

TUNG-SOL

CATHODE RAY

THE 21ANP4 AND 21ANP4A ARE DIRECT VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL *EXCEPT* THAT THE 21ANP4A HAS A METAL BACKED SCREEN. THEIR COMMON FEATURES INCLUDE:

UNIPOTENTIAL CATHODE	MAGNETIC DEFLECTION
RECTANGULAR GLASS CONSTRUCTION	EXTERNAL SINGLE FIELD ION TRAP
SPHERICAL GREY FILTER FACEPLATE	LOW VOLTAGE ELECTROSTATIC FOCUS
15" X 19 1/8" RASTER SIZE	

ELECTRICAL DATA

FOCUSING METHOD	LOW VOLTAGE ELECTROSTATIC	
DEFLECTING METHOD	MAGNETIC	
DEFLECTION ANGLE (APPROX.):		
HORIZONTAL	85	DEGREES
VERTICAL	68	DEGREES
DIAGONAL	90	DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.):		
CATHODE TO ALL OTHER ELECTRODES	5	μuf
GRID #1 TO ALL OTHER ELECTRODES	6	μuf

OPTICAL DATA

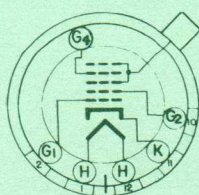
PHOSPHOR NUMBER	SULFIDE TYPE	NO. 4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		SHORT
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	75	PERCENT

MECHANICAL DATA

OVERALL LENGTH	20 7/16	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	21 3/8 $\pm$ 3/16	INCHES
WIDTH	20 1/4 $\pm$ 3/16	INCHES
HEIGHT	16 3/8 $\pm$ 3/16	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:		
DIAGONAL	20 1/4	INCHES
WIDTH	19 1/8	INCHES
HEIGHT	15	INCHES
BULB CONTACT	RECESSED SMALL CAVITY CAP	J1-21
BASE	SMALL SHELL DUODECAL 6 PIN	B6-63
BASING		12M

PIN CONNECTIONS

PIN #1 - HEATER
 PIN #2 - GRID NO. 1
 PIN #6 - GRID NO. 4
 PIN #10 - GRID NO. 2



PIN #11 - CATHODE
 PIN #12 - HEATER
 ANODE CAP:
 GRID NO. 3
 GRID NO. 5

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, GRID #5 VOLTAGE ^A	18 000	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:		
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

^A BRILLIANCE AND DEFINITION DECREASE WITH DECREASING ANODE VOLTAGE. IN GENERAL, ANODE VOLTAGE SHOULD NOT BE LESS THAN 14,000 VOLTS.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE, GRID #3, GRID #5 VOLTAGE	14 000	VOLTS
DC GRID #4 VOLTAGE ^B	-55 TO +300	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE ^C	-28 TO -72	VOLTS
ION TRAP MAGNET (RATED STRENGTH)	40	GAUSSSES

^B WITH THE COMBINED GRID #1 BIAS VOLTAGE AND VIDEO-SIGNAL VOLTAGE ADJUSTED TO GIVE AN ANODE CURRENT OF 100 MICROAMPERES ON A 15" X 19 1/8" PICTURE SIZE.

^C VISUAL EXTINCTION OF UNDEFLECTED FOCUSED SPOT.

CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEGOHMS
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