

23DLP4
CATHODE RAY TUBE

23 INCH, RECTANGULAR, GLASS	FACE PLATE -- SPHERICAL GRAY
FOCUS -- ELECTROSTATIC	NON ION TRAP GUN
92 DEGREE MAGNETIC DEFLECTION	ALUMINIZED SCREEN
INTEGRAL IMPLOSION PROTECTION	EXTERNAL CONDUCTIVE COATING

LOW GRID NO. 2 VOLTAGE TYPE
FOR CATHODE-DRIVE OPERATION

-----DESCRIPTION AND RATING-----

The 23DLP4 is a 23 inch rectangular glass picture tube employing integral implosion protection consisting of a face rim band, tension strap and bulb funnel coating. An outstanding feature is a non-ion trap gun designed for operation at a low Grid #2 voltage for use in cathode-drive circuits. The fluorescent screen is aluminized to increase light output and reduce undesirable screen charging. An external conductive coating serves as a filter capacitor when grounded and contributes to the reduction of sweep induced radiation. Overall length is $18\frac{3}{8}$ inches and screen area is 282 square inches.

The 23DLP4 is equivalent to the 23AWP4 electrically and mechanically except for the addition of integral implosion protection hardware and reduced transmission of the face glass to provide equivalent transmission of conventional face glass plus separate protective shield.

ELECTRICAL DATA

Focusing Method	Electrostatic
Deflection Angle, Approximate	
Horizontal	80 degrees
Vertical	65 degrees
Diagonal	92 degrees
Direct Interelectrode Capacitance	
Cathode to all other electrodes, approx.	5 μ f
Grid #1 to all other electrodes, approx.	6 μ f
External Conductive Coating to Anode	2500 max. μ f
(including implosion protection hardware)	1700 min. μ f
Heater Current at 6.3 volts	600 \pm 30 ma.
Heater Warm-Up Time	11 sec.

CATHODE RAY TUBE DEPARTMENT

GENERAL  ELECTRIC

Syracuse, N. Y.

OPTICAL DATA

Phosphor Number P4 Aluminized
 Light Transmittance at Center (Approximate) . . . 42 1/2 Percent

MECHANICAL DATA

Overall 18 \pm 3/8 inches
 Greatest Dimensions of Tube
 Diagonal. 23 1/2 \pm 1/8 inches
 Width 20 5/8 \pm 1/8 inches
 Height 16 5/8 \pm 1/8 inches
 Minimum Useful Screen Dimensions (Projected)
 Diagonal. 22 5/16 inches
 Horizontal Axis 19 1/4 inches
 Vertical Axis 15 1/8 inches
 Area. 282 sq. inches
 Neck Length 5 1/2 \pm 3/16 inches
 Bulb Contact JEDEC No. J1-21
 Base. JEDEC No. B6-203
 Basing Designation. 12L
 Bulb Contact Alignment
 Anode Contact Aligns with Base Pin No. 6 \pm 30 degrees
 Bulb Designation. JEDEC No. J187J1
 Weight (Approximately). 30 Pounds

RATINGS (Design Maximum System)

Unless otherwise specified, voltage values are positive and measured with respect to Grid No. 1

Maximum Anode Voltage 22,000 volts
 Minimum Anode Voltage 11,000 volts
 Maximum Grid #4 (Focusing Electrode) Voltage. . . -450 to +1250 volts
 Minimum Grid #2 Voltage 40 volts
 Maximum Grid #2 Voltage 225 volts
 Cathode Voltage
 Maximum Positive Bias Value 154 volts DC
 Maximum Positive Peak Value 220 volts
 Maximum Negative Bias Value 0 volts DC
 Maximum Negative Peak Value 2 volts
 Maximum Heater Voltage. 6.9 volts
 Minimum Heater Voltage. 5.7 volts
 Maximum Heater-Cathode
 Heater Negative with respect to Cathode
 During Warm-Up period not to exceed 15 sec. 450 volts
 After equipment warm-up period 200 volts
 Heater Positive With Respect to Cathode 200 volts

