TUNG-SOL

CATHODE RAY

THE 24VP4 AND 24VP4A ARE DIRECT-VIEW PICTURE TUBES DESIGNED FOR USE IN TELEVISION APPLICATIONS. THEY ARE IDENTICAL *EXCEPT* THAT THE 24VP4A HAS AN ALUMINIZED SCREEN. THEIR COMMON FEATURES INCLUDE:

UNIPOTENTIAL CATHODE	**GREY FILTER FACEPLATE**
EXTERNAL CONDUCTIVE COATING	**21 3/8" X 16 1/6" RASTER SIZE**
MAGNETIC FOCUS AND DEFLECTION	**EXTERNAL SINGLE FIELD ION TRAP**

ELECTRICAL DATA

FOCUSING METHOD		MAGNETIC
DEFLECTING METHOD		MAGNETIC
DEFLECTION ANGLE (APPROX.):		
HORIZONTAL	87	DEGREES
VERTICAL	73	DEGREES
DIAGONAL	90	DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.):		
CATHODE TO ALL OTHER ELECTRODES	5	μμf
GRID #1 TO ALL OTHER ELECTRODES	6	μμf
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	1 500	μμf
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	750	μμf

OPTICAL DATA

PHOSPHOR NUMBER		NO. 4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	68	PERCENT

MECHANICAL DATA

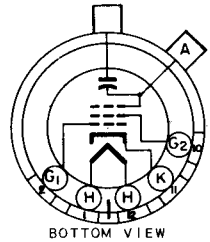
OVERALL LENGTH	21 1/8 ± 3/8	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	24 ± 1/8	INCHES
WIDTH	22 43/64 ± 1/8	INCHES
HEIGHT	18 7/16 ± 1/8	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:		
DIAGONAL	22 13/16	INCHES
WIDTH	21 3/8	INCHES
HEIGHT	16 1/16	INCHES
BULB CONTACT	RECESSED SMALL CAVITY CAP	J1-21
BASE	SMALL 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



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 VOLTAGE	22 000	VOLTS
MAXIMUM DC GRID #2 VOLTAGE	600	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]	20 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE[B]	-33 TO -77	VOLTS
DC FOCUSING COIL CURRENT[C] (APPROX.)	125	MA.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.)	135	MA.

[A] WHEN THE TUBE IS OPERATED AT VOLTAGES IN EXCESS OF 20,000 VOLTS PEAK, THE STORED ENERGY IN THE HIGH VOLTAGE CIRCUIT WILL BE OVER THE MAXIMUM PERMITTED BY THE UNDERWRITERS LABORATORY. THIS CONDITION WILL REQUIRE THAT PROVISION BE MADE FOR GROUNDING THE HIGH VOLTAGE SUPPLY WHEN THE BACK OF THE SET IS REMOVED FOR MAINTENANCE PURPOSES.

[B] FOR 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 20 FOOT LAMBERTS ON A 21 3/8" BY 16 1/16" 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	MEGOHMS

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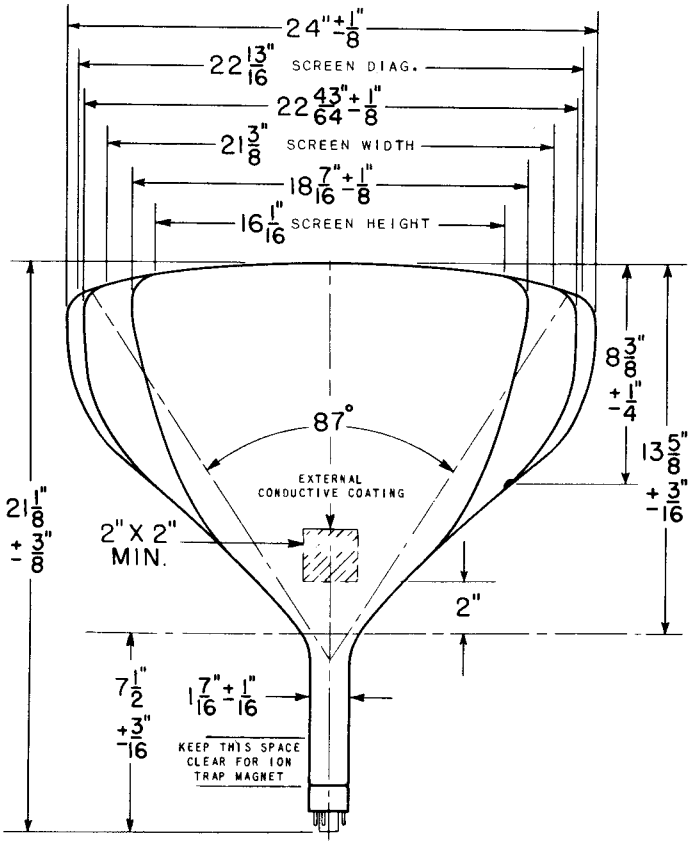

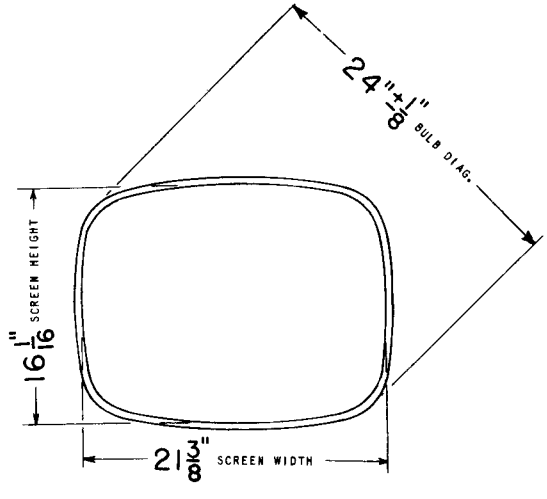

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