

CHARACTERISTICS

GENERAL DATA

Focusing Method	Magnetic
Deflection Method	Magnetic
Deflection Angle (Approx.)	54 Degrees
Phosphor	P7
Fluorescence	Blue-White
Phosphorescence	Yellow
Persistence	Long
Faceplate	Gray Filter Glass
Light Transmittance (Approx.)	74 Percent

In addition to the type shown the 12SP- 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	5 μμf
Grid No. 1 to All Other Electrodes — 12SP7D	8 μμf
Grid No. 1 to All Other Electrodes — 12SP7, 12SP7B	6 μμf

MECHANICAL DATA

Minimum Useful Screen Diameter	11 Inches
Bulb	J99½A or Equivalent
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base (Small Shell Dudcal 5-Pin)	B5-57
Basing	12D

RATINGS

MAXIMUM RATINGS (Absolute Maximum Values)

	12SP7	12SP7B	12SP7D	
Anode Voltage	11,000	11,000	15,000 Volts	dc
Grid No. 2 Voltage	450	550	770 Volts	dc
Grid No. 1 Voltage				
Negative Bias Value	140	140	200 Volts	dc
Positive Bias Value	0	0	0 Volts	dc
Positive Peak Value	2	2	2 Volts	
Peak Heater-Cathode Voltage				
Heater Negative with				
Respect to Cathode	150	200	200 Volts	
Heater Positive with				
Respect to Cathode	150	200	200 Volts	

TYPICAL OPERATING CONDITIONS

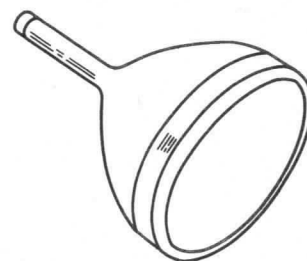
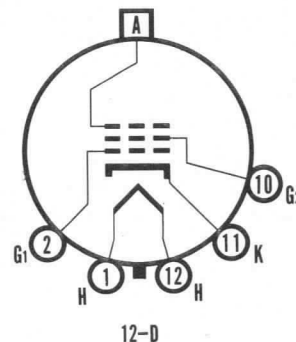
Anode Voltage ¹	9000 Volts	dc
Grid No. 2 Voltage	250 Volts	dc
Grid No. 1 Voltage Required for Cutoff ²	-27 to -63 Volts	dc
Focusing Coil Current (Approx.) ³	110 Ma	dc
Line Width A ⁴ — 12SP7D Only	0.38 MM	Max.
Spot Position ⁴	20 MM	Max.

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Megohms Max.
---	------------------

QUICK REFERENCE DATA

Radar Indicator Tube
 12" Direct Viewed
 Round Glass Type
 Spherical Faceplate
 Gray Filter Glass
 Magnetic Deflection
 Magnetic Focus
 Aluminized Screen
 (12SP7B - 12SP7D)
 Non-Aluminized (12SP7)



SYLVANIA ELECTRONIC TUBES

A Division of
 Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS SENECA FALLS, NEW YORK

Prepared and Released By The
 TECHNICAL PUBLICATIONS SECTION
 EMPORIUM, PENNSYLVANIA

