

TUNG-SOL

CATHODE RAY

THE 24CP4 AND 24CP4A ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL *EXCEPT* THAT THE 24CP4A HAS AN ALUMINIZED SCREEN. THEIR COMMON FEATURES INCLUDE:

UNIPOTENTIAL CATHODE	SPHERICAL FACEPLATE
GREY FILTER FACEPLATE	EXTERNAL CONDUCTIVE COATING
MAGNETIC FOCUS AND DEFLECTION	16 1/4" X 21 1/8" RASTER SIZE
RECTANGULAR GLASS CONSTRUCTION	EXTERNAL SINGLE FIELD ION TRAP

ELECTRICAL DATA

FOCUSING METHOD		MAGNETIC
DEFLECTING METHOD		MAGNETIC
DEFLECTION ANGLE (APPROX.):		
DIAGONAL	90	DEGREES
HORIZONTAL	85	DEGREES
VERTICAL	68	DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.):		
CATHODE TO ALL OTHER ELECTRODES	5	$\mu\mu f$
GRID #1 TO ALL OTHER ELECTRODES	6	$\mu\mu f$
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	750	$\mu\mu f$
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	500	$\mu\mu f$

OPTICAL DATA

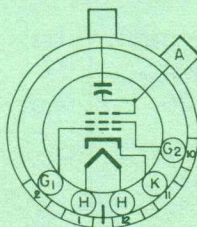
PHOSPHOR NUMBER	NO. 4
FLUORESCENT COLOR	WHITE
PHOSPHORESCENT COLOR	WHITE
PERSISTENCE	MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	73 PERCENT

MECHANICAL DATA

OVERALL LENGTH	21 1/8 $\pm$ 3/8	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	24 $\pm$ 1/8	INCHES
WIDTH	22 11/16	INCHES
HEIGHT	18 7/16 $\pm$ 1/8	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:		
WIDTH	21 1/4	INCHES
HEIGHT	16 1/4	INCHES
BULB CONTACT	RECESSED SMALL CAVITY CAP	J1-21
BASE	SMALL SHELL DUODECAL 5 PIN	B5-57
BASING		12N
BULB CONTACT ALIGNMENT		
J1-21 CONTACT ALIGNS WITH PIN POSITION #6 $\pm$ 30 DEGREES		

PIN CONNECTIONS

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



BOTTOM VIEW

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, GRID #3 VOLTAGE	20 000	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 ^A :		
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 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	18 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE ^B	-33 TO -77	VOLTS
DC FOCUSING COIL CURRENT (APPROX.) ^C	115 ± 20%	MA.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.)	100 ± 50%	MA.

^B VISUAL EXTINCTION OF UNDEFLECTED FOCUSED SPOT.

^C 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 21 1/4" BY 16 3/4" 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	MEG OHMS
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