

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	

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DESCRIPTION AND RATING

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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

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 ¶ . . . . .	-28 to -72	Volts DC
Ion-Trap Field Intensity <sup>A</sup> , 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.

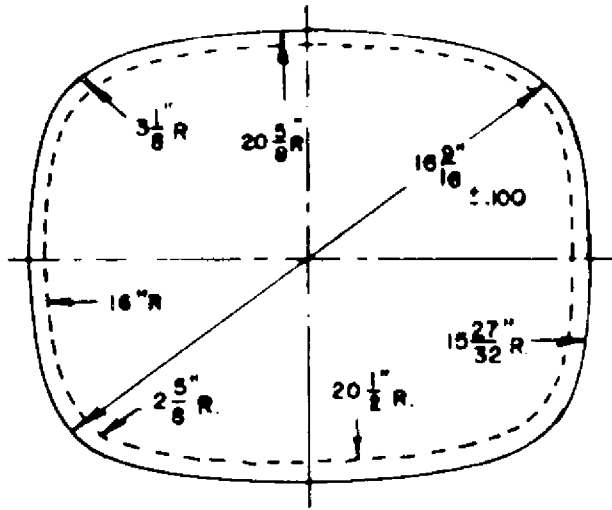
† The maximum ratings provide a ten-percent safety factor in accordance with the standard design-center system of rating cathode-ray tubes. The tube will withstand the combined effects of variations in line voltage and components provided the design-center values are not exceeded by more than ten percent.

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

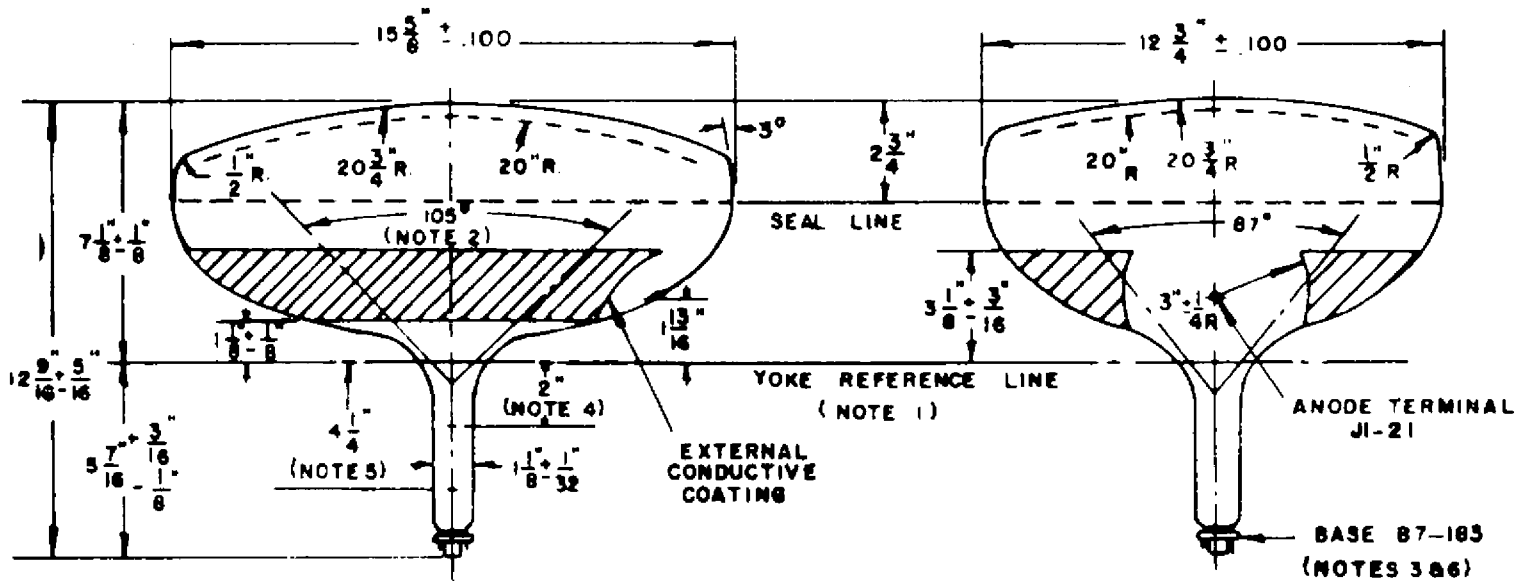
§ Brightness and focus quality decrease with decreasing anode voltage. In general, the anode voltage should not be less than 12,000 volts.

⊗ 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.

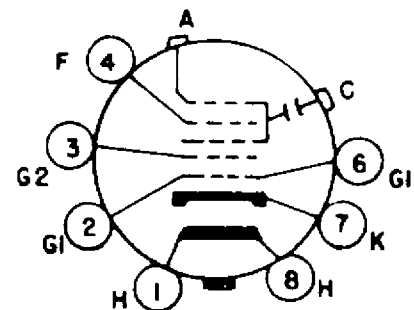


SCREEN DIMENSIONS	
DIAGONAL	15-3/4"
WIDTH	14-3/4"
HEIGHT	11-11/16"
AREA	155 SQ. IN.



**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