SYLVANIA ELECTRIC PRODUCTS INC.

CATHODE RAY TUBE CHARACTERISTIC SHEET

TYPES 5NP1 AND 5NP4

Release No. 354
November 8, 1943

Physical Characteristics

Heater Voltage ac or dc	6.3 volts	
Heater Current	0.6 amperes	
Focusing Method	Electrostatic	
Deflection Method	Electrostatic	
Phosphor	P1	P4
Fluorescence	Green	White
Persistence	Medium	Medium
Overall Length	16 3/4" ±3/8"	
Diameter of Bulb	5 5/16" max.	
Mechanical Dimensions	Refer to Outline Drawing attached	
Bulb Type	J 42 C 2	
Base	Large Wafer Magnal 11 Pin, Sleeve	
Tube Bearing Designation	11 A	

Pin No.	1	2	3	4	5	6	7	8	9	10	11
Element:	h	nc	D1	d1	IC	D4	d2	D2	D3	g1	hk

Base Alignment

D3 = 0. trace aligns with pin #1 and axis ±10°
Angle between traces, 90° ± 3°
Positive voltage on D1 (Pin #3) deflects beam toward pin #4
Positive voltage on D3 (Pin #9) deflects beam towards pin #1

Position of Spot (Note 1) — Within 15 mm square

Direct Interelectrode Capacitances (Maximum)

Control grid to all other electrodes	12.0 uuf
Deflecting Plate D1 to Deflecting Plate D2	3.0 uuf
Deflecting Plate D3 to Deflecting Plate D4	3.0 uuf
D1 to all other electrodes	15.0 uuf
D3 to all other electrodes	15.0 uuf
D1 to all other electrodes except D2	13.0 uuf
D2 to all other electrodes except D1	13.0 uuf
D3 to all other electrodes except D4	13.0 uuf
D4 to all other electrodes except D3	13.0 uuf

ELECTRICAL CHARACTERISTICS

Ratings

Heater Voltage	6.3 volts
Heater Current	0.6 ± 10% amps.
Anode #2 (High Voltage Electrode)	2200 volts max.
Anode #1 (Focusing Electrode)	1100 volts max.
Grid Voltage (Control Electrode)	Never positive
Peak Voltage between Anode #2 and any deflection plate	550 volts max.
Resistance of circuit to grid	1.5 megohms max.
Impedance of any deflecting electrode circuit at heater supply frequency	1.0 megohm max.

Typical Operation

Heater Voltage	6.3	6.3 volts
Anode #2 Voltage	1500	2000 volts
Anode #1 Voltage for Focus	337*	450* volts
Grid Voltage for Cut-off (Note 2)	-30	-40 volts

*Required for focus when Eb is 75% of cut-off value.

Deflection	Factor	Sensitivity
Electrodes D1 and D2	42v/(in.kv)	0.60 mm.kv/v(av)
Electrodes D3 and D4	38v/(in.kv)	0.66 mm.kv/v(av)

NOTES:

1. When the tube is operated with (1) Ef=6.3 volts; Eb2=2000 volts; Eb1 adjusted for focus; Ec set at such a value as will avoid damage to the screen (2) with each of the deflecting electrodes connected to Anode #2 and (3) with the tube shielded against external influences the spot will fall within a square of the specified size, the centre of which coincides with the geometric centre of the tube face and the sides of which are parallel to the traces produced by deflection electrodes D1 and D2 and by deflection electrodes D3 and D4 respectively.

2. Grid Voltage for cut-off is voltage necessary for visual extinction of the undeflected, focused spot.

3. Minimum distance between electrodes D1 and D2 is .140".
Maximum distance from bottom of base to top of electrodes D1 and D2 is 1.250".

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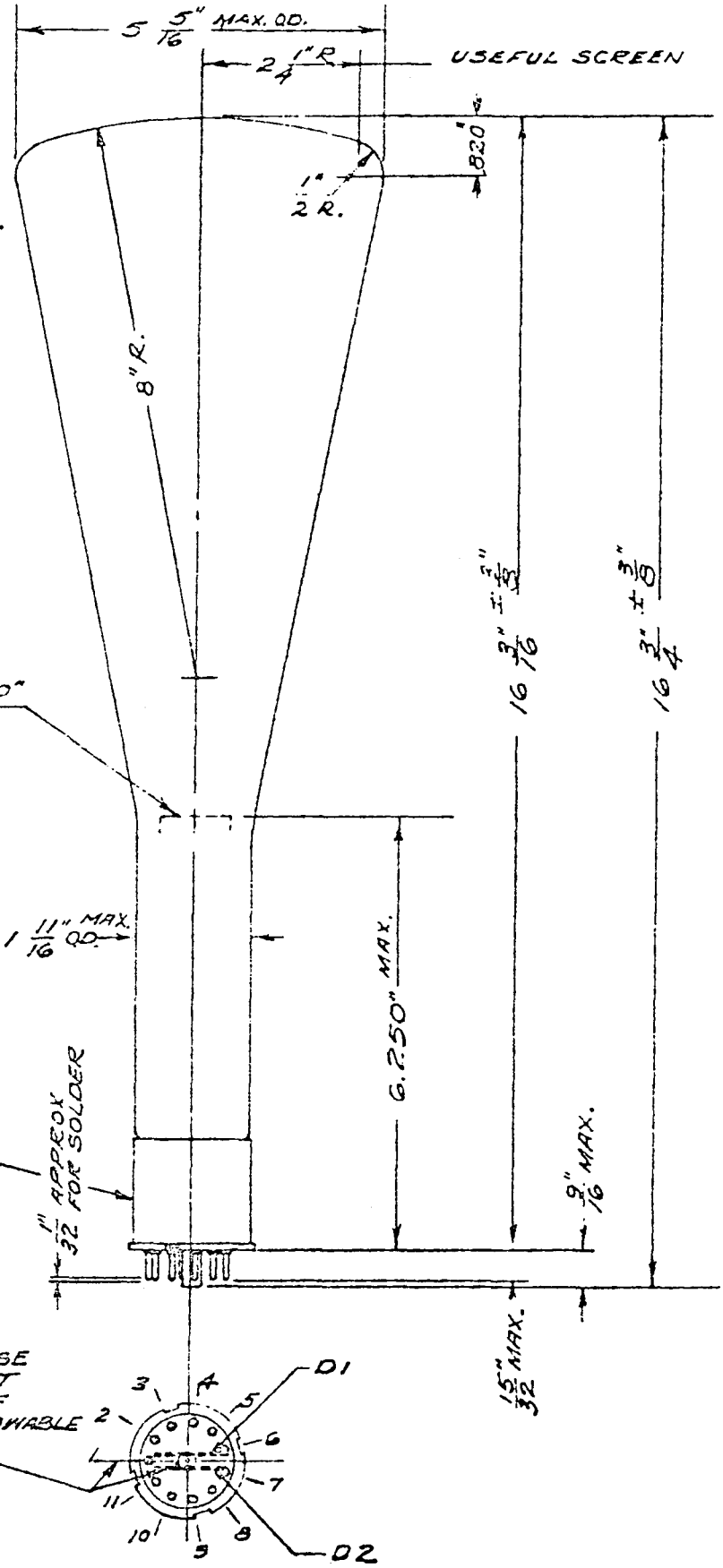
TYPE 5NP1-5NP4
SYLVANIA
ELECTRIC PRODUCTS CO.



BASE PIN CONNECTIONS

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11
h	nc	D1	G1	Int. Conn.	D4	G2	D2	D3	G1	h & K