



17RP4/17HP4 CATHODE-RAY TUBE

17-INCH RECTANGULAR, GLASS
FOCUS—LOW VOLTAGE ELECTROSTATIC
DEFLECTION—MAGNETIC
70-DEGREE DEFLECTION ANGLE

14¼- BY 10¾-INCH PICTURE SIZE
FACEPLATE—SPHERICAL, GRAY
ION-TRAP GUN
EXTERNAL CONDUCTIVE COATING

DESCRIPTION AND RATING

The 17RP4/17HP4 is an electrostatic-focus and magnetic-deflection, direct-view all-glass picture tube which provides a 14¼- by 10¾-inch picture for television applications. The electron gun has a focusing voltage range of -0.4 to +2.2 percent of the anode voltage and is designed for use with an external single-field ion-trap magnet. Other features of this tube include a high-quality gray faceplate which increases picture contrast and detail under high-ambient-light conditions, and a space-saving rectangular face shape. An external conductive coating serves as a filter capacitor when grounded.

GENERAL

ELECTRICAL

Heater Voltage.....	6.3	Volts
Heater Current.....	0.6 ± 10%	Amperes
Focusing Method—Electrostatic		
Deflecting Method—Magnetic		
Deflection Angle, approximate		
Diagonal.....	70	Degrees
Horizontal.....	65	Degrees
Vertical.....	50	Degrees
Direct Interelectrode Capacitances, approximate		
Cathode to All Other Electrodes.....	5	uuf
Grid-No. 1 to All Other Electrodes.....	6	uuf
External Conductive Coating to Anode		
Maximum.....	1500	uuf
Minimum.....	750	uuf

OPTICAL

Phosphor Number—P4, Sulfide Type
Fluorescent Color—White
Phosphorescent Color—White
Persistence—Short

Faceplate—Gray
Light Transmission at Center, approximate.....72 Percent

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MECHANICAL

Over-all Length.....	19 $\frac{3}{16}$ \pm $\frac{3}{8}$	Inches
Greatest Bulb Dimensions		
Diagonal.....	16 $\frac{5}{8}$ \pm $\frac{3}{32}$	Inches
Width.....	15 $\frac{25}{64}$ \pm $\frac{1}{8}$	Inches
Height.....	12 $\frac{1}{4}$ \pm $\frac{3}{16}$	Inches
Minimum Useful Screen Dimensions		
Diagonal.....	15 $\frac{1}{2}$	Inches
Width.....	14 $\frac{1}{4}$	Inches
Height.....	10 $\frac{3}{4}$	Inches
Neck Length.....	7 $\frac{1}{2}$	Inches
Bulb Number, ASA Designation—J133-A1 or -B1		
Bulb Contact—Recessed Small-cavity Cap, JETEC No. J1-21		
Base—Small-shell Duodecal 6-Pin, JETEC No. B6-63		
Basing, JETEC Designation—12L		
Bulb Contact Alignment		
Anode Contact Aligns with Pin No. 6 \pm 30 Degrees		
Mounting Position—Any		
Net Weight, approximate.....	16	Pounds

MAXIMUM RATINGS

DESIGN-CENTER VALUES*

Anode Voltage†.....	16,000 Max	Volts DC
Focusing-Electrode Voltage.....	-500 to +1000 Max	Volts DC
Focusing-Electrode Current‡.....	-15 to +25	Microamperes DC
Grid-No. 2 Voltage.....	500 Max	Volts DC
Grid-No. 1 Voltage		
Negative-Bias Value.....	125 Max	Volts DC
Positive-Bias Value.....	0 Max	Volts DC
Positive-Peak Value.....	2 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 π	14,000	Volts DC
Focusing-Electrode Voltage for Focus \blacktriangle	-56 to +308	Volts DC
Grid-No. 2 Voltage.....	300	Volts DC
Grid-No. 1 Voltage \blacklozenge	-28 to -72	Volts DC
Ion-Trap Field Intensity ϕ , approximate.....	37	Gausses

MAXIMUM CIRCUIT VALUES

Grid-No. 1 Circuit Resistance.....	1.5 Max	Megohms
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*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 voltages and components provided the maximum 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.

