

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 banded tube integral implosion protection.

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 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	$15\frac{3}{16}$ Inches
Diagonal	$17\frac{9}{16}$ Inches
Minimum Useful Screen Area	172 Sq. Inches
Neck Length	$4\frac{3}{8} \pm \frac{1}{8}$ Inches
Overall Length	$11\frac{5}{8} \pm \frac{1}{4}$ Inches
Bulb	J149F
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base	B7-208
Basing	8HR
Weight (Approx.)	15 Pounds

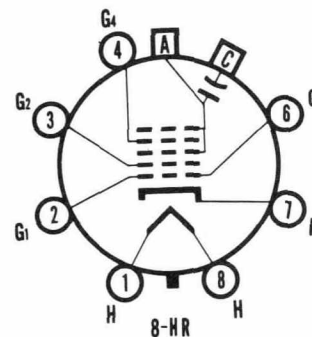
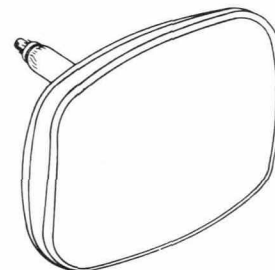
RATINGS

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 Seconds		450 Volts	
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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PAGE 1 OF 3

File Under
TELEVISION PICTURE TUBES

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

Cathode Drive Service ⁴	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)		-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		200 Volts	
DC Component		100 Volts	dc

TYPICAL OPERATING CONDITIONS

Grid Drive Service ³	19EHP4	19EDP4	
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 Service ⁴	19EHP4	19EDP4	
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.
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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 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

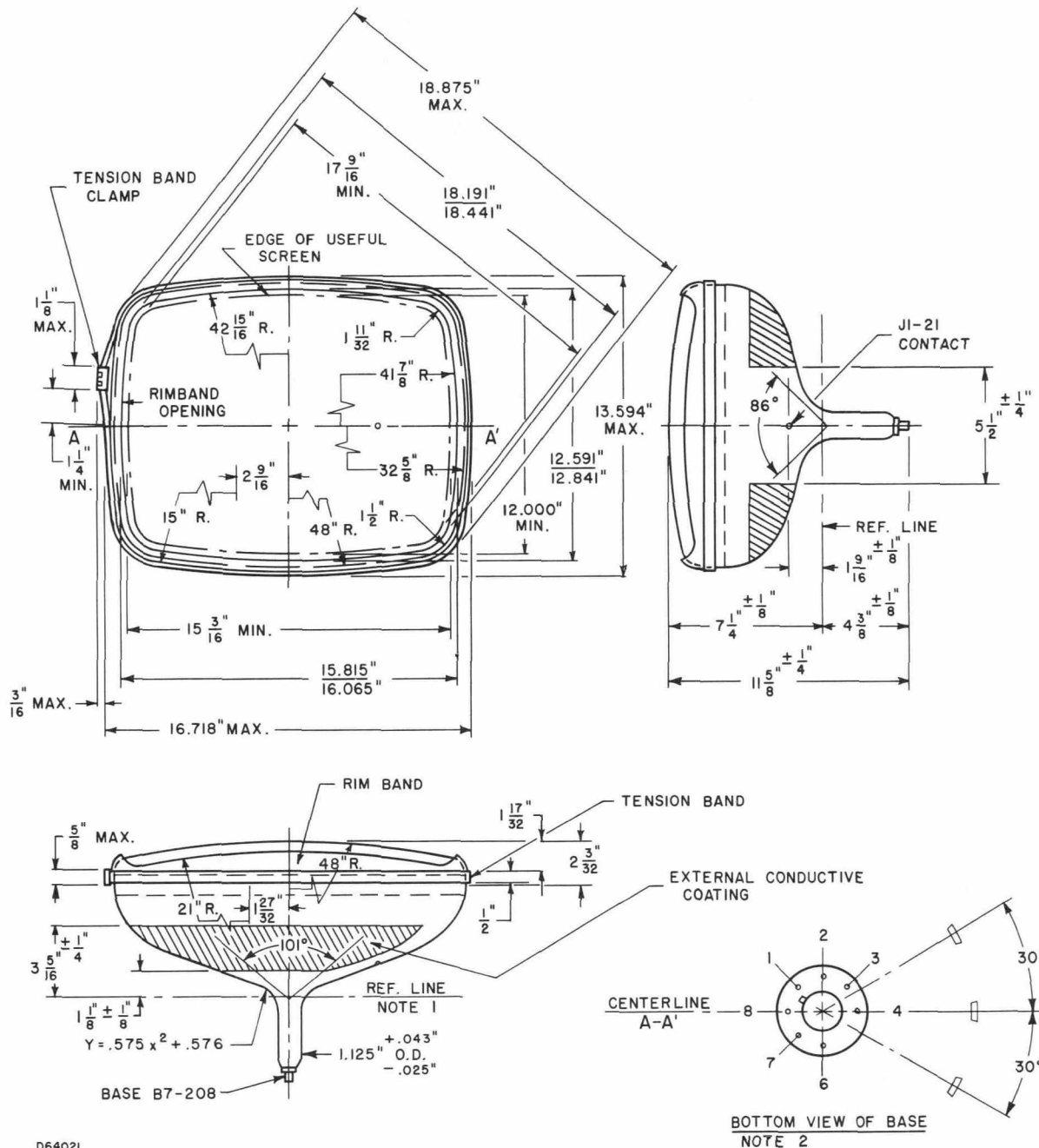


DIAGRAM NOTES:

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).