

17BRP4

CATHODE-RAY TUBE

17-INCH, RECTANGULAR, GLASS	14-3/4 BY 11-11/16-INCH PICTURE SIZE
FOCUS - ELECTROSTATIC	FACEPLACE - SPHERICAL, GRAY
DEFLECTION - MAGNETIC	ION-TRAP GUN
110-DEGREE DEFLECTION ANGLE	EXTERNAL CONDUCTIVE COATING
ALUMINIZED SCREEN	

DESCRIPTION AND RATING

The 17BRP4 is an electrostatic-focus and magnetic-deflection, direct-view picture tube. It features a short over-all length, a small neck diameter, and an aluminized fluorescent screen to increase light output and reduce undesirable screen charging. An external conductive coating serves as a filter capacitor.

GENERAL

ELECTRICAL

Heater Voltage	6.3	Volts
Heater Current	0.6 ± 10%	Amperes
Heater Warm-up Time *	11	Seconds

Focusing Method - Electrostatic

Deflecting Method - Magnetic

Deflection Angle, approximate

Diagonal	110	Degrees
Horizontal	105	Degrees
Vertical	87	Degrees

Direct Interelectrode Capacitances, approximate

Cathode to All Other Electrodes.	5	μf
Grid-No. 1 to All Other Electrodes	6	μf

External Conductive Coating to Anode

Maximum	1400	μf
Minimum	800	μf

OPTICAL

Phosphor Number - P4, Sulfide

Fluorescent Color - White

Phosphorescent Color - White

Persistence - Short

Faceplate - Gray

Light Transmission at Center, approximate.	76	Percent
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GENERAL ELECTRIC COMPANY

from JETEC release #1885, April 1, 1957

MECHANICAL

Overall Length.	12 9/16 ± 5/16	Inches
Greatest Bulb Dimensions		
Diagonal.	16 9/16 ± 0.100	Inches
Width	15 5/8 ± 0.100	Inches
Height.	12 3/4 ± 0.100	Inches
Minimum Useful Screen Dimensions		
Diagonal.	15 3/4	Inches
Width	14 3/4	Inches
Height.	11 11/16	Inches
Area.	155	Square Inches
Neck Length	5 7/16 ± 3/16 1/8	Inches

Bulb Contact - Recessed Small-cavity Cap, JETEC No. J1-21

Small-Button Eightar Base - 7-Pin, JETEC No. B7-183

Basing Designation - 8HR

Bulb Contact Alignment

Anode Contact Aligns with Pin No. 4 ± 30 Degrees

Mounting Position - Any

Net Weight, approximate 10 1/3 Pounds

MAXIMUM RATINGS

DESIGN-CENTER VALUES [†]

Anode Voltage [‡]	15,000 Max Volts DC
Focusing-Electrode Voltage.	-500 to +1000 Max Volts DC
Grid-No. 2 Voltage.	500 Max Volts DC
Grid-No. 1 Voltage	
Negative-Bias Value	140 Max Volts DC
Positive-Bias Value	0 Max Volts DC
Positive-Peak Value	2 Max Volts
Negative-Peak Value	200 Max Volts

Peak Heater-Cathode Voltage

Heater Negative with Respect to Cathode

 During Warm-up Period not to Exceed 15 Seconds. 410 Max Volts

 After Equipment Warm-up Period 180 Max Volts

Heater Positive with Respect to Cathode 180 Max Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage [§]	14,000	Volts DC
Focusing-Electrode Voltage for Focus.	0 to 500	Volts DC
Focusing-Electrode Current.	-15 to +25	Microamperes DC
Grid-No. 2 Voltage.	300	Volts DC
Grid-No. 1 Voltage ^π	-28 to -72	Volts DC
Ion-Trap Field Intensity ^Δ , minimum.	37	Gausses

MAXIMUM CIRCUIT VALUES

Grid-No. 1 Circuit Resistance.	1.5 Max Megohms
Grid-No. 2 Circuit Resistance.	0.1 Min Megohms
Focusing-Electrode Circuit Resistance.	0.1 Min Megohms

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

* Heater warm-up time is the time required for the voltage across the heater terminals to increase to 5.0 volts in the JETEC test circuit, with $E = 25$ volts and series $R = 31.5$ ohms.

† The maximum ratings provide a ten-percent safety factor in accordance with the standard design-center system of rating cathode-ray tubes. The tube will withstand the combined effects of variations in line voltage and components provided the design-center values are not exceeded by more than ten percent.

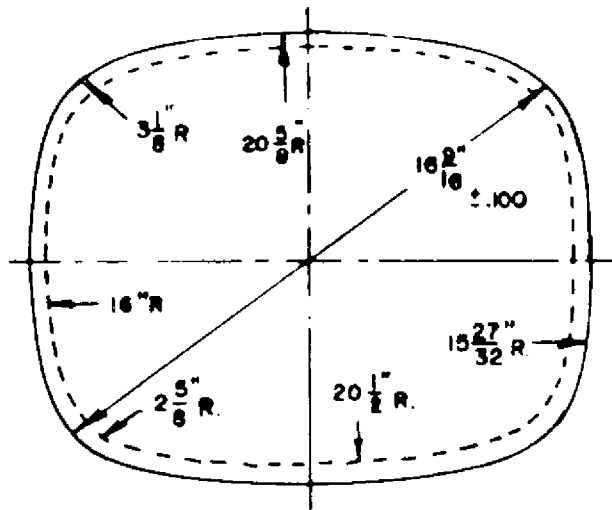
‡ Anode, grid-No. 3, and grid-No. 5 which are connected together within the tube are referred to herein as anode.

