

TUNG-SOL

CATHODE RAY

THE 20DP4, 20DP4A, 20DP4B, AND 20DP4C ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR TELEVISION APPLICATIONS. THEY ARE IDENTICAL WITH THE FOLLOWING EXCEPTIONS:

20DP4A & 20DP4C - EXTERNAL CONDUCTIVE COATINGS
20DP4B & 20DP4C - ALUMINIZED SCREENS

THEIR COMMON FEATURES INCLUDE:

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

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	μuf
GRID #1 TO ALL OTHER ELECTRODES	6	μuf
20DP4A AND 20DP4C		
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	750	μuf
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	500	μuf

OPTICAL DATA

PHOSPHOR NUMBER		P-4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	73	PERCENT

MECHANICAL DATA

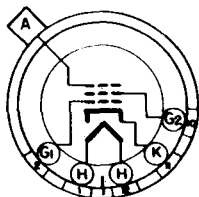
OVERALL LENGTH	21 3/4 ± 3/8	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	20 3/32 ± 3/16	INCHES
WIDTH	18 11/16 ± 3/16	INCHES
HEIGHT	14 15/16 ± 3/16	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:		
WIDTH	17	INCHES
HEIGHT	12 3/4	INCHES
BULB CONTACT	RECESSED SMALL CAVITY CAP	J1-21
BASE	SMALL SHELL DUODECAL 5 PIN	B5-57
BASING	20DP4 AND 20DP4B	12D
	20DP4A AND 20DP4C	12N

BULB CONTACT ALIGNMENT

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

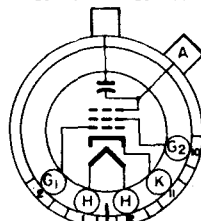
PIN CONNECTIONS

20DP4 AND 20DP4B



BOTTOM VIEW

20DP4A AND 20DP4C



BOTTOM VIEW

PIN 1 - HEATER
PIN 2 - GRID NO. 1
PIN 10 - GRID NO. 2
PIN 11 - CATHODE
PIN 12 - HEATER
ANODE CAP:
GRID NO. 3

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TUNG-SOL

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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	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	180	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	180	VOLTS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE VOLTAGE ^A	16 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE ^B	-28 TO -72	VOLTS
DC FOCUSING COIL CURRENT ^C (APPROX.)	95	MA.
ION TRAP FIELD STRENGTH (APPROX.)	35	GAUSSSES

^A BRILLIANCE AND DEFINITION DECREASE WITH DECREASING ANODE VOLTAGE. IN GENERAL, THE ANODE VOLTAGE SHOULD NOT BE LESS THAN THIS VALUE.

^B VISUAL EXTINCTION OF FOCUSED RASTER.

^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 20 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 INCHES.

CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEGOHMS
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