



## ADVANCE DATA

### 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	Gray Filter Glass
Light Transmittance (Approx.)	76 Percent

#### ELECTRICAL DATA

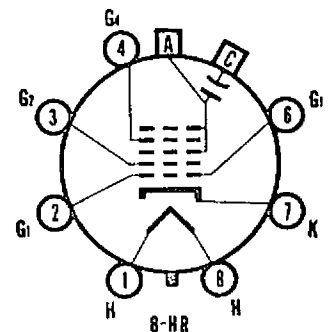
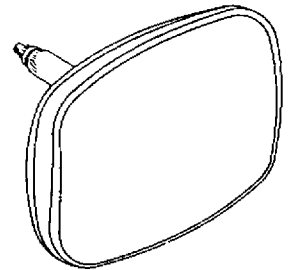
Heater Voltage	6.3 Volts
Heater Current	
23ARP4:	0.60 ± 5% Ampere
23BCP4:	0.30 ± 5% Ampere
Heater Warm-up Time <sup>1</sup>	11 Seconds
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes	5 μf
Grid No. 1 to All Other Electrodes	6 μf
External Conductive Coating to Anode <sup>2</sup>	2500 μf Max. 1700 μf Min.

#### MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	
Height	15 3/16 Inches
Width	19 1/4 Inches
Diagonal	22 5/16 Inches
Area	282 Sq. Inches
Neck Length	5 1/8 ± 1/8 Inches
Overall Length	14 7/8 ± 5/16 Inches
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B7-208
Basing	8HR
Weight (Approx.)	24 Pounds

## QUICK REFERENCE DATA

Television Picture Tube  
23" Direct Viewed  
Rectangular Glass Type  
Spherical Faceplate  
Gray Filter Glass  
Aluminized Screen  
Electrostatic Focus  
110° Magnetic Deflection  
No Ion Trap  
External Conductive  
    Coating  
23ARP4: 6.3 Volt, 600 Ma  
    Heater  
23BCP4: 6.3 Volt, 300 Ma  
    Heater



## SYLVANIA ELECTRONIC TUBES

A Division of  
Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS  
SENECA FALLS, NEW YORK

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SYLVANIA

23ARP4  
23BCP4

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RATINGS

MAXIMUM RATINGS (Design Maximum Values) Grid Drive Service

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	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	16,000 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 <sup>3</sup>	-35 to -72 Volts	dc

CIRCUIT VALUES

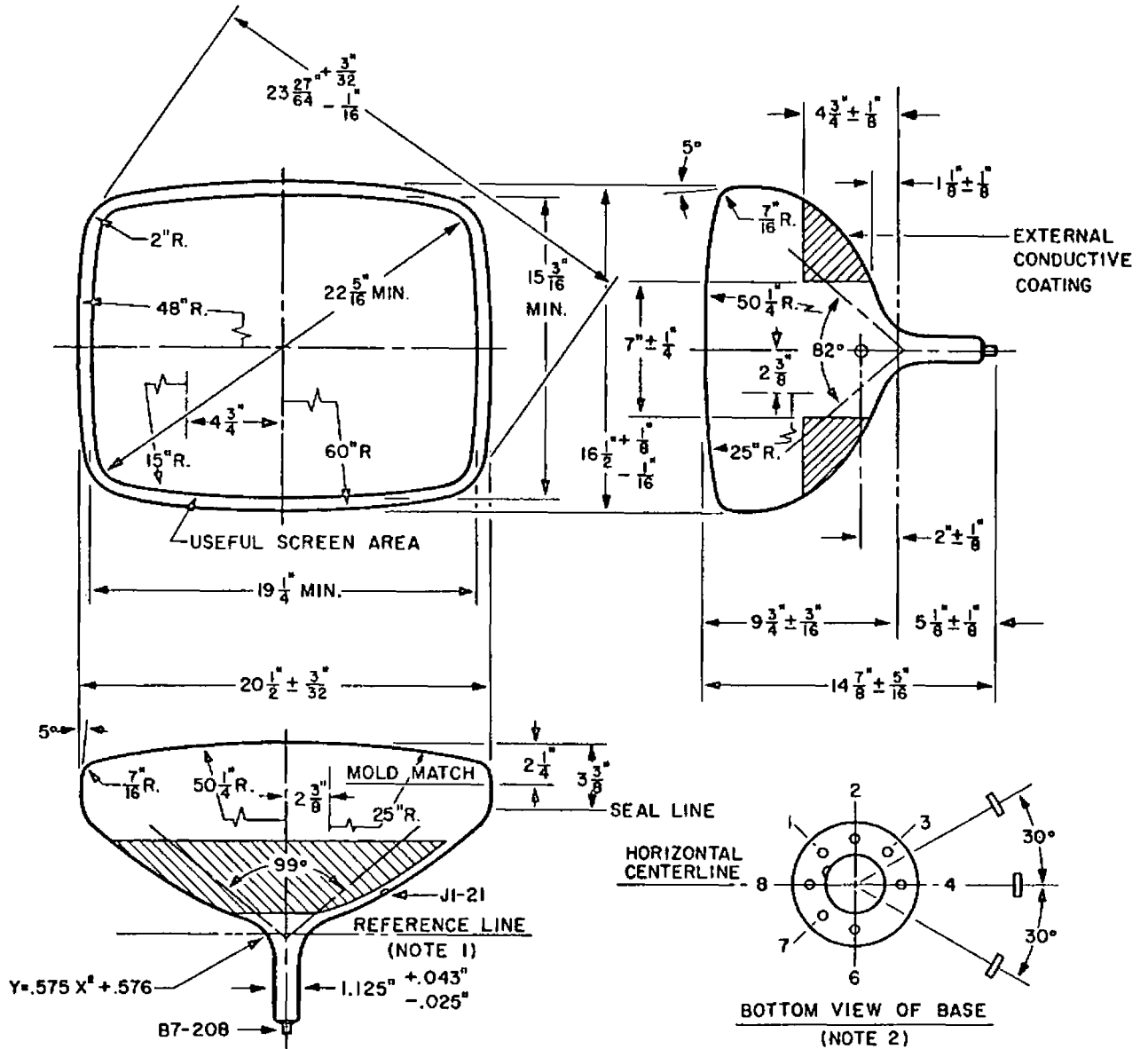
Grid No. 1 Circuit Resistance	1.5 Megohms Max.
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NOTES:

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.



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DIAGRAM NOTES:

1. Reference line is determined by Plane C-C' of JEDEC No. 126 Reference Line Gauge, when gauge is seated against the bulb.
2. Base pin No. 4 aligns with horizontal centerline of face of tube within  $30^\circ$ , and is on same side as anode contact cap, J1-21.