

23DWP4
CATHODE RAY TUBE

23 INCH, RECTANGULAR, GLASS	FACEPLATE--SPHERICAL GRAY
FOCUS--ELECTROSTATIC	NON ION TRAP GUN
DEFLECTION--MAGNETIC	ALUMINIZED SCREEN
94 DEGREE DEFLECTION ANGLE	EXTERNAL CONDUCTIVE COATING

INTEGRAL IMPLOSION PROTECTION

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

The 23DWP4 is a 23 inch electrostatic-focus and magnetic deflection glass light-weight picture tube equipped with banded tube - coated funnel type integral implosion protection. Outstanding features include a small neck diameter and a non ion trap gun. The fluorescent screen is aluminized to increase light output and reduce undesirable screen charging. An external conductive coating is provided to serve as a filter capacitor when grounded.

ELECTRICAL DATA

Focusing Method	Electrostatic
Deflection Angle, Approximate	
Horizontal	82 degrees
Vertical	68 degrees
Diagonal	94 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).	2000 min. μ f
Heater Current at 6.3 volts.	600 $\pm$ 30 ma.
Heater Warm-Up Time.	11 sec.

OPTICAL DATA

Phosphor Number.	P4 Aluminized
Light Transmittance at Center, approx.	42 Percent

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MECHANICAL DATA

Overall Length	17 3/16 ± 5/16 inches
Greatest Dimensions of Tube	
Diagonal	23 1/2 ± 1/8 inches
Width	20 5/8 ± 1/8 inches
Height	16 5/8 ± 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 square inches
Neck Length.	5 1/8 ± 1/8 inches
Bulb	J187 M1
Bulb Contact	JEDEC No. J1-21
Base	JEDEC No. B7-208
Basing	8HR
Bulb Contact Alignment	
Anode Contact Aligns with base pin No. 4 ± 30 degrees	

RATINGS (Design Maximum System)

Unless otherwise specified, voltage values are positive and measured with respect to cathode.

Maximum Anode Voltage.	22,000 volts
Minimum Anode Voltage.	15,000 volts
Maximum Grid #4 (Focusing Electrode) Voltage	-500 to +1000 volts
Minimum Grid #2 Voltage.	100 volts
Maximum Grid #2 Voltage.	400 volts
Grid #1 Voltage	
Maximum Negative Value	140 volts DC
Maximum Negative Peak Value.	200 volts
Maximum Positive Value	0 volts DC
Maximum Positive Peak Value.	2 volts
Maximum Heater Voltage	6.9 volts
Minimum Heater Voltage	5.7 volts

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Maximum Heater-Cathode Voltage

Heater negative with respect to cathode

During warm-up period not to exceed 15 sec 410 volts

After equipment warm-up period 300 volts

Heater positive with respect to cathode. 180 volts

TYPICAL OPERATING CONDITIONS (Cathode Drive Service)

Anode Voltage 18,000 volts DC

Grid #4 Voltage (Focusing Electrode-Notes 2 & 3) 250 volts DC

Grid #2 Voltage. 200 volts DC

Cathode to Grid #1 Voltage (Note 1). 31 to 49 volts DC

MAXIMUM CIRCUIT VALUES

Maximum Grid #1 Circuit Resistance 1.5 max. megohm

Grid #2 Circuit Resistance 0.1 min. megohm

Focusing Electrode Circuit Resistance. 0.1 min. megohm

Protective resistance in Grid #2 and focusing electrical circuits is advisable to prevent damage to tube. If applicable, one resistor common to both circuits may be used.

NOTES:

