

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

THE 24YP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

|                                        |                                       |
|----------------------------------------|---------------------------------------|
| <b>SPHERICAL FACEPLATE</b>             | <b>ALUMINIZED SCREEN</b>              |
| <b>UNIPOENTIAL CATHODE</b>             | <b>MAGNETIC DEFLECTION</b>            |
| <b>EXTERNAL CONDUCTIVE COATING</b>     | <b>GREY FILTER FACEPLATE</b>          |
| <b>RECTANGULAR GLASS CONSTRUCTION</b>  | <b>16 7/8" X 21 7/8" RASTER SIZE</b>  |
| <b>LOW VOLTAGE ELECTROSTATIC FOCUS</b> | <b>EXTERNAL SINGLE FIELD ION TRAP</b> |

**ELECTRICAL DATA**

|                                               |   | LOW VOLTAGE ELECTROSTATIC | MAGNETIC |
|-----------------------------------------------|---|---------------------------|----------|
| FOCUSING METHOD                               |   |                           |          |
| DEFLECTING METHOD                             |   |                           |          |
| DEFLECTION ANGLE (APPROX.):                   |   |                           |          |
| HORIZONTAL                                    |   | 85                        | DEGREES  |
| VERTICAL                                      |   | 68                        | DEGREES  |
| DIAGONAL                                      |   | 90                        | DEGREES  |
| DIRECT INTERELECTRODE CAPACITANCES (APPROX.): |   |                           |          |
| CATHODE TO ALL OTHER ELECTRODES               |   | 5                         | $\mu f$  |
| GRID #1 TO ALL OTHER ELECTRODES               |   | 6                         | $\mu f$  |
| MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE  | 1 | 500                       | $\mu f$  |
| MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE  | 1 | 200                       | $\mu f$  |

**OPTICAL DATA**

|                                            |    |         |
|--------------------------------------------|----|---------|
| PHOSPHOR NUMBER                            |    | P-4     |
| FLUORESCENT COLOR                          |    | WHITE   |
| PHOSPHORESCENT COLOR                       |    | WHITE   |
| PERSISTENCE                                |    | MEDIUM  |
| FACEPLATE TRANSMISSION AT CENTER (APPROX.) | 73 | PERCENT |

**RATINGS**

DESIGN CENTER VALUES

|                                                      |               |          |
|------------------------------------------------------|---------------|----------|
| HEATER VOLTAGE                                       | 6.3           | VOLTS    |
| HEATER CURRENT                                       | 0.6           | AMP.     |
| MAXIMUM DC ANODE, GRID #3 VOLTAGE                    | 20 000        | VOLTS    |
| MAXIMUM DC GRID #4 VOLTAGE                           | -500 TO +1000 | VOLTS    |
| MAXIMUM DC GRID #2 VOLTAGE                           | 500           | 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: <sup>A</sup> |               |          |
| 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    |
| MAXIMUM GRID #4 CIRCUIT RESISTANCE                   | 1.5           | MEG OHMS |

**TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS**

|                                                 |               |       |
|-------------------------------------------------|---------------|-------|
| DC ANODE, GRID #3 VOLTAGE                       | 18 000        | VOLTS |
| DC GRID #4 VOLTAGE                              | -72 TO +400   | VOLTS |
| DC GRID #2 VOLTAGE                              | 300           | VOLTS |
| DC GRID #1 VOLTAGE <sup>B</sup>                 | -33 TO -77    | VOLTS |
| DC ION TRAP MAGNET STANDARD COIL #111 (APPROX.) | 100 $\pm$ 50% | MA.   |

<sup>A</sup> CATHODE SHOULD BE RETURNED TO ONE SIDE OR TO THE MID-TAP OF THE HEATER TRANSFORMER WINDING.

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

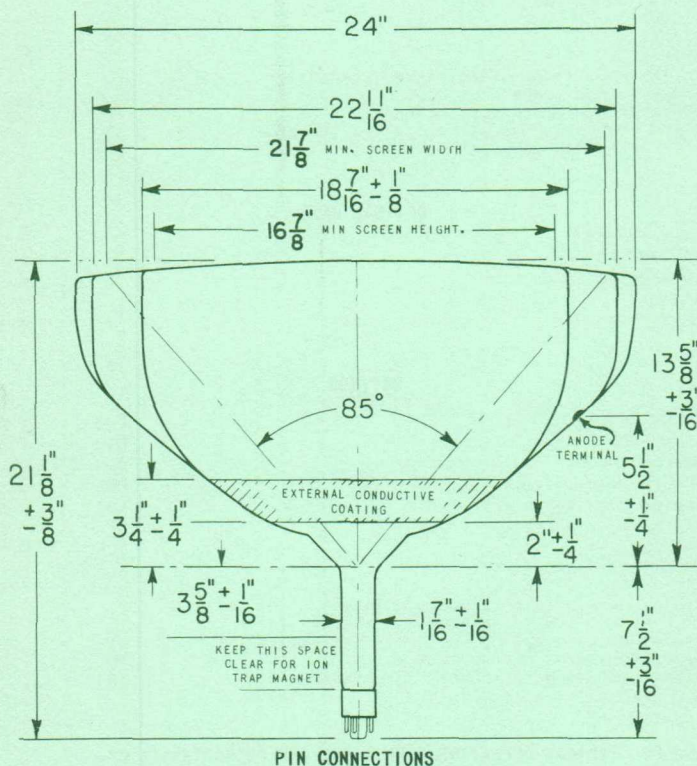
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## TUNG-SOL

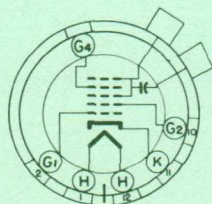
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## MECHANICAL DATA

|                                                        |                            |        |
|--------------------------------------------------------|----------------------------|--------|
| OVERALL LENGTH                                         | 21 1/8 ± 3/8               | INCHES |
| GREATEST DIMENSIONS OF BULB:                           |                            |        |
| DIAGONAL                                               | 24                         | INCHES |
| WIDTH                                                  | 22 11/16                   | INCHES |
| HEIGHT                                                 | 18 7/16 ± 1/8              | INCHES |
| MINIMUM USEFUL SCREEN DIMENSIONS:                      |                            |        |
| WIDTH                                                  | 21 7/8                     | INCHES |
| HEIGHT                                                 | 16 7/8                     | INCHES |
| BULB CONTACT                                           | RECESSED SMALL CAVITY CAP  | J4-21  |
| BASE                                                   | SMALL SHELL DUODECAL 6 PIN | B6-63  |
| BASING                                                 |                            | 12L    |
| BULB CONTACT ALIGNMENT                                 |                            |        |
| J4-21 CONTACT ALIGNS WITH PIN POSITION #6 ± 30 DEGREES |                            |        |



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

BOTTOM VIEW