

May 15, 1965

QUICK REFERENCE DATA

94° MAGNETIC DEFLECTION
15.125" × 19.250" MIN. SCREEN SIZE
5.000" NECK LENGTH
SPHERICAL GRAY FILTER GLASS

IMPLOSION PROTECTION
BANDED WITH
MOUNTING LUGS

6.3 VOLT, 450 MA HEATER
LOW G2 VOLTAGE (50 VOLTS)
NO ION TRAP
ELECTROSTATIC FOCUS

DETAILED DATA

ELECTRICAL

Focusing Method Low Voltage Electrostatic
Deflection Method Magnetic
Deflection Angles (Approx.):
Diagonal 94 Degrees
Horizontal 83 Degrees
Vertical 68 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:
Minimum 1700 pf
Maximum 2500 pf
Resistance Between External Conductive Coating and
Implosion Protection 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.) 42%

MECHANICAL

Over-all Length 17.078" ± 0.312"
Neck Length 5.000" ± 0.125"
Greatest Dimensions of Tube: (Excluding Lugs)
Diagonal 23.502" ± 0.100"
Width 20.654" ± 0.100"
Height 16.612" ± 0.100"
Minimum Useful Screen Dimensions (projected):
Diagonal 22.312"
Horizontal axis 19.250"
Vertical axis 15.125"
Area 282 Sq. Inches
Implosion Protection Banded with Mounting Lugs
Bulb Contact J1-21
Base B7-208
Basing 8HR
Net Weight 30 Pounds
Bulb J187K1

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 11000 Volts
Maximum Grid 4 (Focusing Electrode)
Voltage +1100, -550 Volts
Maximum Grid 2 Voltage 70 Volts
Minimum Grid 2 Voltage 20 Volts
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 Voltage 6.93 Volts
Minimum Heater Voltage 5.67 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 200 Volts
Heater Positive with Respect to Cathode 200 Volts

LIMITING CIRCUIT VALUES

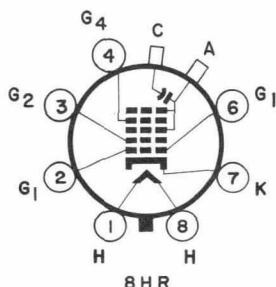
Maximum Grid 1 Circuit Resistance 1.5 Megohms
Minimum Grids 2 & 4 Circuit Resistance (Note 2) 10000 Ohms

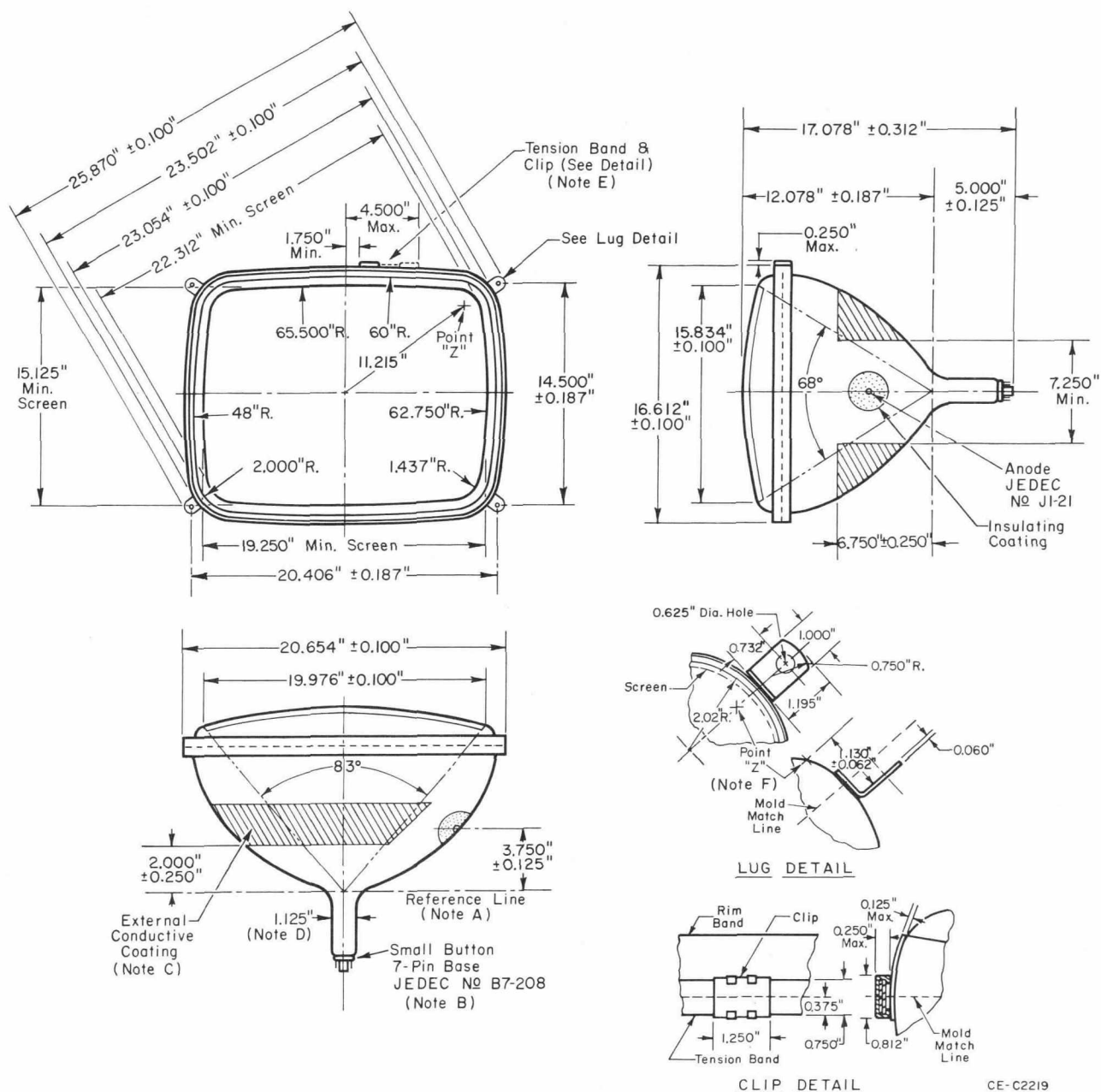
TYPICAL CATHODE DRIVE OPERATION

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 50 Volts
Cathode Voltage for Raster Cutoff 35 to 55 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 16 KV may require shielding to limit radiation of very soft X-rays.
3. Protective resistance in the grids 2 & 4 circuits is advisable to prevent damage.
4. With the combined Grid No. 1 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.





CE-C2219

- 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 2-1/8" 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 1-3/4" diameter circle concentric with tube axis. Base pin 4 aligns with major axis within 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. Tension band must be grounded.
- F. Point "Z" is located on the tube diagonal at the faceplate surface.

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