



16LP4-A

CATHODE-RAY TUBE

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

14½ BY 10⅞-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 10⅞-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	22¼	± ⅜	Inches
Greatest Bulb Diameter	15⅞	± ⅛	Inches
Minimum Useful Screen Diameter	14½		Inches
Neck Length	7⅜		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	17½	Pounds
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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 Currentπ, approximate	.97	Milliamperes DC
Ion-Trap Field Intensity△, approximate	.35	Gausses

CIRCUIT VALUES

Grid-No. 1 Circuit Resistance	1.5	Max Megohms
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♦ 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 $3\frac{1}{2}$ inches.

△ Double-field ion-trap magnet adjusted to optimum position, equivalent to 120 milliamperes through RETMA ion-trap magnet No. 108.

