

September 15, 1959

TELEVISION PICTURE TUBE TYPE 21DKP4A

110° Magnetic Deflection

Rectangular Glass

Aluminized

Neutral Gray Glass

Light Weight Bulb

300 Ma. Controlled Warm-up Heater

External Conductive Coating

Spherical Faceplate

No Ion Trap

19-1/16" x 15-1/16" Picture

ELECTRICAL:

Cathode Coated Unipotential Heater:

Voltage (ac or dc) 6.3 Volts
Current 0.30 ± 5% Ampere
Heater Warm-up Time[⊕] 18 Seconds

Direct Interelectrode Capacitances:

Grid 1 to all other Electrodes 6 $\mu\mu\text{f}$
Cathode to all other Electrodes 5 $\mu\mu\text{f}$

External Conductive Coating to Anode:

Maximum 2500 $\mu\mu\text{f}$
Minimum 1700 $\mu\mu\text{f}$

Screen:

Phosphor Aluminized P4
Fluorescence White
Persistence Short

Focusing Method Low Voltage Electrostatic

Deflection Method Magnetic
Horizontal Angle 105°
Vertical Angle 87°
Diagonal Angle 110°

No Ion Trap No Magnet Required

MECHANICAL:

Mounting Position Any

Screen Dimensions: Minimum

Height 15-1/16"
Width 19-1/16"
Diagonal 20-1/4"
Area 262 sq. Inches

Faceplate Spherical

Glass Neutral Gray
Transmission 76%

Bulb Dimensions: Bulb No. J171G1 or Equiv.

Height 16-3/8" ± 1/8"
Width 20-1/4" ± 1/8"
Diagonal 21-3/8" ± 1/8"

Overall Length 14-11/16" ± 5/16"

Neck Length 5-7/16" ± 1/8"

Anode Terminal Recessed Small Cavity Cap (JETEC J1-21)

Base Small Button 7-Pin (JETEC B7-183)

Basing 8HR

Weight (approx.) 20 Pounds

MAXIMUM RATINGS:

Design Center Values

Anode Voltage 18000 ▲ max. Volts

Grid 4 Voltage:

Positive Value 1000 max. Volts

Negative Value 500 max. Volts

Grid 2 Voltage 500 max. Volts

Grid 1 Voltage:

Positive Bias Value 0 max. Volts

Positive Peak Value 2 max. Volts

Negative Bias Value 140 max. Volts

Negative Peak Value 200 max. Volts

Peak Heater-Cathode Voltage:

Heater Negative with respect to Cathode #. . . 180 max. Volts

Heater Positive with respect to Cathode . . . 180 max. Volts

TYPICAL OPERATING CONDITIONS:

Anode Voltage ▲. 16000 Volts

Grid 4 Voltage 0 to 400 Volts

Grid 2 Voltage 300 Volts

Grid 1 Voltage for

Raster Cutoff -35 to -72 Volts

LIMITING CIRCUIT VALUES:

Grid 4 Resistance to Voltage Source ■. . . 10000 min. Ohms

Grid 2 Resistance to Voltage Source ■. . . 10000 min. Ohms

Grid 1 Circuit Resistance 1.5 max. Megohms

▲ Operation with anode voltage or anode to grid 1 voltage less than 12000 volts is not recommended.

■ Protective resistance in the grid 4 and grid 2 circuits is advisable to prevent damage to the tube. If applicable, one resistor common to both circuits may be used.

