



# 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	μf
Grid-No. 1 to All Other Electrodes .....	6	μf
External Conductive Coating to Anode		
Maximum .....	2000	μf
Minimum .....	750	μf

#### 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	± ¾	Inches
Greatest Bulb Diameter . . . . .	15⅞	± ⅛	Inches
Minimum Useful Screen Diameter . . . . .	14½		Inches
Neck Length . . . . .	7¾		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

**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 π, 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.

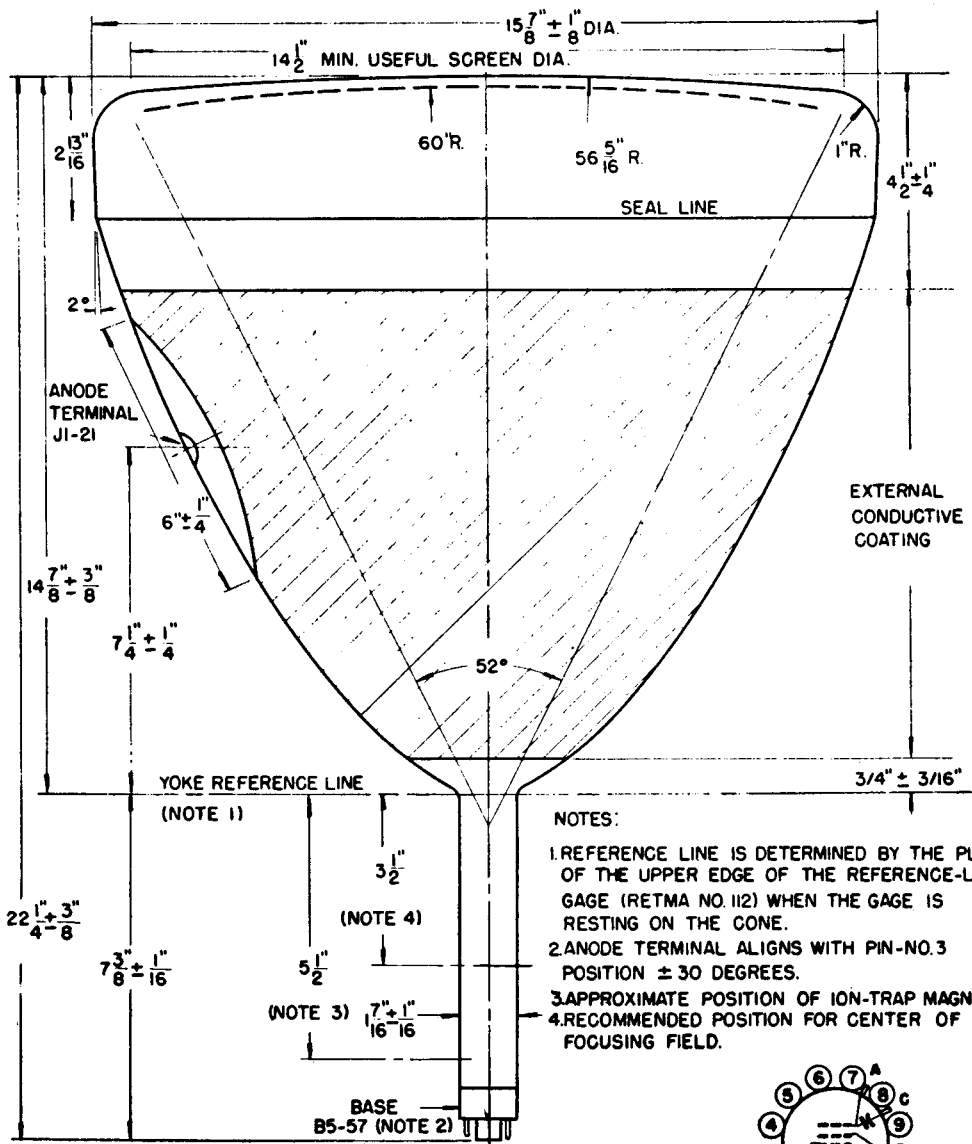
† Anode and grid-No. 3 which are connected together within the tube are referred to herein as anode.

‡ 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. 112) 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.

