CHARACTERISTICS

GENERAL DATA

Focusing Method	Magnetic
Deflecting Method	Magnetic
Deflection Angles (approx.)	
Horizontal	85 Degrees
Diagonal	90 Degrees
Phosphor	Aluminized P4
Fluorescence	White
Persistence	Short to Medium
Faceplate	Gray Filter Glass
Light Transmittance (approx.)	74 Percent

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current	0.6 ± 5% Ampere
Heater Warm-up Time[1]	11 Seconds
Direct Interelectrode Capacitances (approx.)	
Cathode to All Other Electrodes	5 μμf
Grid No. 1 to All Other Electrodes	6 μμf
External Conductive Coating to Anode[2]	2500 μμf Max.
	2000 μμf Min.
Ion Trap Magnet	External, Single Field Type

MECHANICAL DATA

Minimum Useful Screen Dimensions (Maximum Assured)	$19\frac{1}{16}$ x $15\frac{1}{16}$ Inches
Minimum Useful Screen Area	262 Sq. Inches
Bulb Contact (Recessed Small Cavity Cap)	J1-21
Base (Small Shell Duodecal 5-Pin)	B5-57
Basing	12N

RATINGS

MAXIMUM RATINGS (Absolute Maximum Values)

Anode Voltage	22,000 Volts dc
Grid No. 2 Voltage	550 Volts dc
Grid No. 1 Voltage	
Negative Bias Value	155 Volts dc
Negative Peak Value	220 Volts
Positive Bias Value	0 Volts dc
Positive Peak Value	2 Volts
Peak 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

Anode Voltage	16,000 Volts dc
Grid No. 2 Voltage	300 Volts dc
Grid No. 1 Voltage Required for Cutoff[3]	−28 to −72 Volts dc
Focusing Coil Current[4]	116 ± 15% Ma dc
Ion Trap Magnet Current (Average)[5]	30 Ma dc
Field Strength of PM Ion Trap Magnet[6]	33 Gausses Min.

CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Megohms Max.

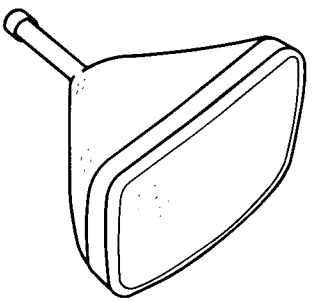
NOTES:

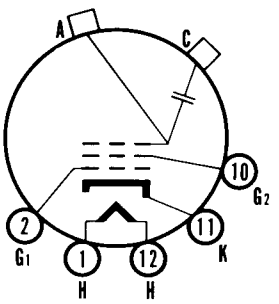
(Continued on Page 2)

1. *Heater warm-up time is the time required for the voltage across the heater terminals to increase to 5.0 volts in the JETEC test circuit, with E = 25 volts and series R = 31.5 ohms.*
2. *External conductive coating must be grounded.*
3. *Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts more negative.*

QUICK REFERENCE DATA

Television Picture Tube
21" Direct Viewed
Rectangular Glass Type
Spherical Faceplate
Gray Filter Glass
Magnetic Deflection
Magnetic Focus
Single Field Ion Trap
External Conductive Coating
Aluminized Screen





12-N

SYLVANIA ELECTRIC PRODUCTS INC.

TELEVISION PICTURE TUBE DIVISION

SENECA FALLS, NEW YORK

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APRIL 1956

4. *For JETEC focusing coil 109 or equivalent three inches from reference line, bias adjusted to 20 foot lamberts on a $19\frac{1}{16}$ x $15\frac{1}{16}$ inch picture area sharply focused at center of screen.*
5. *For JETEC Ion Trap Magnet No. 117 with pole pieces centered over Grid No. 2 on mount, and rotated for maximum brightness.*
6. *For typical PM ion trap magnet with field strength tolerance of ± 3 gausses.*

