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2012 ANNUAL REPORT | 2013 PROXY STATEMENT

NANOMETRICS INCORPORATED

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LETTER TO OUR STOCKHOLDERS

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LETTER TO THE STOCKHOLDERS

2012 was a year characterized by mixed financial performance, rapid changes in Integrated Circuit (IC) industry investments and declines in overall spending in semiconductor-related markets. It was, however, also a year during which we made significant progress against our long-term strategic objectives and met key performance milestones.

We began the year setting new revenue records for our flagship automated process control systems, led by our market-leading Atlas® product line. In the latter part of the year, however, we experienced a significant drop in spending by the IC industry's largest companies – our largest customers. That spending drop combined with significantly reduced capital investments in our other served markets, such as LED and silicon wafer manufacturing, led to full year revenues of \$183 million, a 21% decline from a record \$230 million in 2011.

During the year, our continued focus on cash and cash flows resulted in a strengthened balance sheet. We achieved \$19 million in free cash flow, with \$24 million of cash from operations, offset by \$5 million in capital expenditures. We also increased our cash and investments by \$12 million over year-end 2011, net of \$8 million in stock repurchases and a \$2 million pay down in our building mortgage.

Looking at some of the key milestones for the year - we shipped and recognized revenue on our first 450mm Atlas systems, significantly increased our penetration of the foundry segment, and grew our positions in Advanced Packaging and the Inspection markets by expanding our installed base of UniFire™ systems across multiple leading customers - while also gaining initial penetration of our SPARK™ system at several new customer sites.

Each of these accomplishments is fundamental to delivering future incremental revenue growth, expanding our market share and increasing stockholder value throughout semiconductor investment cycles.

As we have consistently shared with you, our stakeholders, our strategy for growing long-term value is to focus on five key objectives:

- Invest in technologies and products targeted to key industry inflection points
- Defend and expand our Optical Critical Dimension (OCD) market share
- Grow our business within the foundry sector
- Grow our position in the emerging Advanced Packaging market
- Expand our served markets by entering the Inspection market

We firmly believe that our commitment to fund these objectives must continue in spite of the short-term volatility associated with our customers' dynamic changes in capital spending.

Many of the IC industry's largest companies kicked off 2013 with guidance and expectations for another strong year of capital investments in support of both technology and capacity needs at the most advanced device nodes. We are working closely with these companies, aligning our own technology investments and product roadmap in order to continue to enable production of the industry's leading edge chips. Over the longer term, this focus on customer relationships and technological innovation are fundamental to increasing stockholder value through delivering revenue growth and financial performance exceeding that of the overall industry.

Our ability to execute also has as its foundation a talented and passionate workforce, high performance managers, and robust business processes which are aligned and supportive of rapid growth in a dynamic business environment. To that end, along with our technology investments, we are continuing to invest in our people and business infrastructure to enable and drive excellence in execution.

As we enter 2013, the industry continues to be marked by consolidation, volatility and, more importantly, opportunity. The consolidation of semiconductor industry spending among just a few customers has accelerated over the past several years. As a result, in conjunction with the increasing complexity and cost of producing advanced chips, spending changes by just one or two customers can dramatically affect our revenues on a quarterly basis.

While we cannot predict our customers' near-term spending patterns, we are confident that there is a long-term and growing demand for our advanced process control technologies and solutions, and that we are ready and well-positioned to deliver highly competitive products and services as the demand manifests itself.

Simply stated, our corporate mission is to be a world-class supplier of innovative process control systems and solutions - measured by customer loyalty, market share and financial performance. By maintaining our focus, along with the continuous improvement of our execution, we believe we can and will achieve our mission.

Sincerely,



Dr. Timothy J. Stultz
President and Chief Executive Officer



Bruce C. Rhine
Chairman of the Board

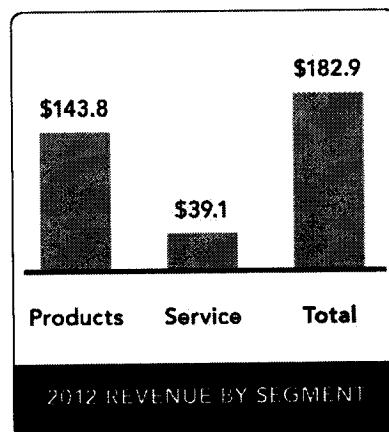
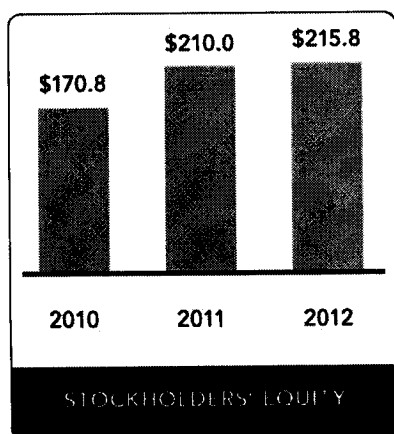
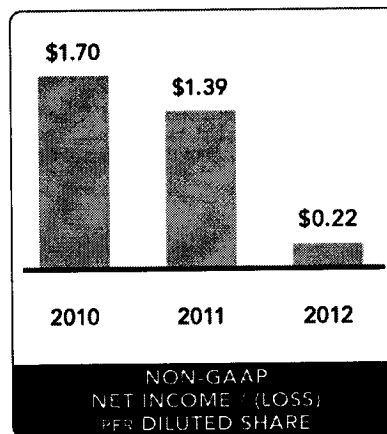
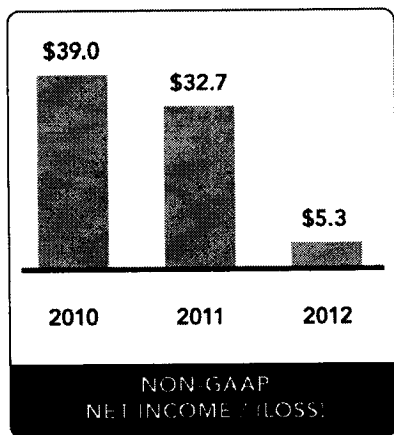
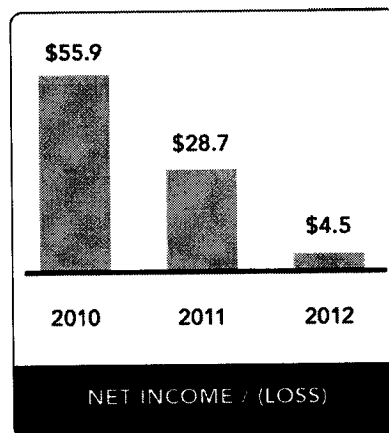
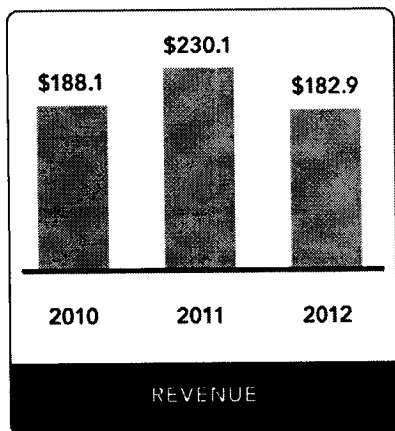
The statements in this Annual Report relating to future events or results are forward-looking statements that involve many risks and uncertainties. In some cases, forward-looking statements are indicated by the use of words such as "would", "could", "will", "may", "expect", "believe", "should", "anticipate", "outlook", "if", "future", "intend", "plan", "estimate", "predict", "potential", or "continue" and similar words and phrases, including the negatives of these terms, or other variations of these terms. Our actual results could differ materially from those contained in these forward-looking statements due to a number of factors, including those discussed in Part I, Item 1A — "Risk Factors" included in the Form 10-K which is part of this Annual Report.

Financial Notes

The company ended fiscal 2012 with cash and cash equivalents of \$110 million, working capital of \$159 million and tangible book value (stockholders' equity excluding goodwill and other intangible assets) of \$193 million.

A reconciliation between GAAP operating results and non-GAAP operating results follows the financial notes below. Non-GAAP results exclude the impact of acquisitions, legal settlement, asset impairments, restructuring-related items, and certain discrete tax items.

(Dollars in millions, except per share amounts)



(Amounts in millions, except per share amounts)

	<u>2010</u>	<u>2011</u>	<u>2012</u>
GAAP net income	\$ 55.9	\$ 28.7	\$ 4.5
Non-GAAP adjustments:			
Acquisition-related charges	–	2.0 (a)	–
Amortization of intangible assets	1.6	1.7	3.3
Legal settlement	–	2.5 (b)	–
Asset impairment	0.5	–	–
Restructuring charge	–	–	–
Income tax effect of non-GAAP adjustments	(0.7)	(2.2)	(1.2)
Discrete tax items	(18.2) (c)	–	(1.3)
Non-GAAP net income	<u>\$ 39.0</u>	<u>\$ 32.7</u>	<u>\$ 5.3</u>
GAAP net income per diluted share	<u>\$ 2.43</u>	<u>\$ 1.22</u>	<u>\$ 0.19</u>
Non-GAAP net income per diluted share	<u>\$ 1.70</u>	<u>\$ 1.39</u>	<u>\$ 0.22</u>
Shares used in diluted income per share calculation	<u>23.0</u>	<u>23.5</u>	<u>23.8</u>

- (a) Includes legal, finance and investment banking fees paid in connection with the acquisition of Nanda Technologies, as well as \$0.5 million in stock grants made to Nanda employees upon sign-on post close.
- (b) Charges associated with the settlement of KLA-Tencor litigation, which was a subsequent event completed in January 2012.
- (c) Consists of the favorable impact of the release of \$18.2 million in income tax valuation allowances.

NOTICE OF 2013 ANNUAL STOCKHOLDERS MEETING AND PROXY STATEMENT

NANOMETRICS INCORPORATED

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NANOMETRICS INCORPORATED
NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

TO THE STOCKHOLDERS OF NANOMETRICS INCORPORATED:

NOTICE IS HEREBY GIVEN that the annual meeting of stockholders of Nanometrics Incorporated, a Delaware corporation, will be held on Friday, May 24, 2013, at 10:00 a.m., local time, at our Corporate Headquarters located at 1550 Buckeye Drive, Milpitas, California 95035. At the annual meeting you will be asked to consider and vote upon the following:

1. A proposal to elect the Board's seven nominees for director of Nanometrics, each to serve for a term of one year or until his successor has been duly elected and qualified.
2. A proposal to approve, as an advisory (non-binding) vote, the compensation paid to our executive officers, as disclosed in this Proxy Statement.
3. A proposal to approve our 2005 Equity Incentive Plan, as amended.
4. A proposal to ratify the appointment of PricewaterhouseCoopers LLP as Nanometrics' independent registered public accounting firm for the fiscal year ending December 28, 2013.
5. Such other business as may properly come before the annual meeting or any postponements or adjournments thereof.

These items are more fully described in the proxy statement accompanying this notice of annual meeting of stockholders.

Only stockholders of record at the close of business on March 27, 2013, are entitled to notice of and to vote at the annual meeting and any postponements or adjournments thereof. The Notice of Internet Availability of Proxy Materials is first being mailed to the stockholders of record on or about April 10, 2012.

All stockholders are cordially invited to attend the annual meeting in person. Whether or not you expect to attend the annual meeting, you are urged to mark, sign, date and return the proxy card that may be mailed to you or vote over the telephone or the Internet as instructed in the Notice of Internet Availability of Proxy Materials as promptly as possible to ensure your representation at the meeting. Any stockholder of record attending the annual meeting may vote in person even if that stockholder previously voted by proxy for the annual meeting.

BY ORDER OF THE BOARD OF DIRECTORS,

/s/ Bruce C. Rhine
Bruce C. Rhine
Chairman of the Board of Directors

Milpitas, California
April 10, 2013

**NANOMETRICS INCORPORATED
PROXY STATEMENT
INFORMATION CONCERNING SOLICITATION AND VOTING**

General

Pursuant to rules adopted by the Securities and Exchange Commission, we have elected to provide access to our proxy materials over the Internet. Accordingly, we have sent you a Notice of Internet Availability of Proxy Materials (the "Notice") because the Board of Directors is soliciting your proxy to vote at our 2013 annual meeting of stockholders. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice or request to receive a printed set of the proxy materials. Instructions on how to access the proxy materials over the Internet or to request a printed copy may be found in the Notice.

