



# 16DP4-A

## CATHODE-RAY TUBE

16-INCH ROUND, GLASS  
FOCUS—MAGNETIC  
DEFLECTION—MAGNETIC

14½ BY 10⅞-INCH PICTURE SIZE  
FACEPLATE—SPHERICAL, GRAY  
ION-TRAP GUN

60-DEGREE DEFLECTION ANGLE

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### DESCRIPTION AND RATING

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The 16DP4-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.

### GENERAL

#### ELECTRICAL

Heater Voltage . . . . . 6.3 Volts  
Heater Current . . . . . 0.6 ±10% Amperes  
  
Focusing Method—Magnetic  
Deflecting Method—Magnetic  
Deflection Angle, approximate . . . . . 60 Degrees  
  
Direct Interelectrode 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 . . . . . 73 Percent

**MECHANICAL**

|                                          |         |        |
|------------------------------------------|---------|--------|
| Over-all Length . . . . .                | 20¾ ± ¼ | Inches |
| Greatest Bulb Diameter . . . . .         | 15⅞ ± ⅛ | Inches |
| Minimum Useful Screen Diameter . . . . . | 14½     | Inches |
| Neck Length . . . . .                    | 7⅞      | Inches |

Bulb Number, ASA Designation—J127B  
Bulb Contact—Recessed Small-cavity Cap, JETEC No. J1-21  
Base—Small-shell Duodecal 5-pin, JETEC No. B5-57  
Basing, JETEC Designation—12D  
Bulb Contact Alignment  
    Anode Contact Aligns with Pin No. 3 Position ±30 Degrees

|                                   |            |
|-----------------------------------|------------|
| Mounting Position—Any             |            |
| Net Weight, approximate . . . . . | 16½ Pounds |

**MAXIMUM RATINGS†**

**DESIGN-CENTER VALUES\***

|                                                   |        |              |
|---------------------------------------------------|--------|--------------|
| Anode Voltage† . . . . .                          | 15,000 | 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‡**

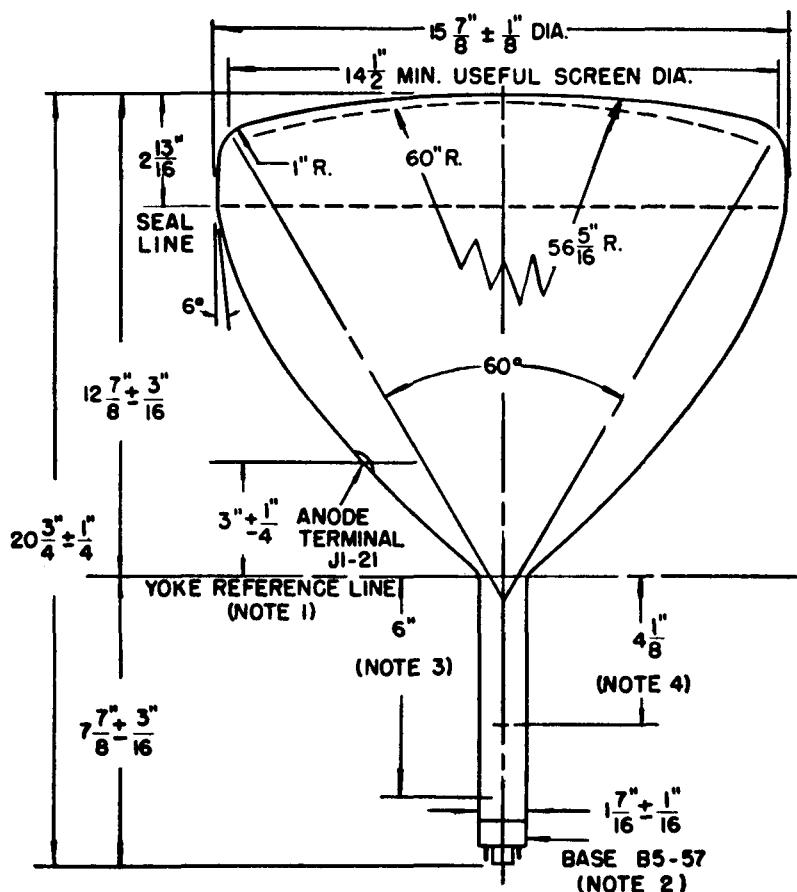
|                                                  |            |                 |
|--------------------------------------------------|------------|-----------------|
| Anode Voltage‡ . . . . .                         | 12,000     | Volts DC        |
| Grid-No. 2 Voltage . . . . .                     | 300        | Volts DC        |
| Grid-No. 1 Voltage§ . . . . .                    | —28 to —72 | Volts DC        |
| Focusing-Coil Currentπ, approximate . . . . .    | 101        | Milliamperes DC |
| Ion-Trap Field IntensityΔ, 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.

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



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  $\pm 30$  DEGREES.
3. APPROXIMATE POSITION OF ION-TRAP MAGNET.
4. RECOMMENDED POSITION FOR CENTER OF FOCUSING FIELD.

