CHARACTERISTICS

GENERAL DATA

Focusing Method ................................................. Electrostatic
Deflection Method ............................................ Electrostatic

Types*  
5AQPI  5AQPI A  5AQPI  5AQPI 11  
5AQPI A  5AQPI 2A  5AQPI 7A  5AQPI 11A  
5AQPI B  5AQPI 2B  5AQPI 7B  5AQPI 11B

Fluorescence  
Green  Green  Blue  Blue

Phosphorescence  
—  Green  Yellow  —

Persisten ce  
Medium  Medium  Long  Short

Faceplate  
5AQPI, 5AQPI A  ..................... Clear
5AQPI B  ..................... Clear, Aluminized

*In addition to the types shown, the 5AQPI can be supplied with several other screen phosphors.

ELECTRICAL DATA

Heater Voltage .................. 6.3 Volts
Heater Current .................. 0.6 ± 10 % Ampere

Direct Interclock Capacitances

<table>
<thead>
<tr>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathode to All Other Electrodes</td>
<td>2.7</td>
</tr>
<tr>
<td>Grid No. 1 to All Other Electrodes</td>
<td>3.7</td>
</tr>
<tr>
<td>Between Deflecting Plates 1-2</td>
<td>2.4</td>
</tr>
<tr>
<td>Between Deflecting Plates 3-4</td>
<td>0.8</td>
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<tr>
<td>Deflecting Plate 1 to All Other Electrodes</td>
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<tr>
<td>Deflecting Plate 2 to All Other Electrodes</td>
<td>5.0</td>
</tr>
<tr>
<td>Deflecting Plate 3 to All Other Electrodes</td>
<td>3.3</td>
</tr>
<tr>
<td>Deflecting Plate 4 to All Other Electrodes</td>
<td>3.3</td>
</tr>
</tbody>
</table>

MECHANICAL DATA

Minimum Useful Screen Diameter ..................... 4 1/2 Inches
Bulb ............................................ J42P
Base (Medium Shell Diheptal 12-Pin) .................. B12-37
Basing ........................................... 14G

Base Alignment  
D1-D2 Trace Aligns With Pin No. 5 and Tube Axis  ±10 Degrees

Angle Between D1-D2 and D3-D4 Traces (5AQPI)  90 ± 1 Degree

Angle Between D1-D2 and D3-D4 Traces  
(5AQPI A, 5AQPI B)  90 ± 0.8 Degree

Weight (Approx.) ..................... 2 Pounds

RATINGS

MAXIMUM RATINGS (Absolute Maximum Values)

Maximum Anode No. 2 Voltage 4400 Volts dc
Minimum Anode No. 2 Voltage (5AQPI B Only) 1500 Volts dc
Anode No. 1 Voltage 1650 Volts dc

Grid No. 1 Voltage  
Negative Bias Value 220 Volts dc
Positive Bias Value 0 Volts dc
Positive Peak Value 0 Volts

Peak Heater-Cathode Voltage  
Heater Negative with Respect to Cathode 200 Volts
Heater Positive with Respect to Cathode 200 Volts

Peak Voltage Between Anode No. 2 and 400 Volts
Any Deflecting Plate

SYLVANIA ELECTRONIC TUBES

A Division of Sylvania Electric Products Inc.

PICTURE TUBE OPERATIONS

SENeca FALLS, NEW YORK

Prepared and Released By The TECHNICAL PUBLICATIONS SECTION EMPORIUM, PENNSYLVANIA MARCH, 1962 PAGE 1 OF 2

File Under SPECIAL AND GENERAL PURPOSE CATHODE RAY TUBES
TYPICAL OPERATING CONDITIONS

Anode No. 2 Voltage .................. 2500 Volts  dc
Anode No. 1 Voltage for Focus .......... 0 to 300 Volts  dc
Grid No. 1 Voltage Required for Cutoff5 .............. -34 to -56 Volts  dc
Deflection Factor6
Deflecting Plates 1-2 .................. 40 to 50 Volts  dc/Inch
Deflecting Plates 3-4 .................. 31.5 to 38.5 Volts  dc/Inch
Pt Light Output6 .................. 15 Ft. L.  Min.
Modulation6 .................. 40 Volts  dc Max.
Line Width A5 .................. .050 Inches  Max.
Anode No. 2 Current6 .................. 400 μA  dc Max.
Deflection Factor Uniformity6 .......... 1 Percent  Max.
Pattern Distortion at 75 % of Useful Scan7 (5AQP-)
Pattern Distortion at 100 % of Useful Scan8 (5AQP-A, 5AQP-B) .......... 2 Percent  Max.
Spot Position9 .................. Within a ½ inch Radius Circle
Useful Scan (Centered on Tube Face) .............. 4 x 4 Inches  Min.

CIRCUIT VALUES

Grid No. 1 Circuit Resistance .................. 1.5 Megohms Max.
Deflection Circuit Resistance10 .................. 1.0 Megohms Max.

NOTES:

1. Deflecting Plate 1 is Pin No. 11
   Deflecting Plate 2 is Pin No. 10
   Deflecting Plate 3 is Pin No. 7
   Deflecting Plate 4 is Pin No. 8

2. The product of Anode No. 2 voltage and average Anode No. 2 current should be limited to 6.0 watts.

3. Visual extinction of undeflected focused spot.

4. Positive voltage on D1 deflects beam approximately toward Pin No. 5.
   Positive voltage on D3 deflects beam approximately toward Pin No. 2.

5. Measured in accordance with MIL-E-1 specification on a P1 screen at a brightness of 15 Ft. L. on a raster size of 2 x 2 inches.

6. The deflection factors at 75 % of useful scan and at 25 % of useful scan shall not differ by more than the indicated value.

7. All edges of a raster pattern, adjusted so its widest points just touch the sides of a 3.075 inch square, will fall within the area bounded by the 3.075 inch square and an inscribed 2.925 inch square.

8. The edges of a raster pattern, adjusted so its widest points just touch the sides of a 4.000 inch square, will fall within the area bounded by the 4.000 inch square and an inscribed 3.916 inch square, except at the corners where the geometry of the tube makes this impossible.

9. Centered on the tube face with the tube shielded and with all deflection plates connected to Anode No. 2.

10. It is recommended that the deflecting electrode circuit resistances be approximately equal.

OUTLINE