

TUNG-SOL

HIGH VACUUM CATHODE-RAY TUBE

ELECTROSTATIC DEFLECTION AND FOCUSING

5CP1
NO. 1 PHOSPHOR
GREEN FLUORESCENT SCREEN
MEDIUM PERSISTENCE

5CP4
NO. 4 PHOSPHOR
WHITE FLUORESCENT SCREEN
MEDIUM PERSISTENCE

COATED UNIPOTENTIAL CATHODE

HEATER
6.3 VOLTS 0.6 AMPERE
AC OR DC

GLASS BULB

MEDIUM SHELL DIHEPTAL 12 PIN BASE

RATINGS*

MAXIMUM ANODE NO. 3 VOLTAGE (SUPPLEMENTARY HIGH VOLTAGE ELECTRODE)	4400	VOLTS
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 ^A	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	8.0	$\mu\mu\text{f}$
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	$\mu\mu\text{f}$

CONTINUED NEXT PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

ANODE NO. 3 VOLTAGE	2000	3000	4000	VOLTS
ANODE NO. 2 VOLTAGE ^B	2000	1500	2000	VOLTS
ANODE NO. 1 VOLTAGE FOR FOCUS AT 75% OF GRID VOLTAGE CUT-OFF ^C	575 -60 ^E	430 -45 ^E	575 -60 ^E	VOLTS VOLTS
GRID VOLTAGE FOR CUT-OFF ^D				
DEFLECTION SENSITIVITY: ^F				
D1 AND D2	0.350	0.370	0.280	MM/VOLT DC
D3 AND D4	0.390	0.490	0.340	MM/VOLT DC
DEFLECTION FACTOR ^F				
D1 AND D2	73	69	92	VOLTS DC/IN
D3 AND D4	64	56	74	VOLTS DC/IN

SPOT POSITION AND TEST CONDITIONS

THE UNDEFLECTED FOCUSED SPOT FALLS WITHIN A 25 MM. SQUARE CENTERED ON THE TUBE FACE.

TEST CONDITIONS ARE:

ANODE NO. 3 VOLTAGE	4000	VOLTS
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 +25% TO -30% 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:

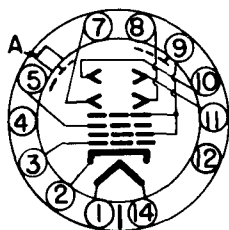
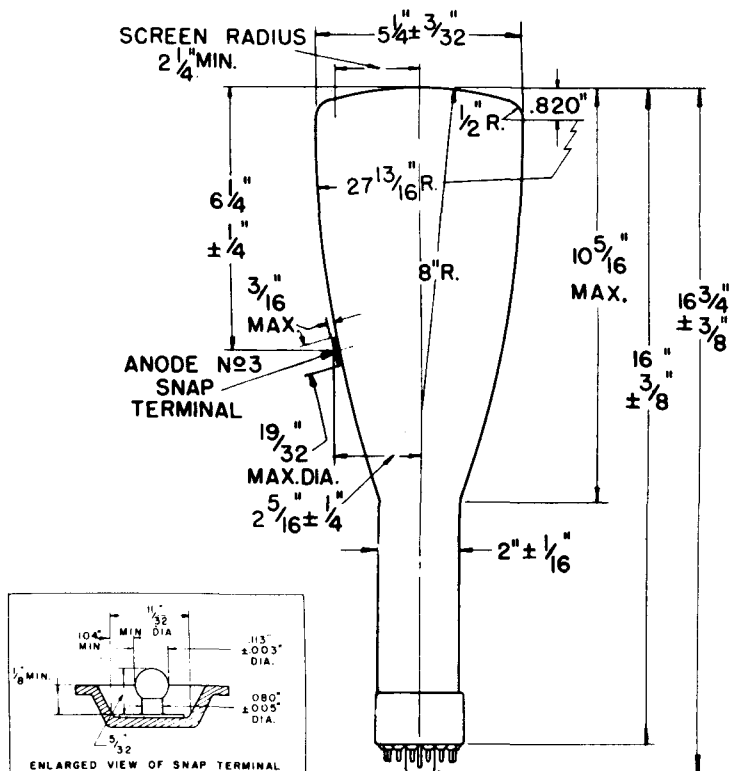
D1 AND D2	NEAREST TO SCREEN
D3 AND D4	NEAREST TO BASE
D1	SAME SIDE OF TUBE AS PIN NO. 5
D3	SAME SIDE AS PIN NO. 2

CONTINUED NEXT PAGE

PLATE
1412
MARCH 15
1944

TUNG-SOL

CONTINUED FROM PRECEDING PAGE



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
- A. ANODE NO. 3
(SNAP TERMINAL)