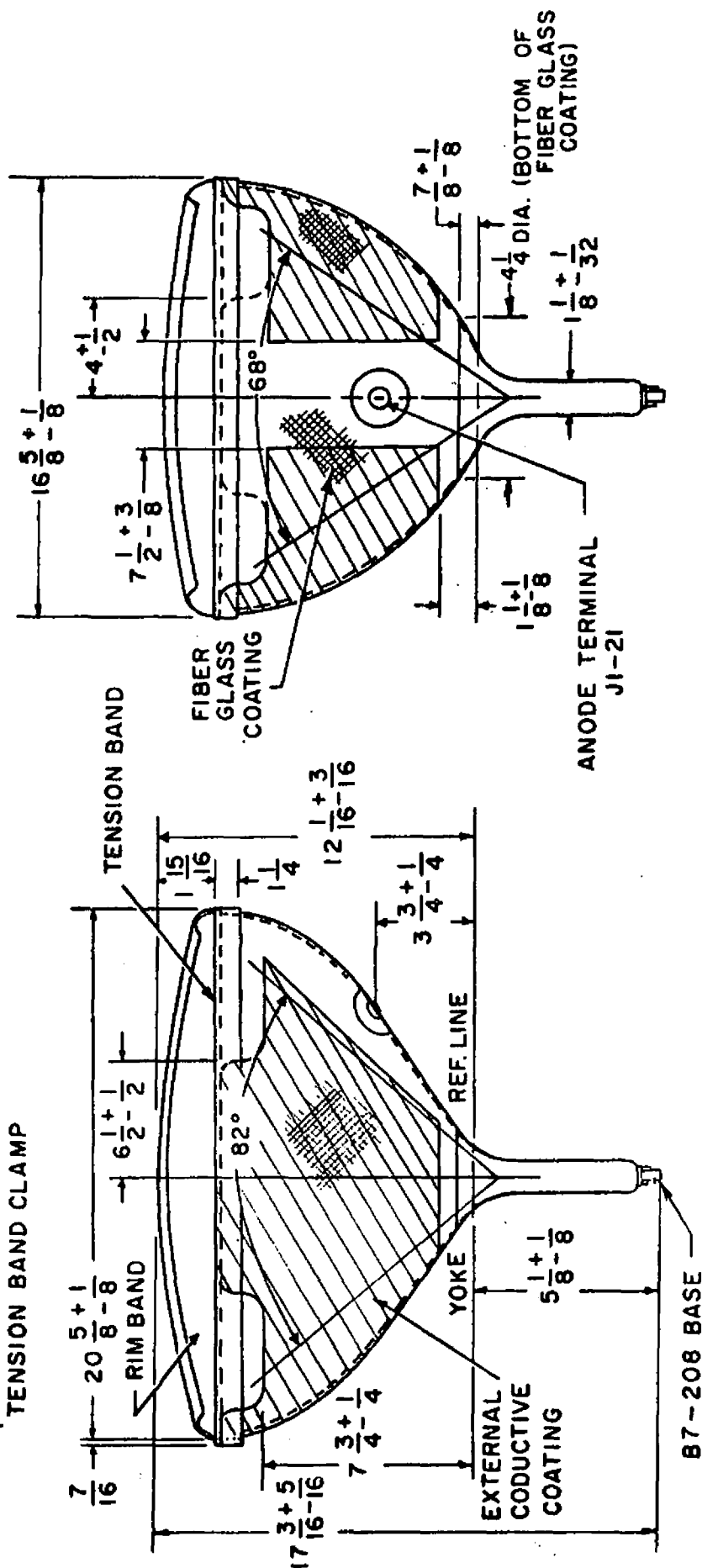
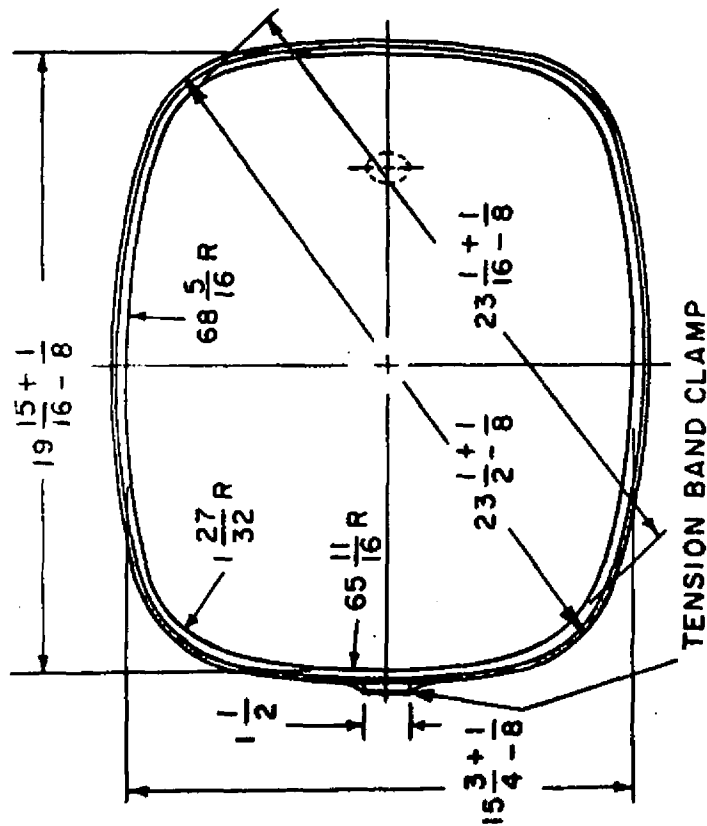
1. Visual extinction of focused raster.
2. With the combined Grid #1 bias voltage and video-signal voltage adjusted to give an anode current of 150 μ a on a 19 1/4" x 15 1/8" pattern from RCA 2F21 monoscope or equivalent.
3. Individual tubes will have satisfactory focus at some value between 0 and 500 volts.

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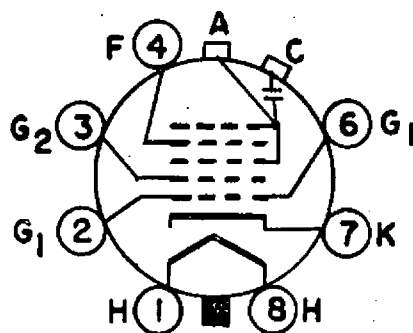
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SCREEN DIMENSIONS
DIAGONAL — 22 5/16
WIDTH — 19 1/4
HEIGHT — 15 1/8
AREA — 282 SQ. IN.



OUTLINE NOTES

1. The reference line is determined by the intersection of the plane C-C of gage (EIA No. 126) with the glass funnel.
2. Deflection angle on the diagonal is 94° .
3. Anode terminal aligns with pin no. 4 ± 30 degrees.
4. Use a non-rigidly mounted socket with flexible leads. Bottom circumference of base wafer will fall within 1-3/4 inch diameter circle concentric with the bulb axis.



BASING DIAGRAM
8 HR

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