

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

The 27AGP4 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 ± 30ma
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 Dimension (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)		J214 1/2 B1
Panel		FP214 1/2 A1 Etched
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 +30 degrees

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 2 & 3)	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

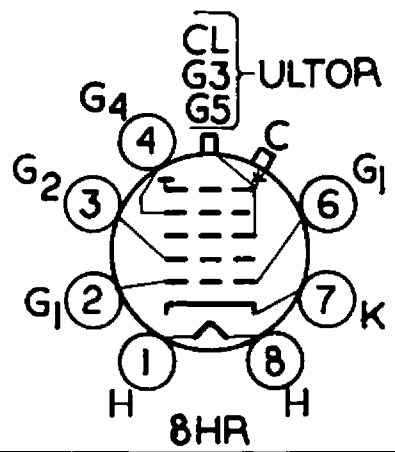
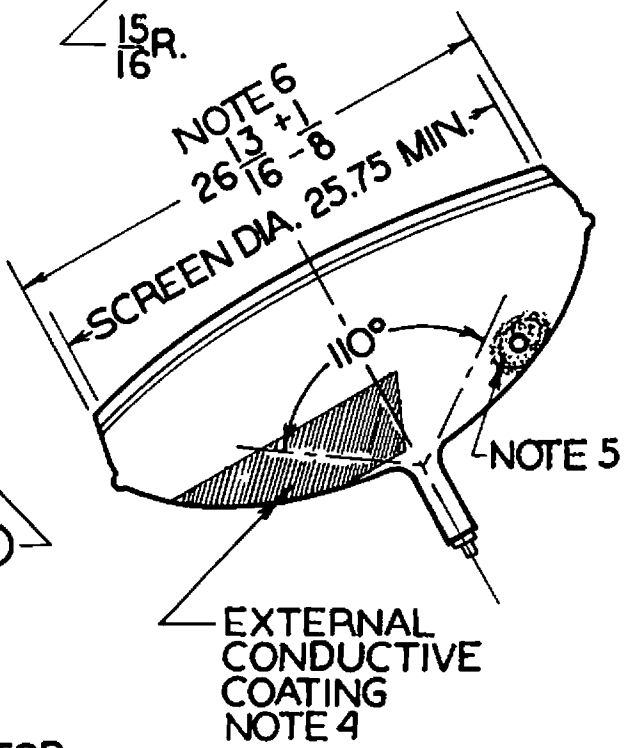
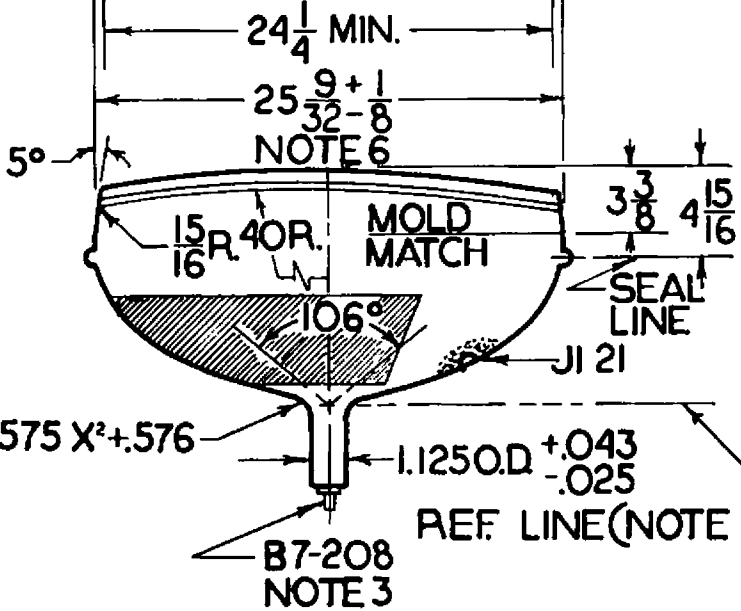
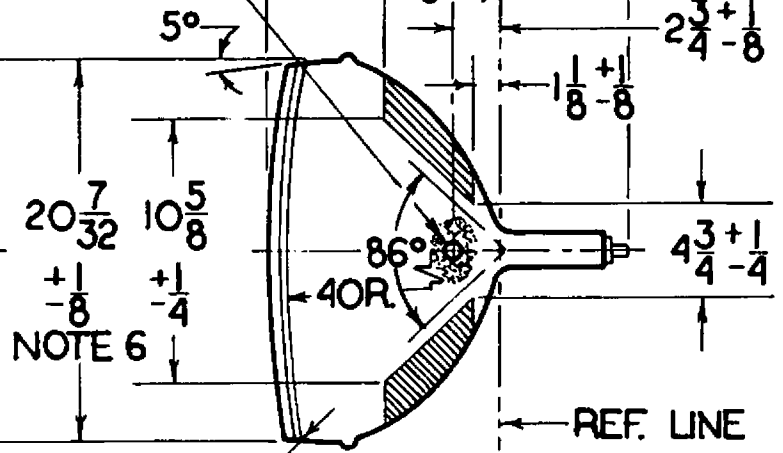
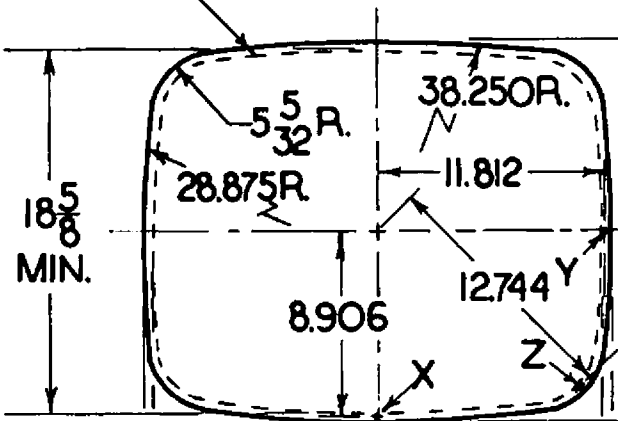
Tube Outline with essential dimensions and tolerances.

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

ULTOR RECESSED CAVITY-
CAP NOTE 2

USEFUL SCREEN
AREA



DRAWN BY	SCALE	EFFECTIVE	DRAWING NO.
A.L. PRIBYL		3-17-62	27AGP4

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.

DIAGRAM NOTES

1. With tube neck inserted through flared end of reference line gauge JEDEC No. G-126 and with tube seated in gauge, the reference line is determined by the intersection of the Plane CC' of the gauge with the glass funnel.
2. The plane through the tube axis and pin No. 4 may vary from the plane through the tube axis and ultor terminal by angular tolerance (measured about the tube axis) of $\pm 30^\circ$. Ultor terminal is on same side as Pin No. 4.
3. Socket for this base should not be rigidly mounted: it should have flexible leads and be allowed to move freely. The design of the socket should be such that the circuit wiring cannot impress lateral strains through the socket contacts on the base pins. Bottom circumference of base wafer will fall within a circle concentric with bulb axis and having a diameter of 1 3/4".
4. External conductive coating must be grounded.
5. To clean this area, wipe only with soft dry lint-less cloth.
6. Measured at the mold-match line.