

19BRP4

National Video Corporation

4300 W. 47TH STREET CHICAGO 32, ILLINOIS
CLIFFSIDE 4-5600

The 19BRP4 is a 19" 114° lightweight Cathode Tube, laminated with a Pittsburgh facepanel, 4 3/8" neck length. This tube has electrostatic focus, magnetic deflection and a metal backed screen with a straight gun which requires no ion trap and a 600 milliampere, 6.3 volt filament.

ELECTRICAL DATA

Focusing Method	Electrostatic
Deflection Angles, approximate	
Horizontal	102 Degrees
Vertical	86 Degrees
Diagonal	114 Degrees
Direct Interelectrode Capacitances	
Cathode to all other electrodes, approximate	5 uuf
Grid #1 to all other electrodes, approximate	6 uuf
External Conductive Coating to Anode	1500 max. uuf 1000 min. uuf
Heater Current at 6.3 Volts	600 ± 5%ma
Heater Warm-up time	11 Seconds

OPTICAL DATA

Phosphor Number JEDEC Designation	P4 Aluminized
Light Transmittance at Center, approximate	52%

MECHANICAL DATA

Overall Length	11 7/8 ± 6/16 inches
Greatest Diameter of Tube	
Greatest Dimensions of Tube	
Diagonal	18 5/8 +3/32 -1/32 inches
Width	16 13/32 +3/32 -1/32 inches
Height	13 11/32 +3/32 -1/32 inches
Minimum Useful Screen Diameter (Projected)	
Minimum Useful Screen Dimensions (Projected)	
Diagonal	17 3/4 inches
Horizontal axis	15 5/16 inches
Vertical axis	12 1/16 inches
Area	174 sq. inches
Neck Length	4 3/8 ± 1/8 inches
Bulb EIA designation or equivalent (including shield designation)	C-149 Exp. #5 or Equiv.
Bulb Contact	J1-21
Base	B7-208
Basing	8HR

MECHANICAL DATA (Cont'd)

Weight, approximate laminated
Implosion Panel

18 Lbs.
FP149A1

RATINGS (Design Maximum System)

Unless otherwise specified, voltage values are positive
and measured with respect to cathode

Maximum Anode Voltage	23,000 Volts
Minimum Anode Voltage	12,000 Volts
Maximum Grid #4 (Focusing Electrode) Voltage	+1100 -550
Maximum Grid #2 Voltage	550 Volts
Minimum Grid #2 Voltage	
Grid #1 Voltage	
Maximum Negative Value	155 Volts DC
Maximum Negative Peak Value	220 Volts
Maximum Positive Value	0 Volts DC
Maximum Positive Peak Value	2 Volts
Maximum Heater Voltage	6.9 Volts
Minimum Heater Voltage	5.7 Volts
Maximum 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 CONDITIONSGRID DRIVE SERVICE

Unless otherwise specified, all voltage values
are positive with respect to cathode.

Anode Voltage	16,000 Volts DC
Grid #4 Voltage (Focusing Electrode) (Notes 3 & 4)	0 to +400 Volts DC
Grid #2 Voltage	300 Volts DC
Grid #1 Voltage (Note 1)	+35 to +72 Volts DC

