

CHARACTERISTICS

GENERAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Horizontal	101 Degrees
Diagonal	114 Degrees
Vertical	86 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Medium Short
Faceplate	Gray Filter Glass
Light Transmittance of Faceplate (Approx.)	49 Percent

These types employ coating banded tube integral implosion protection.

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current	0.60 ± 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 and Rimbands to Anode ²	1500 pf Max. 1000 pf Min.
Resistance Between External Conductive Coating and Rimband	50 Megohms Min.

MECHANICAL DATA

Minimum Useful Screen Dimensions (Max. Assured)	
Height	12 Inches
Width	15 ³ / ₁₆ Inches
Diagonal	17 ⁹ / ₁₆ Inches
Minimum Useful Screen Area	172 Sq. Inches
Neck Length	4 ³ / ₈ ± 1/8 Inches
Overall Length	11 ⁵ / ₈ ± 1/4 Inches
Bulb	J149F
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B7-208
Basing	8HR
Weight (Approx.)	15 Pounds

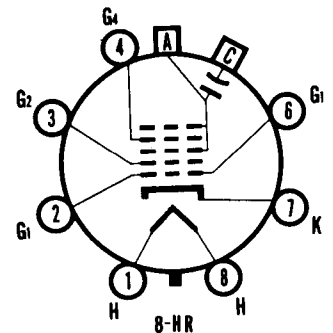
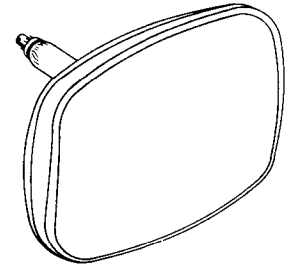
RATINGS

MAXIMUM RATINGS (Design Maximum Values)

Grid Drive Service ³	19EHP4	19EDP4	
Maximum Anode Voltage	18,000	23,000 Volts	dc
Minimum Anode Voltage	10,000	15,000 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	dc
Positive Bias Value		0 Volt	dc
Positive Peak Value		2 Volts	dc
Peak Heater-Cathode Voltage			
Heater Negative with Respect to Cathode			
During Warm-up Period Not to Exceed 15		450 Volts	
Seconds			
After Equipment Warm-up Period		200 Volts	
Heater Positive with Respect to Cathode		200 Volts	

QUICK REFERENCE DATA

- Television Picture Tubes
- 19 Inch Direct Viewed
- Rectangular Glass Types
- Banded Tubes
- Gray Filter Glass
- Aluminized Screen
- Electrostatic Focus
- 114 Degree Magnetic Deflection
- 1 1/8 Inch Neck Diameter
- No Ion Trap
- External Conductive Coating
- 19EDP4—High Anode Voltage
- 19EHP4—Low Anode Voltage



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ELECTRONIC TUBE DIVISION
SENECA FALLS, NEW YORK

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File Under

TELEVISION PICTURE TUBES

MAXIMUM RATINGS (Design Maximum Values) (cont'd)

	19EHP4	19EDP4	
Cathode Drive Service⁴			
Maximum Anode Voltage	18,000	23,000 Volts	dc
Minimum Anode Voltage	10,000	15,000 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 Volt	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		300 Volts	
DC Component		200 Volts	dc
Heater Positive with Respect to Cathode			
DC Component		100 Volts	dc

TYPICAL OPERATING CONDITIONS

Grid Drive Service³			
Anode Voltage	16,000	20,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to 400	0 to 400 Volts	dc
Grid No. 2 Voltage	300	400 Volts	dc
Grid No. 1 Voltage Required for Cutoff ⁵	-35 to -72	-46 to -94 Volts	dc
Cathode Drive Service⁴			
Anode Voltage	16,000	20,000 Volts	dc
Grid No. 4 Voltage for Focus	0 to 400	0 to 400 Volts	dc
Grid No. 2 Voltage	400	400 Volts	dc
Cathode Voltage Required for Cutoff ⁵	40 to 76	42 to 78 Volts	dc

CIRCUIT VALUES

Grid No. 1 Circuit Resistance 1.5 Megohms Max.

