

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

The 19CYP4 is a 19"-114° cathode ray tube. This tube has a 3 5/8" neck length, electrostatic focus, magnetic deflection, and metal backed screen. 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 | 85 degrees |
| Diagonal | 114 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 | 1,500 max. uuf |
| | 1,000 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 | 78% |

MECHANICAL DATA

| | |
|---|-----------------------------|
| Overall Length | 10 7/8 ± 1/4 Inches |
| Greatest Diameter of Tube | |
| Greatest Dimensions of Tube | |
| Diagonal | 18 5/8 ± 1/8 Inches |
| Width | 16 13/32 ± 1/8 Inches |
| Height | 13 11/32 ± 1/8 Inches |
| Minimum Useful Screen Diameter (Projected) | |
| Minimum Useful Screen Dimensions (Projected) | |
| Diagonal | 17 9/16 Inches |
| Horizontal Axis | 15 1/8 Inches |
| Vertical Axis | 12 Inches |
| Area | 172 Sq. Inches |
| Neck Length | 3 5/8 ± 1/8 Inches |
| Bulb EIA designation or equivalent (including shield designation) | J-149-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 ± 30 degreesRATINGS (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 | 15,000 Volts |
| Maximum Grid #4 (Focusing Electrode) Voltage | +1000 -500 |
| 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 | 20,000 Volts DC |
| Grid #4 Voltage (Focusing Electrode) | |
| (Notes 2 & 3) | 0 to +400 Volts DC |
| Grid #2 Voltage | 400 Volts DC |
| Grid #1 Voltage (Note 1) | -36 to -94 Volts DC |

MAXIMUM CIRCUIT VALUES

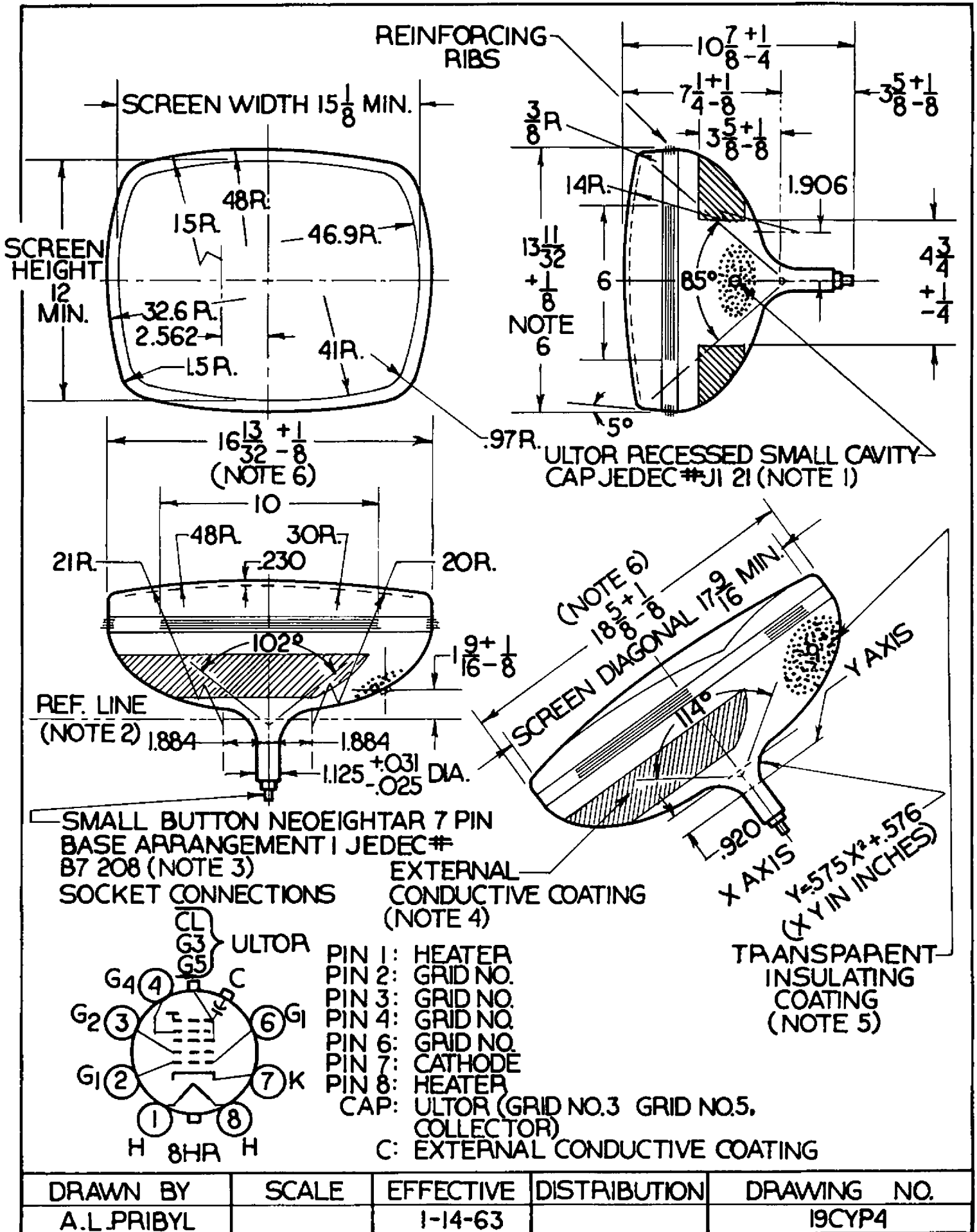
| | |
|------------------------------------|-------------|
| Maximum Grid #1 Circuit Resistance | 1.5 Megohms |
|------------------------------------|-------------|

GRAPHS AND DRAWINGS

Tube Outline with essential dimensions and tolerances.

Pin Connections

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|--------------------|--------------------|
| Pin 1 - Heater | Pin 6 - Grid No. 1 |
| Pin 2 - Grid No. 1 | Pin 7 - Cathode |
| Pin 3 - Grid No. 2 | Pin 8 - Heater |
| Pin 4 - Grid No. 4 | |



| DRAWN BY | SCALE | EFFECTIVE | DISTRIBUTION | DRAWING NO. |
|-------------|-------|-----------|--------------|-------------|
| A.L. PRIBYL | | 1-14-63 | | 19CYP4 |

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 15 1/8" X 12" pattern from RCA 2F21 Monoscope or equivalent.
3. Individual tubes will have satisfactory focus at some value between 0 and +400 volts.

NOTES FOR DIMENSIONAL OUTLINE

1. 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 +30°. Ultor terminal is on same side as Pin No. 4.
2. 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.
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.

OPERATING CONSIDERATIONS

Shatter-Proof Cover Over the Tube Face:

Following conventional picture-tube practice, it is recommended that the cabinet be provided with a shatter-proof, glass cover over the face of the 19CYP4 to protect it from being struck accidentally and to protect against possible damage resulting from tube implosion under some abnormal condition. This safety cover can also provide x-ray protection when required.