We intend to mail the Notice on or about April 10, 2013, to stockholders of record entitled to vote at the annual meeting.

Date, Time and Place

The annual meeting will be held on Friday, May 24, 2013, at 10:00 a.m., local time, at our Corporate Headquarters located at 1550 Buckeye Drive, Milpitas, California 95035. Directions to the annual meeting may be found on our website www.nanometrics.com by clicking on "Contact" then "Map & Local Driving Directions."

Purpose; Other Matters

The annual meeting is being held to consider and vote upon the following:

1. A proposal to elect the Board's seven nominees for director of Nanometrics, each to serve for a term of one year or until his successor has been duly elected and qualified.
2. A proposal to approve, as an advisory (non-binding) vote, the compensation paid to our executive officers, as disclosed in this Proxy Statement.
3. A proposal to approve our 2005 Equity Incentive Plan, as amended.
4. A proposal to ratify the appointment of PricewaterhouseCoopers LLP as Nanometrics' independent registered public accounting firm for the fiscal year ending December 28, 2013.

Stockholders will also be asked to consider and vote upon any other business that may properly come before the annual meeting or any adjournments or postponements of the annual meeting. We do not expect that any additional matters will be brought before the annual meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the proxy to vote on those matters in accordance with their best judgment.

Recommendation of the Board of Directors

The Board of Directors unanimously recommends that you vote:

- "FOR" the election of the Board's nominees for director named in this Proxy Statement.
- "FOR" the approval of the compensation paid to Nanometrics' executive officers as disclosed in this Proxy Statement.
- "FOR" the approval of our 2005 Equity Incentive Plan, as amended.
- "FOR" the ratification of the appointment of PricewaterhouseCoopers LLP as Nanometrics' independent registered public accounting firm for the fiscal year ending December 28, 2013.

Record Date; Outstanding Shares; Voting Rights

Only holders of record of common stock at the close of business on the record date for the annual meeting, March 27, 2013, are entitled to notice of and to vote at the annual meeting. As of the record date, there were 23,092,112 shares of common stock outstanding and entitled to vote at the annual meeting, held by approximately 233 holders of record. Each record holder of common stock on the record date is entitled to one vote for each share of common stock held as of the record date with respect to all proposals.

A list of stockholders will be available for review at the annual meeting and our executive offices during regular business hours for a period of ten days before the annual meeting.

Admission to the Annual Meeting

Only stockholders, their designated proxies and guests of Nanometrics may attend the annual meeting. If you plan to attend the annual meeting and wish to vote in person, you will be given a ballot at the annual meeting. Please note, however, that if your shares are held in "street name," which means your shares are held of record by a broker, bank or other nominee, and you wish to vote at the annual meeting, you must bring to the annual meeting a "legal proxy" from the record holder of your shares authorizing you to attend and vote at the annual meeting.

Quorum and Vote Required

The presence, either in person or by proxy, of the holders of a majority of outstanding shares of our common stock entitled to vote at the annual meeting is required to constitute a quorum necessary to hold a valid annual meeting of stockholders.

If your broker holds your shares in its name, the broker is permitted to vote your shares on "discretionary" matters, even if it does not receive voting instructions from you. Proposal 4 is the only "discretionary" matter being considered by our stockholders. Therefore, we urge you to give voting instructions to your broker on all voting items. Shares that are not permitted to be voted by your broker on a proposal absent your voting instructions are called "broker non-votes" with respect to that proposal. Broker non-votes are counted toward a quorum, but are not considered votes for or against such a proposal and therefore will have no direct impact on whether that proposal receives stockholder approval.

In addition, the vote required to approve each proposal is as follows:

Proposal 1

In the election of our directors, the nominees receiving the highest number of "FOR" votes will be elected. Votes marked "WITHHOLD" will have no effect on the election of directors. However, the Board of Directors has adopted a Majority Vote Policy, pursuant to which any director-nominee that is elected but fails to receive more "FOR" votes than "WITHHELD" votes must submit his resignation for consideration by the Board. The Board will then decide whether to accept the director's resignation. Details of the Majority Vote Policy are set out below under "Corporate Governance – Voting for Directors – Majority Vote Policy."

Proposal 2

The affirmative vote ("FOR") of holders of a majority of the shares present in person or by proxy at the annual meeting and entitled to vote at the annual meeting is required for the approval of the advisory resolution on Nanometrics' executive compensation. If you "ABSTAIN," it will have the same effect as a vote "AGAINST." The results of this vote will not be binding on the Board of Directors.

Proposal 3

The affirmative vote ("FOR") of holders of a majority of the shares present in person or by proxy at the annual meeting and entitled to vote at the annual meeting is required for the approval of our 2005 Equity Incentive Plan, as amended. If you "ABSTAIN," it will have the same effect as a vote "AGAINST."

Proposal 4

The affirmative vote ("FOR") of holders of a majority of the shares present in person or by proxy at the meeting and entitled to vote at the annual meeting is required to ratify the appointment of PricewaterhouseCoopers LLP as Nanometrics' independent registered public accounting firm for the fiscal year ending December 28, 2013. If you "ABSTAIN," it will have the same effect as a vote "AGAINST."

Voting

General

Stockholders of record as of the record date may vote their shares by attending the annual meeting and voting their shares in person or by proxy by using a proxy card that they may request or that we may elect to deliver at a later time, by telephone or by Internet as instructed below. Even if you plan to attend the annual meeting, we recommend that you vote by proxy prior to the annual meeting. You can always change your vote prior to or at the annual meeting as described below.

- To vote in person, come to the annual meeting and we will give you a ballot when you arrive.
- To vote by mail, simply complete, sign and date the proxy card that you request or that may be delivered and return it promptly in the envelope provided. If you return your signed proxy card to us before the annual meeting, we will vote your shares as you direct.
- To vote over the telephone, dial toll-free 1-800-690-6903 using a touch-tone phone and follow the recorded instructions. You will be asked to provide the Control Number from the Notice. Your vote must be received by 11:59 p.m. Eastern Time, May 23, 2013, to be counted.
- To vote through the internet, go to www.proxyvote.com to complete an electronic proxy card. You will be asked to provide the Control Number from the Notice. Your vote must be received by 11:59 p.m. Eastern Time, May 23, 2013, to be counted.

Voting by Proxy

All properly executed proxies that are received prior to the annual meeting and not revoked will be voted at the annual meeting according to the instructions indicated on the proxies. If your proxy does not specify how you wish us to vote your shares, your shares will be voted:

- “FOR” the election of the Board’s nominees for director named in this Proxy Statement;
- “FOR” the approval of the compensation paid to Nanometrics’ executive officers, as disclosed in this Proxy Statement;
- “FOR” the approval of our 2005 Equity Incentive Plan, as amended; and
- “FOR” the ratification of the appointment of PricewaterhouseCoopers LLP as Nanometrics’ independent registered public accounting firm for the fiscal year ending December 28, 2013.

You may receive more than one Notice depending on how you hold your shares of common stock. For example, if you hold shares through someone else, such as a broker, you may also receive a Notice from that person. Please follow the instructions on each of the Notices to ensure that all of your shares are voted.

Changing Your Vote

If you are the record holder of your shares of common stock, you can revoke or change your vote at any time before your proxy is voted at the annual meeting by:

- delivering to our corporate secretary a signed notice of revocation;
- granting the proxy holders a new, later dated proxy, which if provided by mail must be signed and delivered to our corporate secretary in advance of the vote at the annual meeting, or if provided by telephone or Internet must be submitted by following the instructions above before the deadline indicated above; or
- attending the annual meeting and voting in person (although simply attending the annual meeting will not, by itself, revoke your proxy).

If you have provided voting instructions to your broker, bank or other nominee for the annual meeting, you must follow the instructions provided by your broker, bank or other nominee to change your voting instructions for the annual meeting.

Proxy Solicitation

Nanometrics is making this solicitation and will pay the entire cost of preparing, assembling, printing, mailing and distributing these proxy materials and soliciting votes. In addition to mailing these proxy materials, proxies or votes may be solicited in person, by telephone or by electronic communication by our directors, officers and employees, who will not receive any additional compensation for such solicitation activities. Upon request, we will reimburse reasonable out of pocket expenses to brokerage houses and other custodians, nominees and fiduciaries for forwarding proxy and solicitation materials to stockholders.

Assistance

If you need assistance in completing your proxy card or have questions regarding the annual meeting, please contact Investor Relations at (408) 545-6000 or write to Nanometrics Incorporated, at our executive offices located at 1550 Buckeye Drive, Milpitas, California 95035, Attn: Investor Relations.

“Householding” of Proxy Materials

The Securities and Exchange Commission has adopted rules that permit companies and intermediaries such as brokers to satisfy delivery requirements for Notices of Internet Availability of Proxy Materials or other annual meeting materials with respect to two or more stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy Materials or set of other annual meeting materials addressed to those stockholders. This process, which is commonly referred to as “householding,” potentially provides extra convenience for stockholders and cost savings for companies. Nanometrics and some brokers household proxy materials, delivering a single Notice of Internet Availability of Proxy Materials or set of other annual meeting materials to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Upon written or oral request to our Investor Relations department, by mail at 1550 Buckeye Drive, Milpitas, California, 95035 or by telephone at (408) 545-6000, we will promptly deliver a copy of the Notice of Internet Availability of Proxy Materials or other annual meeting materials to a stockholder if that stockholder shares an address with another stockholder to which a single copy of such notice or other annual meeting materials was delivered. A stockholder may notify us as described above if the stockholder wishes to receive a separate copy of such notice or other annual meeting materials in the future or, alternatively, if the stockholder wishes to receive a single copy of the notice or other annual meeting materials instead of multiple copies.

Stockholder Proposals

Stockholders are entitled to present proposals for action at the 2014 annual meeting of stockholders. For any proposal to be considered for inclusion in our proxy statement and form of proxy for submission to the stockholders at the 2014 annual meeting of stockholders, the proposal must comply with the requirements of Rule 14a-8 under the Exchange Act and be submitted in writing by notice delivered or mailed by first-class United States mail, postage prepaid, to Nanometrics Incorporated, 1550 Buckeye Drive, Milpitas, California 95035, Attention: Office of the Secretary, which must be received by us no later than December 11, 2013. If the date of our 2014 annual meeting is changed by more than 30 days from the date of the 2013 annual meeting, the proposal must be received a reasonable time before we begin to print and mail our proxy materials. The submission of a stockholder proposal does not guarantee that it will be included in our proxy statement.

In addition, Nanometrics' Bylaws include advance notice provisions that require stockholders desiring to bring other business before the 2014 annual stockholders meeting, but not for inclusion in our proxy statement for that meeting, to do so in accordance with the terms of the Bylaws' advance notice provisions. Nanometrics' advance notice provisions require, among other things, that stockholders provide timely notice to the secretary of Nanometrics regarding such business, and provide certain additional information to Nanometrics as set forth in the Bylaws. To be timely, a stockholders' notice must be delivered to or mailed and received at Nanometrics Incorporated, 1550 Buckeye Drive, Milpitas, California 95035, Attention: Office of the Secretary, and must be received by us no later than December 11, 2013. If we set the date of our 2014 annual meeting to a date more than 30 days from the date of our 2013 annual meeting, then the deadline for receipt of stockholder proposals will be no later than the close of business on the later of 120 calendar days in advance of the 2014 annual meeting or ten days following the date on which we first publicly announce the date of the 2014 annual meeting. If a stockholder does not provide us with notice of a stockholder proposal in accordance with the deadlines described above, the stockholder will not be permitted to present the proposal to the stockholders for a vote at the meeting.

Meeting Results

Preliminary voting results will be announced at the annual meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the annual meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the meeting, we intend to file a Form 8 K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

PROPOSAL 1

ELECTION OF DIRECTORS

At the 2013 annual meeting of stockholders, unless otherwise instructed, the proxy holders will vote the proxies received by them for the nominees named below, each of whom has been nominated by the Board of Directors and is presently a director of Nanometrics.

The Board of Directors currently has nine members. Effective as of the start of the 2013 annual meeting, the authorized number of directors shall be reduced to seven. Mr. Coates and Dr. Smith will not be standing for reelection. All other directors are standing for election at the 2013 annual meeting.

