17CP4

CATHODE-RAY TUBE

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

14¼ BY 10⅛-INCH PICTURE SIZE
FACEPLATE—SPHERICAL, GRAY, FROSTED
ION-TRAP GUN

70-DEGREE DEFLECTION ANGLE

DESCRIPTION AND RATING

The 17CP4 is a magnetic-focus and -deflection, direct-view picture tube which provides a 14¼ by 10⅛-inch picture for television applications. Features of this tube include a lightweight metal-cone envelope, a high-quality frosted gray faceplate to prevent specular reflection and increase picture contrast, a space-saving rectangular face shape, and an electron gun designed for use with an external single-field ion-trap magnet.

GENERAL

ELECTRICAL
Heater Voltage ................................................................. 6.3 Volts
Heater Current ................................................................. 0.6 ± 10% Amperes

Focusing Method—Magnetic
Deflecting Method—Magnetic
Deflection Angle, approximate
Diagonal ................................................................. .70 Degrees
Horizontal ................................................................. .66 Degrees
Vertical ................................................................. .50 Degrees

Direct Inter electrode Capacitances, approximate
Cathode to All Other Electrodes ..................................................... .5 µµf
Grid-No. 1 to All Other Electrodes ..................................................... .6 µµf

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

GENERAL ELECTRIC
MECHANICAL
Over-all Length .............................................. 18½ ± ½ Inches
Greatest Bulb Dimensions
  Diagonal .................................................. 16½ ± 1½ Inches
  Width .................................................... 15½ ± 1½ Inches
  Height .................................................... 12¾ ± ½ Inches
Minimum Useful Screen Dimensions
  Diagonal ................................................. 15¼ Inches
  Width .................................................... 14¾ Inches
  Height .................................................... 10¾ Inches
Neck Length .................................................. 7¾ inches

Bulb Contact—Metal Cone Lip
Base—Small-shell Duodecal 5-pin, JETEC No. B5-57
Basing, JETEC Designation—12D
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
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 DC

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
Grid-No. 2 Voltage .......................................... 300 Volts DC
Grid-No. 1 Voltage§ ....................................... -28 to -72 Volts DC
Focusing-Coil Current, approximate ........................ 112 Milliamperes DC
Ion-Trap Field Intensity, approximate ..................... 37 Gausses
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 and grid-No. 3 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.
π For visual extinction of focused raster.
△ Single-field ion-trap magnet adjusted to optimum position, equivalent to 37 milliamperes through RETMA ion-trap magnet No. 117.

SCREEN DIMENSIONS:
DIAGONAL 15 1/4"
WIDTH 14 3/8"
HEIGHT 10 11/16"