

TUNG-SOL

CATHODE RAY

THE 21WP4 AND 21WP4A ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR TELEVISION APPLICATIONS. THEY ARE IDENTICAL *EXCEPT* FOR THE ALUMINIZED SCREEN ON THE 21WP4A. THEIR COMMON FEATURES INCLUDE:

UNIPOTENTIAL CATHODE	SPHERICAL FACEPLATE
GREY FILTER FACEPLATE	12 3/4" X 17" RASTER SIZE
MAGNETIC FOCUS & DEFLECTION	EXTERNAL CONDUCTIVE COATING
RECTANGULAR GLASS CONSTRUCTION	EXTERNAL SINGLE FIELD ION TRAP

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	μmf
GRID #1 TO ALL OTHER ELECTRODES	6	μmf
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	750	μmf
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	500	μmf

OPTICAL DATA

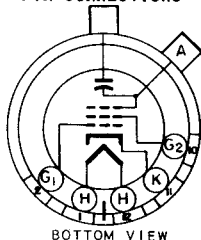
PHOSPHOR NUMBER		P4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	72	PERCENT

MECHANICAL DATA

OVERALL LENGTH	22 7/16 $\pm$ 3/8	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	20 5/8 $\pm$ 3/16	INCHES
WIDTH	18 11/16 $\pm$ 1/8	INCHES
HEIGHT	14 15/16 $\pm$ 1/8	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:		
WIDTH	17	INCHES
HEIGHT	12 3/4	INCHES
BULB CONTACT	RECESSED SMALL CAVITY CAP	J4-24
BASE	SMALL SHELL DUODECAL 5 PIN	B5-57
BASING		12N
BULB CONTACT ALIGNMENT		
J4-24 CONTACT ALIGNS WITH PIN POSITION #6 $\pm$ 30 DEGREES		

PIN CONNECTIONS

PIN 1 - HEATER
PIN 2 - GRID NO. 1
PIN 10 - GRID NO. 2



PIN 11 - CATHODE
PIN 12 - HEATER
ANODE CAP

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RATINGS

DESIGN CENTER VALUES

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.6	AMP.
MAXIMUM DC ANODE 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 ANODE VOLTAGE	16 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE ^A	-28 TO -72	VOLTS
DC FOCUSING COIL CURRENT (APPROX.) ^B	100 ± 20%	MA.
ION TRAP CURRENT STANDARD COIL #117 (APPROX.)	30 ± 40%	MA.
ION TRAP MAGNET FIELD STRENGTH (APPROX.)	35	GAUSSSES

^A VISUAL EXTINCTION OF FOCUSED RASTER.

^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 12 3/4" BY 17" PICTURE SIZE. DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE 3.25 INCHES.

CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEGOHMS
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