

Moniz James P  
 Form 5  
 February 12, 2010

**FORM 5**

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

OMB APPROVAL

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 Form 3 Holdings Reported Form 4 Transactions Reported

**ANNUAL 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

1. Name and Address of Reporting Person \*  
**Moniz James P**

(Last) (First) (Middle)

C/O NANOMETRICS  
 INCORPORATED, 1550  
 BUCKEYE DRIVE

(Street)

MILPITAS, CA 95035

(City) (State) (Zip)

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

3. Statement for Issuer's Fiscal Year Ended (Month/Day/Year)  
 12/31/2009

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)  
 Chief Financial Officer

6. Individual or Joint/Group Reporting

(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 at end of Issuer's Fiscal Year (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)
Common Stock	12/31/2009	12/31/2009	J	(A) Amount 4,000 (1) A Price \$ 2.29	10,000	D	100%

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

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

