



10BP4-A

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ET-T1125
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CATHODE-RAY TUBE

9 $\frac{1}{8}$ - BY 6 $\frac{3}{4}$ -INCH PICTURE SIZE

10-INCH ROUND, GLASS

FOCUS—MAGNETIC

DEFLECTION—MAGNETIC

50-DEGREE DEFLECTION ANGLE

FACEPLATE—SPHERICAL, GRAY

EXTERNAL CONDUCTIVE COATING

DESCRIPTION AND RATING

The 10BP4-A is a magnetic-focus and deflection, direct-view picture tube for television applications. It provides a 9 $\frac{1}{8}$ - by 6 $\frac{3}{4}$ -inch picture. Features of this tube are an electron gun designed to be used with an external ion-trap magnet for the prevention of ion-spot blemish, and a high-quality gray faceplate which increases picture contrast and detail under high-ambient-light conditions. An external conductive coating serves as a filter capacitor when grounded.

GENERAL

ELECTRICAL

Heater Voltage	6.3	Volts
Heater Current	0.6 $\pm$ 10%	Amperes
Focusing Method—Magnetic		
Deflecting Method—Magnetic		
Deflection Angle, approximate	50	Degrees
Direct Interelectrode Capacitances, approximate		
Cathode to All Other Electrodes	.5	μ f
Grid-No. 1 to All Other Electrodes	.6	μ f
External Conductive Coating to Anode		
Maximum	2500	μ f
Minimum	500	μ f

OPTICAL

Phosphor Number—P4, Sulfide Type		
Fluorescent Color—White		
Phosphorescent Color—White		
Persistence—Short		
Faceplate—Gray		
Light Transmission at Center, approximate	74	Percent

GENERAL  ELECTRIC

MECHANICAL

Over-all Length	17 $\frac{5}{8}$ $\pm$ $\frac{3}{8}$	Inches
Greatest Bulb Diameter	10 $\frac{1}{2}$ $\pm$ $\frac{1}{16}$	Inches
Minimum Useful Screen Diameter	9 $\frac{1}{8}$	Inches
Neck Length	8 $\frac{3}{16}$	Inches

Bulb Number, ASA Designation—J84C

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 $\pm$ 30 Degrees

Mounting Position—Any

Net Weight, approximate 10 $\frac{1}{2}$ Pounds

MAXIMUM RATINGS**DESIGN-CENTER VALUES***

Anode Voltage†	12,000 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

 During Warm-up Period not to Exceed 15 Seconds 410 Max Volts

 After Equipment Warm-up Period 140 Max Volts

Heater Positive with Respect to Cathode 140 Max Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage§	11,000	Volts DC
Grid-No. 2 Voltage	300	Volts DC
Grid-No. 1 Voltage¶	—28 to —72	Volts DC
Focusing-Coil Current▲, approximate	100	Milliamperes DC
Ion-Trap Field Intensity◆, approximate	33	Gausses

MAXIMUM CIRCUIT VALUES

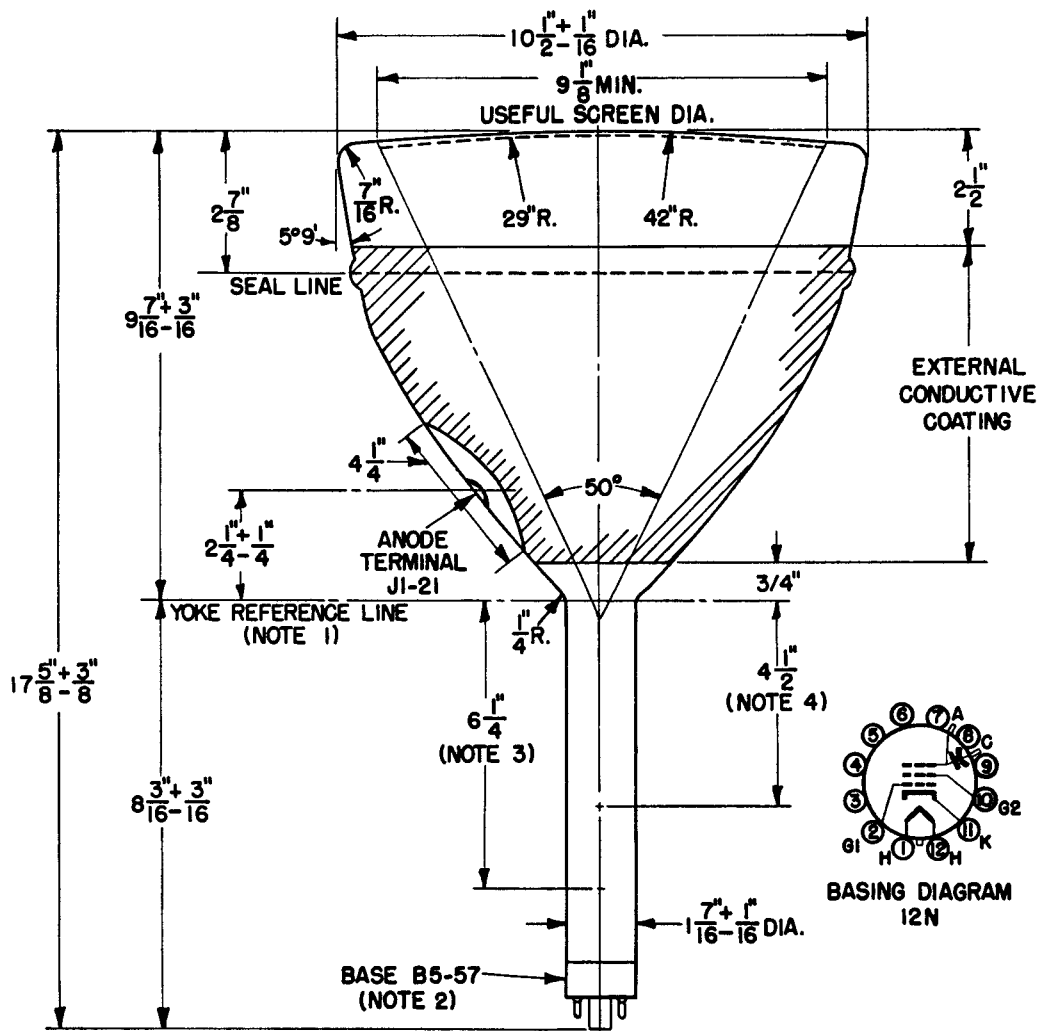
Grid-No. 1 Circuit Resistance	1.5 Max	Megohms
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* The maximum ratings provide a ten-percent safety factor in accordance with the standard design-center system of rating cathode-ray tubes. The tube will withstand the combined effects of variations in 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.

‡ Cathode should be returned to one side or to the midtap of the heater transformer winding.

◆ Double-field ion-trap magnet adjusted to optimum position.



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.