

National Video Corporation

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

The 27ABP4 has a 5 1/8" Neck Length, electrostatic focus, magnetic deflection. The tube has a metal back screen and a Pittsburgh type implosion faceplate sealed to the tube. A straight gun which requires no ion trap and a 600 milliamperere, 6.3 volt filament is used.

ELECTRICAL DATA

Focusing Method	Electrostatic
Deflection Angles, Approximate	
Horizontal	106°Degrees
Vertical	86°Degrees
Diagonal	110°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	2500 max. uuf
	2000 min. uuf
Heater Current at 6.3 volts	600 + 300 ma
Heater Warm-up Time	11 Seconds

OPTICAL DATA

Phosphor Number	JEDEC Designation	P4 Aluminized
Light Transmittance at Center, Approximate		48%

MECHANICAL DATA

Overall Length		17 1/8 ± 3/8 Inches
Greatest Diameter of Tube		
Greatest Dimensions of Tube		
Diagonal		26 13/16 ± 1/8 Inches
Width		25 9/32 ± 1/8 Inches
Height		20 7/32 ± 1/8 Inches
Minimum Useful Screen Diameter (Projected)		
Minimum Useful Screen Dimensions (Projected)		
Diagonal		25 3/4 Inches
Horizontal axis		24 1/4 Inches
Vertical axis		18 5/8 Inches
Area		425 Sq. Inches
Neck Length		5 1/8 ± 3/16 Inches
Bulb EIA designation or equivalent (Including shield designation)		C214 1/2 Exp. #13
Panel		Pittsburgh FP214 1/2 A1
Bulb Contact	JEDEC designation	J1-21
Base	JEDEC designation	B7-208
Basing	JEDEC designation	8HR

MECHANICAL DATA (Cont'd)

Bulb Contact Alignment

J1-21 contact aligns with pin position #4 $\pm$ 30 Degrees

Weight (Approx.) Bulb 41 lbs.

Weight (Approx.) Laminated 52 lbs.

RATINGS (Design Maximum System)

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

Maximum Anode Voltage	22,000 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	200 Volts
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	18,000 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

