The 19DLP4 is a 19"-114° cathode ray tube with 49% light transmission and a 4 3/8" neck length. This tube has a straight gun, which requires no ion trap, a 600 milliampere, 6.3 volt filament, and 50 volt G2 for cathode drive design.

**ELECTRICAL DATA**

Focusing Method
Deflection Angles, Approximate
  Horizontal 102 Degrees
  Vertical 85 Degrees
  Diagonal 114 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
Heater Warm-up Time
  600 + 30mA
  11 Seconds

**OPTICAL DATA**

Phosphor Number JEDEC designation
Light Transmittance at Center, Approximate
  P4 Aluminized
  49%

**MECHANICAL DATA**

Overall Length
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
  4 3/8 +1/8 Inches
Neck Length
Bulb EIA designation or equivalent (Including shield designation)
  J-149-F1
Bulb Contact JEDEC designation
  J1-21
Base JEDEC designation
  B7-208
Basing JEDEC designation
  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 CONDITIONS

CATHODE 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

GRAPHICS AND DRAWINGS

Tube Outline with essential dimensions and tolerances.

Pin Connections:

<table>
<thead>
<tr>
<th>Pin 1</th>
<th>Pin 2</th>
<th>Pin 3</th>
<th>Pin 4</th>
<th>Pin 6</th>
<th>Pin 7</th>
<th>Pin 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater</td>
<td>Grid No. 1</td>
<td>Grid No. 2</td>
<td>Grid No. 4</td>
<td>Grid No. 1</td>
<td>Cathode</td>
<td>Heater</td>
</tr>
</tbody>
</table>
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 19DLP4 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.