



engineering data service

SYLVANIA
16ANP4
16AQP4

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	103 Degrees
Diagonal	114 Degrees
Vertical	88 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Medium Short
Faceplate	Bonded Shield
(Gray Filter Glass Safety Plate Laminated Directly to Face of Tube)	
Light Transmittance of Faceplate Assembly (Approx.)	60 Percent
Type 16AQP4 has External Surface of Safety Plate Treated to Reduce Specular Reflection	

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.)		
Cathode to All Other Electrodes	5 pf	
Grid No. 1 to All Other Electrodes	6 pf	
External Conductive Coating to Anode ²	1200 pf	Max.
	800 pf	Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)		
Height	10 $\frac{1}{4}$ Inches	
Width	12 $\frac{15}{16}$ Inches	
Diagonal	14 $\frac{7}{8}$ Inches	
Area	125 Sq. Inches	
Neck Length	$4\frac{1}{8} \pm \frac{1}{8}$ Inches	
Overall Length	$10\frac{7}{16} \pm \frac{5}{16}$ Inches	
Bulb	J125A	
Safety Plate (16ANP4)	FP125A	
Safety Plate (16AQP4)	Same, Anti-Reflection Treated	
Bulb Contact (Recessed Small Cavity Cap)	J1-21	
Base	B7-208	
Basing	8HR	
Weight (Approx.)	9 $\frac{1}{2}$ Pounds	

RATINGS

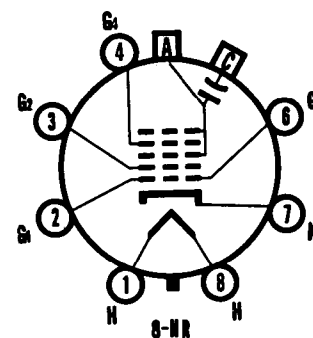
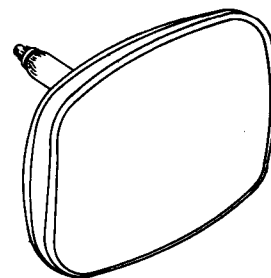
MAXIMUM RATINGS (Design Maximum Values)

Grid Drive Service ³		
Anode Voltage		
Maximum	18,000 Volts	dc
Minimum	10,000 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 Secs.	450 Volts	
After Equipment Warm-up Period	200 Volts	
Heater Positive with Respect to Cathode	200 Volts	

QUICK REFERENCE DATA

Television Picture Tube
16" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Bonded Shield
Gray Filter Glass
Aluminized Screen
Electrostatic Focus
114° Magnetic Deflection
No Ion Trap
External Conductive Coating

16AQP4—Anti-Reflection
Treated



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

MAXIMUM RATINGS (Design Maximum Values) (Continued)

Cathode Drive Service⁴

Anode Voltage		
Maximum	18,000 Volts	dc
Minimum	10,000 Volts	dc
Grid No. 4 Voltage (Focusing Electrode)	-400 to +1250 Volts	dc
Grid No. 2 Voltage	700 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	14,000 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	-33 to -70 Volts	dc

Cathode Drive Service⁴

Anode Voltage	14,000 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	+31 to +57 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. Voltages are positive with respect to cathode unless indicated otherwise.
4. Voltages are positive with respect to Grid No. 1 unless indicated otherwise.
5. Visual extinction of focused raster. For cutoff of the undeflected focused spot, the absolute value of the bias between cathode and grid will increase 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

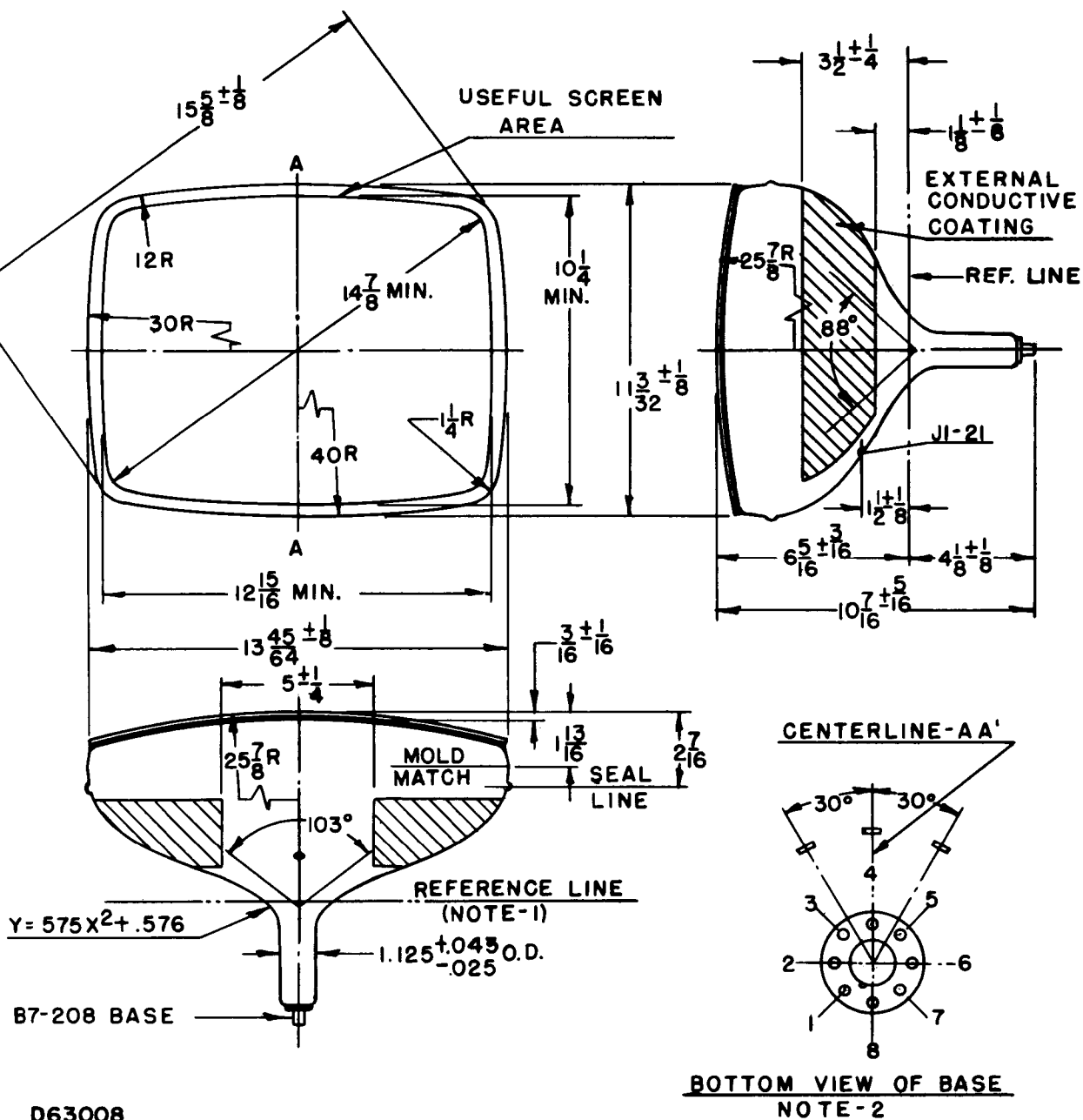


DIAGRAM NOTES:

1. Reference line is determined by plane C-C' of JEDEC No. 126 Reference Line Gauge when the gauge is seated against the bulb.
2. Base pin No. 4 aligns with vertical centerline (A-A') within 30° and is on same side as anode contact (J1-21).