

7ARP4

CATHODE-RAY TUBE

7-INCH ROUND, GLASS
FOCUS--ELECTROSTATIC
DEFLECTION--MAGNETIC
50-DEGREE DEFLECTION ANGLE

FACEPLATE--SPHERICAL, CLEAR
HIGH-RESOLUTION GUN
PERSISTENCE--SHORT
ALUMINIZED SCREEN

DESCRIPTION AND RATING

The 7ARP4 is a 7-inch electrostatic-focus and magnetic-deflection cathode-ray tube for radar and oscillographic applications that requires a short persistence. It has a high-resolution electron gun with a low-voltage focusing lens which provides substantially automatic focus independent of variations in line voltage. The fluorescent screen is aluminized to increase light output, reduce undesirable screen charging, and prevent ion-spot blemish.

GENERAL

ELECTRICAL

Heater Voltage 6.3 Volts
Heater Current $0.6 \pm 10\%$ Amperes

Focusing Method--Electrostatic
Deflecting Method--Magnetic
Deflection Angle, approximate 50 Degrees

Direct Interelectrode Capacitances, approximate
Cathode to All Other Electrodes 5 uuf
Grid-No. 1 to All Other Electrodes 6 uuf

OPTICAL

Phosphor Number - P-4
Fluorescent Color - White
Phosphorescent Color - White
Persistence - Short

Faceplate--Clear with transparent conductive coating.

GENERAL ELECTRIC COMPANY

CATHODE-RAY TUBE DEPARTMENT

Syracuse, N. Y.

MECHANICAL

Over-all Length	13-1/4 ± 1/4	Inches
Greatest Bulb Diameter	7-3/16 ± 1/8	Inches
Minimum Useful Screen Diameter	6	Inches

Bulb Number, ASA Designation--J57¹/₂C1 with transparent conductive coating.
 Bulb Contact--Rescenced Small-cavity Cap, JETEC No. J1-21
 Base--Small-shell Duodecal 6-Pin, JETEC No. B6-63
 Basing, JETEC Designation--12M
 Bulb Contact Alignment
 Anode Contact Aligns with Pin-No. 3 Position ± 10 Degrees.

Mounting Position--Any

MAXIMUM RATINGS*

DESIGN CENTER VALUES †

Anode Voltage ‡	11,000	Max Volts DC
Anode Input §	6	Max Watts
Focusing-Electrode Voltage	-500 to +1000	Max Volts DC
Grid-No. 2 Voltage	700	Max Volts DC
Grid-No. 1 Voltage		
Negative-Bias Value	180	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	180	Max Volts DC
Heater Positive with Respect to Cathode	180	Max Volts DC

TYPICAL OPERATING CONDITIONS*

Anode Voltage ▲	10,000	Volts DC
Focusing-Electrode Voltage for Focus**	-50 to 250	Volts DC
Focusing-Electrode Current	-15 to 15	Microamperes
Grid-No. 2 Voltage	330	Volts DC
Grid-No. 1 Voltage ◆	-30 to -67	Volts DC
Line Width A♠	0.19	Max mm
Spot Position, undeflected ♡	10	mm.

MAXIMUM 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, grid-No. 3, and grid-No. 5 which are connected together within the tube are referred to herein as anode.

- § Anode input equals the product of anode voltage and average current measured at the terminal.
- ** At a cathode current of 100ua DC.
- ▲ Brightness and focus quality decrease with decreasing anode voltage. In general, the anode voltage should not be less than 7000 volts.
- ◆ For visual extinction of undeflected focused spot.
- ∅ Measured in accordance with MIL-E-1C specifications, paragraph 4.12.6.2, at an anode current of 100 microamperes.
- ♥ The center of the undeflected, unfocused spot will fall within a circle of 10mm radius concentric with the tube face.

ELECTRONIC COMPONENTS DIVISION

GENERAL ELECTRIC COMPANY

Syracuse, N. Y.

