

COATES VINCENT J
 Form 4
 December 24, 2009

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 *
 COATES VINCENT J

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

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

3. Date of Earliest Transaction
 (Month/Day/Year)
 12/22/2009

___ Director ___X___ 10% Owner
 ___ Officer (give title below) ___ Other (specify below)

C/O NANOMETRICS
 INCORPORATED, 1550
 BUCKEYE DRIVE

(Street)

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

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

MILPITAS, CA 95035

(City) (State) (Zip)

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	12/22/2009		S		675,000	D	\$ 11,282,511
						I	

See footnote (1)

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

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

SEC 1474 (9-02)

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

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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 Securities (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Nu Deriv Secur Bene Own Follo Repo Trans (Instr
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Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
COATES VINCENT J C/O NANOMETRICS INCORPORATED 1550 BUCKEYE DRIVE MILPITAS, CA 95035		X		
Vincent J Coates Separate Property Trust C/O NANOMETRICS, INC. 1550 BUCKEYE DRIVE MILPITAS, CA 95035		X		

Signatures

/s/ Norman Coates, Co-Trustee, Vincent J. Coates Separate Property Trust 12/24/2009

**Signature of Reporting Person Date

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).
- (1) Shares held of record by the Vincent J. Coates Separate Property Trust, U/D/T dated August 7, 1981, for which Norman Coates and Stella Coates act as co-trustees.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.