The nominees were recommended by the Nominating and Governance Committee of the Board of Directors. All of the nominees named below, other than Edward J. Brown Jr., were previously elected as directors by our stockholders. On February 19, 2013, the Board of Directors elected Mr. Brown to be a director. My Brown was identified by and recommended to the Nominating and Governance Committee by a non-management director.

If the nominees are unable or decline to serve as a director at the time of the annual meeting, the proxies will be voted for any nominee who shall be designated by the present Board to fill the vacancy. We do not have any reason to believe that any of the nominees will be unable or will decline to serve as a director. Directors are elected by a plurality of the votes of the holders of shares present in person or by proxy and entitled to vote on the election of directors. The seven nominees receiving the highest number of affirmative votes will be elected. Pursuant to our Majority Vote Policy, if a nominee for director receives a greater number of "Withhold" votes than "For" votes, that director shall promptly tender to the Nominating and Governance Committee his offer of resignation. Within 90 days following certification of the stockholder vote, the Committee shall recommend to the Board the action to be taken with respect to such offer of resignation, and the Board shall consider and act upon the committee's recommendation. Unless marked otherwise, the proxy holders will vote proxies returned to us for the nominees named below.

Director Nominees

Set forth below is information regarding each of our directors, including their ages, as of April 5, 2013, the periods during which they have served as a director, and certain information as to principal occupations and directorships held by them in corporations whose shares are publicly registered.

Howard A. Bain III, 67, has served as a director since April 2008. He is also a director of Learning Tree International, Inc. and several private venture capital financed companies. He was previously a director of Cyberdefender, Inc. Since 2004, he has been an independent consultant in all aspects of corporate finance. He held Chief Financial Officer positions at several public companies including: Portal Software from 2001 to 2004, Vicinity Corporation in 2000, Informix from 1999 to 2000, and Symantec Corporation from 1991 to 1999. He was previously a consultant with Arthur Andersen LLP where he was a certified public accountant. Mr. Bain holds a B.S. in Business from California Polytechnic University. Mr. Bain's significant financial expertise, including his experience as Chief Financial Officer at several public companies, as well as his experience in various technology companies in the areas of semiconductor devices and manufacturing equipment, laser-based large screen projection systems, and computer disk drives, is directly relevant to Nanometrics' business and his responsibilities to the Board.

J. Thomas Bentley, 63, has served as a director since April 2004. Mr. Bentley served as a Managing Director at SVB Alliant (formerly Alliant Partners), a mergers and acquisitions firm, from 1990, when he co-founded the firm, until October 2005. Mr. Bentley currently serves on the board of directors of Rambus, Inc., a chip interface technology company. Mr. Bentley holds a B.A. degree in Economics from Vanderbilt University and a Masters of Science in Management from the Massachusetts Institute of Technology. Mr. Bentley's extensive knowledge of the capital markets, strategic planning and mergers and acquisitions from his experience at SVB Alliant provides expertise to the Board in matters regarding Nanometrics' capital requirements and strategic direction.

Edward J. Brown Jr., 55, has served as a director since February 2013. Mr. Brown has served as president and chief operating officer of Cymer, Inc. a supplier of light sources for deep ultraviolet photolithography systems and has over three decades of experience in the semiconductor technology sector, from 2005 to the present. Prior to joining Cymer, Mr. Brown held several positions at Applied Materials, Inc., the world's largest provider of semiconductor equipment and services. From 2003 to 2005 Mr. Brown served as the Global Vice President for Global Operations, and from 2002 to 2003 Mr. Brown held the position of Group Vice President, Senior Advisor to the President. Previously, he served as vice president and general manager for Applied Material's Intel business unit, as well as managing director heading up global operations. Prior to Applied Materials Inc., Mr. Brown held key engineering positions at TRW Corporation and Burroughs Corporation. Mr. Brown holds a master's degree in business administration from National

University and a bachelor's degree in industrial studies from San Diego State University. Mr. Brown's qualifications to serve as a director include his 30 years' experience in the semiconductor industry, and his operations expertise.

Stephen G. Newberry, 59, has served as a director since May 2011. Mr. Newberry serves as Chairman of the Board of Directors of Lam Research Corporation. He joined Lam Research in August 1997 as executive vice president and chief operating officer and served as the President and Chief Executive Officer from 2005 through 2011. Mr. Newberry also serves as a director of Semiconductor Equipment and Materials International, the semiconductor industry's trade association, and is member of the board of directors of Splunk, Inc. He was previously a director of Amkor Technologies, Inc. In addition, he serves as a member of the Dean's Advisory Council, University of California at Davis Graduate School of Business. Prior to joining Lam Research, Mr. Newberry was Group Vice President of Global Operations and Planning at Applied Materials, Inc. He is a graduate of the U.S. Naval Academy and the Harvard Graduate School of Business, Program for Management Development. Mr. Newberry's qualifications to serve as a director include his 30 years' experience in the semiconductor equipment industry, his active role in the semiconductor industry's trade association, and his strong leadership and operations expertise.

William G. Oldham, Ph.D., 74, has served as a director since June 2000. Dr. Oldham previously served as lead independent director of the Board from May 2007 through August 2008. Dr. Oldham, now Professor Emeritus, was a faculty member at the University of California at Berkeley from 1964 to 2003. He also serves on the board of directors of Cymer, Inc., a supplier of light sources for deep ultraviolet photolithography systems. Dr. Oldham holds B.S., M.S. and Ph.D. degrees from the Carnegie Institute of Technology. Dr. Oldham's qualifications to serve as director include his experience on public and private boards, including his consultation to numerous companies in the semiconductor industry, his scientific background and his industrial and academic experience, including expertise in semiconductor processing and metrology.

Bruce C. Rhine, 55, has served as our Chairman of the Board of Directors since July 2007 and as a director since July 2006. From July 2006 to February 2008, Mr. Rhine served as our Chief Strategy Officer. From March 2007 to August 2007, Mr. Rhine served as our Chief Executive Officer. From 2000 to 2006, Mr. Rhine served as Chairman and Chief Executive Officer of Accent Optical Technologies, Inc. and as its President from January 2003 to April 2005 and from August 2000 to September 2001. Mr. Rhine holds a B.S. degree in Chemical Engineering and an M.B.A. in Finance from The Pennsylvania State University. In addition to his experience from his prior senior management service to Nanometrics, Mr. Rhine brings extensive industry knowledge and executive management experience to the Board.

Timothy J. Stultz, Ph.D., 65, has served as President, Chief Executive Officer and a director since August 2007. From June 2003 to August 2007, Dr. Stultz served as the President and Chief Executive Officer and a director of Imago Scientific Instruments Corporation, a supplier of proprietary 3-D atom probe microscopes to the research materials and microelectronics industries. Prior to Imago, Dr. Stultz served as President and Chief Executive Officer for ThauMDx, a developer of diagnostic systems and technologies for the analysis of biomolecules, drugs and chemicals. Dr. Stultz also serves on the Board of Directors of Tessera Technologies, Inc. Dr. Stultz received his B.S., M.S. and Ph.D. degrees in Materials Science and Engineering from Stanford University. In addition to his institutional knowledge as the executive leader of Nanometrics, Dr. Stultz's scientific background and significant senior executive management experience in high-tech industries is important to the Board.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT THE STOCKHOLDERS VOTE
"FOR" THE NOMINEES SET FORTH ABOVE.**

CORPORATE GOVERNANCE

Board of Directors Meetings and Committees

The full Board of Directors met a total of five times during the fiscal year ended December 29, 2012. During the fiscal year ended December 29, 2012, all directors attended at least 75% of the aggregate number of meetings of the Board of Directors and meetings of committees on which they served. The standing committees of the Board of Directors include an Audit Committee, a Compensation Committee and a Nominating and Governance Committee.

The Board of Directors has determined that for the fiscal year ended December 29, 2012, all of its directors meet the independence requirements of the NASDAQ Stock Market, with the exception of Timothy J. Stultz, Ph.D., due to his position as our President and Chief Executive Officer. From June 4, 2012, to August 3, 2012, Nanometrics employed Mr. Rhine's two children as engineering interns compensated at minimum wage (their collective compensation was less than \$6,200) in Nanometrics' Bend, Oregon office. As a result, during that time period Mr. Rhine was deemed to have accepted, indirectly, compensation from Nanometrics, and therefore did not meet the heightened independence criteria for service on the audit committee as set forth in Rule 10A-3(b)(1) under the Securities Exchange Act of 1934, resulting in the inadvertent noncompliance by Nanometrics with Nasdaq Listing Rule 5605(c)(2)(A). Mr. Rhine's children attend college out of state, and had they not lived at Mr. Rhine's home during the time they were working as interns, there would have been no violation of Nasdaq Listing Rule. The Board has reviewed this matter and has concluded that the employment of Mr. Rhine's two children did not impair Mr. Rhine's independence for service on our Board of Directors, and that before June 4, 2012, and following August 3, 2012, Mr. Rhine has been independent for purposes of serving on our Audit Committee.

Directors are encouraged to attend the annual meeting of stockholders. All members of the Board of Directors then in office attended the 2012 annual meeting of stockholders.

Audit Committee

The Audit Committee of the Board of Directors oversees our financial reporting, our internal audit and control functions, the results and scope of the annual audit and quarterly reviews conducted by our independent registered public accounting firm, and our compliance with legal matters that may have a significant impact on our financial reports. In addition, the Audit Committee has the responsibility to consider and recommend the engagement of, and to review fee arrangements with, our independent registered public accounting firm. The Audit Committee also monitors transactions between Nanometrics and our officers and directors for any potential conflicts of interest and assists the Board of Directors in its risk oversight role.

During the 2012 fiscal year, the Audit Committee consisted of Howard A. Bain III (chairman), J. Thomas Bentley and Bruce C. Rhine. The Board of Directors has determined that each member of our Audit Committee is "independent" within the meaning of the rules of the Securities and Exchange Commission and the Listing Rules of NASDAQ and has the qualifications or previous experience to be able to read and understand financial statements. Further, the Board of Directors has determined that each of Mr. Bain, Chairman of the Audit Committee, and Mr. Bentley qualifies as an "audit committee financial expert," as such term is used in the Securities and Exchange Commission rules.

The Audit Committee met nine times during the 2012 fiscal year.

The report of the Audit Committee is included on page 35 of this Proxy Statement. The Board of Directors has adopted a written Audit Committee Charter, which is available on our website at <http://investor.nanometrics.com/governance.cfm>.

Compensation Committee

The Compensation Committee has overall responsibility for evaluating and approving our executive officer compensation, including incentive compensation, benefit, severance, equity-based and other compensation plans, policies and programs. During the 2012 fiscal year, the Compensation Committee reviewed and approved our compensation policies and programs for the chief executive officer as well as established and had oversight responsibility with regard to the compensation of other executive officers of Nanometrics. The Compensation Committee also has the responsibility to recommend to the Board of Directors a compensation program for non-employee members of the Board.

The Compensation Committee is also responsible for approving the grant of stock options and stock awards to our employees under our equity compensation plans. The Compensation Committee has delegated to Nanometrics' officers the authority, within certain parameters, to approve the grant of stock options with respect to employees and consultants who are not executive officers for purposes of Section 16 of the Exchange Act. The Compensation Committee also assists the Board of Directors in assessing the risks, if any, associated with Nanometrics' overall compensation policies. Although the Compensation Committee has not done so to date, the Compensation Committee may, to the extent permitted under applicable law, the rules of NASDAQ and the Securities and Exchange Commission, and Nanometrics' Certificate of Incorporation and Bylaws, form and delegate its authority to a subcommittee when appropriate, including delegating to a subcommittee

consisting solely of independent, non-employee, outside directors to make grants of stock options to executive officers and directors, provided that such grants are presented to the full Compensation Committee for approval at the following Compensation Committee meeting.

During the 2012 fiscal year, the Compensation Committee consisted of J. Thomas Bentley (chairman), William G. Oldham, Stephen G. Newberry, and for part of the year, Bruce C. Rhine. Mr. Rhine resigned from the Compensation Committee on March 6, 2012. Each current member of our Compensation Committee is an “outside” director as defined in Section 162(m) of the Internal Revenue Code of 1986, as amended, and a “non-employee” director within the meaning of Rule 16b-3 of the Exchange Act. The Board of Directors has determined that each of the directors serving on our Compensation Committee is “independent” within the meaning of the Listing Rules of NASDAQ as currently in effect. The Compensation Committee met six times during the 2012 fiscal year.

