

TUNG-SOL

CATHODE RAY

THE 20CP4, 20CP4A, 20CP4B, 20CP4C AND 20CP4D ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL WITH THE FOLLOWING EXCEPTIONS.

20CP4A & 20CP4D - External conductive coating

20CP4B & 20CP4C - Aluminized

20CP4C - Faceplate has been treated with a specular reflection reducing surface.

THEIR COMMON FEATURES INCLUDE:

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

ELECTRICAL DATA

FOCUSING METHOD		MAGNETIC
DEFLECTING METHOD		MAGNETIC
DEFLECTION ANGLE (APPROX.):		
HORIZONTAL	66	DEGREES
DIAGONAL	70	DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.):		
CATHODE TO ALL OTHER ELECTRODES	5	$\mu\mu\text{f}$
GRID #1 TO ALL OTHER ELECTRODES	6	$\mu\mu\text{f}$
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE 20CP4A	750	$\mu\mu\text{f}$
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE 20CP4D	500	$\mu\mu\text{f}$

OPTICAL DATA

PHOSPHOR NUMBER	NO. 4
FLUORESCENT COLOR	WHITE
PHOSPHORESCENT COLOR	WHITE
PERSISTENCE	MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	66 PERCENT

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	410	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	150	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	150	VOLTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEG OHMS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE VOLTAGE	12 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE ^A	-33 TO -77	VOLTS
DC FOCUSING COIL CURRENT ^B (APPROX.)	95 $\pm$ 20%	MA.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.)	75 $\pm$ 50%	MA.

^A VISUAL EXTINCTION OF UNDEFLECTED FOCUSED SPOT.

^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 3.0 INCHES.

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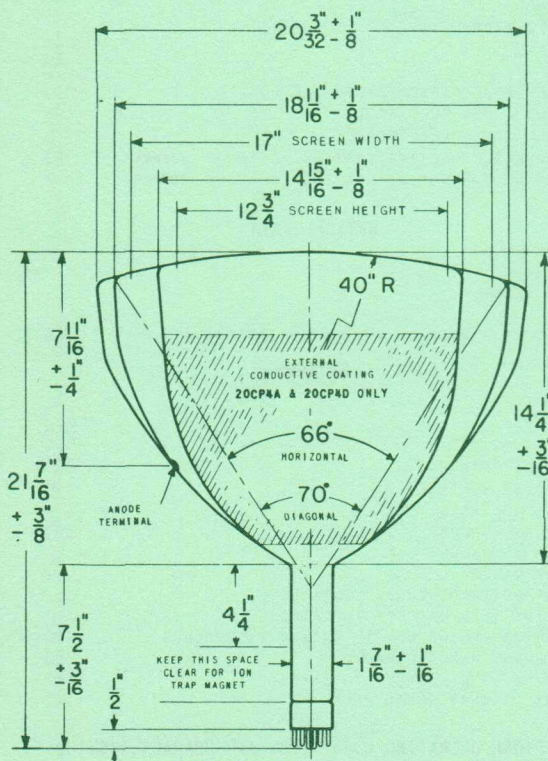
20CP4, 20CP4A 20CP4B, 20CP4C, 20CP4D

TUNG-SOL

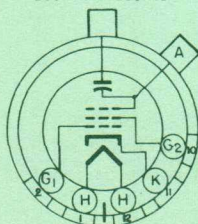
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MECHANICAL DATA

OVERALL LENGTH	21 $\frac{7}{16} \pm \frac{3}{8}$	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	20 $\frac{3}{32} \pm \frac{1}{8}$	INCHES
WIDTH	18 $\frac{11}{16} \pm \frac{1}{8}$	INCHES
HEIGHT	14 $\frac{15}{16} \pm \frac{1}{8}$	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:		
DIAGONAL	18 $\frac{3}{4}$	INCHES
WIDTH	17	INCHES
HEIGHT	12 $\frac{3}{4}$	INCHES
BULB CONTACT	RECESSED SMALL CAVITY CAP	J4-21
BASE	SMALL SHELL DUODECAL 5 PIN	B5-57
BASING	20CP4A, 20CP4D - 12N	OTHERS 12D
BULB CONTACT ALIGNMENT		
J4-21 CONTACT ALIGNS WITH PIN POSITION #6 ± 30 DEGREES		



20CP4A & 20CP4D

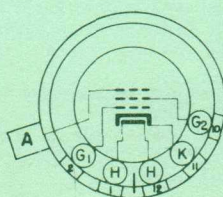


BOTTOM VIEW

PIN CONNECTIONS

- PIN 1 - HEATER
- PIN 2 - GRID NO. 1
- PIN 10 - GRID NO. 2
- PIN 11 - CATHODE
- PIN 12 - HEATER
- ANODE CAP

20CP4, 20CP4B & 20CP4C



BOTTOM VIEW