CATHODE RAY

THE 16SP4 AND 16SP4A ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL EXCEPT FOR THE GREY FILTER FACEPLATE USED ON THE 16SP4A. THEIR COMMON FEATURES INCLUDE:

- UNIPOTENTIAL CATHODE
- ROUND GLASS CONSTRUCTION
- EXTERNAL SINGLE FIELD ION TRAP
- EXTERNAL CONDUCTIVE COATING
- MAGNETIC FOCUS & DEFLECTION
- 10 1/8" X 14 1/2" RASTER SIZE

ELECTRICAL DATA

FOCUSBNG METHOD
DEFLECTING METHOD
DEFLECTION ANGLE (APPROX.)
DIRECT INTERELECTRODE CAPACITANCES (APPROX.):
   MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE
   MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE

MAGNETIC
MAGNETIC
70 DEGREES
3 500 µµf
1 500 µµf

OPTICAL DATA

PHOSPHOR NUMBER
FLUORESCENT COLOR
PHOSPHORESCENT COLOR
PERSISTENCE

NO. 4
WHITE
WHITE
MEDIUM

MECHANICAL DATA

OVERALL LENGTH
GREATEST DIAMETER OF BULB
MINIMUM USEFUL SCREEN DIAMETER
BULB CONTACT
BASE
RASING
BULB CONTACT ALIGNMENT

17 5/16 ± 3/8 INCHES
15 7/8 ± 1/8 INCHES
14 1/2 INCHES
RECESSED SMALL CAVITY CAP
SMALL SHELL QUADDECAL 5 PIN
J4-21
J4-21 CONTACT ALIGNS WITH PIN POSITION #3 ± 10 DEGREES

PIN CONNECTIONS

PIN 1 - HEATER
PIN 2 - GRID NO. 1
PIN 10 - GRID NO. 2
PIN 11 - CATHODE
PIN 12 - HEATER ANODE CAP

CONTINUED ON FOLLOWING PAGE
### RATINGS

**DESIGN CENTER VALUES**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATER VOLTAGE</td>
<td>6.3 VOLS</td>
</tr>
<tr>
<td>HEATER CURRENT</td>
<td>0.6 AMP</td>
</tr>
<tr>
<td>MAXIMUM DC ANODE VOLTAGE</td>
<td>14 000 VOLS</td>
</tr>
<tr>
<td>MAXIMUM DC GRID #2 VOLTAGE</td>
<td>410 VOLS</td>
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</tbody>
</table>
| MAXIMUM GRID #1 VOLTAGE:
  - DC NEGATIVE-BIAS VALUE                            | 125 VOLS |
  - DC POSITIVE-BIAS VALUE                             | 0 VOLS  |
  - POSITIVE-PEAK VALUE                                | 2 VOLS  |
| MAXIMUM DC PEAK HEATER—CATHODE VOLTAGE:
  - HEATER NEGATIVE WITH RESPECT TO CATHODE DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS | 410 VOLS |
  - AFTER EQUIPMENT WARM-UP PERIOD                     | 125 VOLS |
  - HEATER POSITIVE WITH RESPECT TO CATHODE            | 125 VOLS |

### TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>DC ANODE VOLTAGE</td>
<td>12 000 VOLS</td>
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<tr>
<td>DC GRID #2 VOLTAGE</td>
<td>300 VOLS</td>
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<tr>
<td>DC GRID #1 VOLTAGE&lt;sup&gt;A&lt;/sup&gt;</td>
<td>-33 TO -77 VOLS</td>
</tr>
<tr>
<td>DC FOCUSING COIL CURRENT (APPROX.)&lt;sup&gt;B&lt;/sup&gt;</td>
<td>110 MA</td>
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<tr>
<td>DC ION TRAP CURRENT (APPROX.)</td>
<td>120 MA</td>
</tr>
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<sup>A</sup> Visual extinction of undeflected focused spot.

<sup>B</sup> For standard focus with the combined grid #1 bias voltage and video signal voltage adjusted to produce a highlight brightness of 20 foot lamberts on a 10 1/4" x 14 1/2" picture size. Distance from reference line to center of air gap or focus coil shall be 3.25 inches.

### CIRCUIT VALUES

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>MAXIMUM GRID #1 CIRCUIT RESISTANCE</td>
<td>1.5 MEGOHMS</td>
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