The Compensation Committee Report is included on page 25 of this Proxy Statement. The Board of Directors has adopted a written Compensation Committee Charter, which is available on our website at <http://investor.nanometrics.com/governance.cfm>.

Compensation Committee Processes and Procedures: Typically, the Compensation Committee meets at least quarterly and with greater frequency if necessary. The Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees as well as outside consultants may be invited by the Compensation Committee to make presentations, to provide financial or other background information or advice or to otherwise participate in Compensation Committee meetings. The Chief Executive Officer may not participate in, or be present during, any deliberations or determinations of the Compensation Committee regarding his compensation. The charter of the Compensation Committee grants the Compensation Committee full access to all books, records, facilities and personnel of Nanometrics, as well as authority to obtain, at the expense of Nanometrics, advice and assistance from internal and external legal, accounting or other advisors and consultants and other external resources that the Compensation Committee considers necessary or appropriate in the performance of its duties. In particular, the Compensation Committee has the authority to retain compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant’s reasonable fees and other retention terms.

The Compensation Committee typically makes most of the significant adjustments to annual compensation, determined bonus and equity awards and established new performance objectives at one or more meetings held during the first quarter of the year. However, the Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of Nanometrics’ compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee’s process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. As discussed further in Compensation Discussion and Analysis below, for executives other than the Chief Executive Officer, the Compensation Committee solicits and considers evaluations and recommendations submitted to the Committee by the Chief Executive Officer. In the case of the Chief Executive Officer, the evaluation of his performance is conducted by the Compensation Committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives, as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current company-wide compensation levels and recommendations of the Compensation Committee’s compensation consultant, including analyses of executive compensation paid at other companies identified by the consultant.

During the past fiscal year, the Compensation Committee engaged Compensia, Inc. as its compensation consultant. Compensia has advised the committee for several years and is very familiar with the industry and geographies in which Nanometrics operates. The Compensation Committee requested that Compensia:

- evaluate the efficacy of Nanometrics’ existing compensation strategy and practices in supporting and reinforcing Nanometrics’ long-term strategic goals;
- assist in refining Nanometrics’ compensation strategy and in developing and implementing an executive compensation program to execute that strategy; and
- make recommendations regarding 2012 executive compensation.

As part of its engagement, the Compensation Committee requested that Compensia develop a comparative group of companies and to perform analyses of competitive performance and compensation levels for that group. The Committee instructed Compensia to select comparator companies similarly sized and in the same or closely related industry to that of Nanometrics using factors such as, but not limited to, revenue size, market cap, number of employees. At the request of the Compensation Committee, Compensia also provided information regarding the labor markets in which Nanometrics competes. Compensia ultimately developed recommendations that were presented to the Compensation Committee for its consideration.

Following an active dialogue with Compensia, the Compensation Committee made its independent determinations regarding the compensation of Nanometrics' executive officers. These decisions are discussed in the Compensation Discussion and Analysis section of this proxy statement.

Nominating and Governance Committee

The Nominating and Governance Committee assists the Board of Directors in identifying and qualifying candidates to join the Board of Directors and addresses various governance issues. The Nominating and Governance Committee utilizes a variety of methods for identifying and evaluating nominees. Its general policy is to assess the appropriate size and needs of the Board of Directors and whether any vacancies are expected due to retirement or otherwise. In addition, candidates for director nominees are typically reviewed in the context of the current composition of the Board, the operating requirements of Nanometrics, the current needs of the Board, and the long-term interests of stockholders, with the goal of maintaining a balance of knowledge, experience and capability. In the event those vacancies are anticipated, or otherwise arise, the Nominating and Governance Committee will consider recommending various potential candidates to fill such vacancies. Candidates may come to the attention of the Nominating and Governance Committee through its current members, stockholders or other persons. Pursuant to the Nominating and Governance Committee charter, the Committee will consider properly submitted stockholder recommendations for nominations for candidacy. Stockholders who wish to recommend individuals for consideration by the Nominating and Governance Committee to become nominees for election to the Board may do so by delivering a written recommendation to the Nominating and Governance Committee at our principal offices. Nominees may also be submitted directly by stockholders in accordance with Nanometrics' Bylaws as discussed under "Stockholder Proposals" above. Although the Nominating and Governance Committee does not have a formal policy regarding stockholder recommendations for director nominees because the Board of Directors has an open policy regarding communications with stockholders and has not deemed it necessary to develop a formal policy regarding recommendations for director nominations by stockholders, the Nominating and Governance Committee intends to consider director candidates properly submitted by stockholders under the same criteria as candidates recommended by directors or others.

The Nominating and Governance Committee has no specific minimum qualifications for director candidates. In general, however, persons considered for Board of Directors positions must have demonstrated leadership capabilities, be of sound mind and high moral character, have no personal or financial interest that would conflict or appear to conflict with the interests of Nanometrics and be willing and able to commit the necessary time for Board of Directors and committee service. The Nominating and Governance Committee also intends to consider such factors as possessing relevant expertise upon which to be able to offer advice and guidance to management, demonstrated excellence in his or her field, having the ability to exercise sound business judgment and having the commitment to rigorously represent the long-term interests of Nanometrics' stockholders. However, the Nominating and Governance Committee retains the right to modify these qualifications from time to time.

The Nominating and Governance Committee also recommends to the Board of Directors certain guidelines regarding corporate governance and standards regarding the independence of outside directors applicable to Nanometrics and reviews such guidelines and standards and the provisions of the Nominating and Governance Committee charter on a regular basis to confirm that such guidelines, standards and charter remain consistent with sound corporate governance practices and with any legal or regulatory requirements of NASDAQ and the Securities and Exchange Commission. The Nominating and Governance Committee also monitors the Board of Directors, and Nanometrics' compliance with any commitments made to our regulators and changes in corporate governance practices.

The Nominating and Governance Committee does not have a stated policy with regard to diversity of the Board of Directors. However, the Committee believes that Board members should represent a balance of diverse backgrounds and skills, including marketing, finance, manufacturing, engineering, science, and international experience.

During the 2012 fiscal year, the Nominating and Governance Committee consisted of William G. Oldham (chairman), Stephen J Smith, Ph.D., Norman V. Coates, and Bruce C. Rhine, who was appointed to the Nominating and Governance Committee on November 13, 2012. The Board of Directors has determined that each of the directors serving on our Nominating and Governance Committee is "independent" within the meaning of the Listing Rules of NASDAQ.

The Nominating and Governance Committee met four times in the 2012 fiscal year.

The Board of Directors has adopted a written Nominating and Governance Committee Charter, which is available on our website at <http://investor.nanometrics.com/governance.cfm>.

Board Structure

Bruce C. Rhine serves as the Chairman of the Board and Timothy J. Stultz, Ph.D. serves as both the Chief Executive Officer and a director of Nanometrics. We believe that having a separate Chairman and Chief Executive Officer is appropriate and is consistent with corporate governance best practices. From July 2006 to February 2008, Mr. Rhine served as our Chief

Strategy Officer, and from March 2007 to August 2007 Mr. Rhine served as our Chief Executive Officer. Because of his previous roles with Nanometrics, Mr. Rhine is intimately familiar with Nanometrics' business and industry, and very capable of effectively identifying strategic priorities, leading discussions of the Board of Directors and defining Nanometrics' strategic objectives. The Board of Directors determined that Mr. Rhine became an independent member of the Board effective February 2011 under the NASDAQ Listing Rules due to the passage of time subsequent to his previous management role with Nanometrics. Dr. Stultz, as the Chief Executive Officer, is the individual selected by the Board of Directors to manage Nanometrics on a day-to-day basis, and his prior experience and direct involvement in Nanometrics' operations allows him to provide valuable insights with respect to strategic planning and the operational requirements to meet Nanometrics' short- and long-term objectives. Nanometrics' independent directors bring experience, oversight and expertise from outside the company and industry.

The Board's Role in Risk Oversight

One of the Board's primary responsibilities is reviewing Nanometrics' strategic plans and objectives, including oversight of the principal risk exposures of the company. The Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through various Board standing committees that address risks inherent in their respective areas of oversight. In particular, the Board is responsible for monitoring and assessing strategic risk exposure, including a determination of the nature and level of risk appropriate for the company. The Audit Committee assists the Board in oversight and monitoring of the legal and financial risks facing Nanometrics, and management's approach to addressing these risks and strategies for risk mitigation. The Audit Committee is also responsible for discussing guidelines and policies governing the process by which management and other persons responsible for risk management, assess and manage Nanometrics' exposure to risk, as well as Nanometrics' major financial risk exposures and the steps management has taken to monitor and control such exposures, based on consultation with Nanometrics' management and independent auditors. Our Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. The Board addresses, at least annually, the principal current and future risk exposures of Nanometrics. The Board receives regular reports from members of senior management on areas of material risk to Nanometrics, including operational, financial, legal and regulatory, strategic and reputation risks.

Voting For Directors – Majority Vote Policy

If a nominee for director in an uncontested election receives a greater number of "withhold" votes for election than "for" votes ("Majority Withheld Vote"), that director must promptly tender to the Board his or her offer of resignation. If a director receives a Majority Withheld Vote, our Nominating and Governance Committee (or such other committee as the Board may appoint) shall make a recommendation to the Board, which will decide whether to accept or reject the resignation previously tendered by such director.

The Board must act on the tendered resignation, taking into account the recommendation of such committee, within 90 days from the date of the certification of the election results. The director whose resignation is under consideration is not permitted to participate in the recommendation of the committee or deliberations of the Board with respect to his or her resignation. However, if the only directors who did not receive a Majority Withheld Vote in the same election constitute less than a majority of directors, all directors may participate in the action regarding whether to accept the resignation offers. If a director's resignation is not accepted by the Board, the director will continue to serve until the next annual meeting of shareholders or until his or her successor is duly elected and qualified, or his or her earlier resignation or removal. If a director's resignation is accepted by the Board, then the Board, in its sole discretion, must fill any resulting vacancy or decrease the size of the Board.

Code of Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all directors, executive officers and employees. We post our Code of Business Conduct and Ethics on our website at: <http://investor.nanometrics.com/governance.cfm>.

Stockholder Communication Policy

We have established a formal process for stockholders to send communications to the Board of Directors or to individual directors. The names of all directors are available to stockholders in this Proxy Statement. Stockholder communications may be submitted in writing to Nanometrics Incorporated, 1550 Buckeye Drive, Milpitas, California 95035, Attention: Office of the Secretary. If we receive any stockholder communication intended for the full Board of Directors or any individual director, we will forward the communication to the full Board of Directors or the individual director, unless the communication is clearly of a marketing nature or is unduly hostile, threatening, illegal or similarly inappropriate.

Related Person Transaction Policy

Nanometrics has a written policy regarding related party transactions that requires that the Audit Committee review any transaction or series of transactions in excess of \$50,000 in any year between Nanometrics, on the one hand, and an officer, director or 5% or greater stockholder, on the other. Nanometrics' Chief Financial Officer has the responsibility for bringing the facts concerning a proposed related party transaction to the Audit Committee. The policy permits approval only in the event of a finding that the transaction is on terms no less favorable than would have been obtained in an ordinary arms-length transaction with an independent third party.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth beneficial ownership of Nanometrics common stock as of March 27, 2013, by each director, by each of the named executive officers, by all directors and executive officers as a group, and by all persons known to Nanometrics to be the beneficial owners of more than 5% of Nanometrics stock. Unless otherwise indicated, all persons and entities have sole voting and investment power over the shares reported. Unless otherwise indicated, the address of each executive officer or director of Nanometrics is 1550 Buckeye Drive, Milpitas, CA 95035. As of the close of business on March 27, 2013 there were 23,092,112 shares of common stock outstanding.

