from JEDEC release #3011, Oct. 31, 1960

WATERMAN PRODUCTS

ENGINEERING DATA

RAYONIC
5DEP1
5DEP2
5DEP7
5DEP11

RAYONIC® 5DEP1 CATHODE RAY TUBE

GENERAL DATA

Focusing Method	Electrostatic
Deflecting Method	Electrostatic
Phosphor	P1
Fluorescent Color	Green
Phosphorescent Color	None
Persistence	Medium
Mounting Position	Any

ELECTRICAL DATA

Heater Voltage	6.3 Volts
Heater Current	0.6 ± 10% Amperes
Direct Interelectrode Capacitances (approx.)	
Grid #1 to all other electrodes	7.5 μμf
D1 to D2	5.2 μμf
D3 to D4	7.0 μμf
D1 to all other electrodes	10.1 μμf
D2 to all other electrodes	7.5 μμf
D3 to all other electrodes	8.1 μμf
D4 to all other electrodes	9.2 μμf

MECHANICAL DATA

Overall Length	14¾ ± 3/8
Greatest Bulb Diameter	5¼ ± 3/32
Minimum Useful Screen Diameter	4½
Bulb Number	ASA J42J1
Base-Small Shell Duodecal	JEDEC B12-43
Basing	JEDEC 12E

Base Alignment
- D1 D2 trace aligns with Pin #4 and tube axis; 10 Degrees
- Positive voltage on D1 deflects beam approx. toward Pin #4
- Positive voltage on D3 deflects beam approx. toward Pin #1
- Angle between D3 D4 and D1 D2 traces; 90 ± 1 Degrees

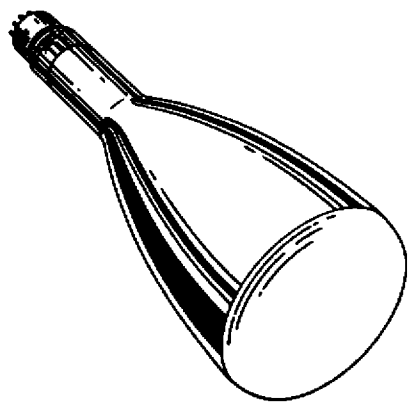
Deflection Plates
- D2 D2 are nearer to the screen
- D3 D4 are nearer to the base

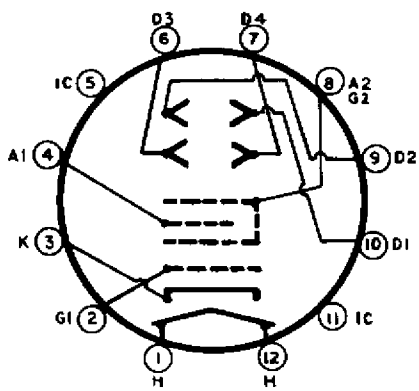
MAXIMUM RATINGS (Design Center Value)

Anode Voltage (A2)	2750 Volts DC
Anode (A2) Input	6 Watts
Anode #1 (Focusing Electrode) Voltage	1100 Volts
Grid #1 (G1) Voltage	
Negative Bias Value	220 Volts DC
Positive Bias Value	0 Volts DC
Positive Peak Value	2 Volts
Peak Heater—Cathode Voltage	
Heater negative with respect to cathode	
during warm-up (max. 15 seconds)	410 Volts
after equipment warm-up	140 Volts
Heater positive with respect to cathode	140 Volts
Peak Voltage between Anode #2 and any deflecting plate	550 Volts

QUICK REFERENCE DATA

OSCILLOSCOPE TUBE
FACE—5" ROUND
DEFLECTION SENSITIVITY—HIGH
FACE PLATE—CLEAR, CYLINDRICAL
MONOACCELERATOR
DEFLECTION—ELECTROSTATIC
FOCUSING—ELECTROSTATIC





12E

5DEP1 □

TUBE RATINGS

Focusing Electrode (A1) Current for any operating condition ..... −15 to ±10 μ Amps
Spot position, undeflected (Note 1) ..... 10 Max. mm
A1 Voltage ..... 17% to 32% of A2 Voltage
G1 Voltage ..... 4.5% of A2 Voltage (Note 2)
Deflection Factors
D1 and D2 ..... 24 to 32 Volts DC/inch/A2 Kilovolts
D3 and D4 ..... 13.5 to 18.5 Volts DC/inch/A2 Kilovolts

OPERATING CONDITIONS

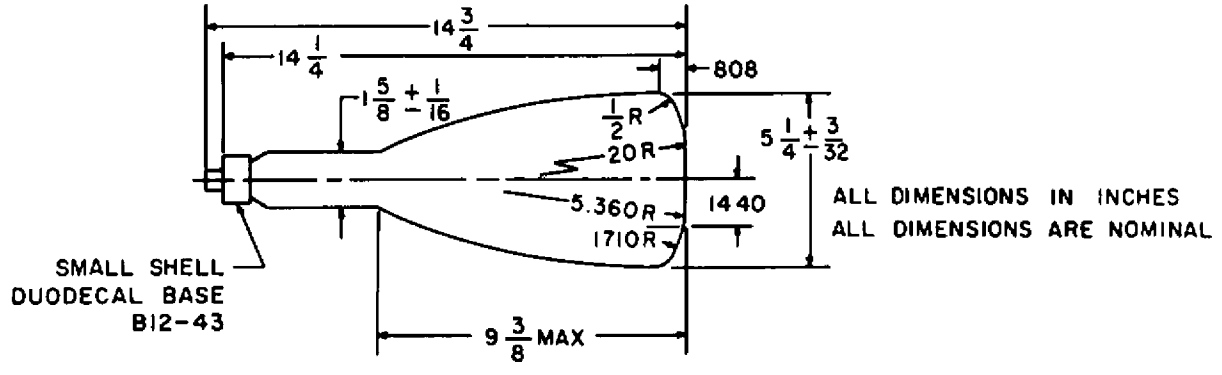
	Minimum	Typical	Typical	
Anode Voltage (A2)	1000	1500	2000	Volts
Focusing Electrode Voltage (A1)	170-320	260-480	340-640	Volts
Grid #1 Voltage (Note 2)	−45	−67.5	−90	Volts
Deflection Factor D1-D2	24-32	36-48	48-64	Volts DC/in
Deflection Factor D3-D4	13.5-18.5	21-28	27-37	Volts DC/in

MAXIMUM CIRCUIT VALUES

Grid #1 Circuit Resistance ..... 1.5 Megohms
Resistance in any Deflecting Electrode Circuit (Note 3) ..... 5 Megohms

NOTES

1. *With Deflecting Electrodes connected to Anode (A2).*
2. *For visual extinction of undeflected focused spot.*
3. *The resistance in each deflecting electrode circuit should be approximately equal.*



5DEP2

The Waterman Rayonic Type 5DEP2 is identical to the Type 5DEP1 except that it has a green fluorescent, green phosphorescent, long persistence phosphor.

5DEP7

The Waterman Rayonic Type 5DEP7 is identical to the Type 5DEP1 except that it has a blue fluorescent, yellow phosphorescent, long persistence phosphor.

5DEP11

The Waterman Rayonic Type 5DEP11 is identical to the Type 5DEP1 except that it has a blue fluorescent, short persistence phosphor.

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Manufacturers of POCKETSCOPE®, CRAFTSCOPE®, PULSESCOPE®, PANELSCOPE®, PANELPACK®, RAKSCOPE®, SYSTEMAT®, RAYONIC® TUBES