

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	104 Degrees
Diagonal	110 Degrees
Vertical	85 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Short to Medium
Faceplate	Bonded Shield
Gray Filterglass Safety Plate Laminated Directly to Face of Plate	
Light Transmittance of Faceplate Assembly (Approx.)	45 Percent

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current—27ADP4	$0.6 \pm 5\%$ Ampere
Heater Current—27AFP4	$0.3 \pm 5\%$ Ampere
Heater Warm-up Time ¹	11 Seconds
Direct Interelectrode Capacitances (Approx.)	
Cathode to All Other Electrodes	5 μ f
Grid No. 1 to All Other Electrodes	6 μ f
External Conductive Coating to Anode ²	2500 μ f
	2000 μ f
	Max.
	Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Max. Assured)	
Height	18 $\frac{5}{8}$ Inches
Width	24 $\frac{1}{4}$ Inches
Diagonal	25 $\frac{3}{4}$ Inches
Minimum Useful Screen Area	425 Square Inches
Neck Length	5 $\frac{3}{8} \pm \frac{3}{16}$ Inches
Overall Length	17 $\frac{9}{16} \pm \frac{1}{16}$ Inches
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Bulb	J214 $\frac{1}{2}$ B
Safety Plate	FP-214 $\frac{1}{2}$ A1
Base	B7-208
Basing	8HR
Weight (Approx.)	51 Pounds

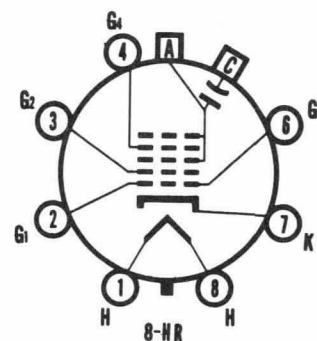
RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Grid 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
Maximum Grid No. 2 Voltage	550 Volts	dc
Minimum Grid No. 2 Voltage	200 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	

QUICK REFERENCE DATA

Television Picture Tube
27" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Bonded Shield
27ADP4: 6.3V/600 Ma Heater
27AFP4: 6.3V/300 Ma Heater
Aluminized Screen
Electrostatic Focus
110° Magnetic Deflection
1 $\frac{1}{8}$ " Neck Diameter
No Ion Trap
External Conductive Coating



SYLVANIA ELECTRONIC TUBES

A Division of
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PICTURE TUBE OPERATIONS

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File Under
TELEVISION PICTURE TUBES

MAXIMUM RATINGS (Design Maximum Values) Continued

Cathode Drive Service⁴		
Maximum Anode Voltage	22,000 Volts	dc
Minimum Anode Voltage	12,000 Volts	dc
Grid No. 4 Voltage (Focusing Electrode)	-400 to +1250 Volts	dc
Maximum Grid No. 2 Voltage	700 Volts	dc
Minimum Grid No. 2 Voltage	350 Volts	dc
Cathode Voltage		
Positive Bias Value	155 Volts	dc
Positive Peak Value	220 Volts	
Negative Bias Value	0 Volts	dc
Negative 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 Service³		
Anode Voltage	18,000 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 ⁵	-37 to -74 Volts	
Cathode Drive Service⁴		
Anode Voltage	18,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to 400 Volts	dc
Grid No. 2 Voltage	300 Volts	dc
Cathode Voltage Required for Cutoff ⁵	+37 to +62 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 its rated value 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 rated heater voltage divided by rated heater current.
2. External conductive coating must be grounded.
3. Unless otherwise specified, voltages are positive with respect to cathode.
4. Unless otherwise specified, voltages are positive with respect to Grid No. 1.
5. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be increased by about 5 volts.

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

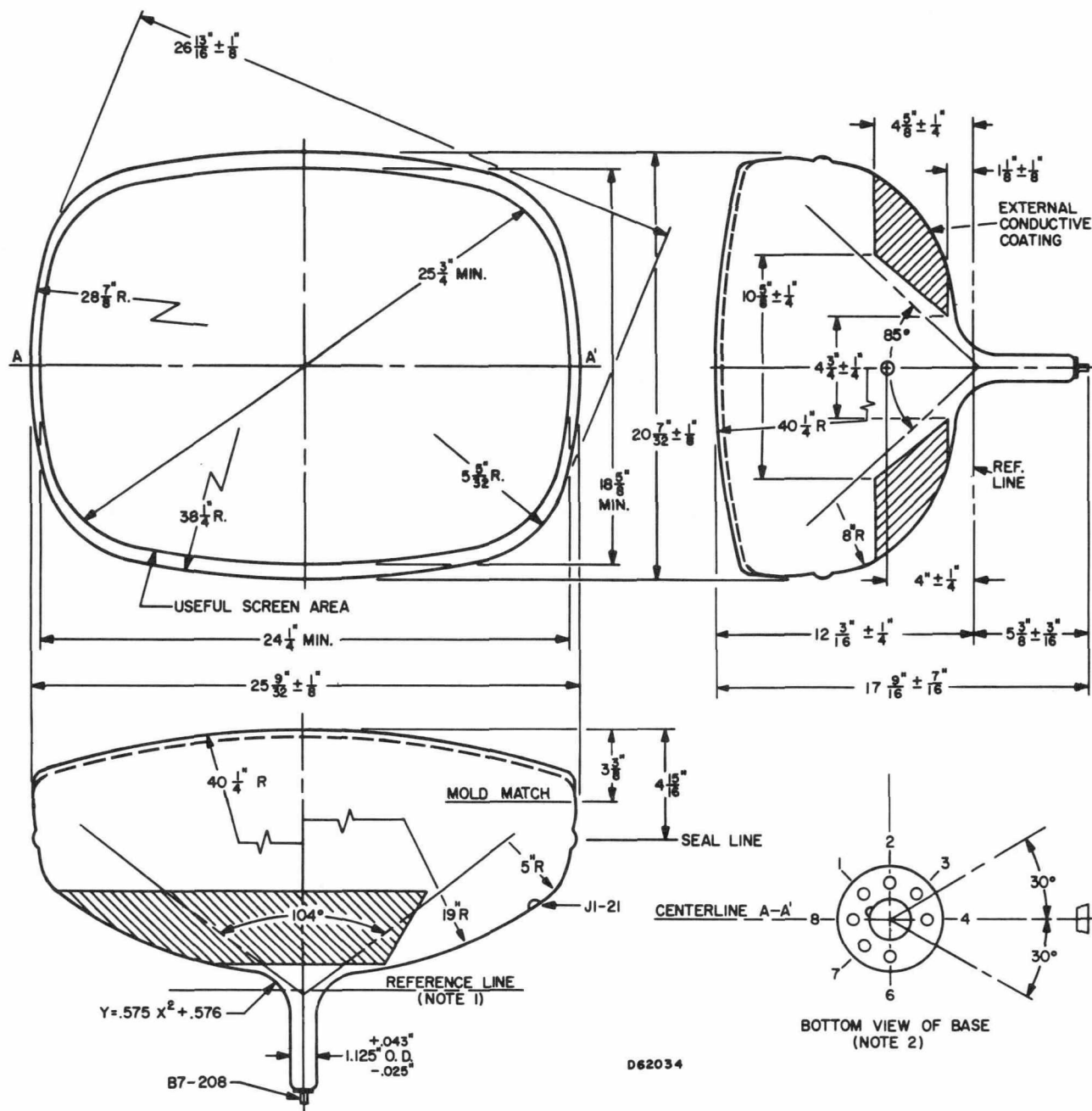


DIAGRAM NOTES:

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