

## CHARACTERISTICS

### GENERAL DATA

|                                                                   |                 |
|-------------------------------------------------------------------|-----------------|
| Focusing Method                                                   | Electrostatic   |
| Deflection Method                                                 | Magnetic        |
| Deflection Angles (Approx.)                                       |                 |
| Horizontal                                                        | 104 Degrees     |
| Diagonal                                                          | 110 Degrees     |
| Vertical                                                          | 85 Degrees      |
| Phosphor                                                          | Aluminized P4   |
| Fluorescence                                                      | White           |
| Persistence                                                       | Short to Medium |
| Faceplate                                                         | Bonded Shield   |
| Gray Filterglass Safety Plate Laminated Directly to Face of Plate |                 |
| Light Transmittance of Faceplate Assembly (Approx.)               | 45 Percent      |

### ELECTRICAL DATA

|                                                   |                                                    |  |
|---------------------------------------------------|----------------------------------------------------|--|
| Heater Voltage                                    | 6.3 Volts                                          |  |
| Heater Current—27ADP4                             | $0.6 \pm 5\%$ Ampere                               |  |
| Heater Current—27AFP4                             | $0.3 \pm 5\%$ 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> | 2500 $\mu\text{f}$ Max.<br>2000 $\mu\text{f}$ Min. |  |

### MECHANICAL DATA

|                                                 |                                           |
|-------------------------------------------------|-------------------------------------------|
| Minimum Useful Screen Dimensions (Max. Assured) |                                           |
| Height                                          | 18 $\frac{5}{8}$ Inches                   |
| Width                                           | 24 $\frac{1}{4}$ Inches                   |
| Diagonal                                        | 25 $\frac{3}{4}$ Inches                   |
| Minimum Useful Screen Area                      | 425 Square Inches                         |
| Neck Length                                     | 5 $\frac{3}{8} \pm \frac{3}{16}$ Inches   |
| Overall Length                                  | 17 $\frac{9}{16} \pm \frac{7}{16}$ Inches |
| Bulb Contact (Recessed Small Cavity Cap)        | J1-21                                     |
| Bulb                                            | J214 $\frac{1}{2}$ B                      |
| Safety Plate                                    | FP-214 $\frac{1}{2}$ A1                   |
| Base                                            | B7-208                                    |
| Basing                                          | 8HR                                       |
| Weight (Approx.)                                | 51 Pounds                                 |

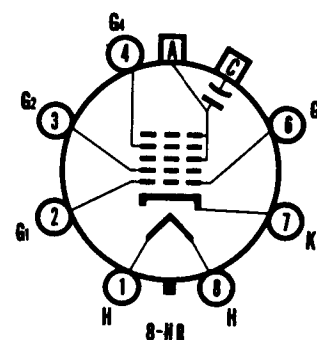
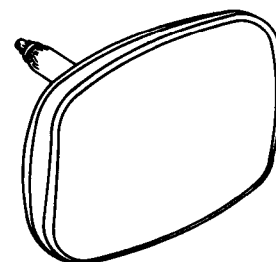
## RATINGS

### MAXIMUM RATINGS (Design Maximum Values)

|                                                |                     |    |
|------------------------------------------------|---------------------|----|
| Grid Drive Service <sup>3</sup>                |                     |    |
| Maximum Anode Voltage                          | 22,000 Volts        | dc |
| Minimum Anode Voltage                          | 12,000 Volts        | dc |
| Grid No. 4 Voltage (Focusing Electrode)        | -550 to +1100 Volts | dc |
| Maximum Grid No. 2 Voltage                     | 550 Volts           | dc |
| Minimum Grid No. 2 Voltage                     | 200 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  
27" Direct Viewed  
Rectangular Glass Type  
Spherical Faceplate  
Bonded Shield  
27ADP4: 6.3V/600 Ma Heater  
27AFP4: 6.3V/300 Ma Heater  
Aluminized Screen  
Electrostatic Focus  
110° Magnetic Deflection  
1 $\frac{1}{8}$ " Neck Diameter  
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

## MAXIMUM RATINGS (Design Maximum Values) Continued

|                                                          |                     |    |
|----------------------------------------------------------|---------------------|----|
| <b>Cathode Drive Service<sup>4</sup></b>                 |                     |    |
| Maximum Anode Voltage . . . . .                          | 22,000 Volts        | dc |
| Minimum Anode Voltage . . . . .                          | 12,000 Volts        | dc |
| Grid No. 4 Voltage (Focusing Electrode) . . . . .        | -400 to +1250 Volts | dc |
| Maximum Grid No. 2 Voltage . . . . .                     | 700 Volts           | dc |
| Minimum Grid No. 2 Voltage . . . . .                     | 350 Volts           | dc |
| <b>Cathode Voltage</b>                                   |                     |    |
| Positive Bias Value . . . . .                            | 155 Volts           | dc |
| Positive Peak Value . . . . .                            | 220 Volts           |    |
| Negative Bias Value . . . . .                            | 0 Volts             | dc |
| Negative Peak Value . . . . .                            | 2 Volts             |    |
| <b>Peak Heater-Cathode Voltage</b>                       |                     |    |
| 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           |    |