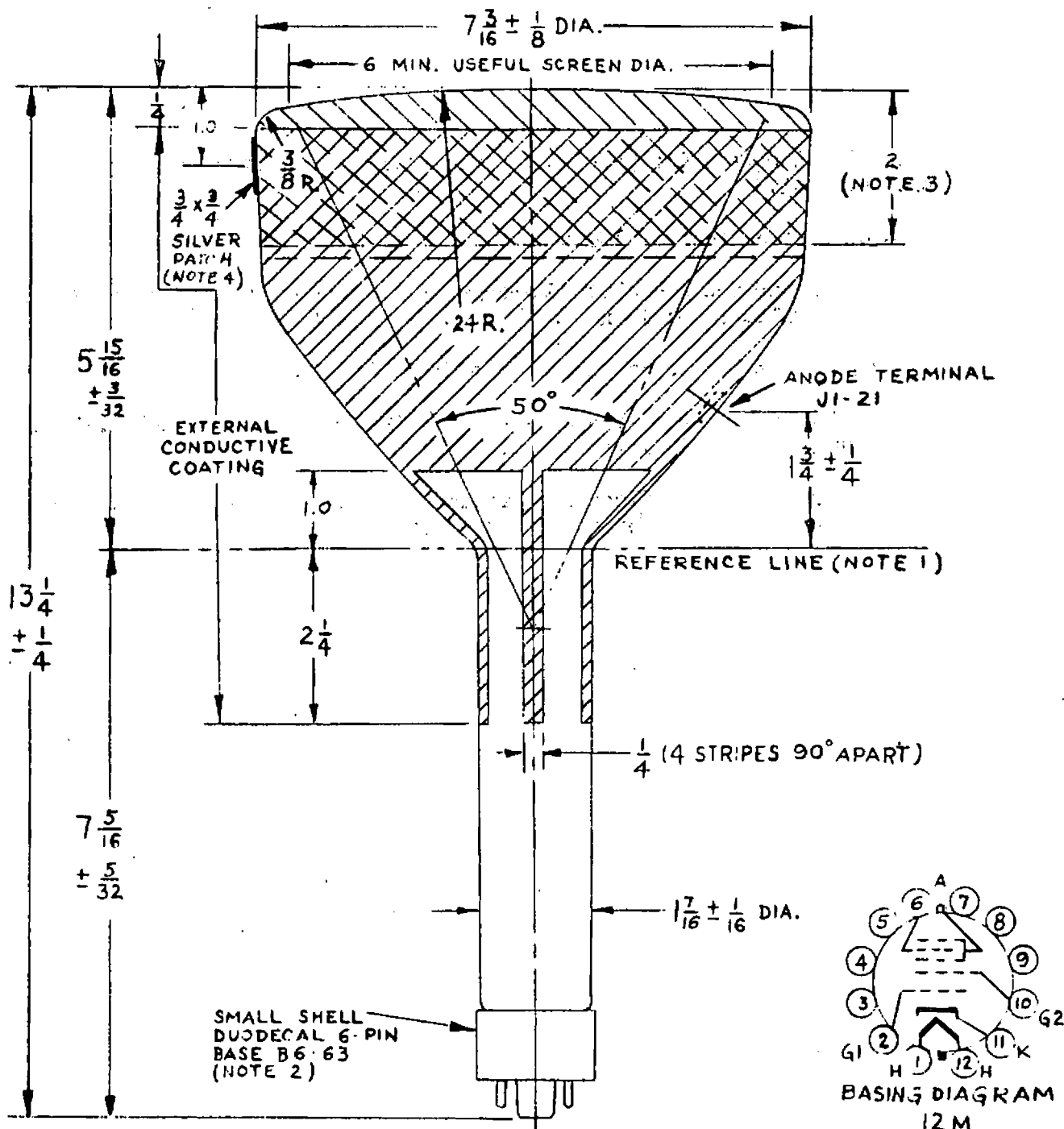
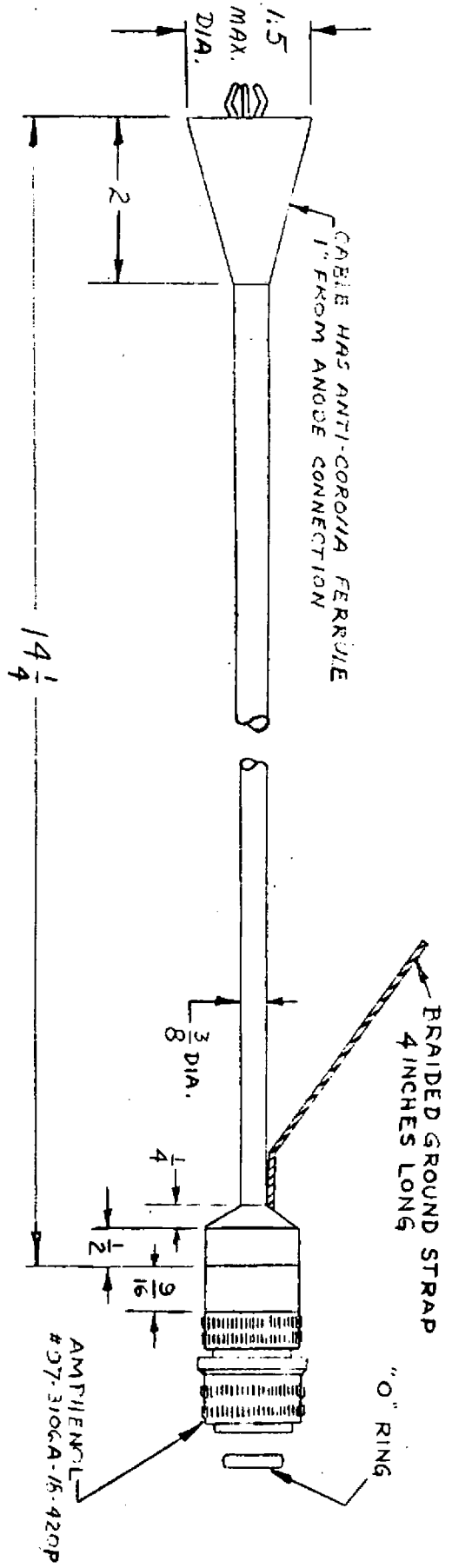


Figure 1

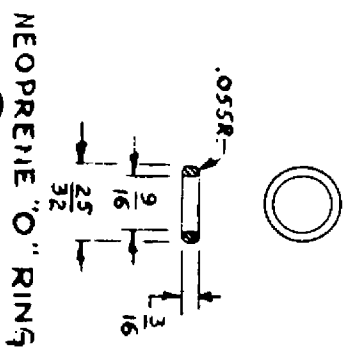
Notes:

1. Reference line is determined by the plane of the upper edge of the reference line gage (E.I.A. No.112) when the gage is resting on the bulb cone.
2. Anode terminal aligns with pin no. 3 position \pm 10 degrees.
3. Tube face to have transparent conductive coating with maximum resistance of $2,000 \Omega / \text{cm}^2$.
4. This area represents a $3/4" \times 3/4"$ patch of silver paint with no lacquer coating and is the bulb ground contact.



POTTED LEAD WITH AMPHENOL CONNECTOR
 (PERMANENTLY AFFIXED TO ANODE TERMINAL)

FIG. 2



AMPHENOL
 #27-3106A-16-420P