

IONATRON, INC.  
Form 4  
January 31, 2007

**FORM 4**

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person \*  
MCCAHERN STEPHEN WILLIAM

(Last) (First) (Middle)

IONATRON, INC., 3716 E.  
COLUMBIA STREET - SUITE 120

(Street)

TUCSON, AZ 85714

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol  
IONATRON, INC. [IOTN]

3. Date of Earliest Transaction (Month/Day/Year)  
01/29/2007

4. If Amendment, Date Original Filed (Month/Day/Year)

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

\_\_\_\_ Director \_\_\_\_\_ 10% Owner  
 Officer (give title below) \_\_\_\_\_ Other (specify below)  
Executive VP Engineering

6. Individual or Joint/Group Filing (Check Applicable Line)  
 Form filed by One Reporting Person  
\_\_\_\_ Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)
				(A) or (D)	Price		
Common Stock	01/29/2007		S <sup>(1)</sup>	3,360 D	\$ 5.2901	5,947,608	D
Common Stock	01/30/2007		S <sup>(1)</sup>	56,640 D	\$ 5.2111	5,890,968	D
Common Stock	01/30/2007		S <sup>(1)</sup>	12,000 D	\$ 5.2001	5,878,968	D

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474 (9-02)