‡At design-center maximum anode voltage plus ten percent.

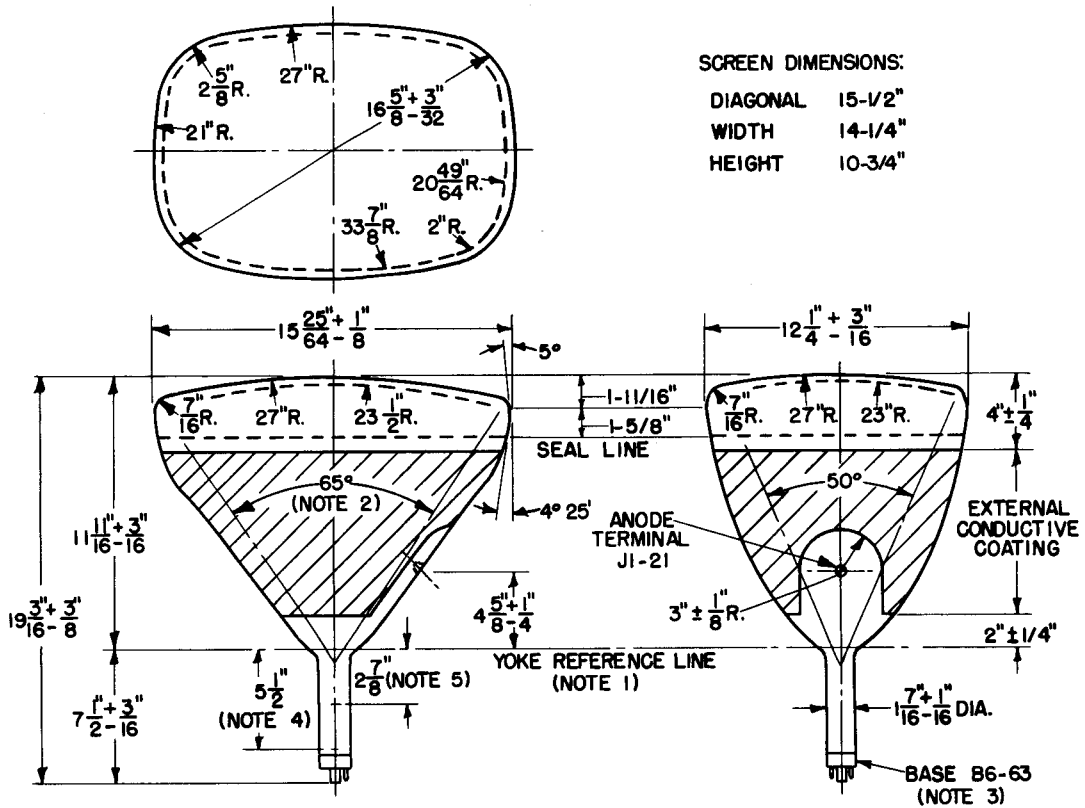
§Cathode should be returned to one side or to the midtap of the heater transformer winding.

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

▲The focusing electrode may be modulated within the stipulated maximum range without damage to the tube.

◆For visual extinction of focused raster.

φSingle-field ion-trap magnet adjusted to optimum position, equivalent to 37 milliamperes through JETEC ion-trap magnet No. 117.



NOTES:

1. REFERENCE LINE IS DETERMINED BY THE PLANE OF THE UPPER EDGE OF THE REFERENCE-LINE GAGE (RETMA NO. 110) WHEN THE GAGE IS RESTING ON THE CONE.
2. DEFLECTION ANGLE ON DIAGONAL IS 70 DEGREES
3. ANODE TERMINAL ALIGNS WITH PIN-NO. 6 ± 30 DEGREES.
4. APPROXIMATE POSITION OF ION-TRAP MAGNET.
5. APPROXIMATE POSITION OF CENTERING MAGNET, IF USED.