JUNE, 1961

PAGE 1 OF 3

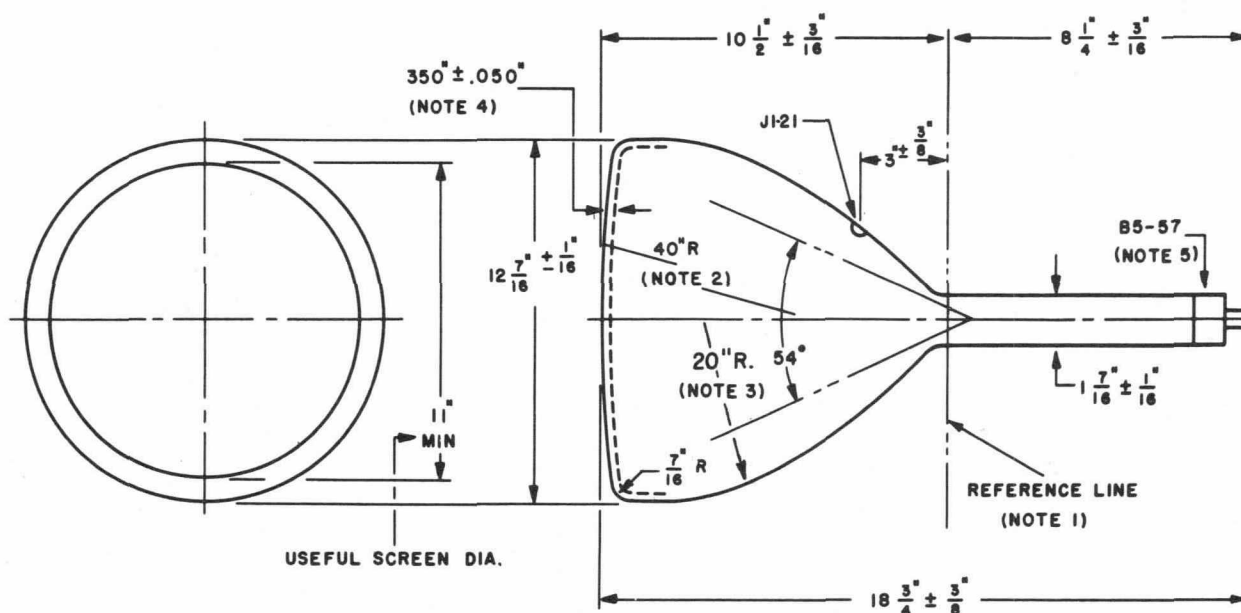
File Under
 SPECIAL AND GENERAL PURPOSE
 CATHODE RAY TUBES

NOTES:

1. Brightness and focus quality decrease with decreasing anode voltage. In general, the anode voltage should not be less than 4000 volts.
2. For visual extinction of undeflected focused spot.
3. For RETMA focusing coil No. 106 with distance from the yoke reference line to center of air gap equal to $3\frac{1}{4}$ inches.
4. Measured by compressed raster method of an anode current at 200 micro-amperes.
5. The center of the undeflected, unfocused spot will fall within a circle of 20 mm radius concentric with the tube face.

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.

