

## TUNG-SOL

## CATHODE RAY

THE 22AP4 AND 22AP4A ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL *EXCEPT* THAT THE 22AP4 HAS A GREY FILTER FACEPLATE. THEIR COMMON FEATURES INCLUDE:

UNIPOTENTIAL CATHODE      ROUND METAL CONSTRUCTION  
MAGNETIC FOCUS AND DEFLECTION      EXTERNAL SINGLE FIELD ION TRAP  
13 1/2" X 18" 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	$\mu\text{lf}$
GRID #1 TO ALL OTHER ELECTRODES	6	$\mu\text{lf}$

## OPTICAL DATA

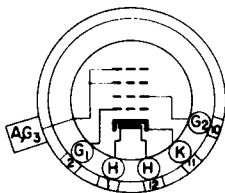
PHOSPHOR NUMBER		NO. 4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	22AP4 66	PERCENT

## MECHANICAL DATA

OVERALL LENGTH	22 7/8 $\pm$ 1/2	INCHES
GREATEST DIAMETER OF BULB	21 11/16 $\pm$ 1/8	INCHES
MINIMUM USEFUL SCREEN DIAMETER	20 1/4	INCHES
BULB CONTACT	METAL SHELL LIP	
BASE	SMALL SHELL DUODECAL 5 PIN	B5-57
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

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## RATINGS

DESIGN CENTER VALUES

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.6	AMP.
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>A</sup> :		
HEATER NEGATIVE WITH RESPECT TO CATHODE		
DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS	410	VOLTS
AFTER EQUIPMENT WARM-UP PERIOD	140	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	140	VOLTS

<sup>A</sup>THE 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	14 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE <sup>B</sup>	-33 TO -77	VOLTS
DC FOCUSING COIL CURRENT <sup>C</sup> (APPROX.)	117	MA.
ION TRAP MAGNET (RATED STRENGTH) APPROX.	35	GAUSSSES

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

<sup>C</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 25 FOOT LAMBERTS ON A 18" BY 13 1/2" 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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