CHARACTERISTICS

GENERAL DATA

Focusing Method . . . . . Electrostatic
Deflecting Method . . . . . Electrostatic
Phosphors

Types	Fluorescence	Phosphorescence	Persistence
7AYP1	Green	—	Medium
7AYP2	Blue-Green	Green	Long
7AYP7	Blue-White	Yellow	Long
7AYP19	Orange	Orange	Long
7AYP25	Orange	Orange	Medium

Faceplate . . . . . Clear, Spherical

*In addition to the types shown, the 7AYP– can be supplied with several other screen phosphors.

ELECTRICAL DATA

Heater Voltage . . . . . 6.3 Volts
Heater Current . . . . . 0.6 ± 10 % Ampere
Direct Interelectrode Capacitances (Approx.)
- Cathode to All Other Electrodes . . . . . 6 pf
- Grid No. 1 to All Other Electrodes . . . . . 7 pf
- Between Deflecting Plates 1-2 . . . . . 1.5 pf
- Between Deflecting Plates 3-4 . . . . . 1.3 pf
- Deflecting Plate 1 to All Other Electrodes . . . 6.5 pf
- Deflecting Plate 2 to All Other Electrodes . . . 6.5 pf
- Deflecting Plate 3 to All Other Electrodes . . . 5.5 pf
- Deflecting Plate 4 to All Other Electrodes . . . 5.5 pf

MECHANICAL DATA

Minimum Useful Screen Dimensions
- (Maximum Assured) . . . . . $3\frac{1}{4}$ x $5\frac{1}{4}$ Inches

Overall Length . . . . . $17\frac{1}{2} \pm \frac{3}{8}$ Inches
Greatest Bulb Dimensions
- Diagonal . . . . . $6\frac{5}{8} \pm \frac{1}{16}$ Inches
- Width . . . . . $6\frac{1}{32} \pm \frac{1}{16}$ Inches
- Height . . . . . $4\frac{1}{32} \pm \frac{1}{16}$ Inches

Neck Contacts . . . . . Small Ball J1-25
Bulb Contact . . . . . Recessed Small Ball Cap J1-22
Base . . . . . 12 Pin B12-37
Bulb Contact Alignment
- Bulb Contact Located on Tube Centerline ± ¼ Inch on Same Side as Pin No. 5

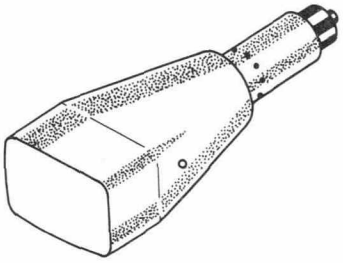
Base Alignment
- D1-D2 Aligns with Pin No. 5 and Tube Axis ±10 Degrees
- Positive Voltage on D1 Deflects Beam Approximately Toward Pin No. 5
- Positive Voltage on D3 Deflects Beam Approximately Toward Pin No. 1

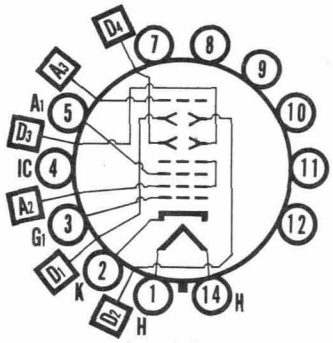
Trace Alignment
- Angle Between D3-D4 and D1-D2 Trace . . . 90 ± 1 Degrees
- D1-D2 Trace Aligns with Bulb Wall . . . . . 90 ± 1 Degrees

Mounting Position . . . . . Any

QUICK REFERENCE DATA

Oscilloscope Tube
7″ Direct Viewed
Rectangular Glass Type
Electrostatic Deflection
Electrostatic Focus
Clear, Spherical Faceplate





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SYLVANIA ELECTRIC PRODUCTS INC.

Electronic Components Group
ELECTRONIC TUBE DIVISION
SENECA FALLS, NEW YORK

A Technical Publication

JULY, 1965

File Under

SPECIAL AND GENERAL PURPOSE CATHODE RAY TUBES

MAXIMUM RATING (Design Center Values)[1]

Post Accelerator Voltage	16,000 Vdc	Max.
Anode Voltage[2]	8000 Vdc	Max.
Ratio Post Accelerator Voltage to Anode Voltage	2.0	Max.
Anode Current	Note 3	
Focusing Electrode Voltage	2500 Vdc	Max.
Grid No. 1 Voltage		
Negative Bias Value	200 Vdc	Max.
Positive Bias Value	0 Vdc	Max.
Positive Peak Value	2 Vdc	Max.
Peak Heater Cathode Voltage		
Heater Negative with Respect to Cathode	180 Vdc	Max.
Heater Positive with Respect to Cathode	180 Vdc	Max.
Peak Voltage Between Anode and Any Deflection Electrode	1500 Volts	Max.

