

## TUNG-SOL

## CATHODE RAY

THE 17UP4 IS A DIRECT VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

GREY FILTER FACEPLATE	UNIPOENTIAL CATHODE
EXTERNAL CONDUCTIVE COATING	CYLINDRICAL FACEPLATE
MAGNETIC FOCUS AND DEFLECTION	14 1/2" X 10 7/8" RASTER SIZE
RECTANGULAR GLASS CONSTRUCTION	EXTERNAL SINGLE FIELD ION TRAP

## ELECTRICAL DATA

FOCUSING METHOD		MAGNETIC
DEFLECTING METHOD		MAGNETIC
DEFLECTION ANGLE (APPROX.)		
HORIZONTAL	70	DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.)		
CATHODE TO ALL OTHER ELECTRODES	5	$\mu\text{mf}$
GRID #1 TO ALL OTHER ELECTRODES	6.5	$\mu\text{mf}$
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	750	$\mu\text{mf}$
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	500	$\mu\text{mf}$

## OPTICAL DATA

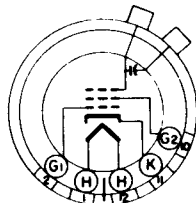
PHOSPHOR NUMBER		NO. 4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		MEDIUM
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	70	PERCENT

## MECHANICAL DATA

OVERALL LENGTH	19 3/16 $\pm$ 3/8	INCHES
GREATEST DIMENSIONS OF BULB		
DIAGONAL	16 5/8 $\pm$ 1/8	INCHES
WIDTH	15 3/8 $\pm$ 1/8	INCHES
HEIGHT	12 1/4 $\pm$ 1/8	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS		
DIAGONAL	15 13/16	INCHES
WIDTH	14 1/2	INCHES
HEIGHT	10 7/8	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 #3 $\pm$ 10 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

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RATINGS  
DESIGN CENTER VALUES

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.6	AMP.
MAXIMUM DC ANODE, GRID #3 VOLTAGE	14 000	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 <sup>A</sup>		
HEATER NEGATIVE WITH RESPECT TO CATHODE		
DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS	410	VOLTS
AFTER EQUIPMENT WARM-UP PERIOD	125	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	125	VOLTS

<sup>A</sup>THE CATHODE SHOULD BE RETURNED TO ONE SIDE OR TO THE MIDTAP OF THE HEATER TRANSFORMER WINDING.

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE, GRID #3 VOLTAGE	13 000	VOLTS
DC GRID #2 VOLTAGE	250	VOLTS
DC GRID #1 VOLTAGE <sup>B</sup>	-33 TO -77	VOLTS
DC FOCUSING COIL CURRENT <sup>C</sup> (APPROX.)	110	MA.
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.)	120	MA.

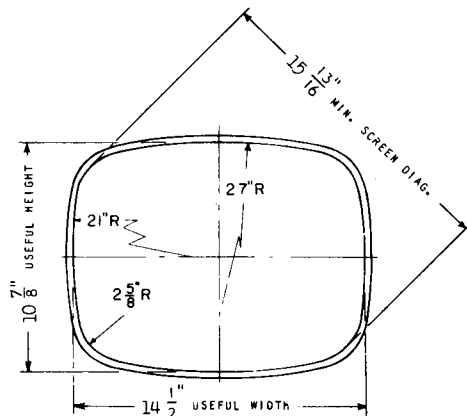
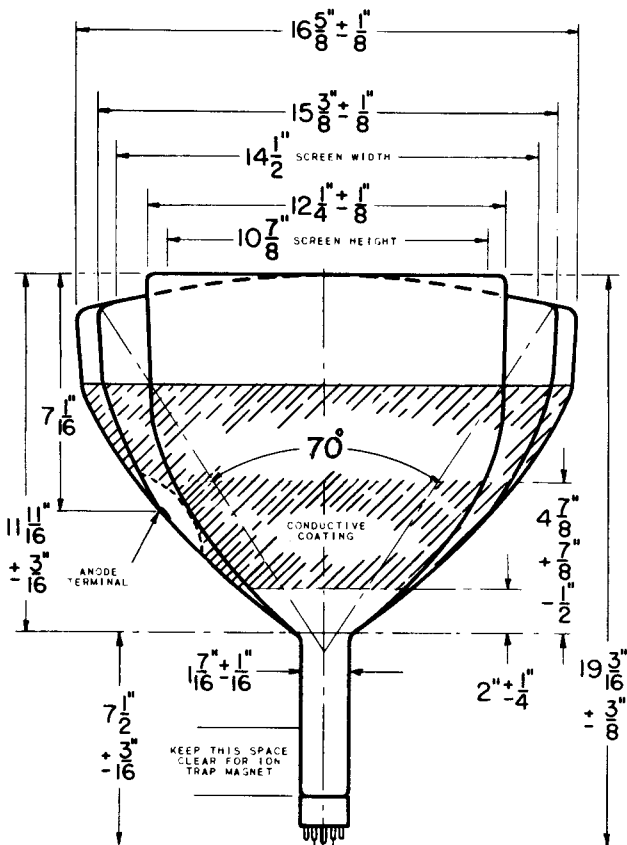
<sup>B</sup>VISUAL EXTINCTION OF UNDEFLECTED FOCUSED SPOT.

<sup>C</sup>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 7 1/2" BY 10" PICTURE SIZE. DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE 3-25 INCHES.

## CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEGOHMS
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