

National Video Corporation

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

The 27YP4 is a 5 3/4" neck length, electrostatic focus, magnetic deflection picture tube. 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 milliampere, 6.3 volt filament is used.

ELECTRICAL DATA

Focusing Method	Electrostatic
Deflection Angles, Approximate	
Horizontal	85 degrees
Vertical	68 degrees
Diagonal	90 degrees
Direct Interelectrode Capacitances	
Cathode to all other electrodes, approx.	5 uuf
Grid #1 to all other electrodes, approx.	6 uuf
External Conductive Coating to Anode	2500 max. uuf
	2000 min. uuf
Heater Current at 6.3 Volts	600 ± 30 ma
Heater Warm-up time	11 Seconds

OPTICAL DATA

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

MECHANICAL DATA

Overall Length	21 9/16 ± 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 3/4 ± 3/16 Inches
Bulb EIA designation or equivalent (Including shield designation)	J-214 - 1/2 A2
Panel	Pittsburgh - FP-214 1/2 A1
Bulb Contact	J-21
Base	B6-63
Basing	12L
	JEDEC Designation
	JEDEC Designation
	JEDEC Designation

MECHANICAL DATA (Cont'd)

Bulb Contact Alignment

J1-21 contact aligns with pin position #6 $\pm$ 30 Degrees

Weight (Approx.) Bulb	44 lbs.
Weight (Approx.) Tube Laminated	54 lbs.

RATINGS (Design Maximum System)

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

Maximum Anode Voltage	25,000 Volts	
Minimum Anode Voltage	11,000 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	154 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 #___ Voltage (Focusing Electrode)		
(Notes 2 & 3)	0 to +450 Volts	DC
Grid #2 Voltage	300 Volts	DC
Grid #1 Voltage (Note 1)	-28 to -72 Volts	DC

MAXIMUM CIRCUIT VALUES

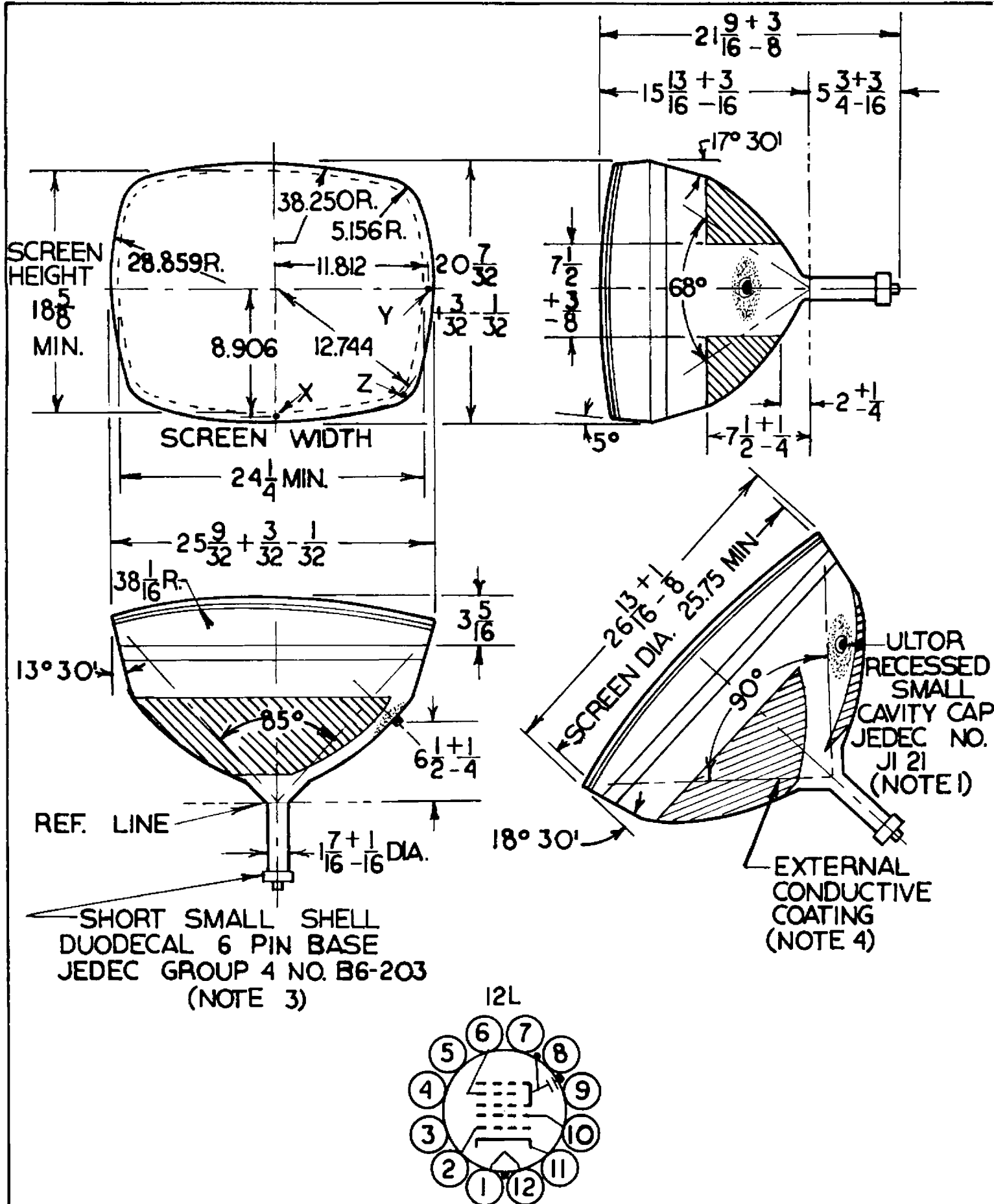
Maximum Grid #1 Circuit Resistance	1.5 Megohms
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GRAPHS AND DRAWINGS

Tube Outline with essential dimensions and tolerances.

Pin Connections

Pin 1 - Heater	Pin 11 - Cathode
Pin 2 - G ₁	Pin 12 - Heater
Pin 6 - G ₄	Bulb Contact - Ultor
Pin 10 - G ₂	



DRAWN BY	SCALE	DISTRIBUTION	EFFECTIVE	DRAWING NO.
A.L. PRIBYL			8-19-61	27YP 4

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 24 1/4" X 18 5/8" pattern from RCA 2F21 Monoscope or equivalent.
3. Socket for this base should not be rigidly mounted. It should have flexible leads and be free to move.
4. Location of deflection yoke and centering device must be within this space.
5. Individual tubes will have satisfactory focus at some value between 0 to +400 Volts.
6. Reference line is determined by the plane where the standard JETEC #116 reference line gauge will stop against the bulb.