

September 15, 1967

QUICK REFERENCE DATA

114° MAGNETIC DEFLECTION
13.250" × 16.375" MIN. SCREEN SIZE
4.375" NECK LENGTH

BANDED
IMPLOSION PROTECTION
WITH MOUNTING LUGS

6.3 VOLT, 450 MA HEATER
ELECTROSTATIC FOCUS
SPHERICAL FACEPLATE

DETAILED DATA

ELECTRICAL

Focusing Method	Low Voltage Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.):	
Diagonal	114 Degrees
Horizontal	102 Degrees
Vertical	85 Degrees
Direct Interelectrode Capacitances:	
Cathode to All Other Electrodes (Approx.)	5 pF
Grid No. 1 to All Other Electrodes (Approx.)	6 pF
External Conductive Coating to Anode: Note (1)	
Minimum	1700 pF
Maximum	2500 pF
Resistance between External Conductive Coating and Implosion Protection Hardware (Min.)	5 Megohms
Heater Current at 6.3 Volts	450 ± 5% mA
Heater Warm-up Time (Note 2)	.11 Seconds

OPTICAL

Phosphor Number	Aluminized P4
Light Transmittance at Center (Approx.)	46%

MECHANICAL

Over-all Length	12.656" ± 0.281"
Neck Length	4.375" ± 0.125"
Greatest Dimensions of Tube:	
Diagonal	20.884" ± 0.120"
Width	18.186" ± 0.120"
Height	14.686" ± 0.120"
Minimum Useful Screen Dimensions (Projected):	
Diagonal	19.625"
Horizontal Axis	16.875"
Vertical Axis	13.250"
Area	212 Sq. Inches
Implosion Protection	Banded with Mounting Lugs
Bulb	EIA J1651/4A1
Bulb Contact	EIA J1-21
Base	EIA B7-208
Basing	EIA 8HR
Net Weight	23.5 Pounds

RATINGS

Design Maximum System

Unless Otherwise Specified, Voltage Values are Positive and Measured with Respect to Grid 1.

Maximum Anode Voltage (Note 3)	23000 Volts
Minimum Anode Voltage	12000 Volts
Maximum Grid 4 (Focusing Electrode) Voltage	+1100, -550 Volts
Maximum Grid 2 Voltage	.60 Volts
Minimum Grid 2 Voltage	.20 Volts
Cathode Voltage:	
Maximum Negative Bias Value	0 Volts
Maximum Negative Peak Value	2 Volts
Maximum Positive Bias Value	154 Volts
Maximum Positive Peak Value	220 Volts

Maximum 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 300 Volts

Heater Positive with Respect to Cathode 200 Volts

LIMITING CIRCUIT VALUES

Maximum Grid 1 Circuit Resistance	1.5 Megohms
Minimum Grids 2 & 4 Circuit Resistance (Note 4)	.10000 Ohms

