

## CHARACTERISTICS

### GENERAL DATA

|                                                               |                             |
|---------------------------------------------------------------|-----------------------------|
| Focusing Method . . . . .                                     | Tri-Potential Electrostatic |
| Deflection Method . . . . .                                   | Magnetic                    |
| Deflection Angles (Approx.)                                   |                             |
| Horizontal . . . . .                                          | 102 Degrees                 |
| Diagonal . . . . .                                            | 114 Degrees                 |
| Vertical . . . . .                                            | 86 Degrees                  |
| Phosphor . . . . .                                            | Aluminized P4               |
| Fluorescence . . . . .                                        | White                       |
| Persistence . . . . .                                         | Short to Medium             |
| Faceplate . . . . .                                           | Bonded Shield               |
| (Grey Filter Glass Safety Plate Laminated                     |                             |
| Directly to Face of Tube)                                     |                             |
| Light Transmittance of Faceplate Assembly (Approx.) . . . . . | 44 Percent                  |

### ELECTRICAL DATA

|                                                             |                       |      |
|-------------------------------------------------------------|-----------------------|------|
| Heater Voltage . . . . .                                    | 6.3 Volts             |      |
| Heater Current . . . . .                                    | $0.60 \pm 5\%$ Ampere |      |
| Heater Warm-up Time <sup>1</sup> . . . . .                  | 11 Seconds            |      |
| Direct Interelectrode Capacitances (Approx.)                |                       |      |
| Cathode to All Other Electrodes . . . . .                   | 5 $\mu\text{f}$       |      |
| Grid No. 1 to All Other Electrodes . . . . .                | 6 $\mu\text{f}$       |      |
| External Conductive Coating to Anode <sup>2</sup> . . . . . | 1500 $\mu\text{f}$    | Max. |
|                                                             | 1000 $\mu\text{f}$    | Min. |

### MECHANICAL DATA

|                                                    |                           |
|----------------------------------------------------|---------------------------|
| Minimum Useful Screen Dimensions (Maximum Assured) |                           |
| Height . . . . .                                   | 12 1/16 Inches            |
| Width . . . . .                                    | 15 5/16 Inches            |
| Diagonal . . . . .                                 | 17 3/4 Inches             |
| Area . . . . .                                     | 174 Sq. Inches            |
| Neck Length . . . . .                              | 3 9/16 $\pm$ 1/8 Inches   |
| Overall Length . . . . .                           | 11 1/16 $\pm$ 5/16 Inches |
| Bulb . . . . .                                     | C149 Exp. #5 or Equiv.    |
| Safety Plate . . . . .                             | FP159A                    |
| Bulb Contact (Recessed Small Cavity Cap) . . . . . | J1-21                     |
| Base . . . . .                                     | B7-208                    |
| Basing . . . . .                                   | 8JR                       |
| Weight (Approx.) . . . . .                         | 18 1/2 Pounds             |

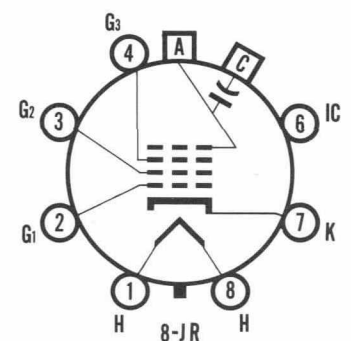
## RATINGS

### MAXIMUM RATINGS (Design Maximum Values) Grid Drive Service

|                                                   |              |    |
|---------------------------------------------------|--------------|----|
| Maximum Anode Voltage . . . . .                   | 20,000 Volts | dc |
| Minimum Anode Voltage . . . . .                   | 12,000 Volts | dc |
| Grid No. 3 Voltage (Focusing Electrode) . . . . . | 700 Volts    | dc |
| Grid No. 2 Voltage . . . . .                      | 600 Volts    | dc |
| Grid No. 1 Voltage                                |              |    |
| Negative Bias Value . . . . .                     | 155 Volts    | dc |
| Negative Peak Value . . . . .                     | 220 Volts    |    |
| Positive Bias Value . . . . .                     | 0 Volts      | dc |
| Positive Peak Value . . . . .                     | 2 Volts      |    |
| Peak Heater-Cathode Voltage                       |              |    |
| Heater Negative with Respect to Cathode           |              |    |
| During Warm-up Period not to Exceed 15 Seconds    | 450 Volts    |    |
| After Equipment Warm-up Period . . . . .          | 200 Volts    |    |
| Heater Positive with Respect to Cathode . . . . . | 200 Volts    |    |

## QUICK REFERENCE DATA

Television Picture Tube  
 19" Direct Viewed  
 Rectangular Glass Type  
 Spherical Faceplate  
 Bonded Shield  
 Gray Filter Glass  
 Aluminized Screen  
 Tri-Potential Electrostatic Focus  
 114° Magnetic Deflection  
 No Ion Trap  
 External Conductive Coating



## SYLVANIA ELECTRONIC TUBES

A Division of  
Sylvania Electric Products Inc.

