

TUNG-SOL

CATHODE RAY

THE 21CGP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

ALUMINIZED SCREEN	ELECTROSTATIC FOCUS
MAGNETIC DEFLECTION	UNIPOTENTIAL CATHODE
GRAY FILTER FACEPLATE	EXTERNAL CONDUCTIVE COATING
EXTERNAL SINGLE FIELD ION TRAP	RECTANGULAR GLASS CONSTRUCTION
19 1/16 X 15 1/16 RASTER SIZE	

ELECTRICAL DATA

FOCUSING METHOD		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	μf
GRID #1 TO ALL OTHER ELECTRODES	6	μf
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	2500	μf
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	2000	μf

OPTICAL DATA

PHOSPHOR NUMBER	SULFIDE TYPE	P-4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		SHORT
FACEPLATE TRANSMISSION AT CENTER (APPROX.):	75	PERCENT

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.6	AMP.
MAXIMUM DC ANODE VOLTAGE ^A	20 000	VOLTS
MAXIMUM DC GRID #4 VOLTAGE	-500 TO +1000	VOLTS
MAXIMUM DC GRID #2 VOLTAGE	200	VOLTS
MAXIMUM GRID #1 VOLTAGE:		
DC NEGATIVE-BIAS VALUE	125	VOLTS
DC POSITIVE-BIAS VALUE	0	VOLTS
POSITIVE-PEAK VALUE	0	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
MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEG OHMS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE VOLTAGE*	18 000	VOLTS
DC GRID #4 VOLTAGE	-72 TO +396	VOLTS
DC GRID #2 VOLTAGE	110	VOLTS
DC GRID #1 VOLTAGE ^B	-32 TO -50	VOLTS
DC ION TRAP MAGNET RATED STRENGTH	46	GAUSSSES

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

^BVISUAL EXTINCTION OF FOCUSED RASTER.

* THIS TUBE MAY BE OPERATED IN GRID DRIVE IF DESIRED, WITH SOME LOSS IN EFFICIENCY. AVERAGE RASTER CUTOFF, WITH GRID DRIVE, MAY BE CALCULATED: $E_{g1c} = .502 E_{a2}^{.8}$

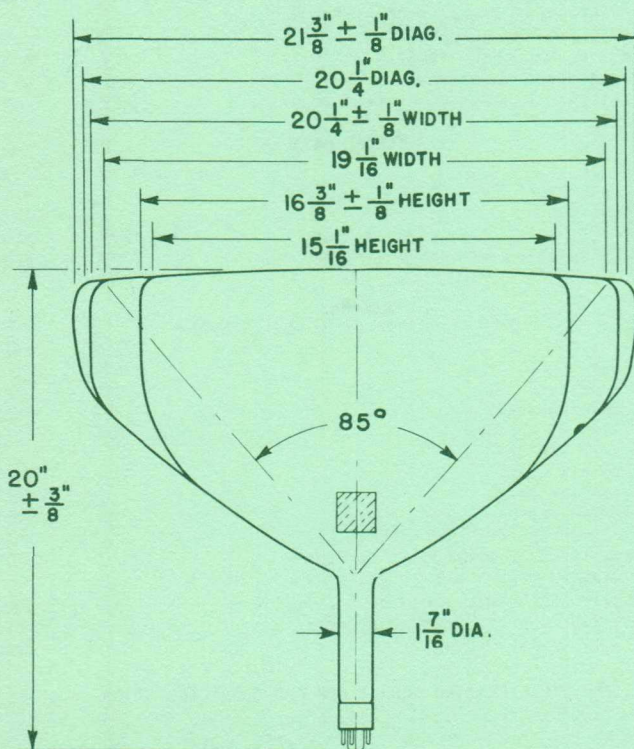
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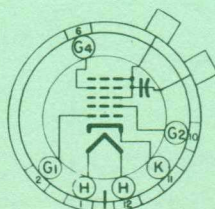
MECHANICAL DATA

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	$19 \frac{1}{16}$	INCHES
HEIGHT	$15 \frac{1}{16}$	INCHES
BULB CONTACT	RECESSED SMALL CAVITY CAP	J1-21
BASE	SMALL SHELL DUODECAL 6 PIN	B6-63
BASING		12L
BULB CONTACT ALIGNMENT		

J1-21 CONTACT ALIGNS WITH PIN POSITION #6 ± 30 DEGREES

PIN CONNECTIONS

PIN 1 - HEATER
 PIN 2 - GRID #1
 PIN 6 - GRID #4
 PIN 10 - GRID #2
 PIN 11 - CATHODE



BOTTOM VIEW

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