

19BHP4
CATHODE RAY TUBE

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

DESCRIPTION AND RATING

The 19BHP4 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.

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 Conductor Coating to Anode	1500 max. uuf 1000 min. uuf
Heater Current at 6.3 volts	600 ± 10% ma.
Heater Warm Up Time	11 sec.

OPTICAL DATA

Phosphor Number	P4 Aluminized
Light Transmittance at Center Approx.	76 Percent

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MECHANICAL DATA

Overall Length	11 3/4 ± 5/16 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 1/2 ± 3/16 inches
Bulb	J149-A1
Bulb Contact	JETEC No. J1-21
Base	JETEC No. B7-237 or B7-208
Basing	8HR
Bulb Contact Alignment	
Anode Contact Aligns with Rev. 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	400 volts
Maximum Grid 2 Voltage	700 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	180 volts
Heater positive with respect to cathode	180 volts

TYPICAL OPERATING CONDITIONS

Anode Voltage	18,500 volts DC
Grid #4 Voltage (Focusing Electrode (Notes 2 & 3))	250 volts DC
Grid #2 Voltage	450 volts DC
Grid #1 Voltage (Note 1)	-28 to -61 volts DC

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 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.

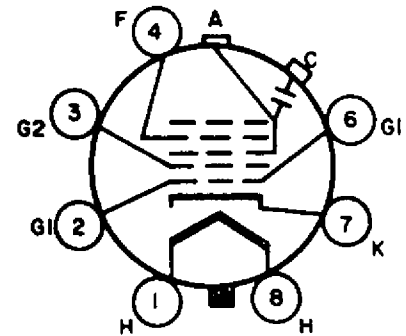
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Diagram Notes

1. The reference line is determined by the intersection of the plane C-C of page (EIA No. 126) with the glass funnel.
2. Deflection angle on the diagonal is 114° .
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

8HR

CATHODE RAY TUBE DEPARTMENT
GENERAL ELECTRIC COMPANY
SYRACUSE, NEW YORK