

**TUNG-SOL****CATHODE RAY**

THE 16GP4, 16GP4A, 16GP4B, AND 16GP4C ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL *EXCEPT* FOR THEIR FACEPLATES WHICH ARE AS FOLLOWS:

16GP4 - GREY FILTER FACEPLATE      16GP4B - GREY FILTER - PROSTED  
16GP4A - CLEAR GLASS FACEPLATE      16GP4C - CLEAR GLASS - PROSTED

THEIR COMMON FEATURES INCLUDE:

UNIPOTENTIAL CATHODE      ROUND METAL CONSTRUCTION  
MAGNETIC FOCUS & DEFLECTION      EXTERNAL SINGLE FIELD ION TRAP  
10" X 13 1/4" RASTER SIZE

**ELECTRICAL DATA**

|                                               |   |    |               |
|-----------------------------------------------|---|----|---------------|
| FOCUSING METHOD                               |   |    | MAGNETIC      |
| DEFLECTING METHOD                             |   |    | MAGNETIC      |
| DEFLECTION ANGLE (APPROX.)                    |   | 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**

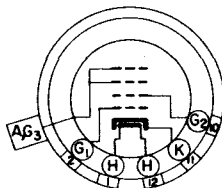
|                                                  |            |  |         |
|--------------------------------------------------|------------|--|---------|
| PHOSPHOR NUMBER                                  |            |  | NO. 4   |
| FLUORESCENT COLOR                                |            |  | WHITE   |
| PHOSPHORESCENT COLOR                             |            |  | WHITE   |
| PERSISTENCE                                      |            |  | MEDIUM  |
| FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.) | 65         |  | PERCENT |
| SPECULAR REFLECTION OF AMBIENT LIGHT             | 16GP4B 2.5 |  | PERCENT |

**MECHANICAL DATA**

|                                |                            |        |
|--------------------------------|----------------------------|--------|
| OVERALL LENGTH                 | 17 11/16                   | INCHES |
| GREATEST DIAMETER OF BULB      | 15 7/8 $\pm$ 1/8           | INCHES |
| MINIMUM USEFUL SCREEN DIAMETER | 14 3/8                     | INCHES |
| BULB CONTACT                   | METAL SHELL LIP            |        |
| BASE                           | SMALL SHELL DUODECAL 5 PIN | B5-S7  |
| BASING                         |                            | 120    |

**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  
GRID NO. 3

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, GRID 3 VOLTAGE <sup>A</sup>  | 14 000 | 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                 | 150    | VOLTS |
| HEATER POSITIVE WITH RESPECT TO CATHODE        | 150    | 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, GRID #3 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 (APPROX.) <sup>D</sup> | 100                    | MA.     |         |
| ION TRAP MAGNET (RATED STRENGTH)                | 23                     | GAUSSES |         |
|                                                 | 16GP4A AND 16GP4B ONLY | 35      | GAUSSES |

<sup>B</sup> BRILLIANCE AND DEFINITION DECREASE WITH DECREASING ANODE 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" BY 13 1/4" PICTURE SIZE. DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE 3 INCHES.

## CIRCUIT VALUES

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

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