Name Of Beneficial Owner – Principal Stockholders	Amount and Nature of Beneficial Ownership ⁽¹⁾ Shares			
	Shares	RSU's to be released and Stock Options Exercisable Within 60 Days Of 3/27/2013	Total Shares Beneficially Owned	Percent Of Class
Wellington Management Company, LLP ⁽²⁾	2,065,404	0	2,065,404	8.9%
BlackRock, Inc. ⁽³⁾	1,790,465	0	1,790,465	7.8%
Artisan Partners Holdings LP, and related entities ⁽⁴⁾	1,636,200	0	1,636,200	7.1%
Royce & Associates, LLC ⁽⁵⁾	1,618,571	0	1,618,571	7.0%
The Vanguard Group ⁽⁶⁾	1,281,174	0	1,281,174	5.5%
Waddell & Reed Investment Management Company ⁽⁷⁾	1,181,192	0	1,181,192	5.1%
Name Of Beneficial Owner – Directors And Officers	Shares	RSU's to be released and Stock Options Exercisable Within 60 Days Of 3/27/2013	Total Shares Beneficially Owned	Percent Of Class
Bruce C. Rhine	858,986 ⁽⁸⁾	155,799	1,014,785	4.4%
Norman V. Coates	359,765 ⁽⁹⁾	9,099	368,864	1.6%
Howard A. Bain III	15,148 ⁽¹⁰⁾	29,973	45,121	*
J. Thomas Bentley	22,148	21,179	43,327	*
Edward J. Brown Jr.	0	0	0	*
William G. Oldham, Ph.D.	14,428	28,677	43,105	*
Stephen J Smith, Ph.D.	12,148	28,677	40,825	*
Stephen G. Newberry	4,493	9,192	13,685	*
Timothy J. Stultz, Ph.D.	130,558	255,936	386,494	1.7%
Bruce A. Crawford	70,133	83,309	153,442	*
Ronald W. Kisling	25,435	23,262	48,697	*
Nancy E. Egan	14,302	9,030	23,332	*
All executive officers and directors as a group (12 persons)	<u>1,527,544</u>	<u>654,133</u>	<u>2,181,677</u>	9.2%

- (1) As determined in accordance with Rule 13d-3 under the Securities and Exchange Act of 1934. Information obtained from Schedules 13G and 13G/A, as indicated in the footnotes below, is as of December 31, 2012, and does not reflect changes, if any, since that date.
- (2) According to a Schedule 13G/A filed with the SEC on February 14, 2013, Wellington Management Company, LLP ("Wellington Management"), has shared voting power over 1,119,302 of these shares, and shared investment power over these shares and therefore may be deemed to be the beneficial owner of these shares of common stock. The address of Wellington Management is 280 Congress Street, Boston, MA 02210.

- (3) According to a Schedule 13G/A filed with the SEC on February 8, 2013, by BlackRock, Inc., The address of BlackRock, Inc., is 40 East 52nd Street, New York, NY 10022.
- (4) According to a Schedule 13G filed with the SEC on February 6, 2013, Artisan Partners Holdings LP ("Artisan Holdings"), Artisan Investment Corporation, the general partner of Artisan Holdings ("Artisan Corp."), Artisan Partners Limited Partnership ("Artisan Partners"), Artisan Investments GP LLC, the general partner of Artisan Partners ("Artisan Investments"), ZFIC, Inc., the sole stockholder of Artisan Corp. ("ZFIC"), Andrew A. Ziegler and Carlene M. Ziegler, each has shared voting power with respect to 1,550,000 of these shares, and shared investment power over all of these shares, and therefore may be deemed to be the beneficial owner of these shares of common stock. The address of each of these entities and persons is 875 East Wisconsin Avenue, Suite 800, Milwaukee, WI 53202.
- (5) According to a Schedule 13G filed with the SEC on January 17, 2013, Royce & Associates, LLC may be deemed to be the beneficial owner of these shares of common stock. The address of Royce & Associates, LLC is 745 Fifth Avenue, New York, NY 10151.
- (6) According to a Schedule 13G filed with the SEC on February 12, 2013, The Vanguard Group ("Vanguard"), has sole voting power over 30,468 of these shares, sole investment power over 1,251,206 of these shares and shared investment power over 29,968 of these shares and therefore may be deemed to be the beneficial owner of these shares of common stock. The address of Vanguard is 100 Vanguard Blvd., Malvern, PA 19355.
- (7) According to a Schedule 13G filed with the SEC on February 7, 2013, Waddell & Reed Investment Management Company, Waddell & Reed Financial, Inc., Waddell & Reed Financial Services, Inc., and Waddell & Reed, Inc., may each be deemed to be the beneficial owner of these shares of common stock. The address of each of these entities is 6300 Lamar Avenue, Overland Park, KS 66202.
- (8) Consists of (i) 1,428 shares held of record by Mr. Rhine and (ii) 857,558 shares held of record by Mr. Rhine and his spouse.
- (9) Consists of (i) 2,111 shares held of record by Mr. Norman Coates and (ii) 357,654 shares held of record by the Vincent J. Coates Separate Property Trust, U/D/T dated August 7, 1981, for which Mr. Coates acts as a trustee.
- (10) Shares held of record by Mr. Bain and his spouse.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our executive officers and directors, and persons who own more than 10% of a registered class of our equity securities to file reports of ownership and changes in ownership with the Securities and Exchange Commission. Executive officers, directors and greater than 10% stockholders are required by Securities and Exchange Commission regulations to furnish Nanometrics with copies of all Section 16(a) forms that they file. Based solely on our review of the copies of such forms received by us or written representations from certain reporting persons, we believe that our executive officers, directors and greater than 10% stockholders have complied with all applicable filing requirements except for the Form 4s specified below relating to company withholding of RSU's for tax purposes. Nanometrics assists our executive officers and directors in the preparation and filing of Forms 4, and generally files the Forms 4 on behalf of our directors and executive officers using the powers of attorney given to certain executive officers of Nanometrics by our executive officers and directors delegating the authority to make the filings. Nanometrics inadvertently failed to file the Forms 4 for four executive officers relating to the withholding of shares for tax purposes as these did not constitute sales into the open market. Upon realizing the oversight, the withholding of shares for each of these executive officers was reported on a Form 5. The number of transactions not timely reported, and therefore the number of Forms 4 not filed (as the transactions were reported on a Form 5, were as follows: Timothy Stultz, three transactions; Bruce Crawford, three transactions; Ronald Kisling, one transaction, and Nancy Egan, one transaction.

EXECUTIVE COMPENSATION

2012 Compensation Discussion and Analysis

Philosophy and Objectives

Nanometrics' named executive officer compensation program is intended to enable us to attract, retain and motivate key executives and to align their interests with those of the stockholders by tying executive compensation to our short-term and long-term performance. The Compensation Committee acts on behalf of the Board of Directors and, by extension, on behalf of our stockholders, to establish, implement and continually monitor adherence to our compensation philosophy. The Compensation Committee's philosophy is to design a compensation package that balances the need for alignment between the interests of executive officers and stockholders in terms of producing short-term and long-term enhanced stockholder value, while achieving retention and motivation through appropriate incentives, taking into account both internal equity and external market information relative to our industry and size. The Compensation Committee designs the executive compensation program with the goal of providing total compensation to our named executive officers that is competitive and consistent with our compensation philosophy.

The Compensation Committee's principal objectives are to: (a) develop, recommend and approve compensation packages that are consistent with our philosophy; (b) link executive compensation to the achievement of financial, management or other performance goals and; (c) support our culture and core values by promoting equity among the executive team and maintaining the competitiveness of our overall compensation when compared with external opportunities.

Philosophy and Objectives Applied

The Compensation Committee relied on an independent outside compensation consulting firm, Compensia, our human resources department, and our Chief Executive Officer to provide information and recommendations to establish specific compensation packages for our named executive officers for the 2012 fiscal year ended December 29, 2012.

Our executive compensation packages for the 2012 fiscal year included three primary components – base salaries, cash bonus award opportunities and long-term equity incentive awards. Other elements included limited perquisites, other benefits (including retirement, health, and welfare benefits), and severance arrangements. The Compensation Committee considered the three primary components individually and in the aggregate to assess their competitiveness and effectiveness in retaining our executives and motivating them to create short-term and long-term enhanced stockholder value.

In the Compensation Committee's review of our named executive compensation for the 2012 fiscal year, the Compensation Committee considered publicly available market data for companies that typically include similarly-sized semiconductor and semiconductor capital equipment or similar firms for each executive in a like or similar role. For 2012 Compensia recommended that the Compensation Committee approve modifications to the group of peer companies for conducting compensation analysis from proxies to better reflect our size and business. The Compensation Committee considered the following factors:

- industry: Global Industrial Classification System code - Semiconductor and Semiconductor Equipment, and Electrical Equipment, Instruments and Components;
- geographic location: U.S. headquartered;
- revenues;
- market capitalization; and
- several other factors including profitability, growth and revenues relative to market capitalization.

A number of companies were removed from the peer group companies used in 2011 (Cascade Microtech, Cohu, Form Factor, FSI International, Intevae, Mattson Technology, and Semitool) because they no longer fit within our criteria. A number of companies (Cabot Microelectronics, FARA Technology, Maxell Technology, Mercury Technology, Newport, Photonics, Rubicon Technologies, Measurement Specialties, MTS Systems, OSI Systems and Rofin Sinar Technologies) were added because these companies better reflect the criteria described above. Our peer group companies considered for the 2012 fiscal year are listed below.

2012 Fiscal Year Peer Group Companies

Cabot Microelectronics	Electro Scientific Industries
FARO Technologies	LTX Credence
Maxwell Technologies	Measurement Specialties
Mercury Computer Systems	MTS Systems
Newport	OSI Systems
Photonics	Rofin Sinar Technologies
Rubicon Technologies	Rudolph Technologies
Ultratech	Zygo

The companies above were selected because they operate in our industry or similar industries, are comparable to Nanometrics based on both survey data and proxy data (revenues \$131 million to \$656 million, average of approximately \$324 million over the four quarters preceding selection) and/or market capital (\$249 million to \$917 million). Compensia gathered data with respect to base salary, target bonus awards and all equity awards, including stock options and restricted stock units, but did not benchmark to any specific percentile. We generally do not gather data regarding deferred compensation or employee benefits such as 401(k) or health care coverage generally available to broad groups of employees. Compensia is charged with gathering the market data and assisting in informing the Compensation Committee using their marketplace expertise and the market data gathered.

While the market data may identify a certain percentile of the market in which we operate with regard to base, bonus or long-term incentives, the Compensation Committee did not target any specific percentile but instead looked at each element as compared to the total targeted cash package and the various components, in light of the desired results,

internal equity and the information provided, and then decided if a change to compensation was warranted or not. The Compensation Committee also consulted with our Chief Executive Officer with respect to the appropriate compensation for the executives who report to him: Mr. Crawford, our Chief Operating Officer; Mr. Kisling, our Chief Financial Officer; and Ms. Egan, our General Counsel. The Chief Executive Officer reviewed the experience and qualifications, and performance of our executives using the elements and framework described under “2012 Executive Compensation Components” below, and made recommendations to the Compensation Committee about the structure of the overall compensation program and individual compensation arrangements. This framework provided a guide for the Compensation Committee’s deliberations and recommendations regarding proposals for salary, bonus opportunities and long-term equity incentive awards for each executive position. The Compensation Committee considered those factors that are controllable by management such as expenses and cash, account penetration and long-term stockholder value delivery and others that are less within management control such as revenue, which is subject to the short term industry cycles. The Compensation Committee did not apply formulas or assign specific mathematical weights to the peer group data or any of the factors discussed above, but rather exercised its business judgment and discretion to make a subjective determination after considering all of these measures collectively. The Compensation Committee then came to a conclusion based on the framework outlined above to approve an appropriate compensation package for each executive.

2012 Executive Compensation Components

For the 2012 fiscal year, the principal components of compensation for our named executive officers, Dr. Stultz, Messrs. Crawford and Kisling and Ms. Egan, were:

- Base salary;
- Bonus;
- Stock option grants;
- Restricted stock unit (RSU) grants; and
- Retirement and other benefits.

The Compensation Committee has chosen these components because it believes that each supports achievement of one or more of our compensation objectives, and that together they will be effective in this regard. The use of each compensation component is based on a determination by the Compensation Committee of the importance of each compensation objective in supporting our business and talent strategies. These components are commonly used for executives at companies within our peer group and, therefore, the Compensation Committee finds these to be appropriate in our talent retention strategy. The Compensation Committee’s determination varies for each executive officer depending on a number of factors, including but not limited to, scope of his or her responsibilities, leadership skills and values, individual performance and length of service with Nanometrics. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination after considering all of these measures collectively.

