

**TUNG-SOL**

**CATHODE RAY**

THE 24AP4, 24AP4A AND 24AP4B ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL EXCEPT FOR THE ALUMINIZED SCREEN ON THE 24AP4A AND THE FACEPLATE TREATED TO ELIMINATE SPECULAR REFLECTION ON THE 24AP4B. THEIR COMMON FEATURES INCLUDE:

<b>UNIPOTENTIAL CATHODE</b>	<b>GREY FILTER FACEPLATE</b>
<b>ROUND METAL CONSTRUCTION</b>	<b>EXTERNAL SINGLE FIELD ION TRAP</b>
<b>MAGNETIC FOCUS &amp; DEFLECTION</b>	<b>16 9/16" X 22 1/8" RASTER SIZE</b>

**ELECTRICAL DATA**

FOCUSING METHOD		MAGNETIC
DEFLECTING METHOD		MAGNETIC
DEFLECTION ANGLE (APPROX.)	70	DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.):		
CATHODE TO ALL OTHER ELECTRODES	5	$\mu\text{lf}$
GRID #1 TO ALL OTHER ELECTRODES	6	$\mu\text{lf}$

**OPTICAL DATA**

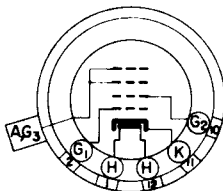
PHOSPHOR NUMBER		NO. 4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	62	PERCENT

**MECHANICAL DATA**

OVERALL LENGTH	23 15/16 $\pm$ 1/2	INCHES
GREATEST DIAMETER OF BULB	24 $\pm$ 1/4	INCHES
MINIMUM USEFUL SCREEN DIAMETER	22 1/8	INCHES
BULB CONTACT	METAL SHELL LIP	
BASE	SMALL SHELL DUODECAL 5 PIN	B5-57
BASING		12D

**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

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## RATINGS

DESIGN CENTER VALUES

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.6	AMP.
MAXIMUM DC ANODE, GRID #3 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: <sup>B</sup>		
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> IF THIS TUBE IS OPERATED AT VOLTAGES IN EXCESS OF 16,000 VOLTS, X-RAY RADIATION SHIELDING MAY BE NECESSARY TO AVERT POSSIBLE DANGER FROM PROLONGED EXPOSURE AT CLOSE RANGE.

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

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

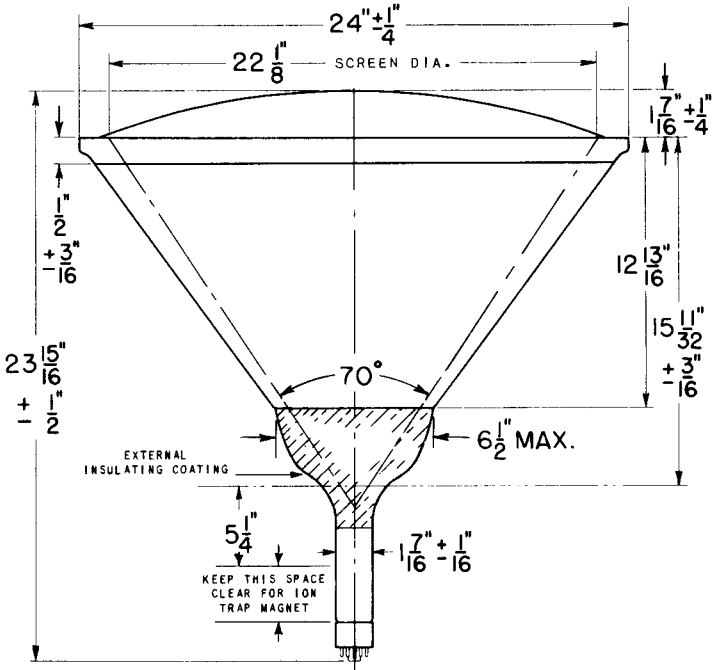
DC ANODE, GRID #3 VOLTAGE	15 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE <sup>C</sup>	-33 TO -77	VOLTS
DC FOCUSING COIL CURRENT (APPROX.)	114	MA.
ION TRAP (RATED STRENGTH) APPROX.	36	GAUSSSES

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

## CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEGOHMS
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