

TUNG-SOL

CATHODE RAY

THE 21ACP4 AND 21ACP4A ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL *EXCEPT* FOR THE ALUMINIZED SCREEN ON THE 21ACP4A. THEIR COMMON FEATURES INCLUDE:

UNIPOTENTIAL CATHODE	SPHERICAL FACEPLATE
EXTERNAL CONDUCTIVE COATING	GREY FILTER FACEPLATE
MAGNETIC FOCUS AND DEFLECTION	EXTERNAL SINGLE FIELD ION TRAP
RECTANGULAR GLASS CONSTRUCTION	14 7/8" X 18 15/16" MASTER SIZE

ELECTRICAL DATA

FOCUSING METHOD		MAGNETIC
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	μf
GRID #1 TO ALL OTHER ELECTRODES	6	μf
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	750	μf
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	500	μf

OPTICAL DATA

PHOSPHOR NUMBER	SULFIDE TYPE	P-4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		SHORT
FACEPLATE TRANSMISSION AT CENTER (APPROX.)	71	PERCENT

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

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
MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEG OHMS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS^B

DC ANODE, GRID #3 VOLTAGE ^C	16 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE ^D	-28 TO -72	VOLTS
DC FOCUSING COIL CURRENT (APPROX.) ^E	117	MA.
ION TRAP FIELD INTENSITY (APPROX.)	40	GAUSSES

^A CATHODE SHOULD BE RETURNED TO ONE SIDE OR TO THE MID-TAP OF THE HEATER TRANSFORMER WINDING.

^B IF THIS TUBE IS OPERATED IN EXCESS OF 16,000 VOLTS, X-RAY RADIATION SHIELDING MAY BE NECESSARY TO AVERT POSSIBLE DANGER FROM PROLONGED EXPOSURE.

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

^D VISUAL EXTINCTION OF FOCUSED RASTER.

^E 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 20 FOOT LAMBERTS ON A 14 7/8" BY 18 15/16" PICTURE SIZE, DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE 3.75 INCHES.

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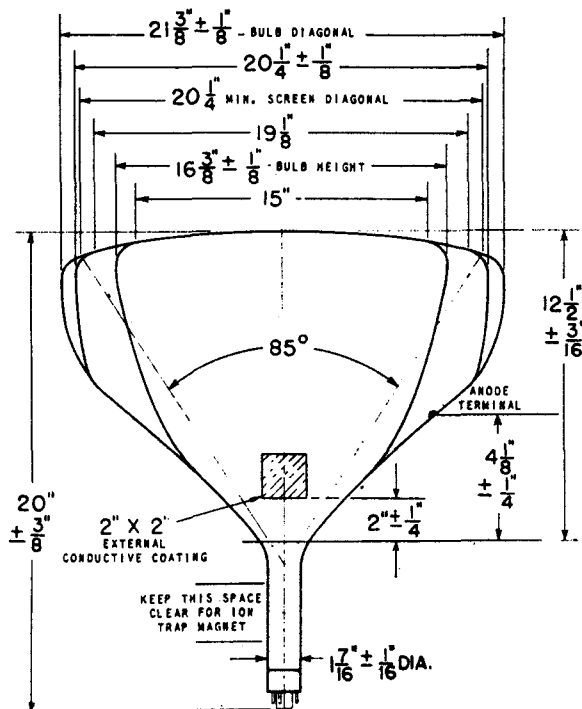
—INDICATES A CHANGE.

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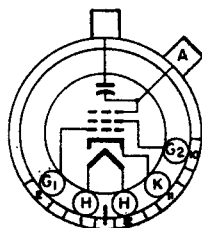
MECHANICAL DATA

OVERALL LENGTH	$20 \pm \frac{3}{8}$	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	$21 \frac{3}{8} \pm \frac{1}{8}$	INCHES
WIDTH	$20 \frac{1}{4} \pm \frac{1}{8}$	INCHES
HEIGHT	$16 \frac{3}{8} \pm \frac{1}{8}$	INCHES
MIN. USEFUL SCREEN DIMENSIONS:		
DIAGONAL	$20 \frac{1}{4}$	INCHES
WIDTH	$19 \frac{1}{8}$	INCHES
HEIGHT	15	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 ± 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:
 GRID NO. 3

BOTTOM VIEW

→ INDICATES A CHANGE.