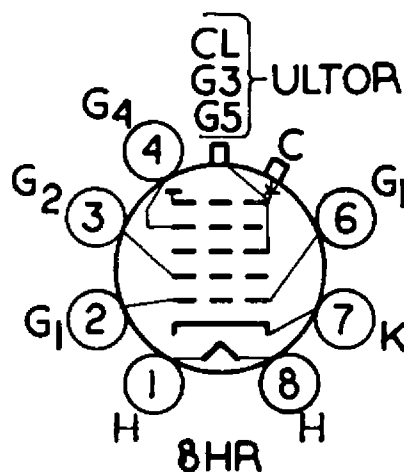
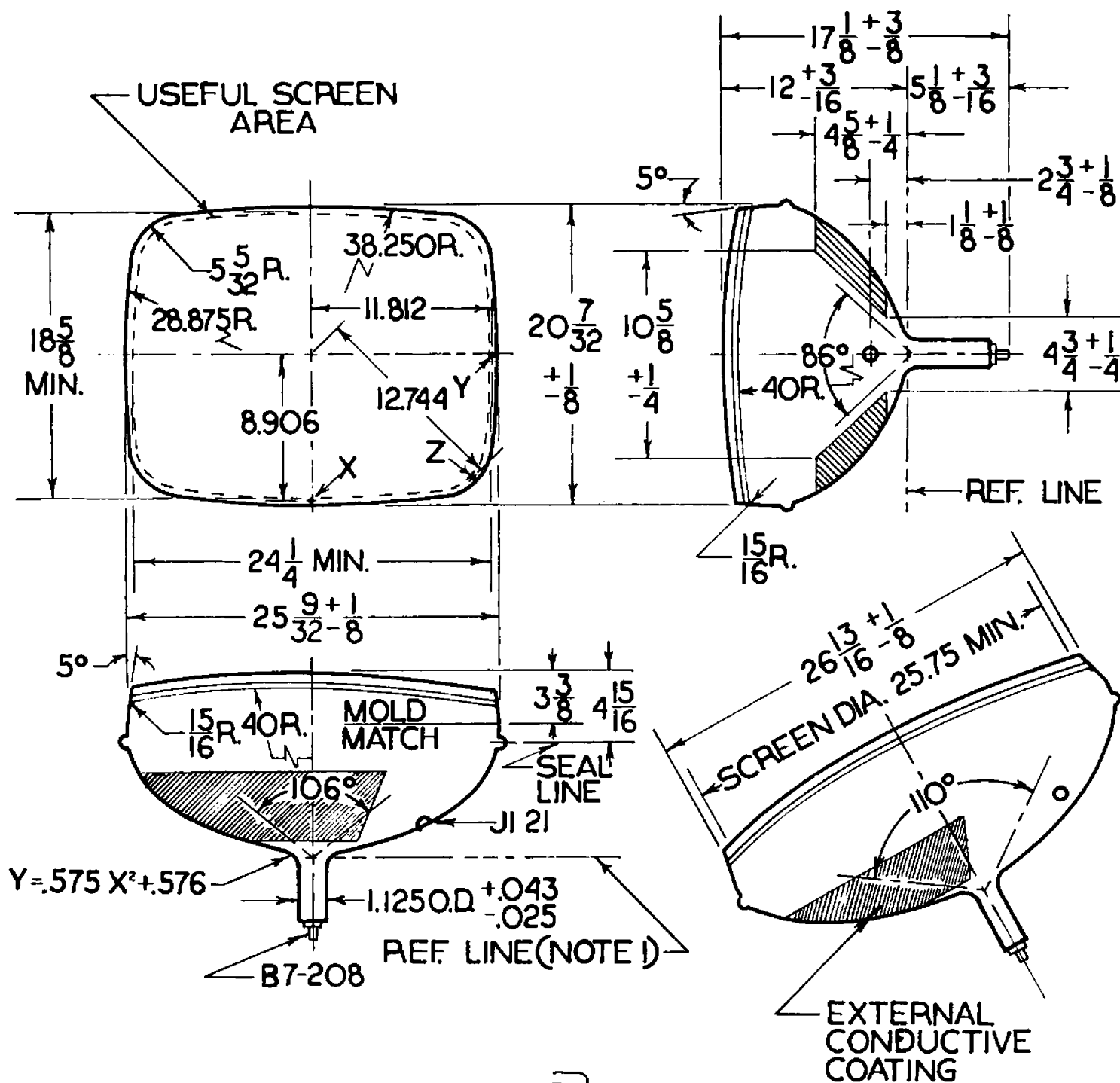
Maximum Grid #1 Circuit Resistance	1.5 Megohms
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GRAPHS AND DRAWINGS

Tube Outline with essential dimensions and tolerances.

Pin Connections

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



DRAWN BY
A.L. PRIBYL

SCALE

EFFECTIVE
3-17-62

DRAWING NO.
27ABP4

NOTES

1. Visual extinction of focused raster.
2. With the combined grid #1 bias voltage and video-signal voltage adjusted to give an anode current of 100 microamperes on a 18 1/2" X 24" pattern from RCA 2F21 Monoscope or equivalent.
3. Individual tubes will have satisfactory focus as some value between 0 to +400 volts.
4. Ion trap positioned with trailing edge of pole pieces over the G₁-G₂ gap and oriented to give maximum brightness.

DIAGRAM NOTES

1. The plane through the tube axis and pin #4 may vary from the plane through the tube axis and ultor terminal by angular tolerance (measured about the tube axis) of 30°. Ultor terminal is on same side as pin #4.
2. External conductive coating must be grounded.
3. Insulating coating around cavity contact: to clean use only a soft dry lint-free cloth.
4. Bulge at splice line may increase the indicated values for envelope width, diagonal, and height by not more than 1/8" but at any point around the seal, the bulge will not protrude more than 1/16" beyond the envelope surface at the mold-match line.
5. Distance between mold-match line and seal bulge is 11/16" minimum. This should be the maximum width of a tube support band. Support mechanisms must be spaced from the tube by cushioning pads of asphalt impregnated felt or equivalent.

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.