The 17RP4/17HP4 is an electrostatic-focus and magnetic-deflection, direct-view all-glass picture tube which provides a 14½" 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

**Deflecting Method—Electrostatic**
- Deflection Angle, approximate
  - Diagonal: 70 Degrees
  - Horizontal: 65 Degrees
  - Vertical: 50 Degrees

**Direct Interelectrode Capacitances, approximate**
- Cathode to All Other Electrodes: 0.5 uuf
- Grid-No. 1 to All Other Electrodes: 0.6 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
MECHANICAL

Over-all Length ................................................. $19\frac{1}{8} \pm \frac{3}{8}$ Inches

Greatest Bulb Dimensions

Diagonal ...................................................... $16\frac{3}{8} \pm \frac{3}{2}$ Inches
Width ........................................................... $15\frac{2}{3} \pm \frac{1}{6}$ Inches
Height ......................................................... $12\frac{1}{4} \pm \frac{1}{6}$ Inches

Minimum Useful Screen Dimensions

Diagonal ...................................................... $15\frac{1}{2}$ Inches
Width ........................................................... $14\frac{3}{4}$ 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 ±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 Voltageπ .................................................. 14,000 Volts DC
Focusing-Electrode Voltage for Focus▲ ....................... $-56$ to $+308$ Volts DC
Grid-No. 2 Voltage ........................................... 300 Volts DC
Grid-No. 1 Voltageφ .......................................... $-28$ to $-72$ Volts DC
Ion-Trap Field Intensity, approximate ......................... $0.37$ Gausses

MAXIMUM CIRCUIT VALUES

Grid-No. 1 Circuit Resistance .................................. 1.5 Max Megohms

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

SCREEN DIMENSIONS:
DIAGONAL 15-1/2"
WIDTH 14-1/4"
HEIGHT 10-3/4"

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.