

NANOMETRICS INC
 Form 4/A
 May 15, 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 *
HEATON JOHN DAVIS

(Last) (First) (Middle)
 1550 BUCKEYE DRIVE
 (Street)

MILPITAS, CA 95035

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
 NANOMETRICS INC [nano]

3. Date of Earliest Transaction
 (Month/Day/Year)
 05/01/2007

4. If Amendment, Date Original Filed(Month/Day/Year)
 05/14/2007

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

____ Director _____ 10% Owner
 ____ Officer (give title below) Other (specify below)
 Affiliate

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) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|
| | | | Code | V | Amount | (A) or (D) | Price |
| Common Stock | 05/01/2007 | | M | | 6,700 | A | \$ 5.7 |
| Common Stock | 05/01/2007 | | S | | 6,700 | A | \$ 6.25 |

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

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 (9-02)

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Security (Instr. 3 and 4) | | |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--------------|--------|
| | | | | Code | V (A) (D) | Date Exercisable | Expiration Date | Title | Amount |
| Non_qualified Stock option | \$ 5.7 | 05/01/2007 | | M | 6,700 | 06/17/2004 | 06/17/2010 | Common Stock | 422 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|---|---------------|-----------|---------|-----------|
| | Director | 10% Owner | Officer | Other |
| HEATON JOHN DAVIS 1550 BUCKEYE DRIVE MILPITAS, CA 95035 | | | | Affiliate |

Signatures

John D. Heaton 05/15/2007

__Signature of Date
Reporting Person

Explanation of Responses:

* If the form is filed by more than one reporting person, see Instruction 4(b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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