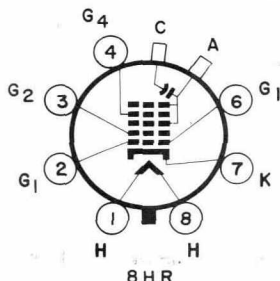
TYPICAL CATHODE DRIVE OPERATION

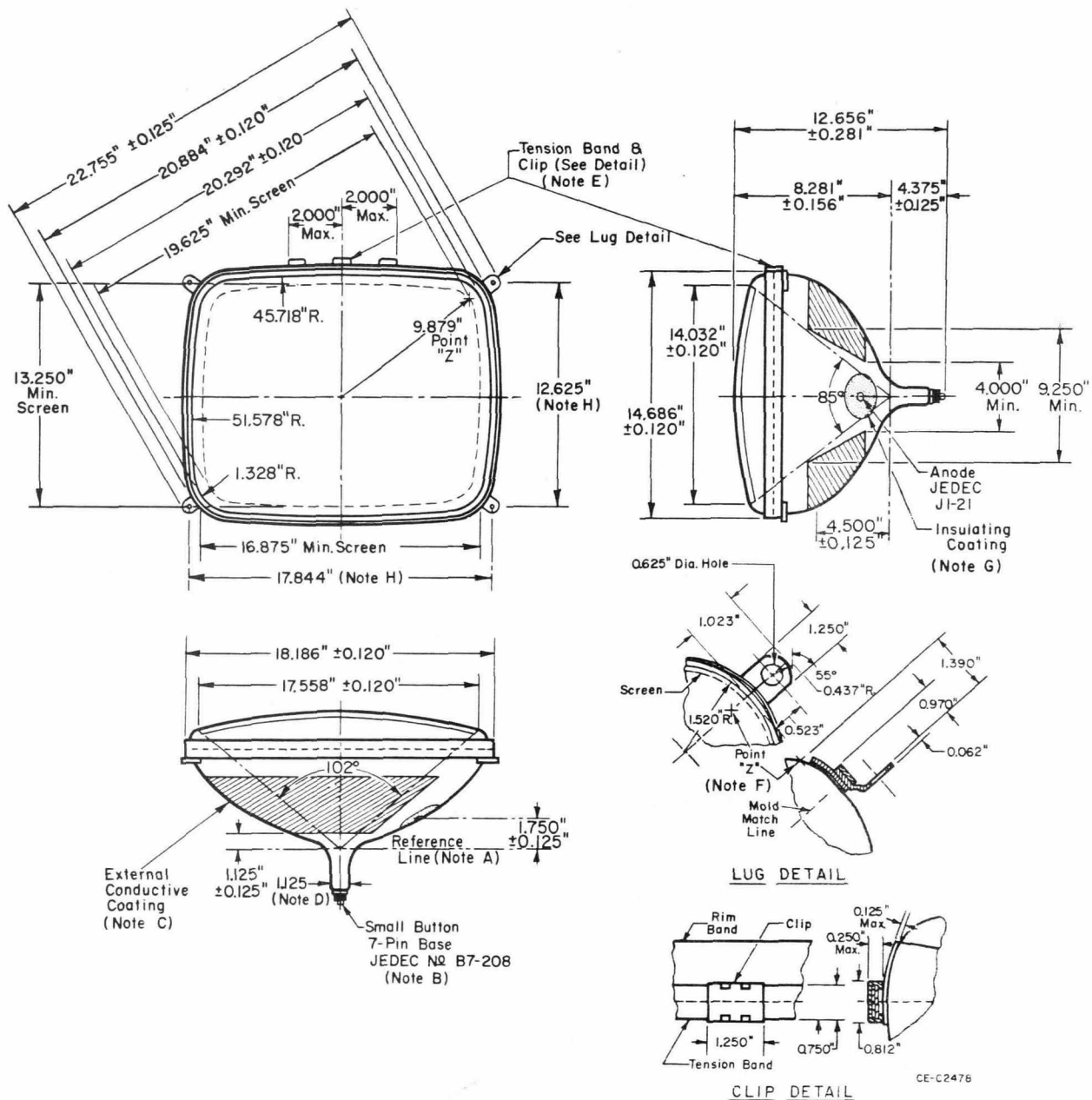
Unless Otherwise Specified, all Voltage Values are Positive with Respect to Grid 1.

Anode Voltage (Note 3)	16000 Volts
Grid 4 Voltage (Focusing Electrode) (Note 5)	0 to 400 Volts
Grid 2 Voltage	50 Volts
Cathode Voltage for Raster Cutoff	35 to 55 Volts

NOTES

- Includes implosion protection hardware.
- Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times rated heater voltage divided by rated heater current.
- Operation with voltage in excess of 16KV may require shielding to limit radiation of very soft X-rays.
- Protective resistance in the grids 2 & 4 circuits is advisable to prevent damage.
- With the combined Grid No. 1 bias voltage and video-signal voltage adjusted to give an anode current of 150 microamperes on a 13.250" by 16.875" pattern from type 2F21 monoscope or equivalent. Individual tubes will have satisfactory focus at some value between 0 and 400 volts.





- Yoke Reference Line is determined by plane surface of flared end of JEDEC Reference Line Gauge No. 126 when seated on funnel of tube. With a minimum neck length tube, the PM centering magnet (0 to 8 gauss) should extend no more than 2.125" from Yoke Reference Line.
- Lateral strains on base pins must be avoided. The socket should have flexible leads permitting movement. The perimeter of the base wafer will be inside a 1.750" diameter circle concentric with tube axis. Base pin 4 aligns with major axis within 30° and is on same side as anode terminal.
- External conductive coating forms supplementary filter capacitance and must be grounded.
- Neck diameter may be a maximum of 1.168" at the splice.
- Tension band must be grounded.
- Point "Z" is located on the tube diagonal at the faceplate surface.
- Transparent insulating coating, 3" in diameter. Clean only with soft, dry, lintless cloth.
- Tube shall fit on 0.25" pegs centered at corners of 12.625" $\times$ 17.844" rectangle. (Suggested stud diameter is 0.180" - 0.250").

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