### PICTURE TUBE OPERATIONS SENECA FALLS, NEW YORK

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File Under  
TELEVISION PICTURE TUBES

TYPICAL OPERATING CONDITIONS (Grid Drive Service)

|                                                               |                  |    |
|---------------------------------------------------------------|------------------|----|
| Anode Voltage . . . . .                                       | 16,000 Volts     | dc |
| Grid No. 3 Voltage for Focus . . . . .                        | 0 to +400 Volts  | dc |
| Grid No. 2 Voltage . . . . .                                  | 500 Volts        | dc |
| Grid No. 1 Voltage Required for Cutoff <sup>3</sup> . . . . . | -43 to -78 Volts | dc |

CIRCUIT VALUES

|                                         |                  |
|-----------------------------------------|------------------|
| Grid No. 1 Circuit Resistance . . . . . | 1.5 Megohms Max. |
|-----------------------------------------|------------------|

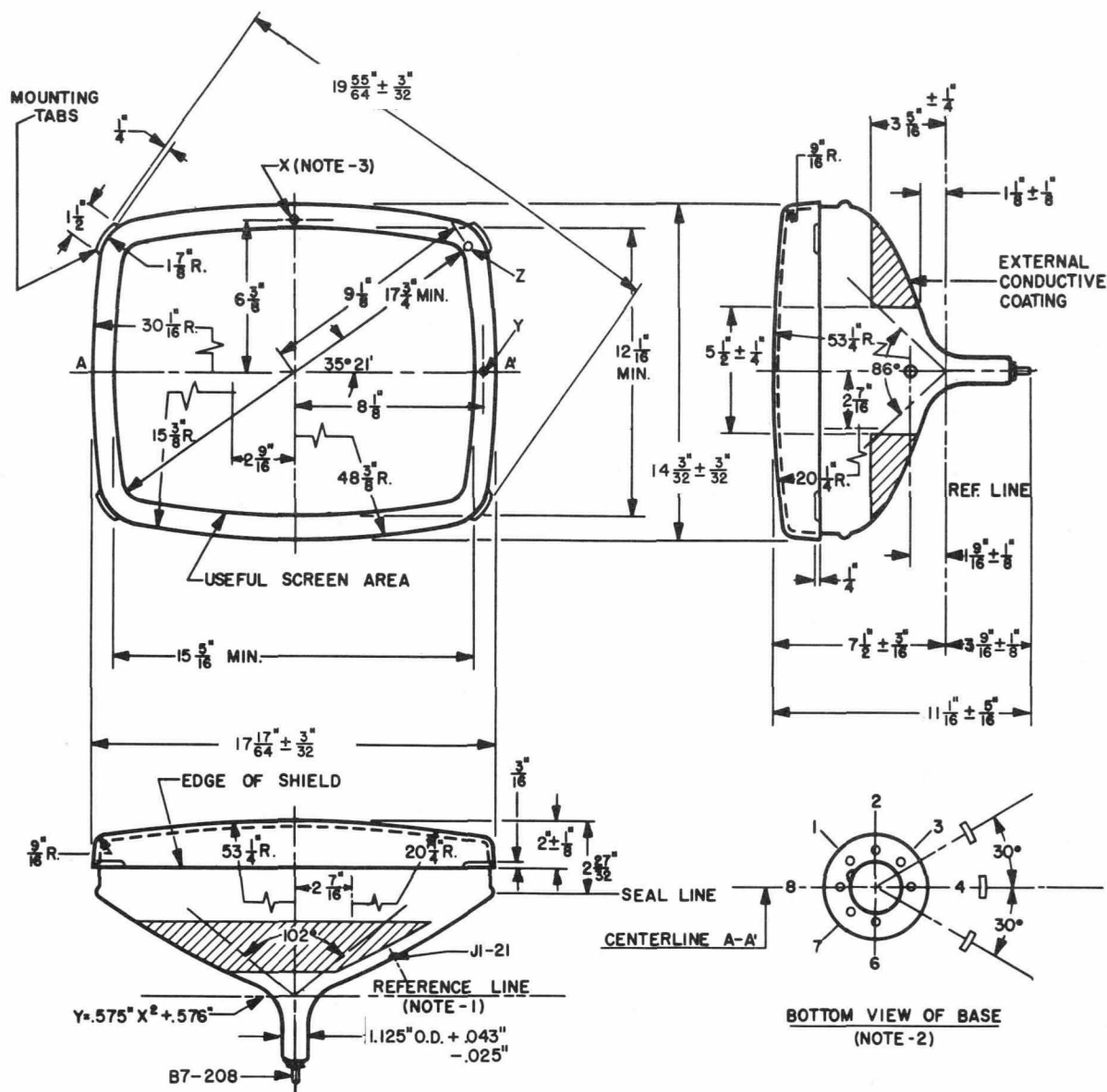
NOTES:

- 1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.
- 2. External conductive coating must be grounded.
- 3. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be about 5 volts. more negative.

WARNING:

X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.

# OUTLINE



C60021A

## DIAGRAM NOTES:

1. Reference line is determined by plane C-C' of JEDEC No. 126 Reference Line Gauge, when the gauge is seated against the bulb.
2. Base Pin No. 4 aligns with horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.
3. Planes perpendicular to tube axis and passing through points X, Y and Z are located as follows:  
 Plane tangent to crown of face to plane of X: 0.500" Nominal  
 Plane of X to plane of Y = .421" ± .025"  
 Plane of X to plane of Z = .738" ± .045"