TYPICAL OPERATING CONDITIONS (Cathode-Drive Service)

Anode Voltage 20,000 volts DC
 Grid #4 Voltage (Focusing Electrode, Notes 2 & 3) 250 volts DC
 Grid #2 Voltage 50 volts DC
 Cathode to Grid #1 Voltage for cut-off (Note 1) . 36 to 54 volts

MAXIMUM CIRCUIT VALUES

Maximum Grid #1 Circuit Resistance 1.5 max. megohm
Grid No. 2 Circuit Resistance 0.1 min. megohm
Focusing Electrode Circuit Resistance 0.1 min. megohm

Protective resistance in Grid No. 2 and focusing electrical circuits is advisable to prevent damage to tube. If applicable, one resistor common to both circuits may be used.

NOTES:

1. Visual extinction of focused raster
2. With the combined Grid #1 bias voltage and video-signal voltage adjusted to give an anode current of 150 μ a on a 19-1/4" x 15-1/4" pattern from RCA 2F21 monoscope or equivalent.
3. Individual tubes will have satisfactory focus at some value between 0 and 500 volts.

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23 DLP4

SCREEN DIMENSIONS
 DIAGONAL — 22 5/16
 WIDTH — 19 1/4
 HEIGHT — 15 1/8
 AREA — 282 SQ. IN.

