



17QP4 CATHODE-RAY TUBE

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

14 $\frac{1}{4}$ - BY 10 $\frac{3}{4}$ -INCH PICTURE SIZE
FACEPLATE—CYLINDRICAL, GRAY
ION-TRAP GUN
EXTERNAL CONDUCTIVE COATING

DESCRIPTION AND RATING

The 17QP4 is a magnetic-focus and deflection, direct-view all-glass picture tube which provides a 14 $\frac{1}{4}$ - by 10 $\frac{3}{4}$ -inch picture for television applications. The electron gun 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, a space-saving rectangular face shape, and a cylindrical front surface which materially reduces the effects of specular reflection. An external conductive coating serves as a filter capacitor when grounded.

GENERAL

ELECTRICAL

Heater Voltage.....	6.3	Volts
Heater Current.....	0.6 $\pm$ 10%	Amperes
Focusing Method—Magnetic		
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

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 $15\frac{23}{32} \pm \frac{1}{8}$ 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-C1

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

Base—Small-shell Duodecal 5-Pin, JETEC No. B5-57

Basing, JETEC Designation—12N

Bulb Contact Alignment

Anode Contact Aligns with Pin No. 6 position ± 30 Degrees

Mounting Position—Any

Net Weight, approximate 18 Pounds

MAXIMUM RATINGS**DESIGN-CENTER VALUES***

Anode Voltage† 16,000 Max Volts DC

Grid-No. 2 Voltage 410 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 150 Max Volts

Heater Positive with Respect to Cathode 150 Max Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage§ 14,000 Volts DC

Grid-No. 2 Voltage 300 Volts DC

Grid-No. 1 Voltage¶ -28 to -72 Volts DC

Focusing-Coil Current▲, approximate 110 Milliampers DC

Ion-Trap Field Intensity◆, approximate 37 Gauss

MAXIMUM CIRCUIT VALUES

Grid-No. 1-Circuit Resistance 1.5 Max Megohms

*The maximum ratings provide a ten-percent safety factor in accordance with 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 and grid-No. 3 which are connected together within the tube are referred to herein as anode.

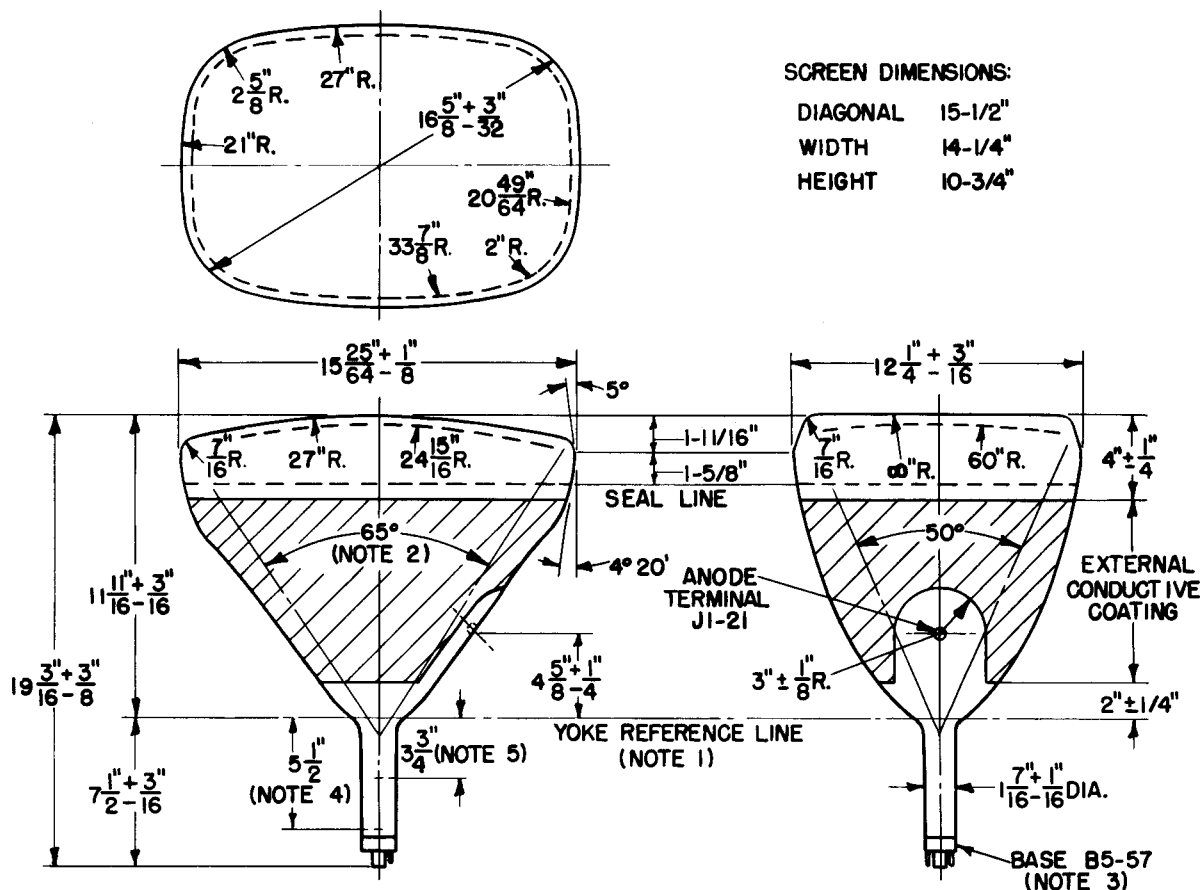
‡Cathode should be returned to one side or to the midtap of the heater transformer winding.

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

πFor visual extinction of focused raster.

▲ For JETEC focusing coil No. 109 with distance from the yoke-reference-line to center-of-air-gap equal to $3\frac{3}{4}$ inches

◆Single-field ion-trap magnet adjusted to optimum position, equivalent to 37 milliamperes through JETEC ion-trap 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 POSITION ± 30 DEGREES.
4. APPROXIMATE POSITION OF ION-TRAP MAGNET.
5. RECOMMENDED POSITION FOR CENTER OF FOCUSING FIELD.

