16LP4-A

CATHODE-RAY TUBE

16-INCH ROUND, GLASS
FOCUS—MAGNETIC
DEFLECTION—MAGNETIC
52-DEGREE DEFLECTION ANGLE

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

DESCRIPTION AND RATING

The 16LP4-A is a magnetic-focus and -deflection, direct-view all-glass picture tube which provides a 14½ by 10¾-inch picture with rounded sides for television applications. Features of this tube include a high-quality gray faceplate to increase picture contrast and detail under high ambient light conditions, and an electron gun which was designed for use with an external double-field ion-trap magnet. 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—Magnetic
Deflecting Method—Magnetic
Deflection Angle, approximate .............................. 52 Degrees

Direct Interelectrode Capacitances, approximate
Cathode to All Other Electrodes ............................. 5 μμf
Grid-No. 1 to All Other Electrodes .......................... 6 μμf
External Conductive Coating to Anode
Maximum ...................................................... 2000 μμf
Minimum ...................................................... 750 μμf

OPTICAL

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

Faceplate—Gray
Light Transmission at Center, approximate ................. 73 Percent
MECHANICAL

Over-all Length .................................................. .22\(\frac{1}{4}\) ± \(\frac{3}{8}\) Inches
Greatest Bulb Diameter ........................................... .15\(\frac{5}{8}\) ± \(\frac{1}{4}\) Inches
Minimum Useful Screen Diameter ................................. 14\(\frac{1}{2}\) Inches
Neck Length ......................................................... 7\(\frac{3}{8}\) Inches

Bulb Number, ASA Designation—J127C
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. 3 Position ±30 Degrees

Mounting Position—Any

Net Weight, approximate ......................................... 17\(\frac{1}{2}\) Pounds

MAXIMUM RATINGS†

DESIGN-CENTER VALUES*

Anode Voltage† ...................................................... 14,000 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 .................... 125 Max Volts
   Heater Positive with Respect to Cathode .................... 125 Max Volts

TYPICAL OPERATING CONDITIONS‡

Anode Voltage‡ ...................................................... 12,000 Volts DC
Grid-No. 2 Voltage .................................................. 300 Volts DC
Grid-No. 1 Voltage§ ................................................ -28 to -72 Volts DC
Focusing-Coil Current, approximate .............................. 97 Milliamperes DC
Ion-Trap Field Intensity Δ, approximate ......................... 35 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 10,000 volts.
§ For visual extinction of focused raster.
π For RETMA focusing coil No. 109 with distance from the yoke-reference-line to center-of-air-gap equal to 3½ inches.
△ Double-field ion-trap magnet adjusted to optimum position, equivalent to 120 milliamperes through RETMA ion-trap magnet No. 108.

NOTES:
1. REFERENCE LINE IS DETERMINED BY THE PLANE OF THE UPPER EDGE OF THE REFERENCE-LINE GAGE (RETMA NO.12) WHEN THE GAGE IS RESTING ON THE CONE.
2. ANODE TERMINAL ALIGNS WITH PIN-NO.3 POSITION ± 30 DEGREES.
3. APPROXIMATE POSITION OF ION-TRAP MAGNET.
4. RECOMMENDED POSITION FOR CENTER OF FOCUSING FIELD.