Base Salary

Base salaries serve as the foundation of Nanometrics’ compensation program. Other executive compensation elements, including annual short-term incentives and long-term incentives, are derived by weighing them against base salary. Nanometrics provides named executive officers with base salaries to compensate them for services rendered during the fiscal year and sets base salaries at levels which the Compensation Committee believes will effectively attract and retain top talent. The Compensation Committee determines base salaries for each named executive officer based on his or her experience, position and responsibility, as well as the contribution that he or she brings to Nanometrics through performance. During its annual review of base salaries for executives, the Compensation Committee primarily considers:

- the salaries of executive officers in similar positions at our peer group companies as discussed in the above section entitled “Philosophy and Objectives Applied”;
- our financial performance over the past year based upon the ability to achieve Board-approved financial metrics including revenue targets, operating income targets and other operating results metrics; and
- the individual performance of each named executive officer, his or her duties and areas of responsibility on a subjective basis, which may include, among other things: span of control; ability to influence, manage and produce results that increase profitability of Nanometrics; and ability to streamline and create efficiencies in the organization.

Salary levels are typically considered annually as part of our performance review process as well as upon a promotion or other change in job responsibility. Salaries are reviewed and determined by the Compensation Committee after reviewing salary data supplied by Compensia, which uses peer comparison groups, as well as consideration of the

compensation for our executives on a company-wide basis, based on their relative duties and responsibilities and the recommendations of our Chief Executive Officer as it relates to the executives who report to him. Stock price performance has not been a direct factor in determining annual base salary compensation because the price of our common stock is subject to a variety of factors outside of our control. The Compensation Committee also considered comparisons of peer group compensation to peer group performance provided by Compensia. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination regarding each executive's base salary after considering all of these measures collectively. Based on all of the data considered, the Committee increased the base salaries of Dr. Stultz, Mr. Crawford and Mr. Kisling. The Committee did not consider Ms. Egan's base salary because she had recently been hired.

Bonus

The Compensation Committee views cash bonuses as part of its performance-based compensation program designed to align the recipient's interests with our annual goals and objectives and our stockholders' interests. For the 2012 fiscal year, the Compensation Committee established the 2012 Executive Performance Bonus Plan. The 2012 Executive Performance Bonus Plan was designed to promote growth and profitability. Bonuses would be triggered upon our achievement of certain target metrics determined by the Compensation Committee.

The target bonus opportunity was divided into the following three discrete components: (i) 40% of the bonus opportunity was based on the achievement of a revenue target; (ii) 40% of the bonus opportunity was based on the achievement of a non-GAAP net earnings target; and (iii) 20% of the bonus opportunity was discretionary and determined by the Compensation Committee. The maximum award that an executive was entitled to receive under the 2012 Executive Performance Bonus Plan was: (a) an amount equal to two times the target bonus with respect to the revenue and net earnings components; and (b) with respect to the discretionary component, an amount equal to 1.5 times the 20% bonus opportunity. In addition, the 2012 Executive Performance Bonus Plan provided that no portion of the revenue component would be awarded if our actual annual revenue fell below 80% of the revenue target, and that no portion of the net earnings component would be awarded if our actual non-GAAP net earnings fell below 60% of the non-GAAP net earnings target. The revenue target for the 2012 fiscal year was \$243.96 million and the non-GAAP net earnings target was \$29.20 million; provided, however, these targets would be adjusted at the mid-year point if the forecasted industry spending on wafer fab equipment, as reported by specified third party industry reports, increased or decreased by 10% or more. The Compensation Committee included this adjustment mechanism so that executives would not be disproportionately rewarded or punished as a result of industry and economic cycles.

For the 2012 fiscal year, the Compensation Committee established an Executive Performance Bonus Plan under which Dr. Stultz had a target bonus opportunity equal to 100% of his base salary, Mr. Crawford had a target bonus opportunity equal to 70% of his base salary, Mr. Kisling had a target bonus opportunity equal to 55% of his base salary, and Ms. Egan had a target bonus opportunity equal to 40% of her base salary. Target bonus opportunities for each executive officer are reviewed and determined by the Compensation Committee after considering bonus award data supplied by Compensia, which uses peer comparison groups, as described under our section "Philosophy and Objectives Applied" above, as well as consideration of the compensation for our executives based on their relative duties and responsibilities. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination regarding each executive's target bonus opportunity after considering all of these measures collectively.

For the 2012 fiscal year, we achieved revenue of \$182.9 million and non-GAAP net earnings of \$5.3 million. At the mid-year point the change in forecasted industry spend in wafer fab equipment decreased by 7%, and as a result the targets were not adjusted. Because we did not achieve the minimum performance level to earn a bonus for these components, no bonus was awarded for these components. To determine the discretionary component of the bonus, the Compensation Committee considered management performance objectives and the contributions of the management team that are less subject to the industry cycles. The Compensation Committee awarded the discretionary portion of the bonus at 1.5 times the target based on its subjective determination of the executive's contributions during the year, including successful completion of our strategic initiatives including new account penetration and expansion of served markets, improved internal processes, and successful implementation of programs to improve operations and efficiency. As a result, Dr. Stultz and Messrs. Crawford and Kisling and Ms. Egan were entitled to, and received, under the 2012 Executive Performance Bonus Plan, cash bonuses in the amounts of \$139,500, \$72,765 \$51,975 and \$27,600, respectively.

Long-Term Incentive Compensation

The Compensation Committee believes that equity compensation plans are an essential tool to link the long-term interests of Nanometrics' stockholders and our employees, particularly its executive officers, and serve to motivate executives to make decisions that will, in the long run, optimize returns to stockholders. Equity compensation plans also enable us to provide an opportunity for increased equity ownership by executives and maintain competitive levels of total compensation. Each year the Compensation Committee considers incentive and retention needs, market competitiveness and industry and business conditions to make its subjective determination of the appropriate balance of stock options, which provide potential reward in the event of exceptional company performance, and restricted stock units, which provide a more predictable value.

Stock Option Grants. Dr. Stultz, Mr. Crawford and Mr. Kisling received stock option awards during the 2012 fiscal year. The Compensation Committee determined the size of these stock option awards based on an analysis of peer group data related to the size of equity awards, as described under our section "Philosophy and Objectives Applied" above, and other relevant factors, including peer group competitive data and the long-term incentives with respect to each named executive officer. The Compensation Committee did not benchmark to a specific target percentile, but instead considered proposed equity awards in the context of each executive's cash and total compensation package. In addition, the Compensation Committee considered other factors when determining each executive's equity compensation, including: the level of resulting alignment with the interests of Nanometrics' stockholders; such executive's position within the organization and the appropriate level of equity compensation for such position relative to others in the organization's hierarchy; such executive's contributions to Nanometrics' financial, operational and general performance; Nanometrics' stock price; and the Black-Scholes value of such awards. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination regarding each executive's stock option grants after considering all of these measures collectively. The Compensation Committee did not consider awarding stock options to Ms. Egan during the 2012 fiscal year because they already determined her compensation for the 2012 fiscal year, including stock option awards, when she was hired late in our 2011 fiscal year. As a result, her stock option awards were reported in our proxy statement for the 2012 annual meeting of stockholders.

Restricted Stock Unit Grants. Dr. Stultz, Mr. Crawford and Mr. Kisling received restricted stock unit awards during the 2012 fiscal year. Similar to stock options, the Compensation Committee believes that restricted stock units ("RSUs"), which increase in value as the market price of our common stock increases, both encourage our executives to work toward the longer term goal of creating stockholder value and provide retention value. RSUs align the interests of our executives to the interests of our stockholders because an executive that holds RSUs is exposed to the same market risks to which our stockholders are exposed. RSU award levels for 2012 were determined based on an analysis of peer group data related to the size of equity awards as described under our section "Philosophy and Objectives Applied" above, and other relevant factors, including peer group competitive data. The Compensation Committee did not benchmark to a specific target percentile, but instead considered proposed RSU awards in the context of each executive's cash and total compensation package. In addition, the Compensation Committee considered other factors when determining each executive's RSU award, including: the level of resulting alignment with the interests of our stockholders; such executive's position within the organization and the appropriate level of equity compensation for such position relative to others in the organization's hierarchy; such executive's contributions to our financial, operational and general performance; our stock price; and the Black-Scholes value of such awards. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination regarding whether to grant, and the size of grants of, restricted stock units to each executive. The Compensation Committee did not consider awarding restricted stock units to Ms. Egan during the 2012 fiscal year because they had already determined her compensation for the 2012 fiscal year when she was hired late in our 2011 fiscal year. As a result, decisions regarding her compensation have been discussed in our proxy statement for the 2012 annual meeting of stockholders.

Retirement and Other Benefits

All Nanometrics employees in the United States, including our named executive officers, are eligible to participate in our 401(k) plan, medical, dental and vision insurance, employee stock purchase plan, as well as our life and disability insurance policy. Nanometrics' 401(k) Plan and other generally available benefits programs allow us to remain competitive for employee talent, and we believe that the availability of these benefits programs generally enhances employee productivity and loyalty to Nanometrics. The main objectives of Nanometrics' benefits programs are to give employees access to quality healthcare, financial protection from unforeseen events, assistance in achieving retirement financial goals, and enhanced health and productivity, all in full compliance with applicable legal requirements. These generally available benefits typically do not specifically factor into decisions regarding an individual named executive officer's total compensation or equity award package.

Perquisites

Nanometrics provides certain named executive officers with a limited number of perquisites that the Compensation Committee believes are reasonable and consistent with our overall compensation program. Although the Compensation Committee seeks the advice of the human resources department on general market competitiveness for these benefits, it does not use a formal benchmarking process. The aggregate incremental costs to Nanometrics of these perquisites are included in the Summary Compensation Table in the "Other Compensation" column. Mr. Stultz receives a car allowance. All Named Executives are eligible to participate in an Executive Healthcare Reimbursement plan that provides for reimbursement of usual and customary costs that may not be covered under the medical, dental and eye care plans available to all other Nanometrics employees; actual amounts reimbursed are included in the Summary Compensation Table as "other compensation".

Severance Benefits

The Compensation Committee considers maintaining a stable and effective management team to be essential to protecting and enhancing the best interests of Nanometrics and its stockholders. Accordingly, the Compensation Committee has taken steps to encourage the continued attention, dedication and continuity of members of our management to their assigned duties without the distraction that may arise from the potential termination of employment. Specifically, we have entered into agreements with our four named executive officers providing for severance payments and benefits, consisting of cash severance, accelerated vesting of equity awards and continued health care benefits, upon a termination of employment without cause or resignation for good reason in connection with a "change in control" of Nanometrics, as described in greater detail below in the section headed "Employment Contracts and Termination of Employment and Change-in-Control Arrangements." Nanometrics entered into these agreements with Dr. Stultz and Mr. Crawford in 2010, and with each of Mr. Kisling and Ms. Egan at the time each was hired in 2011. In addition, the agreements with our Chief Executive Officer, Dr. Stultz, and our Chief Operating Officer, Mr. Crawford, provide for severance payments and benefits, consisting of cash severance and continued health care benefits and, in the case of Mr. Crawford, accelerated vesting of equity awards, upon a termination of employment without cause or resignation for good reason outside of a change of control situation, also described in greater detail in the section headed "Employment Contracts and Termination of Employment and Change-in-Control Arrangements." In all cases, in exchange for receiving severance benefits and payments, the executive officer will be subject to non-compete, non-solicitation, and non-disparagement restrictions, and is required to execute a full release and waiver of any claims against Nanometrics.

When entering into these agreements, the Compensation Committee analyzes data and suggestions from Compensia as well as our human resources department, which information includes comparing such amounts against our peer group. However, the Compensation Committee did not benchmark to any specific percentile, but rather exercised its business judgment and discretion to make a subjective determination after considering this information. The peer group used in this analysis is the same peer group that we consider in connection with our analysis and determination of the total compensation packages for our executives, at the time Nanometrics entered into the agreement with the individual Executive Officer.

After considering industry practices and reviewing the policies and practices of the companies in our peer group, the Compensation Committee determined that our severance and benefits agreements are necessary and appropriate in substance and scope to provide competitive compensation to the types of individuals that Nanometrics desires to attract, hire and retain. The Compensation Committee also believes that these agreements are consistent with our overall compensation philosophy. The Compensation Committee periodically monitors industry practice in this area to ensure that these agreements remain consistent with industry practice and our overall compensation philosophy of offering competitive compensation to preserving our ability to attract and retain key executives

Tax and Accounting Implications

As part of its role, the Compensation Committee reviews and considers both tax and accounting related implications as they apply and as they evolve.

