

January 15, 1966

QUICK REFERENCE DATA

110° MAGNETIC DEFLECTION
15.125" X 19.250" MIN. SCREEN SIZE
4.625" NECK LENGTH

BANDED
WITH MOUNTING LUGS

6.3 VOLT, 450 MA HEATER
LOW G2 VOLTAGE (30 VOLTS)
SPHERICAL GRAY FILTER GLASS

DETAILED DATA

ELECTRICAL

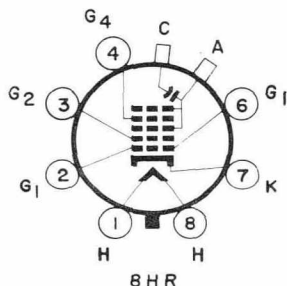
Focusing Method Low Voltage Electrostatic
Deflection Method Magnetic
Deflection Angles (Approx.):
Diagonal 110 Degrees
Horizontal 99 Degrees
Vertical 82 Degrees
Direct Interelectrode Capacitances:
Cathode to All Other Electrodes (Approx.) 5 pF
Grid No. 1 to All Other Electrodes (Approx.) 6 pF
External Conductive Coating to Anode: (Note 5)
Minimum 2000 pF
Maximum 2500 pF
Resistance Between External Conductive Coating and
Mounting Hardware (minimum) 5 Megohms
Heater Current at 6.3 Volts 450 ± 5% mA
Heater Warm-up Time (Note 1) 11 Seconds

OPTICAL

Phosphor Number Aluminized P4
Light Transmittance at Center (Approx.) 75.5%

MECHANICAL

Net Weight 26.5 Pounds
Over-all Length 14.375" ± 0.281"
Neck Length 4.625" ± 0.125"
Greatest Dimensions of Tube: (Excluding Lugs)
Diagonal 23.622" ± 0.125"
Width 20.654" ± 0.125"
Height 16.612" ± 0.125"
Minimum Useful Screen Dimensions (Projected):
Diagonal 22.312"
Horizontal Axis 19.250"
Vertical Axis 15.125"
Area 282 Sq. Inches
Bulb EIA J187E1
Bulb Contact EIA J1-21
Base EIA B7-208
Basing EIA 8HR



RATINGS

Design Maximum System

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

Maximum Anode Voltage (Note 2) 23500 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 3) . . 10000 Ohms

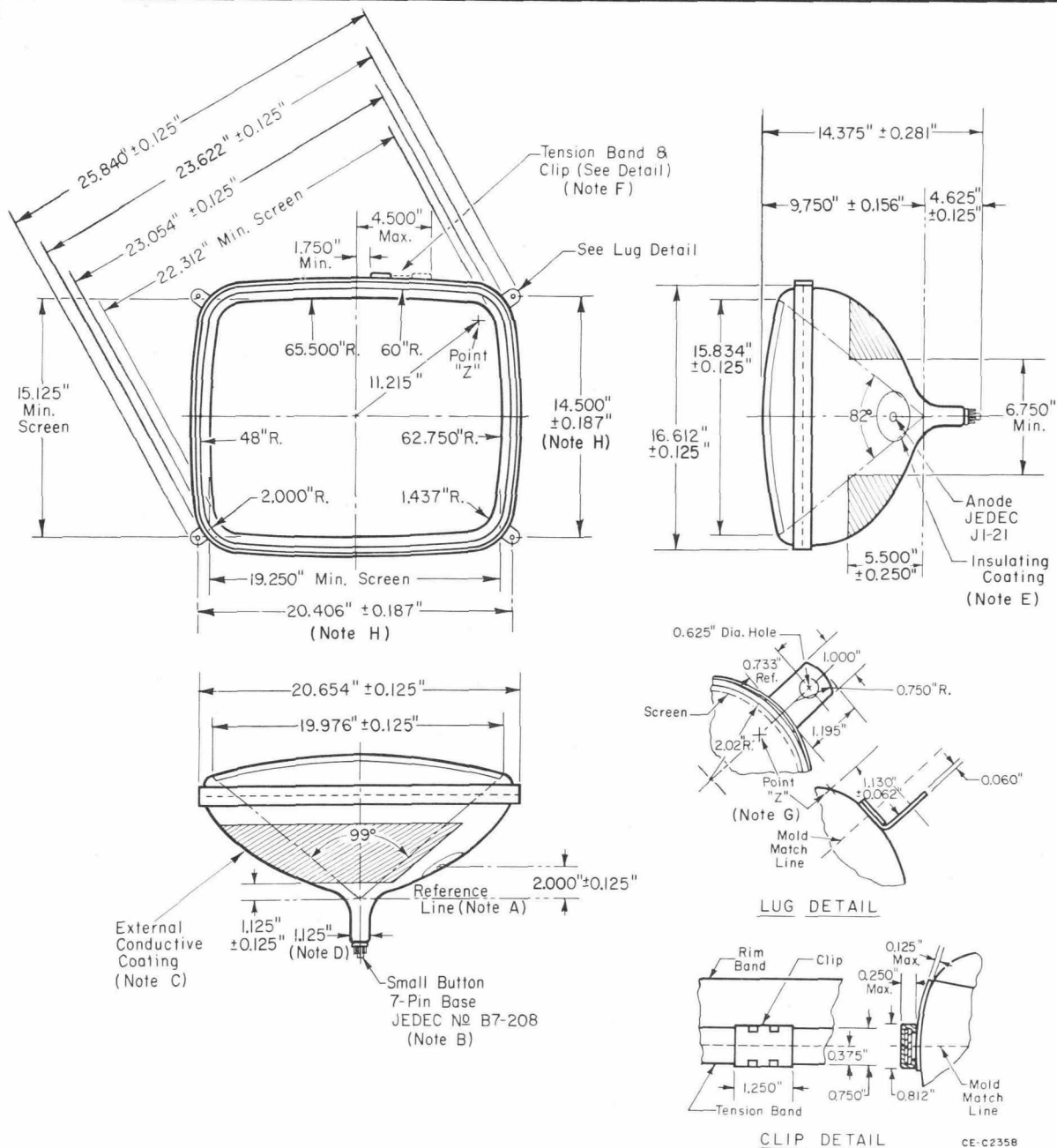
TYPICAL CATHODE DRIVE OPERATION

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

Anode Voltage (Note 2) 18000 Volts
Grid 4 Voltage (Focusing Electrode) (Note 4) . . . 0 to 400 Volts
Grid 2 Voltage 30 Volts
Cathode Voltage for Raster Cutoff 30 to 45 Volts

NOTES

1. 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.
2. Operation with voltage in excess of 16KV may require shielding to limit radiation of very soft X-rays.
3. Protective resistance in the grids 2 & 4 circuits is advisable to prevent arc damage.
4. With the cathode bias voltage and video-signal voltage adjusted to give an anode current of 150 microamperes on a 15.125" by 19.250" pattern from type 2F21 monoscope or equivalent, individual tubes will have satisfactory focus at some value between 0 and 400 volts.
5. Includes mounting hardware. (Not an implosion protected system).



- A. 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.
- B. 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 with in 30° and is on same side as anode terminal.
- C. External conductive coating forms supplementary filter capacitance and must be grounded.
- D. Neck diameter may be a maximum of 1.168" at the splice.
- E. Transparent insulating coating, 3" in diameter. Clean only with soft, dry, lintless cloth.
- F. Tension band must be grounded.
- G. Point "Z" is located on the tube diagonal at the faceplate surface.
- H. Tube shall fit on 5/16" pegs centered at corners of 14.500" x 20.406" rectangle. (Suggested stud diameter is 0.200" - 0.250").

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