MAXIMUM CIRCUIT VALUES

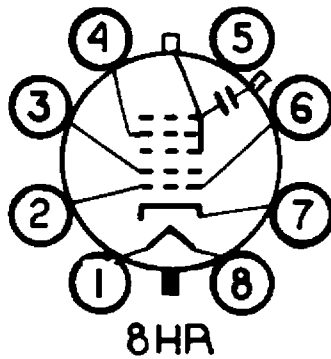
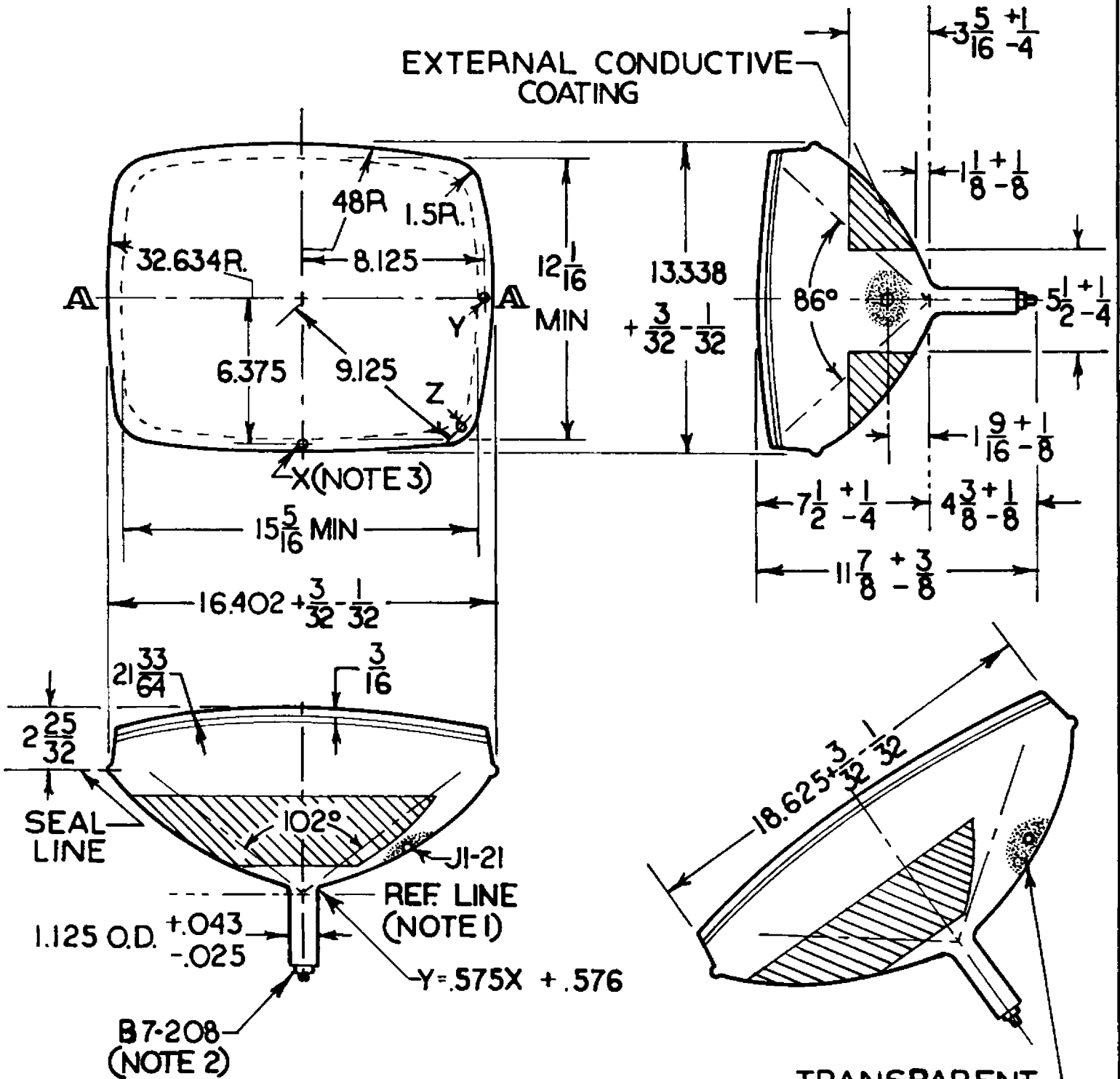
Maximum Grid #1 Circuit Resistance	1.5 Megohms
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GRAPHS AND DRAWINGS

Tube Outline with essential dimensions and tolerances.
Pin Connections

Pin 1	Heater	Pin 6	Grid #1
Pin 2	Grid #1	Pin 7	Cathode
Pin 3	Grid #2	Pin 8	Heater
Pin 4	Grid #4		Bulb Contact Ultor

EXTERNAL CONDUCTIVE COATING



DRAWN BY	SCALE	DISTRIBUTION	EFFECTIVE	DRAWING NO.
A.L. PRIBYL			9-20-61	19BRP4

NOTES

1. Visual extinction of focuses raster.
2. For JEDEC Focus coil #_____, or equivalent, with the combined grid #1 bias voltage and video-signal voltage adjusted to produce a highlight brightness of _____ foot lamberts on a _____" X _____" picture size. Distance from reference line to center of air gap on focus coil shall be _____ inches.
3. With the combined grid #1 bias voltage and video-signal voltage adjusted to give an anode current of 100 microamperes on a 12 1/16" X 15 5/16" pattern from RCE 2F21 Monoscope or equivalent.
4. Individual tubes will have satisfactory focus at some value between 0 and +400 Volts.
5. Ion trap positioned with trailing edge of pole pieces over the G1 - G2 gap and oriented to give maximum brightness.

DIAGRAM NOTES

1. Reference line is determine 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 horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.
3. Planes perpendicular to tube axis and passing through points X, Y and Z are located as follows:

Plane tangent to crown of face to plane of X: 0.500" Nominal
 Plane of X to Plane of Y = .429" \pm .030"
 Plane of X to Plane of Z = .749" \pm .030"
4. The area around the button is covered with an insulating coating.

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 anode voltages higher than 16,000 volts.