Electronic TUBES

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

DESCRIPTION AND RATING

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 Intensity△, 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.

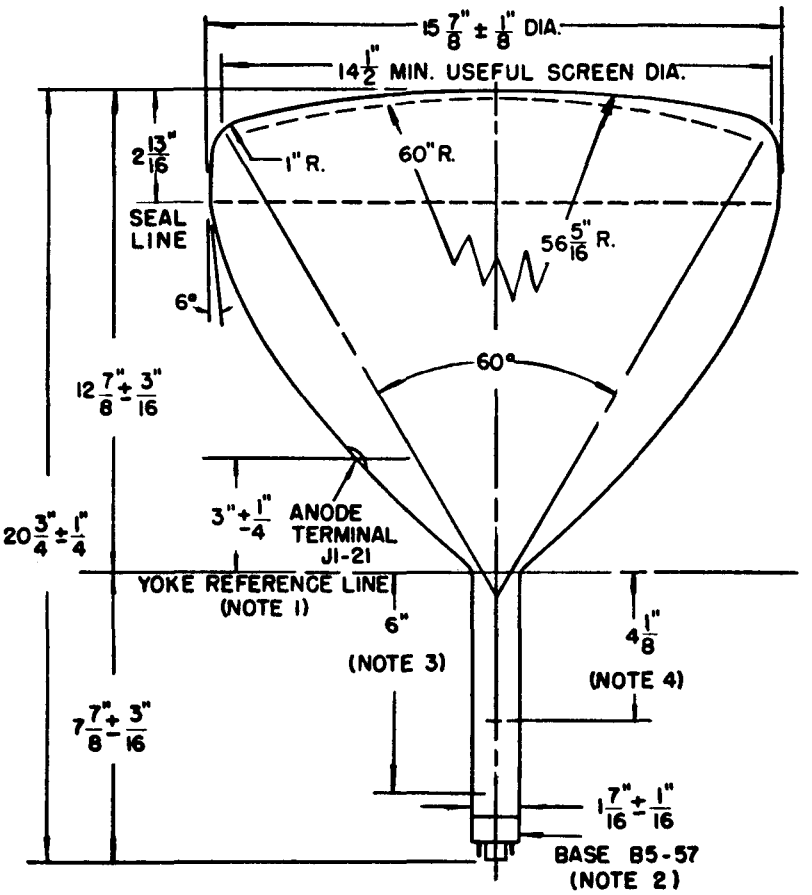
† Anode and grid-No. 3 which are connected together within the tube are referred to herein as anode.

‡ Brightness and focus quality decrease with decreasing anode voltage. In general, the anode voltage should not be less than 9,000 volts.

§ For visual extinction of focused raster.

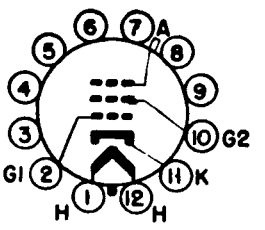
π For RETMA focusing coil No. 109 with distance from the yoke-reference-line to center-of-air-gap equal to 4⅛ inches.

△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.



BASING DIAGRAM
12D