

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 | JEDEC Designation J-21 |
| Base | JEDEC Designation B6-63 |
| Basing | JEDEC Designation 12L |

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

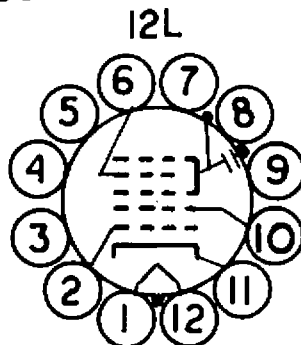
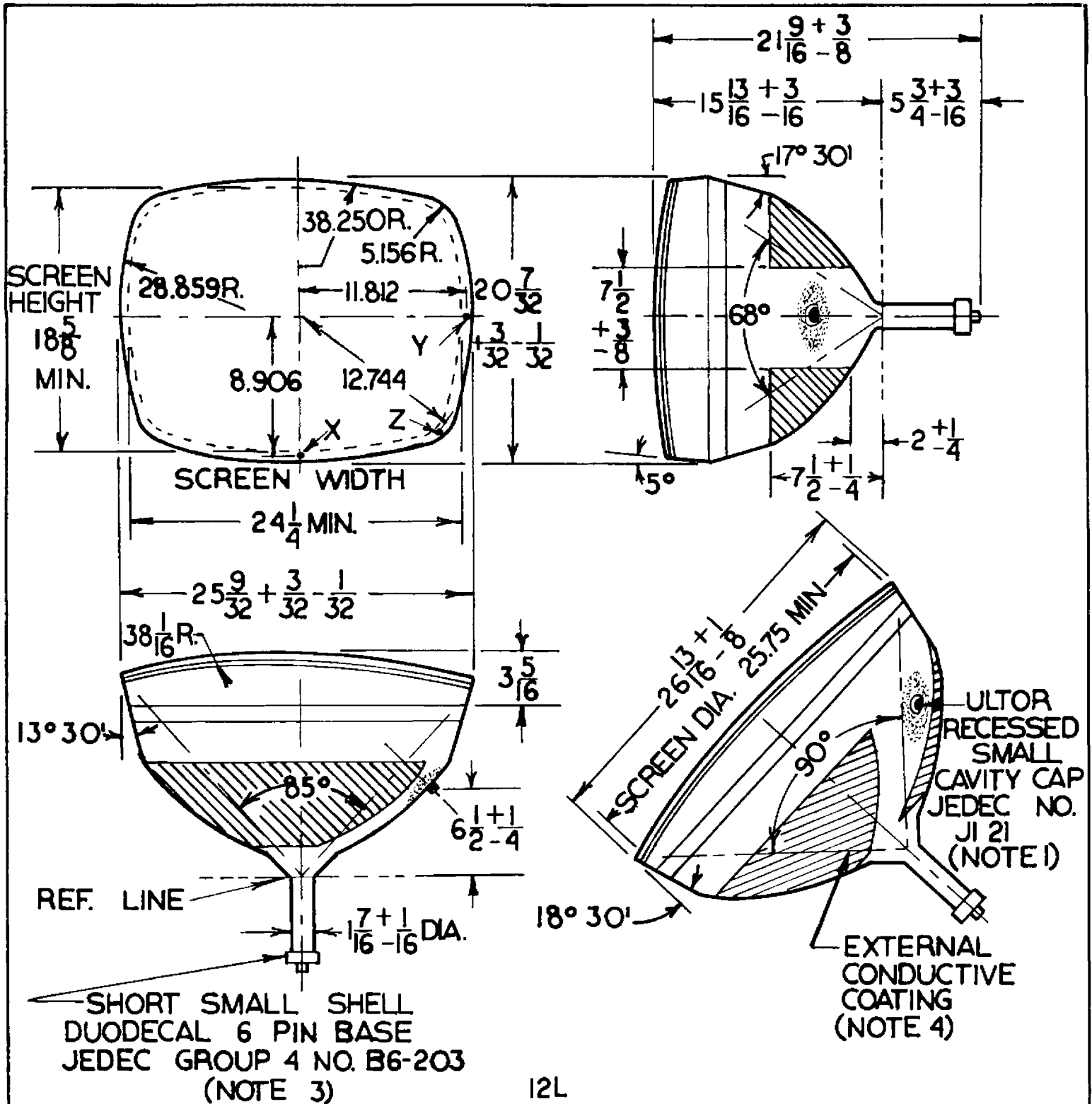
| | |
|------------------------------------|-------------|
| Maximum Grid #1 Circuit Resistance | 1.5 Megohms |
|------------------------------------|-------------|

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.