

19DEP4  
CATHODE RAY TUBE

19 INCH, RECTANGULAR, GLASS	FACE PLATE -- SPHERICAL GRAY
FOCUS -- ELECTROSTATIC	NON ION TRAP GUN
DEFLECTION -- MAGNETIC	ALUMINIZED SCREEN
114 DEGREE DEFLECTION	EXTERNAL CONDUCTIVE COATING

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

The 19DEP4 is a 19 inch electrostatic-focus and magnetic deflection glass picture tube. Outstanding features include a short over-all length, 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. Except for higher grid no. 2 and cut-off voltages the 19DEP4 is identical to the 19CKP4.

ELECTRICAL DATA

Focusing Method . . . . .	Electrostatic
Deflection Angle, Approximate	
Horizontal . . . . .	102 degrees
Vertical . . . . .	87 degrees
Diagonal . . . . .	114 degrees
Direct Interelectrode Capacitance	
Cathode to all other electrodes, approximate . . . . .	5 uuf
Grid #1 to all other electrodes, approximate . . . . .	6 uuf
External Conductive Coating to Anode . . . . .	1500 max. uuf 1000 min. uuf
Heater Current at 6.3 volts . . . . .	600 ± 30 ma.
Heater Warm-Up Time . . . . .	11 sec.

OPTICAL DATA

Phosphor Number . . . . .	P4 Aluminized
Light Transmittance at Center (Approx.) . . . . .	78 Percent



MECHANICAL DATA

Overall Length. . . . .	11 7/8 ± 1/4 inches
Greatest Dimensions of Tube	
Diagonal. . . . .	18 5/8 ± 1/8 inches
Width . . . . .	16 13/32 ± 1/8 inches
Height. . . . .	13 11/32 ± 1/8 inches
Minimum Useful Screen Dimensions (Projected)	
Diagonal. . . . .	17 9/16 inches
Horizontal Axis . . . . .	15 1/8 inches
Vertical Axis . . . . .	12 inches
Area . . . . .	172 sq. inches
Neck Length . . . . .	4 5/8 ± 1/8 inches
Bulb . . . . .	J149-A1
Bulb Contact. . . . .	JEDEC No. J1-21
Base . . . . .	JEDEC No. B7-237 or B7-208
Basing. . . . .	8HR
Bulb Contact Alignment	
Anode Contact Aligns with 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. . . . .	500 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
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 . . . . .	300 volts DC
Cathode to Grid #1 Voltage (Note 1) . . . . .	36 to 54 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 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 microamperes on a 15 1/8 x 11 15/16" pattern from RCA 2F21 monoscope or equivalent.
3. Individual tubes will have satisfactory focus at some value between 0 and 500 volts.