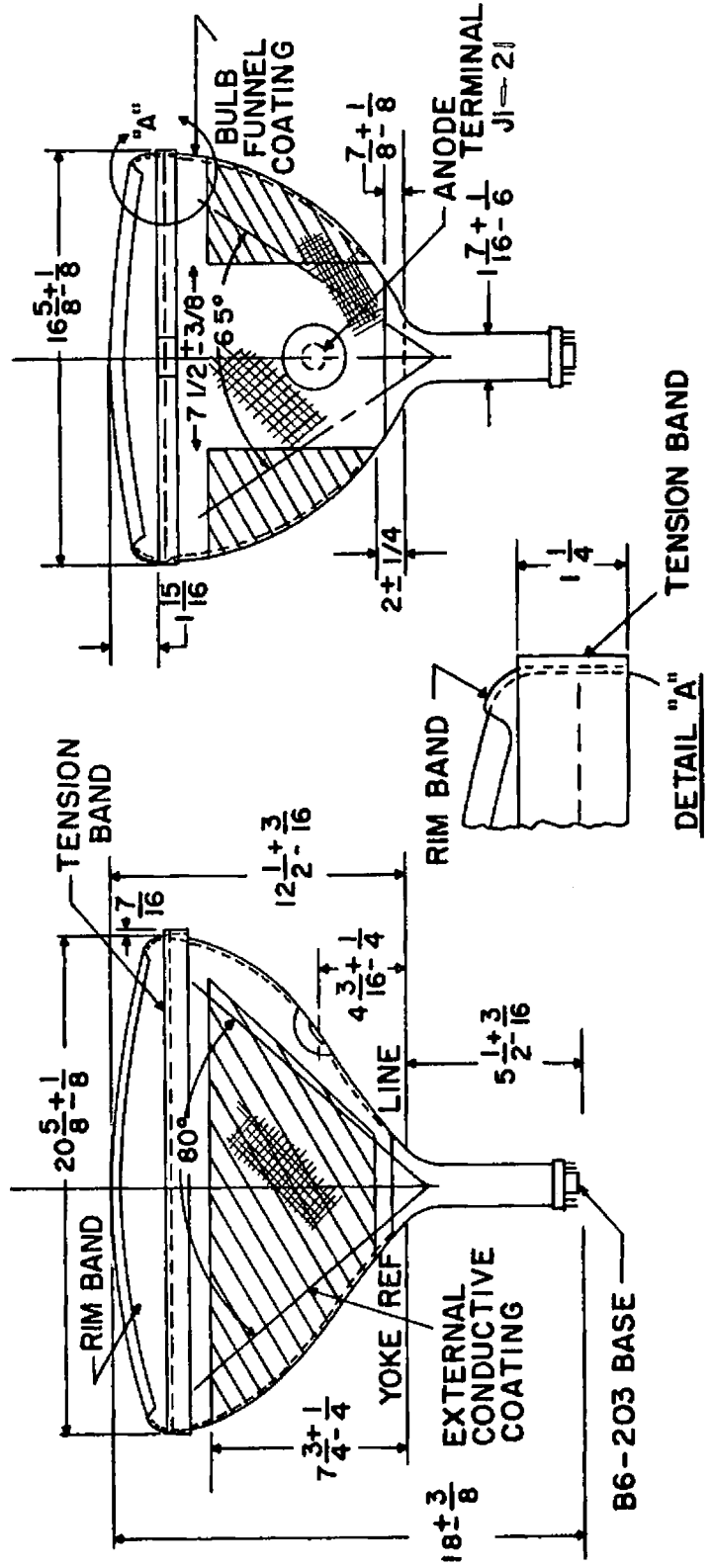
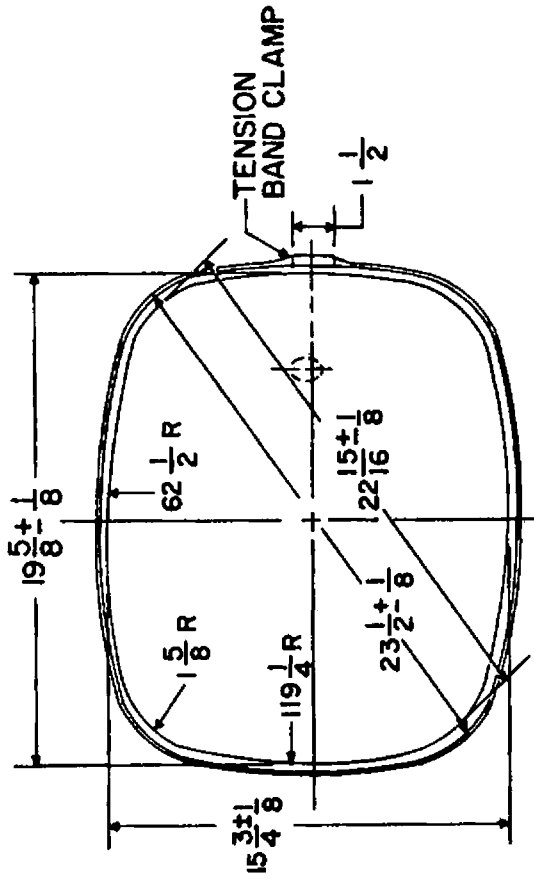
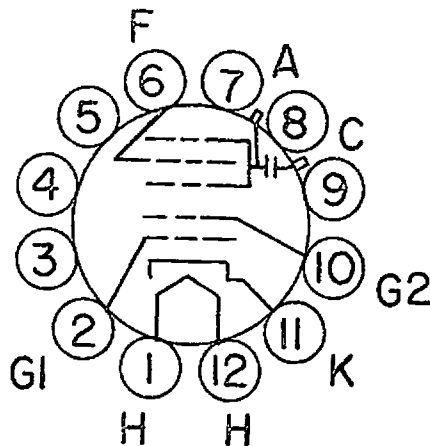


DIAGRAM NOTES

1. The reference line is determined by the intersection of the plane C-C' of gage (EIA No. 116) with the glass funnel.
2. Deflection angle on the diagonal is 92° .
3. Anode terminal aligns with pin No. 6 \pm 30 degrees.
4. Use a non-rigidly mounted socket with flexible leads. Bottom circumference of base wafer will fall within 2-3/4 inch diameter circle concentric with the bulb axis.



BASING DIAGRAM

12L

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