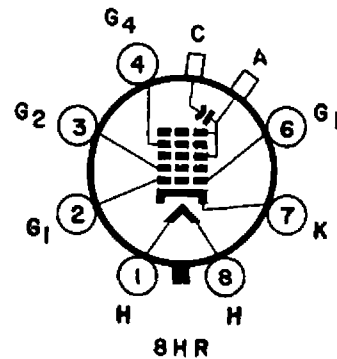
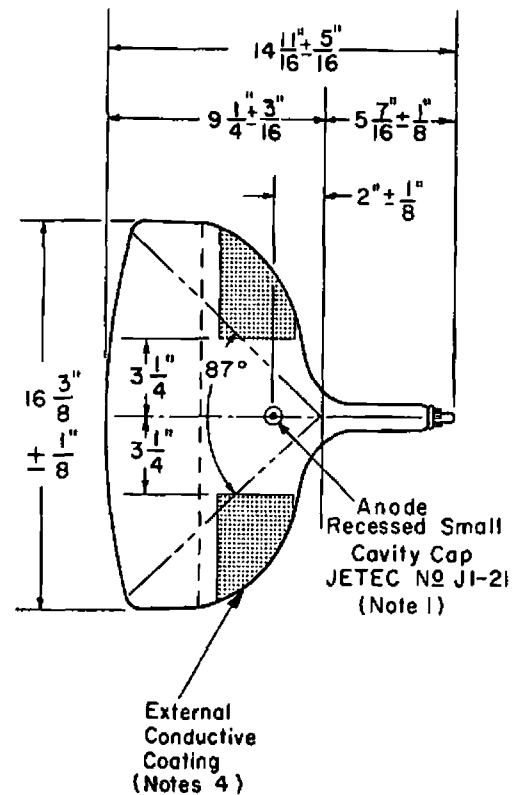
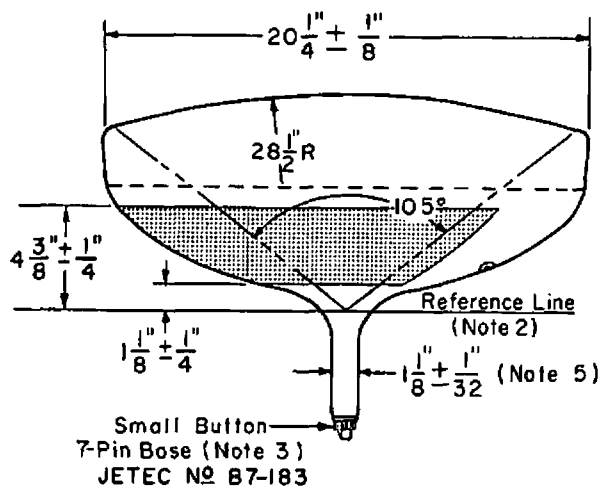
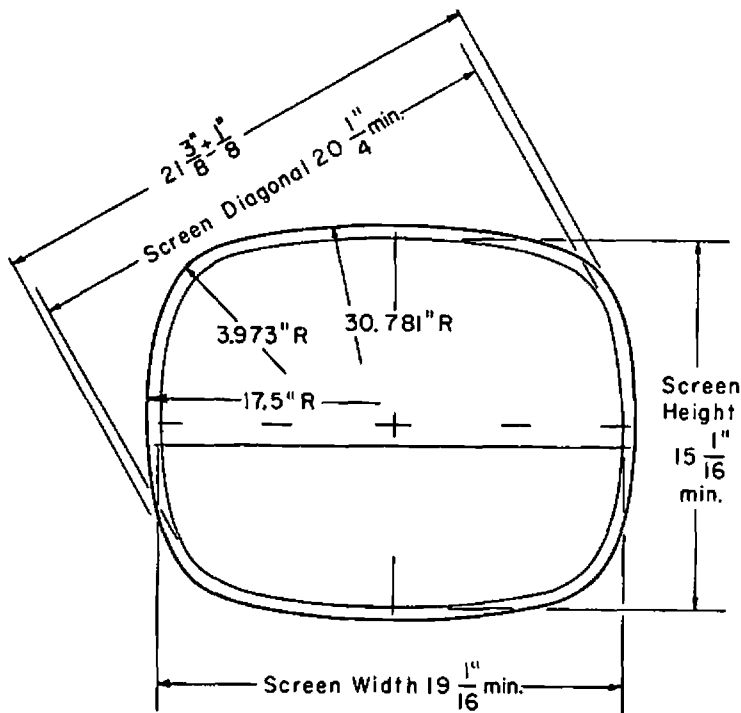
▲ Inasmuch as the tube rating permits operation at voltages as high as 19.8 kilovolts (absolute value), shielding of the tube for x-ray radiation may be needed when operating conditions involve voltages in excess of 16 kilovolts.

During 45 second warmup period this value may be 410 max. volts.

Note: With a minimum neck length tube, the PM centering magnet (0 to 8 gauss) should extend no more than 2-1/8" from the yoke reference line.

⊕ 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.

Cathode Ray Tube Section



NOTE 1: The plane through the tube axis and base pin 4 may vary from the plane through the tube axis and the anode terminal by an angular tolerance of $\pm 30^\circ$. The anode terminal is on the same side of the tube as pin 4.

NOTE 2: With the tube neck inserted through the flared end of Reference Line Gauge JETEC No. 126 and with the tube seated in the gauge, the reference line is determined by the intersection of the plane face of the flared end of the gauge with the tube funnel.

NOTE 3: The socket should not be mounted rigidly, but should be allowed to move freely and have flexible leads. The associated wiring should not impress lateral strains on the base pins. The bottom circumference of the base wafer will lie within a circle concentric with the bulb axis and having a diameter of 1-3/4".

NOTE 4: External conductive coating forms supplementary filter capacitor and must be grounded.

NOTE 5: Neck diameter may be a maximum of 1.168" at the splice.