

## TUNG-SOL

## HIGH VACUUM CATHODE-RAY TUBE

## ELECTROSTATIC DEFLECTION AND FOCUSING

NO. 1 PHOSPHOR  
GREEN FLUORESCENT SCREEN  
MEDIUM PERSISTENCE

HEATER  
6.3 VOLTS 0.6 AMPERE  
AC OR DC

COATED UNIPOTENTIAL CATHODE

GLASS BULB

MEDIUM SHELL DIHEPTAL 12 PIN BASE

## RATINGS\*

MAXIMUM ANODE NO. 2 VOLTAGE (HIGH-VOLTAGE ELECTRODE)	2200	VOLTS
MAXIMUM ANODE NO. 1 VOLTAGE (FOCUSING ELECTRODE)	1100	VOLTS
GRID VOLTAGE (CONTROL ELECTRODE)	NEVER	POSITIVE
MAXIMUM PEAK VOLTAGE BETWEEN ANODE NO. 2 AND ANY DEFLECTOR	550	VOLTS
MAXIMUM DC HEATER CATHODE POTENTIAL <sup>A</sup>	125	VOLTS
MAXIMUM GRID CIRCUIT RESISTANCE	1.5	MEGOHMS
MAXIMUM IMPEDANCE OF ANY DEFLECTOR CIRCUIT AT HEATER SUPPLY FREQUENCY	1.0	MEGOHM

\* MAXIMUM RATINGS ARE ABSOLUTE VALUES

## DIRECT INTERELECTRODE CAPACITANCES (APPROX.)

GRID TO ALL OTHER ELECTRODES	8.0	$\mu\mu\text{f}$
CATHODE TO ALL OTHER ELECTRODES	7.0	$\mu\mu\text{f}$
D1 TO D2	2.0	$\mu\mu\text{f}$
D3 TO D4	2.0	$\mu\mu\text{f}$
D1 TO ALL OTHER ELECTRODES	9.0	$\mu\mu\text{f}$
D3 TO ALL OTHER ELECTRODES	7.0	$\mu\mu\text{f}$
D1 TO ALL OTHER ELECTRODES EXCEPT D2	7.0	$\mu\mu\text{f}$
D2 TO ALL OTHER ELECTRODES EXCEPT D1	7.0	$\mu\mu\text{f}$
D3 TO ALL OTHER ELECTRODES EXCEPT D4	5.0	$\mu\mu\text{f}$
D4 TO ALL OTHER ELECTRODES EXCEPT D3	6.0	$\mu\mu\text{f}$

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

ANODE NO. 2 VOLTAGE <sup>B</sup>	1500	2000	VOLTS
ANODE NO. 1 VOLTAGE FOR FOCUS AT 75% OF GRID VOLTAGE CUT-OFF <sup>C</sup>	430	575	VOLTS
GRID VOLTAGE FOR CUT-OFF <sup>D</sup>	-45 <sup>E</sup>	-60 <sup>E</sup>	VOLTS
DEFLECTION SENSITIVITY: <sup>F</sup>			
D1 AND D2	0.153	0.115	MM/VOLT DC
D3 AND D4	0.207	0.155	MM/VOLT DC
DEFLECTION FACTOR: <sup>F</sup>			
D1 AND D2	166	221	VOLTS DC/IN
D3 AND D4	123	164	VOLTS DC/IN

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SPOT POSITION AND TEST CONDITIONS

THE UNDEFLECTED FOCUSED SPOT FALLS WITHIN A 15 MM. SQUARE CENTERED ON THE TUBE FACE.

TEST CONDITIONS ARE:

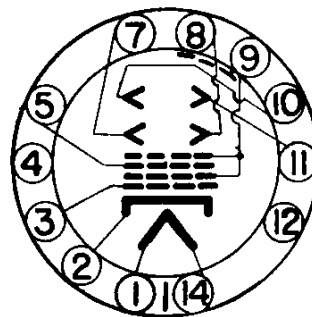
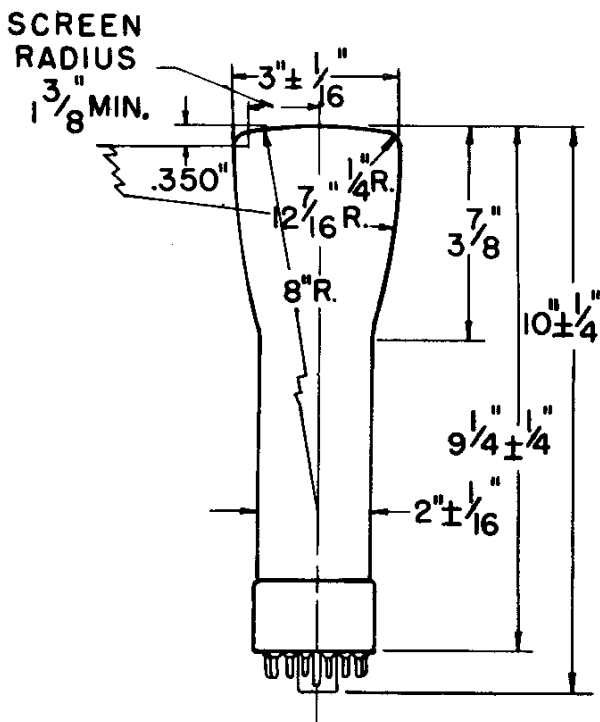
ANODE NO. 2 VOLTAGE	2000	VOLTS
ANODE NO. 1 VOLTAGE	ADJUSTED FOR FOCUS	
GRID VOLTAGE	NEAR CUT-OFF	
DEFLECTOR RESISTORS (CONNECTED TO ANODE NO. 2)	1 MEGOHM EACH	

NOTE: SHIELD TUBE FROM ALL STRAY FIELDS.

- A WHEN THE HEATER IS OPERATED AT A NEGATIVE POTENTIAL WITH RESPECT TO THE CATHODE THEN THE CATHODE RETURN SHOULD BE MADE AT THE CENTER TAP OF THE FILAMENT TRANSFORMER.
- B USE OF LESS THAN 1500 VOLTS RESULTS IN DECREASED BRILLIANCE.
- C CERTAIN TUBES MAY REQUIRE ADJUSTMENT OF +20% TO -35% WITH GRID VOLTAGE BETWEEN ZERO AND CUT-OFF.
- D THE VISUAL EXTINCTION OF A FOCUSED SPOT.
- E THE GRID SUPPLY SHOULD BE VARIABLE TO  $\pm 50\%$ .
- F VALUES SUBJECT TO VARIATION OF  $\pm 20\%$ .

DEFLECTOR LOCATIONS:

D1 AND D2	NEAREST TO SCREEN
D3 AND D4	NEAREST TO BASE
D1	SAME SIDE OF TUBE AS PIN NO. 5
D3	SAME SIDE AS PIN NO. 2



BOTTOM VIEW

1. HEATER
2. CATHODE
3. GRID NO. 1
4. INTERNAL CONNECTION (DO NOT USE)
5. ANODE NO. 1
7. DEFLECTOR NO. 3 (D3)
8. DEFLECTOR NO. 4 (D4)
9. GRID NO. 2
- ANODE NO. 2
10. DEFLECTOR NO. 2 (D2)
11. DEFLECTOR NO. 1 (D1)
12. NO CONNECTION
14. HEATER

PLATE  
1398  
MARCH 15  
1944