As part of its role, the Compensation Committee reviews and considers the deductibility of executive compensation under Section 162(m) of the Internal Revenue Code, which provides that we may not deduct compensation of more than \$1,000,000 that is paid to certain executive officers, unless certain exemption requirements are met. Exemptions to this deductibility limit may be made for various forms of "performance-based" compensation, including compensation that will be payable in the future under our Executive Performance Bonus Plan which was approved by stockholders in 2012. We believe that compensation paid under the management long-term equity incentive plans is generally fully deductible for federal income tax purposes. However, in certain situations, the Compensation Committee may approve compensation that will not meet these requirements to ensure competitive levels of total compensation for our executive officers.

Section 4999 and Section 280G of the Internal Revenue Code provide that executives could be subject to additional taxes if they receive payments or benefits that exceed certain limits in connection with a change in control of Nanometrics and that

Nanometrics could lose an income tax deduction for such payments. We have not provided any executive with a tax “gross up” or other reimbursement for tax amounts the executive might be required to pay under Section 4999 or Section 280G of the Internal Revenue Code as the Compensation Committee determined that this was not consistent with best practices.

Section 409A of the Internal Revenue Code imposes additional taxes and interest on underpayments in the event that an executive defers compensation under a compensation plan that does not meet the requirements of Section 409A. We believe that we are operating in good faith compliance with Section 409A and have structured our compensation and benefits programs and individual arrangements in a manner intended to comply with the requirements thereof.

Our Compensation Committee may grant equity awards under our 2005 Equity Incentive Plan to the Named Executives and other employees as incentive compensation. The Compensation Committee meeting schedule is determined several months in advance, and, therefore, proximity of any award date to a material news announcement or a change in our stock price, if any, is coincidental. We do not backdate equity awards or make equity awards retroactively. In addition, we do not coordinate our equity grants to precede announcements of favorable information or follow announcements of unfavorable information. Equity awards are priced using the closing market price of the common stock on the date of grant.

Risks Associated With Compensation Plans

In 2012, the Compensation Committee determined that our compensation policies and practices for our employees are not reasonably likely to cause employees to take risks that would have a material adverse effect on the company.

Results of 2012 Shareholder Advisory Vote to Approve Executive Compensation

At our 2012 annual meeting of stockholders, we requested our stockholders to approve, on an advisory (non-binding) basis, the compensation paid to our executive officers as reported in the proxy statement for the 2012 annual meeting. Our stockholders expressed substantial support for our executive compensation, with approximately 97.5% of the shares present and entitled to vote voting for approval of the “say-on-pay” advisory vote approving our executive compensation. Because of the high level of support expressed by our stockholders for the 2012 fiscal year executive compensation, the Compensation Committee has continued to apply a similar approach for executive compensation decisions and policies.

2012 Summary Compensation Table

The following table sets forth the compensation for the past three fiscal years for (i) our Chief Executive Officer, (ii) our Chief Financial Officer, and (iii) each of our other executive officers not serving as Chief Executive Officer or Chief Financial Officer, all of whom are collectively referred to as the “named executive officers.”

SUMMARY COMPENSATION TABLE

Fiscal Year 2012

	Year	Salary (\$)	Bonus ⁽¹⁾ (\$)	Stock Awards ^{(2),(3)} (\$)	Option Awards ^{(2),(4)} (\$)	Non-Equity Incentive Plan Compensation (\$)	All Other Compensation ⁽⁵⁾ (\$)	Total
Dr. Timothy J. Stultz President, Chief Executive Officer and Director	2012	465,000	139,500	380,600	575,815	0	22,170	1,583,085
	2011	425,000	0	0	0	296,997	26,641	748,638
	2010	395,473	0	0	811,860	600,000	28,504	1,835,837
Bruce A. Crawford Chief Operating Officer	2012	346,500	72,765	190,300	287,908	0	21,956	919,428
	2011	330,000	0	0	0	215,236	22,155	567,391
	2010	324,986	0	0	439,758	515,000	5,665	1,285,409
Ronald Kisling Chief Financial Officer	2012	315,000	51,975	95,150	143,954	0	6,186	612,265
	2011	242,308	0	161,600	293,892	111,811	14,337	823,948
	2010	0	0	0	0	0	0	0
Nancy E. Egan Chief Legal Officer	2012	227,346	27,600	0	0	0	3,452	258,398
	2011	37,154	0	86,150	208,268	14,326	0	345,898
	2010	0	0	0	0	0	0	0

- (1) Amounts reflected for 2012 are those earned under our "FY 2012 Executive Performance Bonus Plan", however, not paid until 2013.
- (2) Amounts shown do not reflect compensation actually received by the named executive officer. Instead, the amounts shown are the aggregate fair value of equity awards granted for financial statement reporting purposes, as determined pursuant to ASC Topic 718. The assumptions used to calculate the value of the equity awards are set forth under Note 15 of the Notes to Consolidated Financial Statements included in Nanometrics' Annual Report on Form 10-K for the fiscal year ended December 29, 2012 filed with the SEC on March 12, 2013.

- (3) The Board of Directors, for FY 2012, awarded Messrs.' Stultz, Crawford and Kisling restricted stock unit awards in the amount of 20,000, 10,000, 5,000 respectively on February 17, 2012. All such RSU's vest annually over three years from the grant date. The fair market value on the date of grant was \$19.03.
- (4) The Board of Directors, for FY 2012, awarded Messrs.' Stultz, Crawford and Kisling stock option awards in the amount of 50,000, 25,000, 12,500 respectively on February 17, 2012 with an exercise price of \$19.03. All such options vest in equal monthly installments over four years from the grant date.
- (5) Represents FY2012 additional compensation for named executive officers as follows: Dr. Stultz received reimbursements under our Executive Health Care Plan in the amount of \$3,270, an employer 401k match in the amount of \$4,500 and a car allowance in the amount of \$14,400. Mr. Crawford received \$17,456 through our Executive Health Care Plan, an employer 401k match of \$4,500. Mr. Kisling received reimbursements under our Executive Health Care Plan in the amount of \$1,686, and an employer 401K match of \$4,500. Ms. Egan received \$52 under our Executive Health Care Plan, and an employer 401K match of \$3,400.

2012 Grants of Plan-Based Awards Table

The following table sets forth information with respect to grants of plan-based awards during the 2012 fiscal year that ended December 29, 2012, to each of the named executive officers.

GRANTS OF PLAN BASED AWARDS TABLE For Fiscal Year 2012

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards ⁽¹⁾			All Other Stock Awards	All Other Option Awards	Exercise or Base Price of Option Awards (\$/sh)	Grant Date Fair Value Of Stock And Options Awards (\$) ⁽³⁾
		Threshold (\$)	Target (\$)	Maximum (\$)	Number of Shares of Stock or Units (#)	Number Of Securities Underlying Options # ⁽²⁾		
Dr. Timothy J. Stultz		0	465,000	883,500				
	2/17/2012				20,000			380,600
	2/17/2012					50,000	19.03	575,815
Bruce A. Crawford		0	242,550	460,845				
	2/17/2012				10,000			190,300
	2/17/2012					25,000	19.03	287,908
Ronald W. Kisling		0	173,250	329,175				
	2/17/2012				5,000			95,150
	2/17/2012					12,500	19.03	143,954
Nancy E. Egan		0	92,000	174,800				

- (1) Please refer to 2012 Executive Performance Bonus Plan description on page 16.
- (2) All referenced restricted stock units vest in equal annual installments over a 3 year period
- (3) Amounts shown do not reflect compensation actually received by the named executive officer. Instead, the amounts shown are the aggregate fair value of equity awards granted for financial statement reporting purposes, as determined pursuant to ASC Topic 718. The assumptions used to calculate the value of the options are set forth under Note 15 of the Notes to Consolidated Financial Statements included in Nanometrics' Annual Report on Form 10-K for the fiscal year ended December 29, 2012, filed with the SEC on March 12, 2013.

Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table

Our 401(k) savings plan allows employees to contribute up to 100% of their annual compensation to the plan on a pre-tax or after-tax basis, limited to a maximum annual amount as set periodically by the Internal Revenue Service. The plan provides a 20% match by Nanometrics of all employee contributions.

In the 2012 fiscal year, all corporate officers and non-employee directors were eligible to participate in a Nanometrics self-funded Executive Reimbursement Plan (which plan was previously administered by Phillips Administrative Services, and is currently administered by Benefit and Risk Management Services). This plan is intended to supplement our basic health plan by reimbursing expenses that are not covered by our health plan. Dr. Stultz is also entitled to a car allowance. Attributed costs of the perquisites described above for the named executive officers for the fiscal year ended December 29, 2012, are included in the "Summary Compensation Table" on page 19. All such perquisites are taxable to the executive and included as a portion of such executive's wages.

Outstanding Equity Awards at Fiscal Year 2012 Table

The following table sets forth certain information regarding outstanding equity awards held by each of the named executive officers at the end of the 2012 fiscal year that ended December 29, 2012.

Name	Grant Date	Option Awards				Stock Awards	
		Number of Securities Underlying Unexercised Options (#)		Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock that have not Vested (#)	Market Value of Shares or Units of Stock That have Not Vested (\$) ⁽¹⁾
		Exercisable	Unexercisable				
Dr. Timothy J. Stultz	2/17/2012 ⁽²⁾					20,000	286,400
	2/17/2012 ⁽⁴⁾	10,416	39,584	19.03	02/17/19		
	11/16/2010 ⁽⁴⁾	56,666	57,500	11.37	11/16/17		
	11/17/2009 ⁽⁶⁾	45,834	0	13.08	11/17/16		
	11/19/2008 ⁽⁶⁾	33,334	0	0.98	11/19/15		
	8/29/2007 ⁽⁷⁾	66,666	0	7.35	08/29/17		
Bruce. A. Crawford	2/17/2012 ⁽²⁾					10,000	143,200
	2/17/2012 ⁽⁴⁾	5,208	19,792	19.03	02/17/19		
	11/16/2010 ⁽⁴⁾	33,854	31,146	11.37	11/16/17		
	11/17/2009 ⁽⁶⁾	12,500	0	13.08	11/17/16		
	9/3/2009 ⁽⁸⁾	3,443	0	7.50	09/03/16		
	2/25/2009 ⁽⁶⁾	1,667	0	1.17	02/25/16		
Ronald W. Kisling	2/17/2012 ⁽²⁾					5,000	71,600
	3/14/2011 ⁽³⁾					7,500	107,400
	2/17/2012 ⁽⁴⁾	2,604	9,896	19.03	02/17/19		
	3/14/2011 ⁽⁵⁾	13,125	16,875	16.16	03/14/18		
Nancy E. Egan	11/14/2011 ⁽²⁾					3,333	47,729
	11/14/2011 ⁽⁵⁾	5,416	14,584	17.23	11/14/18		

- (1) The closing market price of Nanometrics common stock on December 28, 2012, the last trading day of our 2012 fiscal year, was \$14.32.
- (2) Restricted stock units vest at a rate of 1/3rd per year on each anniversary of the grant date.
- (3) Restricted stock units vest at a rate of 25% per year on each anniversary of the grant date.
- (4) Options vest in equal monthly installments over a total of four years, and have a term of seven years.
- (5) Mr. Kisling and Ms. Egan each received an award of stock options in connection with their respective hiring that vest and become exercisable 1/4th on the first anniversary of the hire date, with the remainder in equal monthly installments over the following three years.
- (6) Options vest in equal monthly installments over a total of three years and have a term of seven years.
- (7) Dr. Stultz received a stock option award of 200,000 options in connection with his hiring, that vest and become exercisable 1/3rd in the first year, the remainder vests monthly thereafter for a total of three years. The grant has a term of ten years.
- (8) Mr. Crawford had 16,425 options cancelled and re-granted in connection with our stock option exchange in FY 2009. The re-granted options vested and became exercisable 1/3rd immediately with the remainder vesting monthly on a pro-rata basis beginning the 13th month following the grant date.

Option Exercises and Stock Vested Table

The following table shows all stock options exercised and value realized upon exercise, and all stock awards vested and value realized upon vesting, by the named executive officers during the 2012 fiscal year that ended December 29, 2012.

