



17GP4

CATHODE-RAY TUBE

17-INCH, RECTANGULAR, METAL
FOCUS—ELECTROSTATIC
DEFLECTION—MAGNETIC

14 $\frac{3}{8}$ BY 10 $\frac{11}{16}$ -INCH PICTURE SIZE
FACEPLATE—SPHERICAL, GRAY, FROSTED
ION-TRAP GUN

70-DEGREE DEFLECTION ANGLE

DESCRIPTION AND RATING

The 17GP4 is an electrostatic-focus, magnetic-deflection, direct-view picture tube which provides a 14 $\frac{3}{8}$ by 10 $\frac{11}{16}$ -inch picture for television applications. The electron gun has a focusing-voltage range of 19.1 to 25.9 percent of the anode voltage and is designed for use with an external single-field ion-trap magnet. Other features of the 17GP4 include a lightweight metal-cone envelope, a high-quality frosted gray faceplate to prevent specular reflection and increase picture contrast, and a space-saving rectangular face shape.

GENERAL

ELECTRICAL

Heater Voltage	6.3	Volts
Heater Current	0.6 $\pm$ 10%	Amperes
Focusing Method—Electrostatic		
Deflecting Method—Magnetic		
Deflection Angle, approximate		
Diagonal	70	Degrees
Horizontal	66	Degrees
Vertical	50	Degrees
Direct Interelectrode Capacitances, approximate		
Cathode to All Other Electrodes	5	μ f
Grid-No. 1 to All Other Electrodes	6	μ f

OPTICAL

Phosphor Number—P4, Sulfide Type		
Fluorescent Color—White		
Phosphorescent Color—White		
Persistence—Short		
Faceplate—Gray		
Light Transmission at Center, approximate	66	Percent
Specular Reflection of Ambient Light, maximum	1.5	Percent

MECHANICALOver-all Length $18\frac{1}{8}$ $\pm \frac{1}{2}$ Inches

Greatest Bulb Dimensions

Diagonal $16\frac{1}{8}$ $\pm \frac{3}{16}$ InchesWidth $15\frac{1}{8}$ $\pm \frac{1}{8}$ InchesHeight $12\frac{1}{4}$ $\pm \frac{1}{8}$ Inches

Minimum Useful Screen Dimensions

Diagonal $15\frac{1}{4}$ InchesWidth $14\frac{3}{8}$ InchesHeight $10\frac{1}{16}$ InchesNeck Length $7\frac{1}{2}$ Inches

Bulb Contact—Metal Cone Lip

Base—Small-shell Duodecal 6-pin, JETEC No. B6-63

Basing, JETEC Designation—12M

Base Alignment

Pin-No. 3 Position Aligns with Horizontal Picture Axis ± 30 Degrees

Mounting Position—Any

Net Weight, approximate 10 Pounds

MAXIMUM RATINGS†**DESIGN-CENTER VALUES***

Anode Voltage‡ 16,000 Max Volts DC

Focusing-Electrode Voltage 5000 Max Volts 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‡ 14,000 Volts DC

Focusing-Electrode Voltage for Focus 2670 to 3620 Volts DC

Focusing-Electrode Current -15 to +25 Microamperes DC

Grid-No. 2 Voltage 300 Volts DC

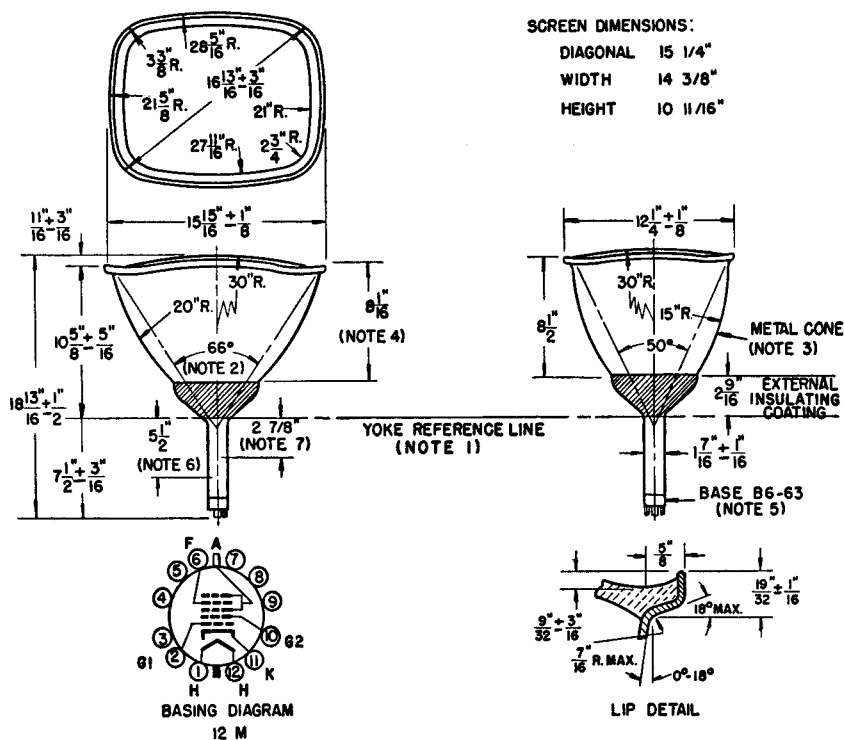
Grid-No. 1 Voltage§ -28 to -72 Volts DC

Ion-Trap Field Intensity π , approximate 37 Gauss

CIRCUIT VALUES

Grid-No. 1 Circuit Resistance 1.5 Max Megohms

- ♦ All voltages are measured with respect to cathode.
- * 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 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.
- ‡ 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.
- π Single-field ion-trap magnet adjusted to optimum position, equivalent to 37 milliamperes through RETMA 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. METAL CONE OPERATES AT A HIGH VOLTAGE AND MUST BE INSULATED TO WITHSTAND THE MAXIMUM APPLIED ANODE VOLTAGE.
4. CONE HEIGHT AT DIAGONAL IS 8 INCHES.
5. PIN-NO. 3 POSITION ALIGNS WITH HORIZONTAL PICTURE AXIS ± 30 DEGREES.
6. APPROXIMATE POSITION OF ION-TRAP MAGNET.
7. APPROXIMATE POSITION OF CENTERING MAGNET, IF USED.