

## CHARACTERISTICS

### GENERAL DATA

|                   |              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |             |                  |
|-------------------|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------------|------------------|
| Focusing Method   | .            | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | .           | Electrostatic    |
| Deflection Method | .            | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | .           | Electrostatic    |
| Types*            | Fluorescence |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Persistence |                  |
| 3AQP1             | Green        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Medium      |                  |
| 3AQP2             | Blue - Green |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Long        |                  |
| 3AQP7             | Blue - White |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Long        |                  |
| 3AQP11            | Blue         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | Short       |                  |
| Faceplate         | .            | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | .           | Clear, Spherical |

\* In addition to the types shown, the 3AQP — can be supplied with several other screen phosphors.

### QUICK REFERENCE DATA

3" Direct Viewed  
Round Glass Type  
Electrostatic Deflection  
Electrostatic Focus  
Clear, Spherical  
Faceplate  
High Deflection  
Sensitivity

### ELECTRICAL DATA

|                                              |                  |
|----------------------------------------------|------------------|
| Heater Voltage                               | 6.3 Volts        |
| Heater Current                               | 0.6 ± 10% Ampere |
| Direct Interelectrode Capacitances (approx.) |                  |
| Cathode to All Other Electrodes              | 4.3 μμf          |
| Grid No. 1 to All Other Electrodes           | 7.5 μμf          |
| Between Deflecting Plates 1-2                | 5.2 μμf          |
| Between Deflecting Plates 3-4                | 7.0 μμf          |
| Deflecting Plate 1 to All Other Electrodes   | 10.1 μμf         |
| Deflecting Plate 2 to All Other Electrodes   | 7.5 μμf          |
| Deflecting Plate 3 to All Other Electrodes   | 8.1 μμf          |
| Deflecting Plate 4 to All Other Electrodes   | 9.2 μμf          |

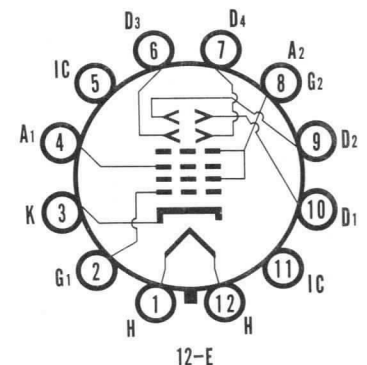
### MECHANICAL DATA

|                                                               |               |
|---------------------------------------------------------------|---------------|
| Minimum Useful Screen Diameter                                | 2 3/4 Inches  |
| Base (Small Shell Duodecal 12-Pin)                            | B12-43        |
| Basing                                                        | 12E           |
| Bulb                                                          | J24P1         |
| Base Alignment                                                |               |
| D1-D2 Trace Aligns with Pin No. 4 and Tube Axis               | ± 10 Degrees  |
| Positive Voltage on D1 deflects Beam approx. Toward Pin No. 4 |               |
| Positive Voltage on D3 deflects Beam approx. Toward Pin No. 1 |               |
| Angle Between D3-D4 and D1-D2 Traces                          | 90 ± 1 Degree |
| Weight (approx.)                                              | 1/2 Pound     |

### RATINGS

### MAXIMUM RATINGS (Absolute Maximum Values)

|                                          |            |    |
|------------------------------------------|------------|----|
| Anode No. 2 Voltage                      | 3000 Volts | dc |
| Anode No. 2 Input                        | 6.0 Watts  |    |
| Anode No. 1 Voltage (Focusing Electrode) | 1200 Volts | dc |
| Grid No. 1 Voltage                       |            |    |
| Negative Bias Value                      | 220 Volts  | dc |
| 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                  | 140 Volts  |    |
| Heater Positive with Respect to Cathode  | 140 Volts  |    |
| Peak Voltage Between Anode No. 2 and     |            |    |
| Any Deflection Plate                     | 600 Volts  |    |



### SYLVANIA ELECTRONIC TUBES

A Division of  
Sylvania Electric Products Inc.

### PICTURE TUBE OPERATIONS SENECA FALLS, NEW YORK

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File Under  
SPECIAL AND GENERAL PURPOSE  
CATHODE RAY TUBES

## TYPICAL OPERATING CONDITIONS

|                                                  |                                          |
|--------------------------------------------------|------------------------------------------|
| Anode No. 2 Voltage <sup>1</sup>                 | 2000 Volts dc                            |
| Anode No. 1 Voltage for Focus                    | 330 to 620 Volts dc                      |
| Grid Voltage Required for Cutoff <sup>2</sup>    | -58 to -135 Volts dc                     |
| Deflection Factors                               |                                          |
| Deflecting Plates 1-2 <sup>3</sup>               | 146 to 198 Volts dc/Inch                 |
| Deflecting Plates 3-4 <sup>4</sup>               | 52 to 70 Volts dc/Inch                   |
| Useful Scan                                      |                                          |
| D1-D2 <sup>5</sup>                               | 2 <sup>3</sup> / <sub>4</sub> Inches Min |
| D3-D4 <sup>5</sup>                               | 2 <sup>1</sup> / <sub>4</sub> Inches Min |
| Spot Position (Undelected, Focused) <sup>6</sup> | Within a 12 mm Square                    |

## CIRCUIT VALUES

|                                            |                  |
|--------------------------------------------|------------------|
| Grid Circuit Resistance                    | 1.5 Megohms Max. |
| Deflection Circuit Resistance <sup>7</sup> | 1.0 Megohms Max. |

## NOTES:

1. Operation of Type 3AQP7 at Anode Voltages of less than 1000 volts is not recommended.
2. Visual extinction of undeflected focused spot.
3. Deflecting Plates 1-2 are nearer the screen.
4. Deflecting Plates 3-4 are nearer the base.
5. Useful scan to be centered with respect to the tube face.
6. With the tube shielded and all deflection plates connected to Anode No. 2. Limit square centered on tube face, with sides parallel to deflection axes.
7. The resistances in each deflecting plate circuit should be approximately equal.

