



**CHARACTERISTICS**

**GENERAL DATA**

Focusing Method	Electrostatic			
Deflecting Method	Electrostatic			
Phosphor*	P7	P14	P19	P25
Fluorescence	Blue-White	Purple	Orange	Orange
Phosphorescence	Yellow	Orange	Orange	Orange
Persistence	Long	Med. Long	Long	Long
Faceplate	Gray Filter Glass			

\* In addition to the screens shown, the 12ANP- 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	6.0 pf
Grid No. 1 to All Other Electrodes	8.0 pf
Between Deflecting Plates 1-2	5.0 pf
Between Deflecting Plates 3-4	3.0 pf
Deflecting Plate 1 to All Other Electrodes	14.5 pf
Deflecting Plate 2 to All Other Electrodes	13.0 pf
Deflecting Plate 3 to All Other Electrodes	6.2 pf
Deflecting Plate 4 to All Other Electrodes	6.5 pf

**MECHANICAL DATA**

Minimum Useful Screen Diameter	11 Inches
Bulb Contact (Recessed Small Cavity Cap)	J1-22
Neck Contacts (Small Ball Caps)	J1-25
Base (Medium Shell Diheptal 12-Pin)	B12-37
Basing	14AW
J1-22 Contact Aligns with Trace D3-D4	±10 Degrees
J1-22 Contact Aligns with Pin No. 11	±10 Degrees
Neck Contact (A2) Aligns with Trace D1-D2	±10 Degrees
Positive Voltage on D1 Deflects Beam Approx. Away From A2	
Positive Voltage on D3 Deflects Beam Approx. Away From Post Accelerator Button	

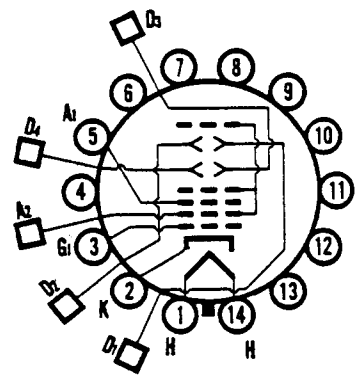
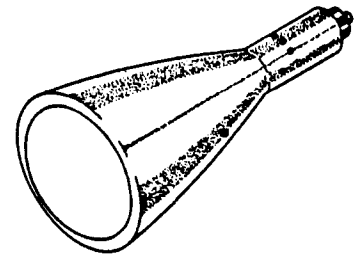
**RATINGS**

**MAXIMUM RATINGS (Absolute Maximum Values)**

Anode Input <sup>1</sup>	6 Watts
Anode No. 3 Voltage	16,000 Volts dc
Anode No. 2 Voltage	8,000 Volts dc
Anode No. 1 Voltage	3,000 Volts dc
Grid No. 1 Voltage	
Negative Bias Value	300 Volts dc
Positive Bias Value	0 Volts dc

**QUICK REFERENCE DATA**

Oscilloscope Tube  
 12" Direct Viewed  
 Round Glass Type  
 Electrostatic Deflection  
 Electrostatic Focus  
 Post Deflection Acceleration  
 Aluminized Screen



14AW

**SYLVANIA ELECTRIC PRODUCTS INC.**

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## MAXIMUM RATINGS (Absolute Maximum Values) (Cont'd)

Positive Peak Value	2	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	1500	Volts
Ratio (Post Accelerator Voltage to Anode Voltage)	2:5	

## TYPICAL OPERATING CONDITIONS

Anode No. 3 Voltage	9700	Volts dc
Anode No. 2 Voltage	6100	Volts dc
Anode No. 1 Voltage for Focus	1510 to 2225	Volts dc
Grid No. 1 Voltage Required for Cutoff <sup>2</sup>	-135 to -202	Volts dc
Deflection Factors <sup>3</sup>		
Deflecting Plates 1-2	100 to 150	Volts dc/Inch
Deflecting Plates 3-4	100 to 150	Volts dc/Inch
Modulation <sup>4</sup>	45	Volts Max.
Line Width "A" <sup>4</sup>	.5	mm
Line Width "B" <sup>4</sup>	.75	mm
Focus Electrode Current <sup>4</sup>	-25 to +25	µa
Spot Position, Undelected	Within 20 mm Square	
Angle Between D1-D2 Trace and D3-D4 Trace	90 ± 1	Degree

## CIRCUIT VALUES

Grid No. 1 Circuit Resistance	2.0	Megohms Max.
Resistance in Any Deflection Plate Circuit	5.0	Megohms Max.

## NOTES:

1. Anode input equals the product of Anode No. 2 voltage and average Anode No. 2 current.
2. For visual extinction of undeflected focused spot.
3. Deflection plates 1 and 2 are nearer the screen.
4. Measured in accordance with MIL-E-1 specification at a post accelerator current (IA3) equal to 25 µa.

OUTLINE

