

TUNG-SOL

CATHODE RAY

THE 21AP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

UNIPOTENTIAL CATHODE	MAGNETIC FOCUS & DEFLECTION
RECTANGULAR METAL CONSTRUCTION	FROSTED FILTERGLASS FACEPLATE
EXTERNAL SINGLE FIELD ION TRAP	18 3/8" X 13 15/16" RASTER SIZE

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	$\mu\mu\text{f}$
GRID #1 TO ALL OTHER ELECTRODES	6	$\mu\mu\text{f}$

OPTICAL DATA

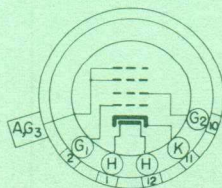
PHOSPHOR NUMBER	SULFIDE TYPE	NO. 4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		SHORT
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	66	PERCENT

MECHANICAL DATA

OVERALL LENGTH	22 5/16	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	20 3/4 $\pm$ 1/4	INCHES
WIDTH	19 23/32 $\pm$ 1/8	INCHES
HEIGHT	15 5/16 $\pm$ 1/8	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:		
WIDTH	18 3/8	INCHES
HEIGHT	13 15/16	INCHES
BULB CONTACT	METAL SHELL LIP	
BASE	SMALL SHELL DUODECAL 5 PIN	B5-57
BASING		120
BULB CONTACT ALIGNMENT		
METAL SHELL LIP CONTACT ALIGNS WITH PIN POSITION #6 $\pm$ 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:
 GRID NO. 3,
 GRID NO. 5,
 COLLECTOR

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 GRID #3, GRID #5, COLLECTOR VOLTAGE	18 000	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:		
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

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC GRID #3, GRID #5, COLLECTOR VOLTAGE	14 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE ^A	-33 TO -77	VOLTS
DC FOCUSING COIL CURRENT (APPROX.) ^B	104 ± 6%	MA.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.)	90	MA.

^A VISUAL EXTINCTION OF UNDEFLECTED FOCUSED SPOT.

^B 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 18 3/8" BY 13 15/16" 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
------------------------------------	-----	---------

TUNG-SOL

