CHARACTERISTICS

GENERAL DATA
Focusing Method .................................. Electrostatic
Deflection Method .................................. Electrostatic
Types* ........................................... Fluorescence: Phosphorescence: Persistence
4VP1 ............................................. Green — Medium
4VP2 ............................................. Blue-Green Green Long
4VP7 ............................................. Blue-White Yellow Long
4VP11 ............................................. Blue — Short
Faceplate ........................................ Spherical, Clear
*In addition to the types shown, the 4VP- can be supplied with several screen phosphors.

ELECTRICAL DATA
Heater Voltage ................................... 6.3 Volts
Heater Current ................................... 0.6 ± 10 % Amperes
Direct Interelectrode Capacitances (Approx.)
Cathode to All Other Electrodes .................. 5 μf
Grid No. 1 to All Other Electrodes .............. 6.5 μf
Between Deflecting Plates 1-2\(^{1}\) ............. 2 μf
Between Deflecting Plates 3-4\(^{1}\) ............. 2 μf
Deflecting Plate 1 to All Other Electrodes .... 7.5 μf
Deflecting Plate 2 to All Other Electrodes .... 6 μf
Deflecting Plate 3 to All Other Electrodes .... 5.5 μf
Deflecting Plate 4 to All Other Electrodes .... 6.5 μf

MECHANICAL DATA
Minimum Useful Screen (Rounded Corners) ..... 2\(\frac{3}{4}\) x 2\(\frac{3}{4}\) Inches
Bulb Contact (Recessed Small Ball Cap) ......... J1-22
Bulb ............................................. LEA 467 or Equivalent
Weight (Approx.) ................................ 13\(\frac{1}{2}\) Pounds
Base (Small Shell Duodecal 12-Pin) .............. B12-43
Basing ........................................... 12EP
Base Alignment
D1-D2 Trace Aligns with Base Key and Tube Axis\(^{6}\) ±10 Degrees
Positive Voltage on D1 Deflects Beam Approx.
Toward Base Key
Positive Voltage on D3 Deflects Beam Approx.
Toward Pin No. 9
Bulb Contact Alignment
J1-22 Contact Aligns with D1-D2 Trace ±10 Degrees
J1-22 Contact on Same Side as Base Key
Trace Alignment
Angle between D1-D2 and D3-D4 Trace 90 ± 2 Degrees
D1-D2 Trace Aligns with Bulb Wall ±1.5 Degrees

RATINGS
MAXIMUM RATINGS (Absolute Maximum Values)
Anode No. 2 Input ................................ 6 Watts
Anode No. 3 Voltage ................................ 5500 Volts dc
Anode No. 2 Voltage ................................ 2750 Volts dc
Ratio of Anode No. 3 Voltage to Anode No. 2 Voltage
Anode No. 1 Voltage (Focusing Electrode) ..... 1100 Volts dc
Grid No. 1 Voltage
Negative Bias Value ............................ 200 Volts dc
Positive Bias Value ............................ 0 Volts dc
Positive Peak Value ............................ 0 Volts
Peak Heater-Cathode Voltage
Heater Negative with Respect to Cathode .......... 180 Volts
Heater Positive with Respect to Cathode .......... 180 Volts
Peak Voltage Between Anode No. 2
and Any Deflecting Plate ......................... 600 Volts

SYLVANIA
ELECTRONIC TUBES
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File Under
SPECIAL AND GENERAL
PURPOSE CATHODE RAY TUBES
TYPICAL OPERATING CONDITIONS

Anode No. 3 Voltage ........................................... 4000 Volts
Anode No. 2 Voltage ........................................... 2000 Volts
Anode No. 1 Voltage for Focus .............................. 200 to 500 Volts
Grid No. 1 Voltage Required for Cutoff\(^2\) ............. \(-58\) to \(-135\) Volts
Deflection Factor
  Deflecting Plates 1-2 ...................................... 98 to 132 Volts dc/Inch
  Deflecting Plates 3-4 ...................................... 72 to 98 Volts dc/Inch
Modulation at \(I_b^3 = 25 \mu A\) .................................. 30 Volts dc/ Min.
Line Width "A" at \(I_b^3 = 25 \mu A\) .......................... .45 mm Max.
Line Width "B" at \(I_b^3 = 25 \mu A\) .......................... .55 mm Max.
Light Output at \(I_b^3 = 25 \mu A\) .......................... \(25 \text{ Ft. L}\) Min.
Deflection Factor Uniformity\(^3\) .......................... 3 Percent Max.
Undelected Spot Position\(^4\) ............................... Within a 10 mm Square
Useful Scan ................................................. 2½\(\frac{1}{2}\) Inches Min.

CIRCUIT VALUES

Grid No. 1 Circuit Resistance ............................... 1.5 Megohms Max.
Deflection Circuit Resistance\(^5\) ......................... 1.0 Megohms Max.

NOTES:

1. This tube is designed for optimum performance when operated at an \(E_b^3/E_b^2\) ratio of 2.0. Operation of other ratios of \(E_b^3/E_b^2\) may result in changes of deflection uniformity and pattern distortion.
2. Visual extinction of undelected focused spot.
3. Measured in accordance with MIL-E-1.
4. Centered with respect to the tube face and with the tube shielded. Connect free deflection electrodes to accelerator.
5. It is recommended that the deflection electrode circuit resistances be approximately equal.
6. Deflecting plates D1 and D2 are nearer the screen while deflecting plates D3 and D4 are nearer the base.

WARNING:

X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.