TYPICAL OPERATING CONDITIONS

Post Accelerator	10,000	8000 Vdc
Anode Voltage	5000	4000 Vdc
Focusing Electrode Voltage	1375 to 1875	1100 to 1500 Vdc
Grid No. 1 Voltage[4]	−50 to −90	−40 to −72 Vdc
Deflection Factors		
D1 to D2	125 to 150	100 to 120 Vdc/In.
D3 to D4	100 to 125	80 to 100 Vdc/In.
Deflection Factor Uniformity[5]		3 Percent Max.
Focusing Electrode Current		−15 to +10 Microamperes
Line Width[6]		0.30 mm Max.
Spot Position[7]		5/16 In. Radius Circle

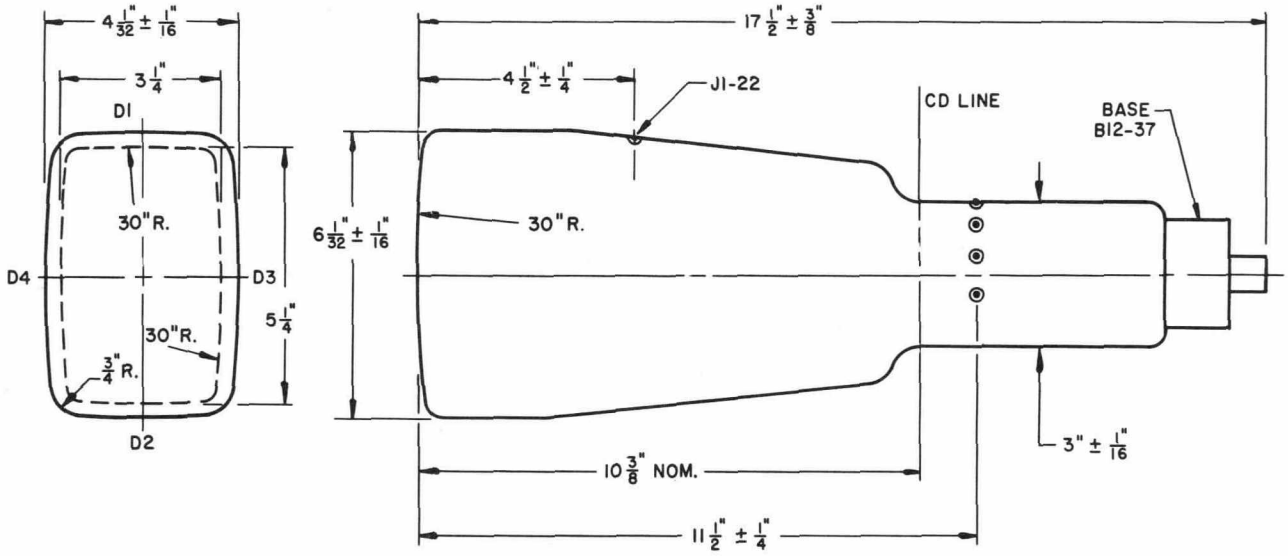
MAXIMUM CIRCUIT VALUES

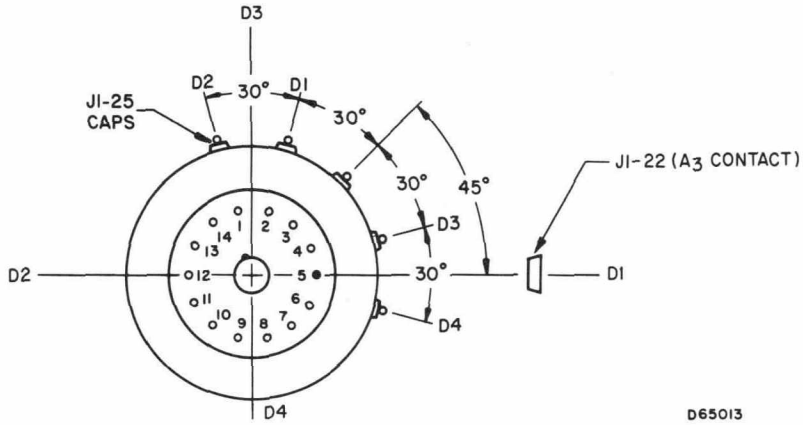
Grid No. 1 Circuit Resistance	1.5 Megohms	Max.
Resistance in Any Deflecting Electrode Circuit[8]	3.0 Megohms	Max.

NOTES:

1. *The maximum ratings provide a ten per cent safety factor in accordance with the standard design center system of rating cathode ray tubes. The tube will withstand the combined effects of variations in line voltage and components provided the maximum design center values are not exceeded by more than ten per cent.*
2. *Anode, Grid No. 2 and Grid No. 4 which are connected together within the tube are referred to herein as anode.*
3. *The phosphor screen may be damaged if the exciting current density is greater than 1.4 microamperes per square centimeter for P25, and if greater than .06 microamperes per square centimeter for P19.*
4. *For visual extinction of undeflected focused spot.*
5. *Deflection factor for deflection of 75 % of useful screen dimensions, shall not differ from deflection factor for deflection of 25 % of the useful screen dimensions by more than the indicated value.*
6. *Measured in accordance with MIL-E-1C specifications using Ib3 = 2μAdc, and anode voltage of 4,000 volts and a post-accelerator voltage of 8,000 volts.*
7. *The center of the focused undeflected spot will be within a circle of 5/16 inch radius, centered on the tube face.*
8. *It is recommended that the deflection electrode resistance be approximately equal.*

OUTLINE





BOTTOM VIEW OF BASE