# 19DEP4

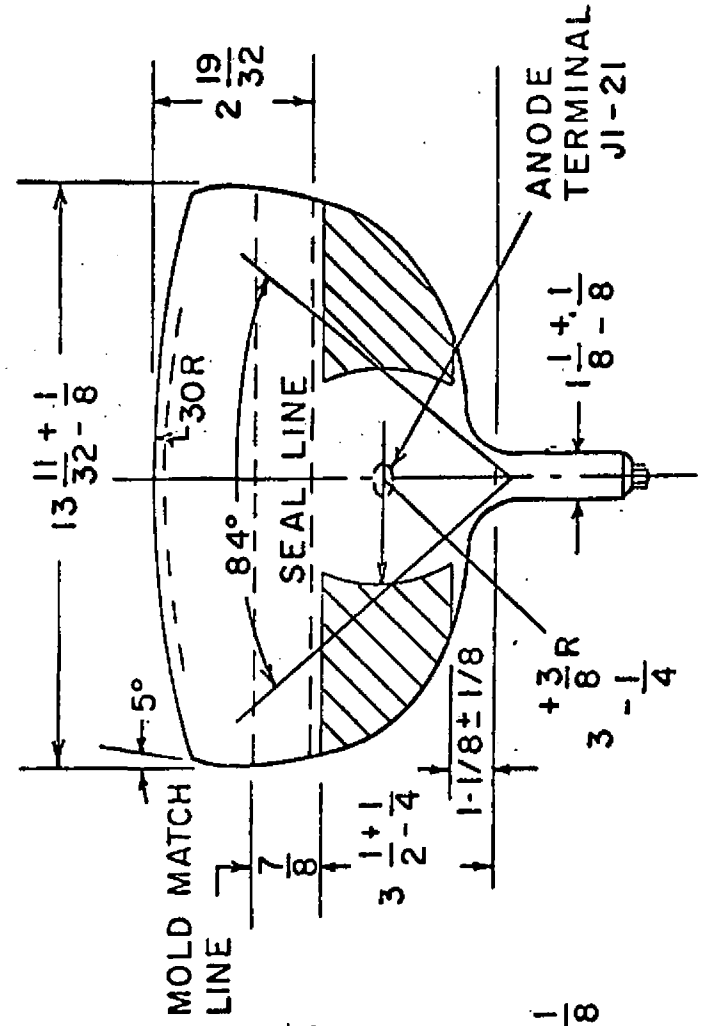
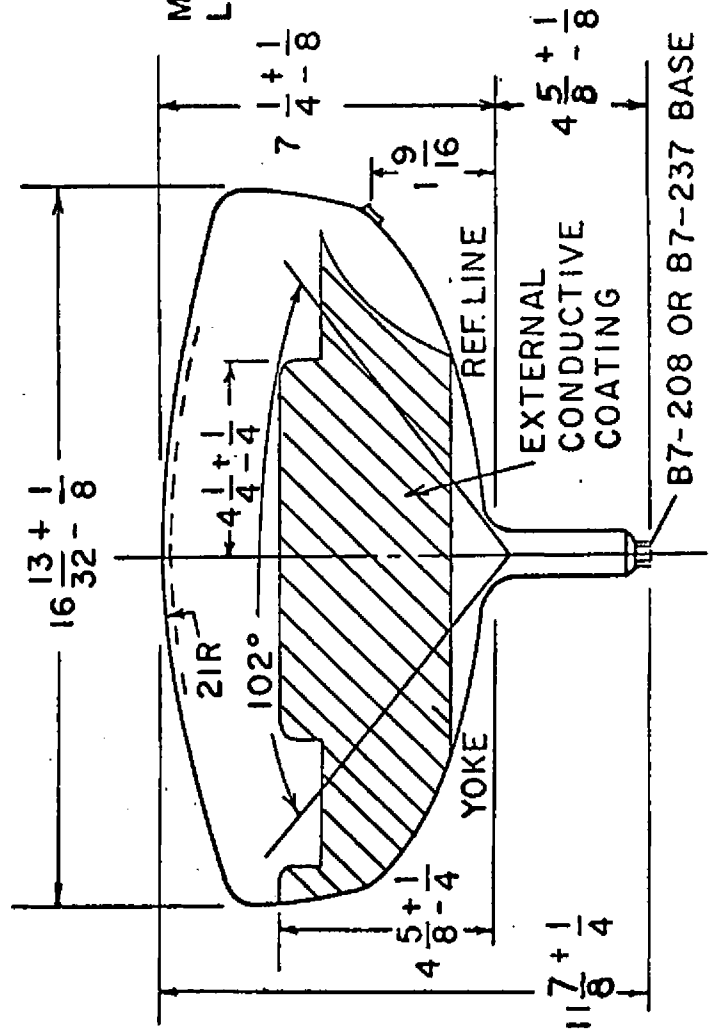
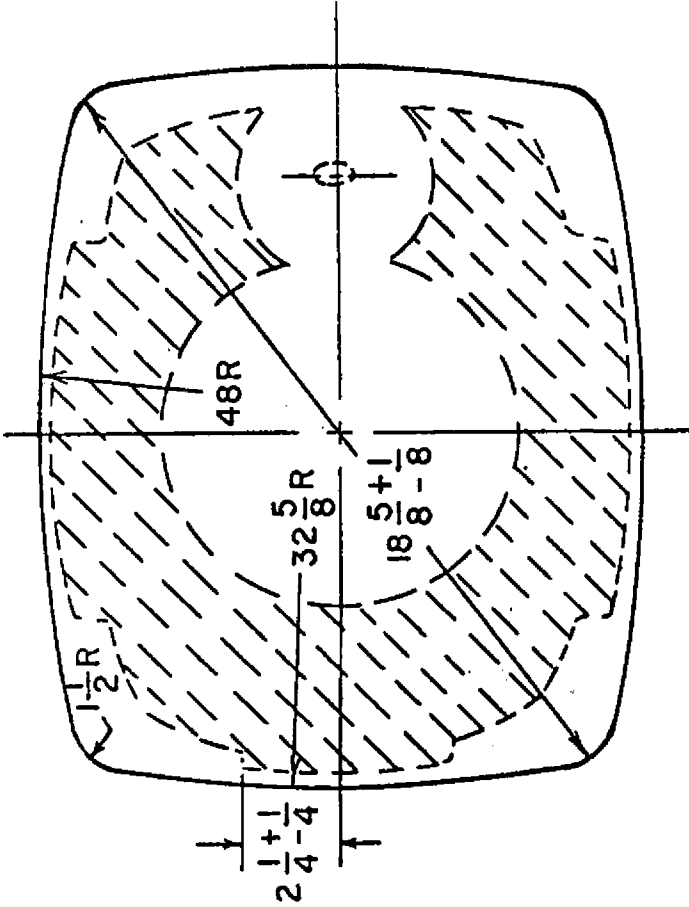
## SCREEN DIMENSIONS

DIAGONAL — 17 9/16

WIDTH — 15 1/8

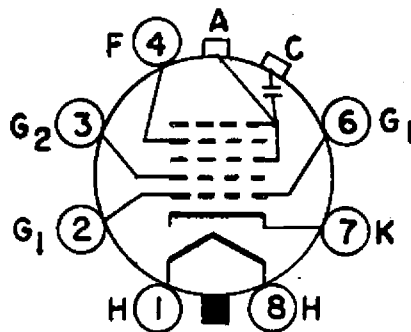
HEIGHT — 12

AREA — 172 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  $114^{\circ}$ .
3. Anode terminal aligns with pin no. 4  $\pm 30$  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**