CATHODE RAY

THE 17ATP4 AND 17ATP4A ARE DIRECT VIEW PICTURE TUBES DESIGNED FOR TELEVISION APPLICATIONS. THEY ARE IDENTICAL EXCEPT FOR THE METAL-BACKED SCREEN ON THE 17ATP4A. THEIR COMMON FEATURES INCLUDE:

- Magnetic Deflection
- Spherical Faceplate
- Unipotential Cathode
- Grey Filter Faceplate
- Rectangular Glass Construction
- External Conducive Coating
- Low Voltage Electrostatic Focus
- External Single Field Ion Trap
- 10 3/4" x 14 1/8" Raster Size

ELECTRICAL DATA

<table>
<thead>
<tr>
<th>FOCUSING METHOD</th>
<th>LOW VOLTAGE ELECTROSTATIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEFLECTING METHOD</td>
<td>MAGNETIC</td>
</tr>
<tr>
<td>DEFOCUSED ANGLE (APPROX.):</td>
<td></td>
</tr>
<tr>
<td>HORIZONTAL</td>
<td>60 DEGREES</td>
</tr>
<tr>
<td>VERTICAL</td>
<td>65 DEGREES</td>
</tr>
<tr>
<td>DIAGONAL</td>
<td>90 DEGREES</td>
</tr>
</tbody>
</table>

DIRECT INTERELECTRODE CAPACITANCES (APPROX.):

- GRID #4 TO ALL OTHER ELECTRODES: 5 µF
- MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE: 1500 µF
- MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE: 750 µF

OPTICAL DATA

- PHOSPHOR NUMBER: SULFIDE TYPE
- FLUORESCENT COLOR: P-4
- PHOSPHORESCENT COLOR: WHITE
- PERSISTENCE: 60 PERCENT
- FACEPLATE TRANSMISSION AT CENTER (APPROX.): 60 PERCENT

RATINGS

<table>
<thead>
<tr>
<th>DESIGN CENTER VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATER VOLTAGE</td>
</tr>
<tr>
<td>HEATER CURRENT</td>
</tr>
<tr>
<td>MAXIMUM DC ANODE, GRID #3, GRID #5 VOLTAGE</td>
</tr>
<tr>
<td>MAXIMUM DC GRID #4 VOLTAGE:</td>
</tr>
<tr>
<td>POSITIVE</td>
</tr>
<tr>
<td>NEGATIVE</td>
</tr>
<tr>
<td>MAXIMUM DC GRID #2 VOLTAGE</td>
</tr>
<tr>
<td>DC NEGATIVE-BIAS VALUE</td>
</tr>
<tr>
<td>DC POSITIVE-BIAS VALUE</td>
</tr>
<tr>
<td>POSITIVE-PEAK VALUE</td>
</tr>
<tr>
<td>MAXIMUM DC PEAK HEATER-CATHODE VOLTAGE:</td>
</tr>
<tr>
<td>HEATER NEGATIVE WITH RESPECT TO CATHODE</td>
</tr>
<tr>
<td>DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS</td>
</tr>
<tr>
<td>AFTER EQUIPMENT WARM-UP PERIOD</td>
</tr>
<tr>
<td>HEATER POSITIVE WITH RESPECT TO CATHODE</td>
</tr>
<tr>
<td>MAXIMUM GRID #1 CIRCUIT RESISTANCE</td>
</tr>
</tbody>
</table>

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

| DC ANODE, GRID #3, GRID #5 VOLTAGE | 14000 VOLS |
| DC GRID #4 VOLTAGE (WITH ANODE CURRENT OF 100 MA.) | -55 TO +300 VOLS |
| DC GRID #2 VOLTAGE | 300 VOLS |
| DC GRID #1 VOLTAGE | -33 TO -77 VOLS |
| DC ION TRAP MAGNET | 37 GAUSSES |

A. EXTERNAL CONDUCTIVE COATING MUST BE GROUNDED.
B. BRILLIANCE AND DEFINITION DECREASE WITH DECREASING ANODE VOLTAGE. IN GENERAL, THE ANODE VOLTAGE SHOULD NOT BE LESS THAN 32,000 VOLTS.
C. THIS VALUE APPLIES WHERE AN AC VOLTAGE IS PROVIDED FOR DYNAMIC FOCUSING.
D. VISUAL EXTINCTION OF UNDEFOCUSED FOCUSED SPOT.
E. INASMUCH AS THE TUBE RATING PERMITS OPERATION AT VOLTAGES AS HIGH AS 17.6 KILOVOLTS (ABSOLUTE VALUE), SHIELDING OF THE TUBE FOR X-RAY RADIATION MAY BE NEEDED WHEREVER THE OPERATING CONDITIONS INVOLVE VOLTAGES IN EXCESS OF 10 KILOVOLTS.

CONTINUED ON FOLLOWING PAGE
MECHANICAL DATA

OVERALL LENGTH
GREATEST DIMENSIONS OF BULB:
DIAGONAL
WIDTH
HEIGHT
MINIMUM USEFUL SCREEN DIMENSIONS:
DIAGONAL
WIDTH
HEIGHT
BULB CONTACT
BASE
BASING
BULB CONTACT ALIGNMENT
J4-24 CONTACT aligns with pin position #6 ± 30 degrees

16 +1/4 -3/8 inches
16 5/8 ± 1/8 inches
15 3/8 ± 1/8 inches
12 1/4 ± 1/8 inches
15 1/4 inches
14 1/4 inches
11 1/16 inches
RECESSED SMALL CAVITY CAP
SMALL SHELL DUODECAL 6 PIN
B6-63
J4-24
12L

PIN CONNECTIONS

PIN 1 - HEATER
PIN 2 - GRID #1
PIN 6 - GRID #4
PIN 10 - GRID #2
PIN 11 - CATHODE
PIN 12 - HEATER
ANODE/CAP:
GRID #3
GRID #5
COLLECTOR

KEEP THIS SPACE CLEAR FOR ION TRAP MAGNET
EXTERNAL CONDUCTIVE COATING
2" X 2"

PLATE #4332 APRIL 1, 1955 TUNG-SOL ELECTRIC INC. ELECTRON TUBE DIVISION BLOOMFIELD, NEW JERSEY, U.S.A.