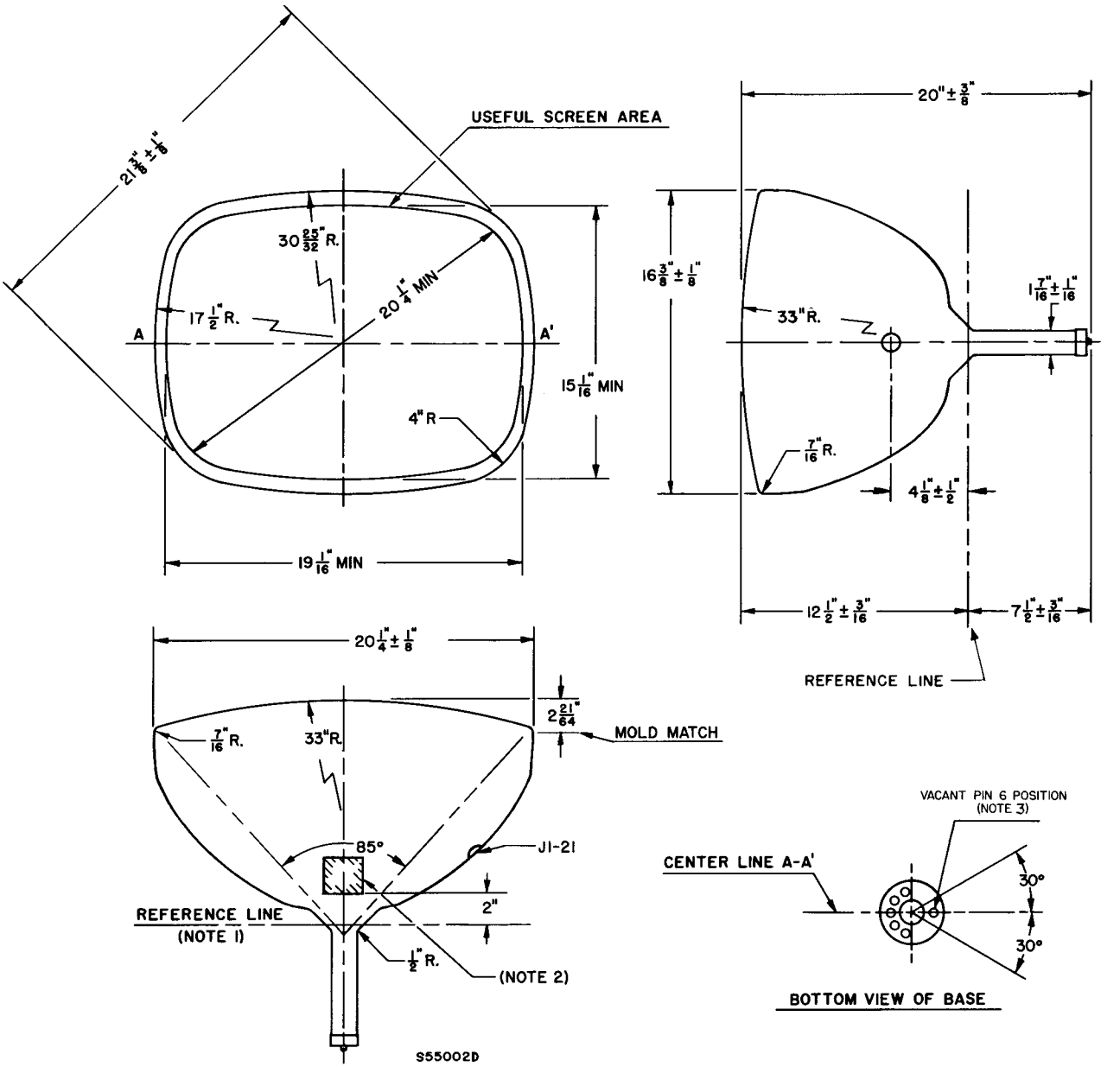

DIAGRAM NOTES:

1. *Reference line is determined by the plane C-C' of the reference line gauge (JETEC No. 116) when the gauge is resting on the glass cone.*
2. *Contact area for external conductive coating, 2" x 2", located 90 degrees counterclockwise from anode contact as viewed from base end of tube.*
3. *Anode contact aligns with vacant pin position No. 6 ±30 degrees.*

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.