

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

The 17EHP4 is a 17"-110° cathode ray tube, with a 4 3/8" neck length. This tube has a straight gun, which requires no ion trap, a 600 milliamperere, 6.3 volt filament, and 50 volt G2 for cathode drive design.

ELECTRICAL DATA

|                                              |               |
|----------------------------------------------|---------------|
| Focusing Method                              | Electrostatic |
| Deflection Angles, Approximate               |               |
| Horizontal                                   | 105 Degrees   |
| Vertical                                     | 87 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         | 1500 max. uuf |
|                                              | 1000 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 | 78%           |

MECHANICAL DATA

|                                                                   |                      |
|-------------------------------------------------------------------|----------------------|
| Overall Length                                                    | 11 1/2 ± 3/16 Inches |
| Greatest Diameter of Tube                                         |                      |
| Greatest Dimensions of Tube                                       |                      |
| Diagonal                                                          | 16 9/16 ± 1/8 Inches |
| Width                                                             | 15 5/8 ± 1/8 Inches  |
| Height                                                            | 12 3/4 ± 1/8 Inches  |
| Minimum Useful Screen Diameter (Projected)                        |                      |
| Minimum Useful Screen Dimensions (Projected)                      |                      |
| Diagonal                                                          | 15 3/4 Inches        |
| Horizontal Axis                                                   | 14 3/4 Inches        |
| Vertical Axis                                                     | 11 11/16 Inches      |
| Area                                                              | 155 Sq. Inches       |
| Neck Length                                                       | 4 3/8 ± 1/8 Inches   |
| Bulb EIA designation or equivalent (Including shield designation) | J-132 1/2-A1         |
| Bulb Contact                                                      | J1-21                |
| Base                                                              | B7-208               |
| Basing                                                            | 8HR                  |
| Bulb Contact Alignment                                            |                      |
| J1-21 contact aligns with pin position #4 ± 30 Degrees            |                      |

RATINGS (Design Maximum System)

Unless otherwise specified, voltage values are positive and measured with respect to Grid #1

|                                                |                  |
|------------------------------------------------|------------------|
| Maximum Anode Voltage                          | 20,000 Volts     |
| Minimum Anode Voltage                          | 10,000 Volts     |
| Maximum Grid #4 (Focusing Electrode) Voltage   | +1100 -500 Volts |
| Maximum Grid #2 Voltage                        | 60 Volts         |
| Minimum Grid #2 Voltage                        | 25 Volts         |
| Cathode Voltage                                |                  |
| Maximum Negative Value                         | 0 Volts DC       |
| Maximum Negative Peak Value                    | 2 Volts          |
| Maximum Positive Value                         | 100 Volts DC     |
| Maximum Positive Peak Value                    | 150 Volts        |
| Maximum Heater Voltage                         | 6.9 Volts        |
| Minimum Heater Voltage                         | 5.8 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 CONDITIONSCATHODE DRIVE SERVICE

Unless otherwise specified, all voltage values are positive with respect to Grid #1.

|                                      |                   |
|--------------------------------------|-------------------|
| Anode Voltage                        | 16,000 Volts DC   |
| Grid #4 Voltage (Focusing Electrode) |                   |
| (Notes 2 & 3)                        | 250 Volts DC      |
| Grid #2 Voltage                      | 50 Volts DC       |
| Cathode Voltage (Note 1)             | 35 to 55 Volts DC |

MAXIMUM CIRCUIT VALUES

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

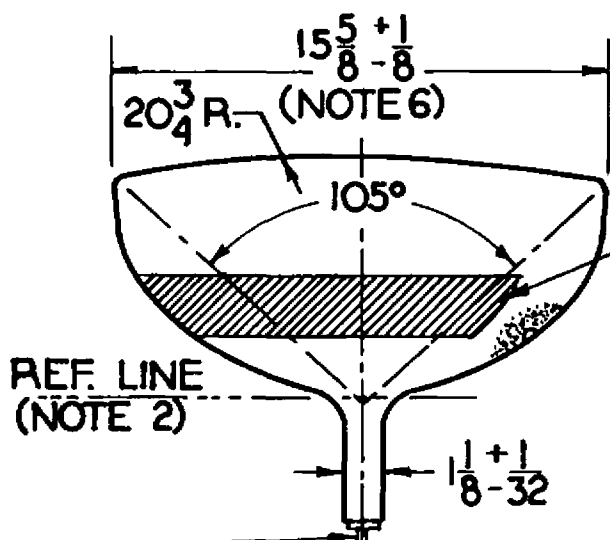
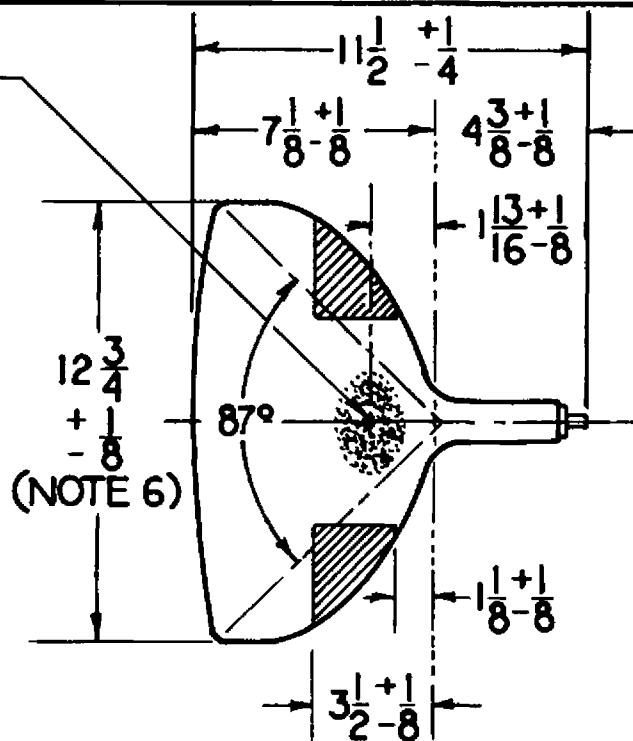
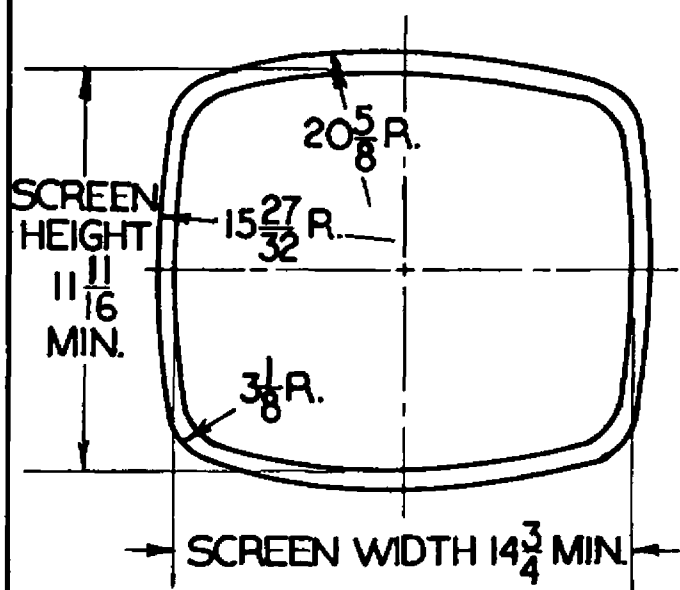
GRAPHS AND DRAWINGS

