 Voltage (Focusing Electrode)	−550 to +1100 Volts	dc
Grid No. 2 Voltage	700 Volts	dc
Cathode Voltage:		
Maximum Negative Value	0 Volts	dc
Maximum Negative Peak Value	2 Volts	
Maximum Positive Value	155 Volts	dc
Maximum Positive Peak Value	220 Volts	
Peak Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
During Warm-up Period not to Exceed 15 Secs.	450 Volts	
After Equipment Warm-up Period	200 Volts	
Heater Positive with Respect to Cathode	200 Volts	

QUICK REFERENCE DATA

Television Picture Tube
23″ Direct Viewed
Rectangular Glass Type
Bonded Shield
Gray Filter Glass
Aluminized Screen
Electrostatic Focus
110° Magnetic Deflection
No Ion Trap
External Conductive Coating
6.3 Volt, 300 Ma Heater
23DJP4: Anti-Reflection Treated





SYLVANIA
ELECTRONIC TUBES

A Division of
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PICTURE TUBE
OPERATIONS

SENECA FALLS, NEW YORK

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File Under
TELEVISION PICTURE TUBES

TYPICAL OPERATING CONDITIONS (Cathode Drive Service)[3]

Anode Voltage	16,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to 400 Volts	dc
Grid No. 2 Voltage[4]	400 Volts	dc
Grid No. 1 Voltage Required for Cutoff[5]	+44 to +78 Volts	dc

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Megohms Max.

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. *Voltages are positive with respect to Grid No. 1 unless indicated otherwise.*
4. *Brightness and resolution improve with increase in Grid No. 2 voltage. A minimum value of 300 volts is recommended.*
5. *Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more positive.*

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

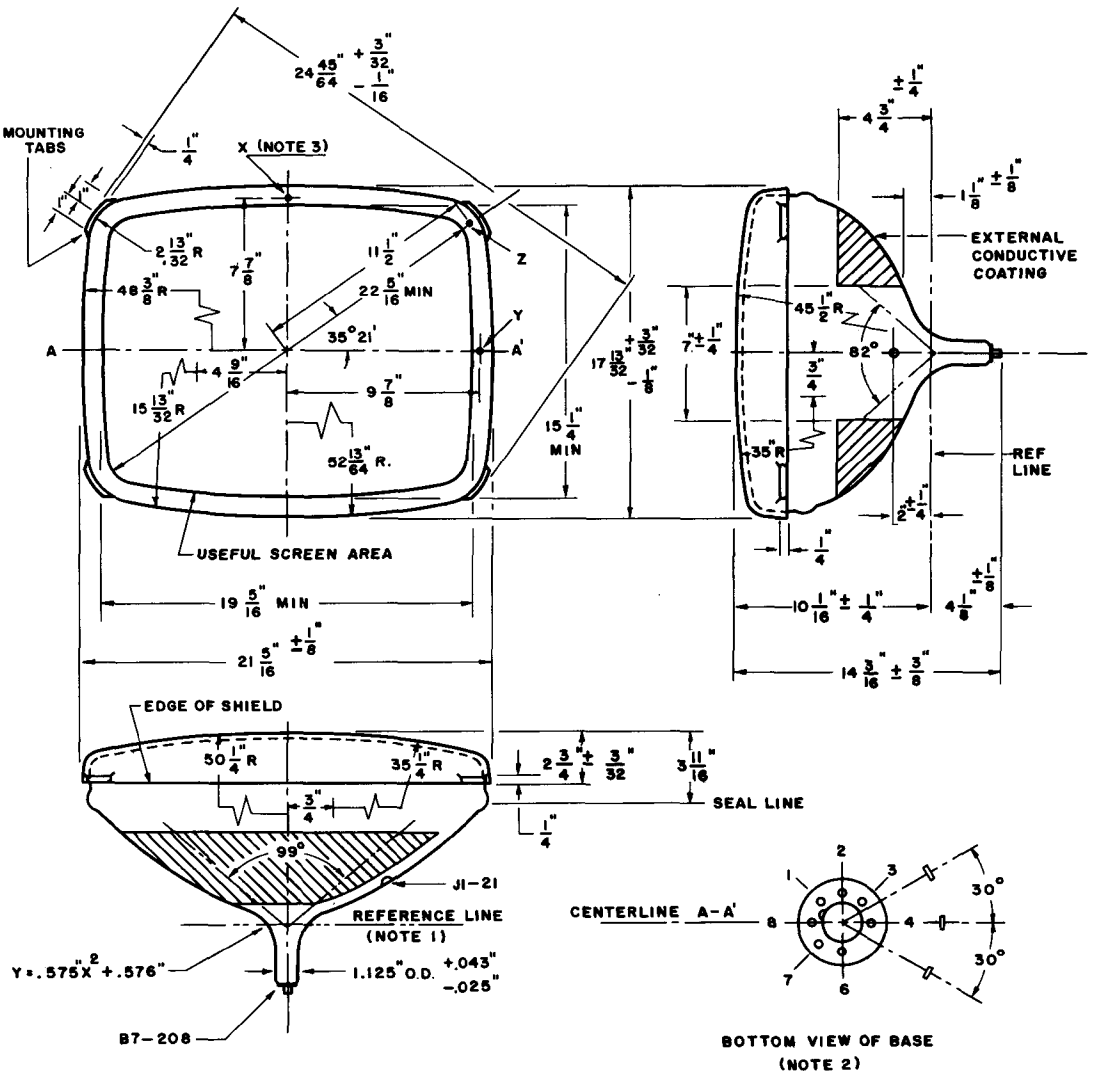

DIAGRAM NOTES:

1. *Reference line is determined by plane C-C′ of JEDEC No. 126 Reference Line Gauge, when the gauge is seated against the bulb.*
2. *Base Pin No. 4 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 Y = .463″ ± .030″.
   Plane of X to plane of Z = .970″ ± .030″.