## TYPICAL OPERATING CONDITIONS

|                                                               |                  |    |
|---------------------------------------------------------------|------------------|----|
| <b>Grid Drive Service<sup>3</sup></b>                         |                  |    |
| Anode Voltage . . . . .                                       | 18,000 Volts     | dc |
| Grid No. 4 Voltage for Focus . . . . .                        | 0 to 400 Volts   | dc |
| Grid No. 2 Voltage . . . . .                                  | 300 Volts        | dc |
| Grid No. 1 Voltage Required for Cutoff <sup>5</sup> . . . . . | -37 to -74 Volts |    |
| <b>Cathode Drive Service<sup>4</sup></b>                      |                  |    |
| Anode Voltage . . . . .                                       | 18,000 Volts     | dc |
| Grid No. 4 Voltage for Focus . . . . .                        | 0 to 400 Volts   | dc |
| Grid No. 2 Voltage . . . . .                                  | 300 Volts        | dc |
| Cathode Voltage Required for Cutoff <sup>5</sup> . . . . .    | +37 to +62 Volts | dc |

## CIRCUIT VALUES

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

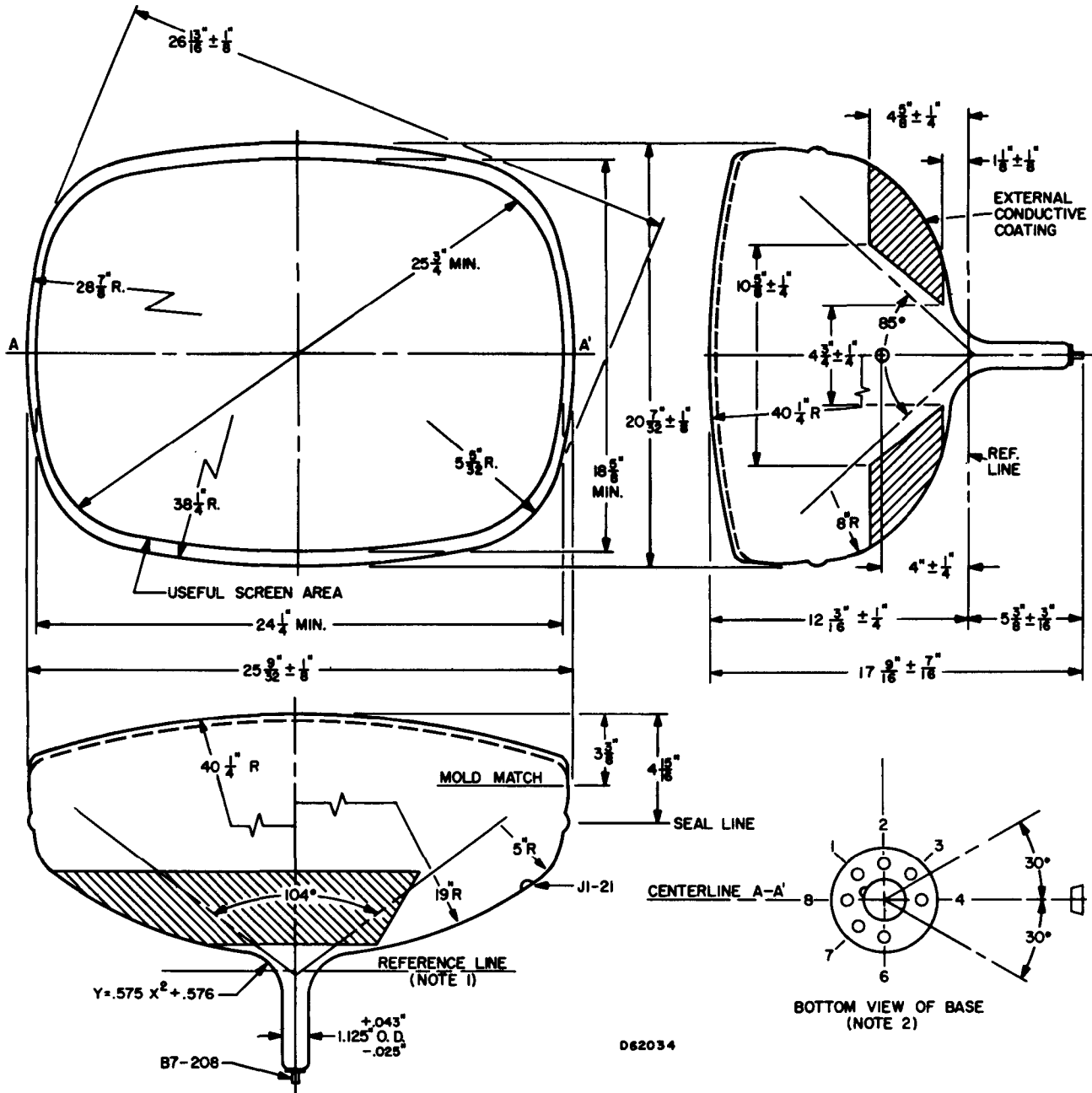
## NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80 % of its rated value 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 rated heater voltage divided by rated heater current.
2. External conductive coating must be grounded.
3. Unless otherwise specified, voltages are positive with respect to cathode.
4. Unless otherwise specified, voltages are positive with respect to Grid No. 1.
5. Visual extinction of focused raster. Extinction of stationary focused spot will require that these values be increased by about 5 volts.

## 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



D62034

## DIAGRAM NOTES:

1. Reference Line is determined by Plane C-C' of JEDEC No. 126. Reference Line Gauge, when gauge is seated against the bulb.
2. Base Pin No. 4 aligns with horizontal centerline of tube within  $30^\circ$ , and is on same side as anode contact, J1-21.