Tube Outline with essential dimensions and tolerances.

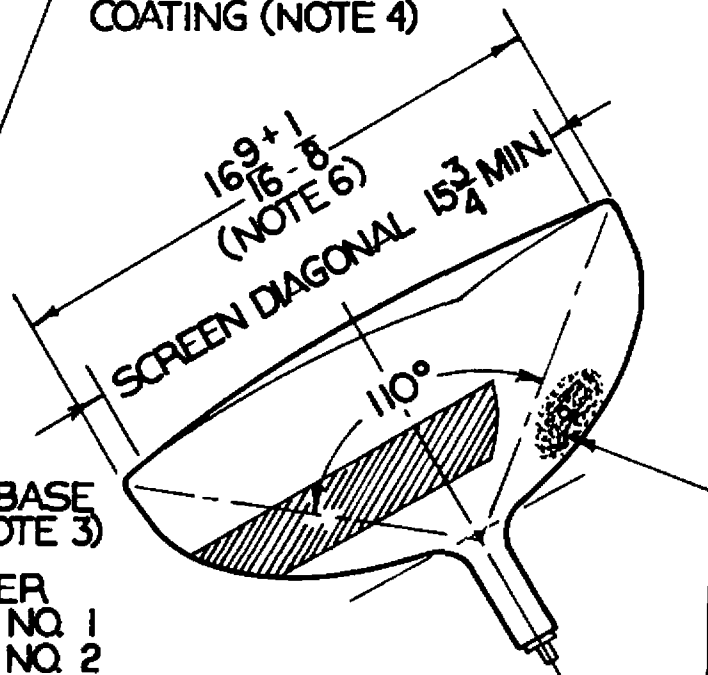
Pin Connections:

|       |            |       |            |
|-------|------------|-------|------------|
| Pin 1 | Heater     | Pin 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 |       |            |

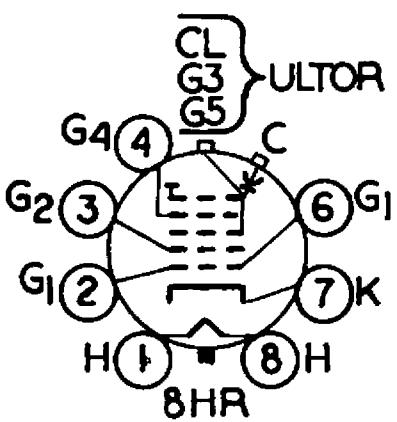
ULTOR RECESSED SMALL CAVITY  
CAP JEDEC # J1-21 (NOTE 1)



EXTERNAL CONDUCTIVE  
COATING (NOTE 4)



SMALL BUTTON NEOEIGHTAR 7-PIN BASE  
ARRANGEMENT JEDEC # B7-208 (NOTE 3)



- PIN 1 : HEATER
- PIN 2 : GRID NO. 1
- PIN 3 : GRID NO. 2
- PIN 4 : GRID NO. 4
- PIN 6 : GRID NO. 1
- PIN 7 : CATHODE
- PIN 8 : HEATER

CAP : ULTOR (GRID NO. 3 GRID  
NO. 5 COLLECTOR)  
C : EXTERNAL CONDUCTIVE  
COATING

TRANSPARENT  
INSULATING  
COATING  
(NOTE 5)

| DRAWN BY    | SCALE | EFFECTIVE | DISTRIBUTION | DRAWING NO. |
|-------------|-------|-----------|--------------|-------------|
| A.L. PRIBYL |       | 3-14-63   |              | 17EHP4      |

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 14 3/4" x 11 11/16" 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  $\pm 30^\circ$ . 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 17EHP4 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.