

## TUNG-SOL

## CATHODE RAY

THE 17CP4 AND 17CP4A ARE DIRECT VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL WITH THE FOLLOWING *EXCEPTION*:

17CP4 - PROSTED FACEPLATE

17CP4A - UNPROSTED FACEPLATE

THEIR COMMON FEATURES INCLUDE:

UNIPOTENTIAL CATHODE  
14 5/8" X 11" RASTER SIZE  
RECTANGULAR METAL CONSTRUCTION

FILTER GLASS FACEPLATE  
MAGNETIC FOCUS & DEFLECTION  
EXTERNAL SINGLE FIELD ION TRAP

## ELECTRICAL DATA

|                                              |    |               |
|----------------------------------------------|----|---------------|
| FOCUSING METHOD                              |    | MAGNETIC      |
| DEFLECTING METHOD                            |    | MAGNETIC      |
| DEFLECTION ANGLE (APPROX.)                   |    |               |
| HORIZONTAL                                   | 66 | DEGREES       |
| VERTICAL                                     | 50 | DEGREES       |
| DIAGONAL                                     | 70 | DEGREES       |
| DIRECT INTERELECTRODE CAPACITANCES (APPROX.) |    |               |
| CATHODE TO ALL OTHER ELECTRODES              | 5  | $\mu\text{f}$ |
| GRID #1 TO ALL OTHER ELECTRODES              | 6  | $\mu\text{f}$ |

## OPTICAL DATA

|                                                  |              |         |
|--------------------------------------------------|--------------|---------|
| PHOSPHOR NUMBER                                  | SULFIDE TYPE | NO. 4   |
| FLUORESCENT COLOR                                |              | WHITE   |
| PHOSPHORESCENT COLOR                             |              | WHITE   |
| PERSISTENCE                                      |              | MEDIUM  |
| FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.) | 65           | PERCENT |

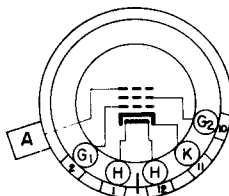
## MECHANICAL DATA

|                                                             |                            |        |
|-------------------------------------------------------------|----------------------------|--------|
| OVERALL LENGTH                                              | 19                         | INCHES |
| GREATEST DIMENSIONS OF BULB                                 |                            |        |
| DIAGONAL                                                    | 16 13/16 $\pm$ 3/16        | INCHES |
| WIDTH                                                       | 15 15/16 $\pm$ 1/8         | INCHES |
| HEIGHT                                                      | 12 1/4 $\pm$ 1/8           | INCHES |
| MINIMUM USEFUL SCREEN DIMENSIONS                            |                            |        |
| WIDTH                                                       | 14 5/8                     | INCHES |
| HEIGHT                                                      | 11                         | INCHES |
| BULB CONTACT                                                | METAL SHELL LIP            |        |
| BASE                                                        | SMALL SHELL DUODECAL 5 PIN | B5-57  |
| BASING                                                      |                            | 12D    |
| BASE ALIGNMENT                                              |                            |        |
| PIN #6 ALIGNS WITH HORIZONTAL PICTURE AXIS $\pm$ 10 DEGREES |                            |        |

## PIN CONNECTIONS

PIN 1 - HEATER  
PIN 2 - GRID NO. 1  
PIN 10 - GRID NO. 2  
PIN 11 - CATHODE

PIN 12 - HEATER  
METAL SHELL LIP:  
ANODE



BOTTOM VIEW

CONTINUED ON FOLLOWING PAGE

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## RATINGS

DESIGN CENTER VALUES

|                                                |        |       |
|------------------------------------------------|--------|-------|
| HEATER VOLTAGE                                 | 6.3    | VOLTS |
| HEATER CURRENT                                 | 0.6    | AMP.  |
| MAXIMUM DC ANODE VOLTAGE <sup>A</sup>          | 16 000 | VOLTS |
| MAXIMUM DC GRID #2 VOLTAGE                     | 410    | VOLTS |
| MAXIMUM GRID #1 VOLTAGE                        |        |       |
| DC NEGATIVE-BIAS VALUE                         | 125    | VOLTS |
| DC POSITIVE-BIAS VALUE                         | 0      | VOLTS |
| POSITIVE-PEAK VALUE                            | 2      | VOLTS |
| MAXIMUM DC PEAK HEATER-CATHODE VOLTAGE         |        |       |
| HEATER NEGATIVE WITH RESPECT TO CATHODE        |        |       |
| DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS | 410    | VOLTS |
| AFTER EQUIPMENT WARM-UP PERIOD                 | 180    | VOLTS |
| HEATER POSITIVE WITH RESPECT TO CATHODE        | 180    | VOLTS |

<sup>A</sup> THE PRODUCT OF ANODE VOLTAGE AND AVERAGE ANODE CURRENT SHOULD BE LIMITED TO 6 WATTS.

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

|                                                  |            |          |
|--------------------------------------------------|------------|----------|
| DC ANODE VOLTAGE <sup>B</sup>                    | 12 000     | VOLTS    |
| DC GRID #2 VOLTAGE                               | 300        | VOLTS    |
| DC GRID #1 VOLTAGE <sup>C</sup>                  | -33 TO -77 | VOLTS    |
| DC FOCUSING COIL CURRENT <sup>D</sup> (APPROX.)  | 96 ± 6%    | MA.      |
| DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) | 70         | MA.      |
| FIELD STRENGTH OF ION TRAP MAGNET                | 45         | GAUSSSES |

<sup>B</sup> BRILLIANCE AND DEFINITION DECREASE WITH DECREASING VOLTAGE. IN GENERAL, THE ANODE VOLTAGE SHOULD NOT BE LESS THAN 12,000 VOLTS.

<sup>C</sup> VISUAL EXTINCTION OF UNDEFLECTED FOCUSED SPOT.

<sup>D</sup> FOR STANDARD FOCUS COIL #109, OR EQUIVALENT, WITH THE COMBINED GRID #1 BIAS VOLTAGE AND VIDEO SIGNAL VOLTAGE ADJUSTED TO PRODUCE A HIGHLIGHT BRIGHTNESS OF 30 FOOT LAMBERTS ON A 10 11/16" BY 14 3/8" PICTURE SIZE. DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE 3.0 INCHES.

## CIRCUIT VALUES

|                                    |     |         |
|------------------------------------|-----|---------|
| MAXIMUM GRID #1 CIRCUIT RESISTANCE | 1.5 | MEGOHMS |
|------------------------------------|-----|---------|

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