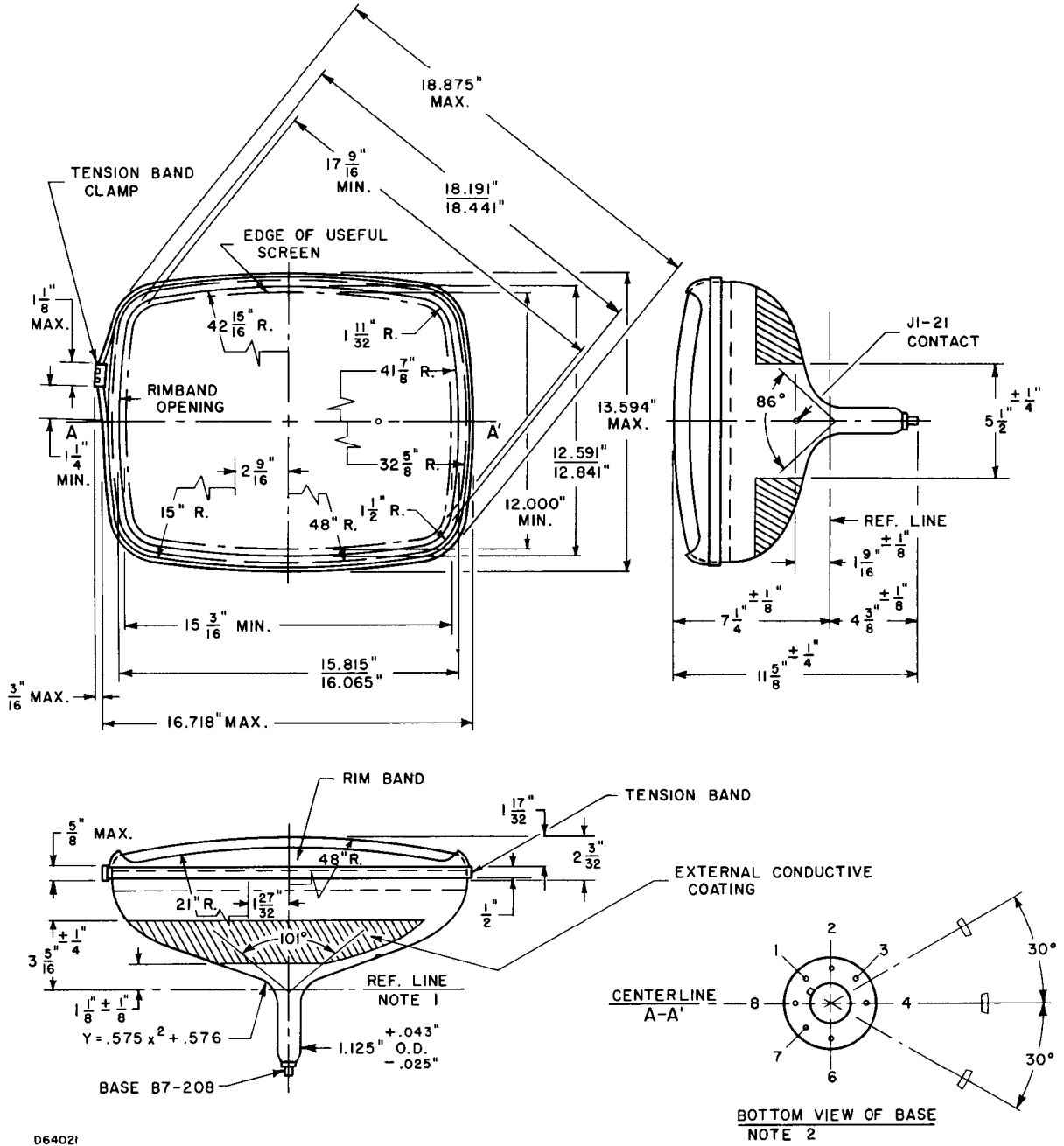
NOTES:

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 and rimbands 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



D6402I

DIAGRAM NOTES:

1. Reference Line is determined of 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).