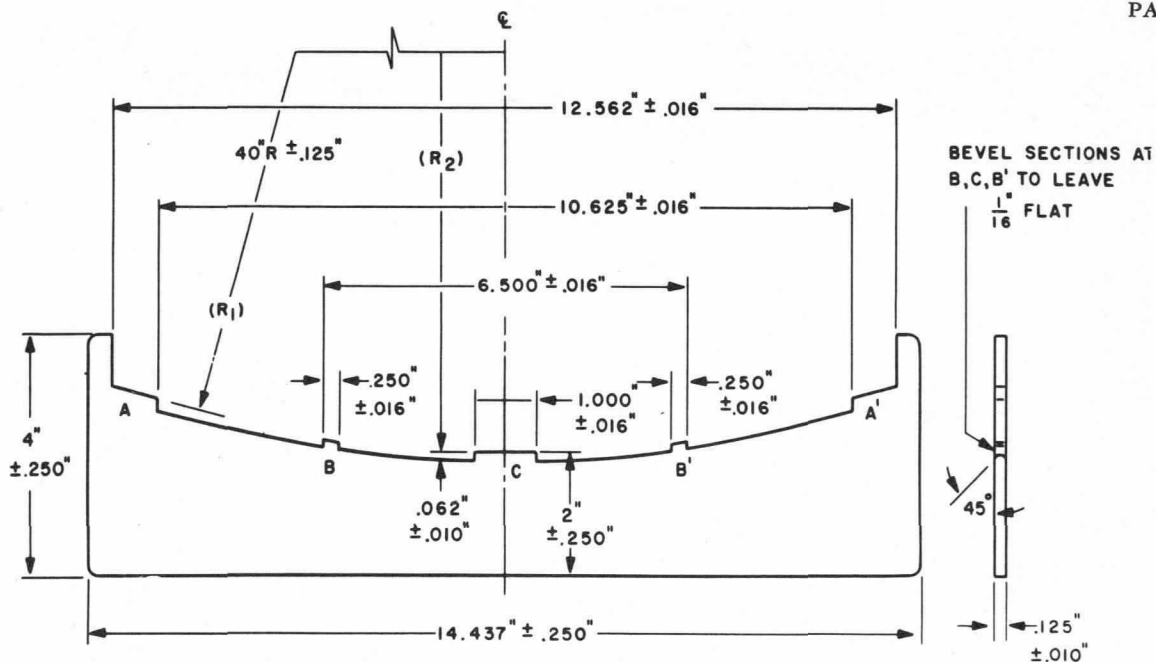


858050A

DIAGRAM NOTES:

1. Reference line is determined by the plane of the upper edge of the reference line gauge (JEDEC No. 112) when the gauge is seated against the glass cone.
2. To meet requirements of faceplate contour gauge shown. (12SP7D only)
3. To meet requirements of bulb contour gauge shown. (12SP7D only)
4. Faceplate thickness over entire useful screen area. (12SP7D only)
5. Base Pin Position No. 3 aligns with anode Contact (J1-21), within 10 degrees.

FACEPLATE CONTOUR GAUGE (12SP7D — Only)

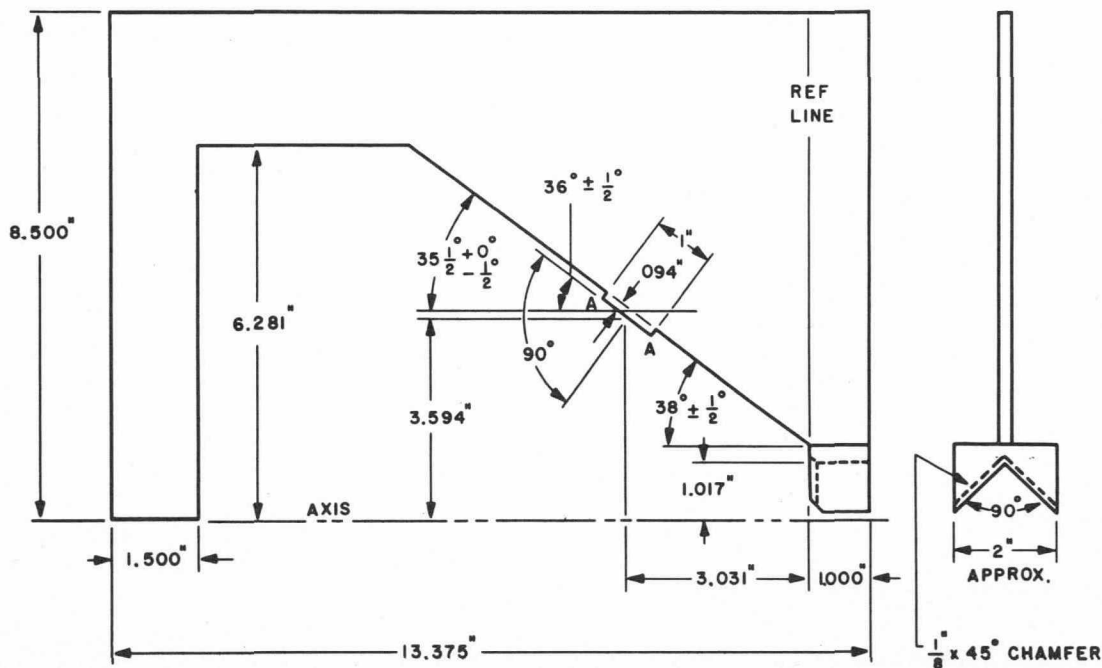


558052

R_2 shall be equal to the Absolute Value of $R_1 + .050'' \pm .002''$
 $\pm .000''$

The contour of the Bulb Face shall be checked with this Gauge at two orientations approximately 90 degrees apart. The gap between the bulb face and gauge points B, B', or C shall not exceed 0.100", and the bulb shall seat on steps A and A'.

BULB CONTOUR GAUGE (12SP7D — Only)



558051

With the Bulb Neck seated in V-Blocks, the bulb shall rest on flat A-A.