§ Brightness and focus quality decrease with decreasing anode voltage. In general, the anode voltage should not be less than 12,000 volts.

⌘ For visual extinction of focused raster.

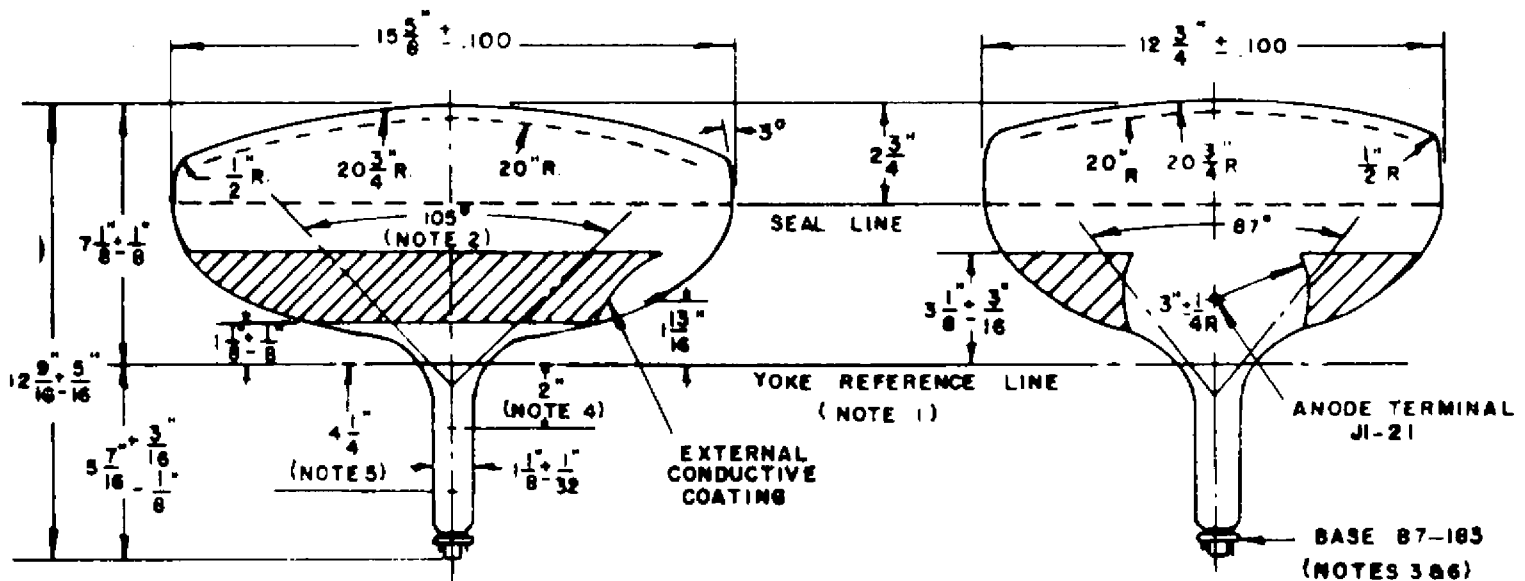
△ For a Heppner PM ion-trap magnet or equivalent located in optimum position and rotated to give maximum brightness.

Electronic Components Division
GENERAL ELECTRIC COMPANY
Schenectady 5, N. Y.



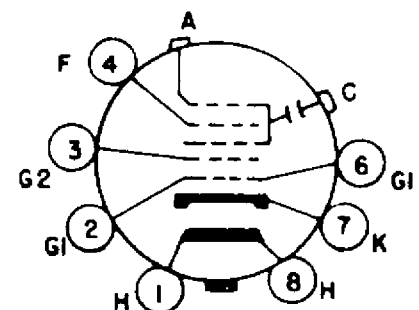
SCREEN DIMENSIONS

DIAGONAL	15-3/4"
WIDTH	14-3/4"
HEIGHT	11-11/16"
AREA	155 SQ. IN.



NOTES:

1. REFERENCE LINE IS DETERMINED BY PLANE C-C' WHEN GAGE (RETMA) NO 126 IS SEATED AGAINST THE BULB.
2. DEFLECTION ANGLE ON DIAGONAL IS 110°.
3. ANODE TERMINAL ALIGNS WITH PIN NO. 4 ± 30 DEGREES.
4. RECOMMENDED POSITION OF CENTERING MAGNET, IF USED.
5. APPROXIMATE POSITION OF ION-TRAP MAGNET.
6. USE A NON-RIGIDLY MOUNTED SOCKET WITH FLEXIBLE LEADS. BOTTOM CIRCUMFERENCE OF BASE SHELL WILL FALL WITHIN 1-3/4 INCHES DIA. CIRCLE CONCENTRIC WITH BULB AXIS.



BASING DIAGRAM

8HR