OPTION EXERCISES AND STOCK VESTED FOR FISCAL YEAR 2012

Name	Option Awards		Stock Awards	
	Number of Shares Acquired On Exercise (#)	Value Realized on Exercise (\$)	Number of Shares Acquired On Vesting (#)	Value Realized on Vesting (\$)
Dr. Timothy J. Stultz ^{(1),(2)}	30,000	331,739	6,666	91,791
Bruce Crawford ⁽²⁾			3,333	45,895
Ronald Kisling ⁽³⁾			2,500	44,125
Nancy Egan ⁽⁴⁾			1,667	22,938

(1) Represents options exercises by Mr. Stultz as follows:

Exercise Date	Number of Shares	Exercise Price (\$)	Sale Price (\$)	Value Realized on Sale (\$)
3/1/2012	2,083	13.08	18.24	10,748
	2,917	11.37	18.24	20,040
	6,667	7.35	18.24	72,604
	3,333	0.98	18.24	57,528
4/2/2012	2,083	13.08	18.90	12,123
	2,917	11.37	18.90	21,965
	6,667	7.35	18.90	77,004
	3,333	0.98	18.90	59,727
	<u>30,000</u>			<u>331,739</u>

(2) Represents RSU's released on 11/17/2012. The fair market value was \$13.77.

(3) Represents RSU's released on 3/14/2012. The fair market value was \$17.65.

(4) Represents RSU's released on 10/31/2012. The fair market value was \$13.76.

Employment Contracts and Termination of Employment and Change-in-Control Arrangements

In February 2010, Nanometrics entered into amended executive severance agreements with each of Dr. Stultz and Mr. Crawford. In March 2011 and October 2011, Nanometrics entered into executive severance agreements with Mr. Kisling and Ms. Egan, respectively. The agreements each provide that, in the event of the officer's termination without cause or resignation for good reason within 12 months of a change of control, he or she will receive (i) a payment equal to his or her then-current annual base salary, (ii) a payment equal to the most recent bonus he or she actually received, (iii) subject to his or her satisfaction of certain eligibility requirements, reimbursement of COBRA premiums for a period of one year, and (iv) acceleration of all of his or her outstanding unvested shares; provided that the maximum amount that he or she is entitled to receive under (i) above (base salary severance) and (ii) above (bonus severance, not including equity vesting acceleration) may not exceed two times his or her then-current base salary, calculated on a pre-tax basis.

In addition, the agreement with Dr. Stultz further provides that, in the event of his termination without cause not in connection with a change in control, Dr. Stultz will receive (i) his then-current base salary and any accrued or earned bonus, paid on normal paydays for a period of six months, and (ii) subject to his satisfaction of certain eligibility requirements, reimbursement of COBRA premiums for a period of six months. The agreement with Mr. Crawford further provides that, in the event of his termination without cause or resignation for good reason not in connection with a change in control, Mr. Crawford will receive (i) his then-current annual base salary on normal paydays for a period of six months, (ii) subject to his satisfaction of certain eligibility requirements, reimbursement of COBRA premiums for a period of one year, and (iii) acceleration of the portion of his unvested equity compensation awards that would have vested if his termination had occurred on the first anniversary of such termination date. In all cases, in exchange for receiving benefits, the executive officer will be subject to non-compete, non-solicitation, and non-disparagement restrictions, and is required to execute a full release and waiver of any claims against Nanometrics.

In addition, under the terms of our 2005 Equity Incentive Plan, in the event of a merger or change in control in which outstanding stock options or restricted stock units held by the named executive officers are not assumed or substituted with stock options or restricted stock units of the surviving company, such awards will vest and become fully exercisable or payable.

The table below estimates amounts payable upon a separation as if the individuals were separated on December 28, 2012, which was the last business day of our 2012 fiscal year.

		Not in connection with Change in Control	In connection with Change in Control
		Termination Without Cause/ Good Reason (\$)	Termination Without cause For Good Reason Or Due to Disability or Death (\$)
Timothy J. Stultz	Severance pay	232,500	465,000
	Equity vesting acceleration ⁽¹⁾	0	456,025
	Bonus	148,499	296,997
	Health Care Benefits Continuation	9,255	18,510
		<u>390,254</u>	<u>1,236,532</u> ⁽²⁾
Bruce A. Crawford	Severance pay	173,250	346,500
	Equity vesting acceleration ⁽¹⁾	95,671	235,081
	Bonus	0	215,236
	Health Care Benefits Continuation	27,072	27,072
		<u>295,993</u>	<u>823,889</u> ⁽²⁾
Ronald W. Kisling	Severance pay	0	315,000
	Equity vesting acceleration ⁽¹⁾	0	179,000
	Bonus	0	111,811
	Health Care Benefits Continuation	0	16,867
		<u>0</u>	<u>622,678</u> ⁽²⁾
Nancy E. Egan	Severance pay	0	230,000
	Equity vesting acceleration ⁽¹⁾	0	47,729
	Bonus	0	14,326
	Health Care Benefits Continuation	0	10,161
		<u>0</u>	<u>302,216</u> ⁽²⁾

(1) Represents the estimated potential incremental value of additional stock options and restricted stock units that would have vested for our named executive officers as of December 28, 2012. For stock options, the value is based on the difference between the aggregate exercise price of all accelerated options and the aggregate market value of the underlying shares as of December 28, 2012, calculated based on the closing market price of our stock on December 28, 2012 (\$14.32). Accelerated restricted stock unit award value is calculated by multiplying the number of accelerated shares by the closing price of our stock on December 28, 2012. (\$14.32)

(2) The change of control agreements provide that payments to the executive representing base pay and bonus upon change of control may not exceed 2 times the executive's annual base salary.

Compensation of Directors

During the 2012 fiscal year, non-employee directors received an annual retainer fee of \$30,000. In addition, the Chairman of the Board, Audit Committee Chairman, Compensation Committee Chairman and Nominating and Governance Committee Chairman received an incremental \$15,000, \$20,000, \$15,000 and \$10,000 annual retainer, respectively, for serving in such capacities. Committee members, other than the chairpersons, received an incremental \$7,500 annual retainer for each Committee on which they serve. In addition, the non-employee director serving as the Chairman of the Scientific Advisory Board received an incremental retainer of \$10,000. All retainer fees are paid annually, as of the date of our annual stockholders meeting and in advance of the provision of services to which the retainer relates.

Non-employee directors are also eligible to participate in our 2005 Equity Incentive Plan, and in 2012 each such director received equity incentives, issued in equal portions of stock options and restricted stock units, valued at \$62,500. We calculated the value of such equity incentives using the Black-Scholes valuation methodology for stock options and the closing market price of our stock on the NASDAQ Stock Market as of the date of our annual stockholders meeting. These awards vest on the first anniversary date of the grant.

Any new non-employee director will be eligible to receive equity incentives valued at \$75,000 with equal portions of stock options and restricted stock units. The value of the stock options will be determined using the same methodology Nanometrics uses to record the accounting expense. Vesting of these awards will be in three equal annual installments.

If a director ceases to serve as a member of Nanometrics' Board, a portion of the fees shall be refunded and equity awards shall be forfeited on a pro-rated basis.

Non-employee directors are eligible to participate in Nanometrics self-funded Executive Reimbursement Plan, which is intended to supplement our basic health plan by reimbursing expenses that are not covered by our health plan. All such reimbursements are considered taxable income to our non-employee directors.

2012 Director Compensation Table

The following table sets forth information regarding the compensation for each of our non-employee directors for the 2012 fiscal year that ended December 29, 2012. Nanometrics' non-employee director compensation program for the 2012 fiscal year comprises: (a) cash compensation, consisting of annual retainer fees, additional fees for chairing Board committees, additional fees for serving as a committee member and (b) equity compensation, consisting of stock option grants and restricted stock units. Each of these components is detailed below.

DIRECTOR COMPENSATION FOR FISCAL YEAR 2012

	Fees Earned or Paid in Cash (\$)	Stock Awards (\$) ^{(1),(2)}	Option Awards (\$) ^{(1),(2)}	All Other Compensation (\$) ⁽³⁾	Total (\$)
Bruce C. Rhine ⁽⁶⁾	52,500	31,243	31,250	3,432	118,425
Howard A. Bain III ⁽⁷⁾	50,000	31,243	31,250	3,405	115,898
J. Thomas Bentley ⁽⁸⁾	52,500	31,243	31,250	28,192 ⁽⁴⁾	143,185
Norman Coates ⁽⁹⁾	37,500	31,243	31,250	0	99,993
Stephen G. Newberry ⁽¹⁰⁾	37,500	31,243	31,250	0	99,993
William G. Oldham, Ph.D. ⁽¹¹⁾	47,500	31,243	31,250	0	109,993
Stephen J Smith, Ph.D. ⁽⁵⁾⁽¹²⁾	47,500	31,243	31,250	25,433 ⁽⁴⁾	135,426

- (1) Amounts shown do not reflect compensation actually received by the named director. Instead, the amounts shown are the aggregate grant date fair value calculated for financial statement reporting purposes, as determined pursuant to Accounting Standards Codification ("ASC") Topic 718, but excluding any effect of any estimated forfeitures. The assumptions used to calculate the value of awards are set forth under Note 15 of the Notes to Consolidated Financial Statements included in Nanometrics' Annual Report on Form 10-K for fiscal 2012 filed with the SEC on March 12, 2013.
- (2) On May 24, 2012, each non-employee director received a restricted stock unit award in the amount of 2,111 shares of common stock. All RSU's vest on the first anniversary of the grant date. The fair market value for RSU's was \$14.80 per share on the date of grant. Stock option awards to each director were also made on May 24, 2012, to purchase 3,655 shares of common stock that fully vests on the first anniversary of the grant date. The fair value was established as \$8.55 per share.
- (3) Representing health care reimbursements extended to Directors.
- (4) Includes payment of \$24,125 representing reimbursement for the value (difference between the fair market value on the date of grant and fair market value on the date the grant expired by its terms) of stock options properly granted, but improperly recorded by the Nanometrics and its third party stock administrator. As a result of Nanometrics' clerical error, the expiration date of the grant was improperly recorded and communicated to the grantees, the grants expired by their terms without the grantees' knowledge.
- (5) Mr. Smith serves as Chair on Nanometrics Scientific Advisory Board for which he receives an annual payment of \$10,000 for his services.
- (6) At December 29, 2012, Mr. Rhine had 153,688 outstanding options to purchase shares of common stock and 2,111 unvested restricted stock units.
- (7) At December 29, 2012, Mr. Bain had 27,862 outstanding options to purchase shares of common stock and 2,111 unvested restricted stock units.
- (8) At December 29, 2012, Mr. Bentley had 19,068 outstanding options to purchase shares of common stock and 2,111 unvested restricted stock units.
- (9) At December 29, 2012, Mr. Coates had 6,988 outstanding options to purchase shares of common stock and 2,111 unvested restricted stock units.
- (10) At December 29, 2012, Mr. Newberry had 7,604 outstanding options to purchase shares of common stock and 3,699 unvested restricted stock units.
- (11) At December 29, 2012, Mr. Oldham had 26,566 outstanding options to purchase shares of common stock and 2,111 unvested restricted stock units.
- (12) At December 29, 2012, Mr. Smith had 26,566 outstanding options to purchase shares of common stock and 2,111 unvested restricted stock units.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During the 2012 fiscal year, the Compensation Committee consisted of J. Thomas Bentley (chairman), William G. Oldham, Stephen G. Newberry, and for part of the year, Bruce C. Rhine. Mr. Rhine resigned from the Compensation Committee on March 5, 2012. Mr. Rhine previously served as our Chief Strategy Officer from July 2006 to February 2008 and as our Chief Executive Officer from March 2007 to August 2007. None of Nanometrics' executive officers serves as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of Nanometrics' Board or Compensation Committee.

COMPENSATION COMMITTEE REPORT¹

The Compensation Committee has reviewed and discussed with management the "Compensation Discussion and Analysis" section of this Proxy Statement and, based on such review and discussion, recommended to the Board of Directors that the Compensation Discussion and Analysis section be included in this Proxy Statement and incorporated into Nanometrics' Annual Report on Form 10-K for the fiscal year ended December 29, 2012.

The Compensation Committee

J. Thomas Bentley, Chairman
William G. Oldham, Ph.D.
Stephen G. Newberry

¹ The material in this report is not "soliciting material," is furnished to, but not deemed "filed" with, the Securities and Exchange Commission and is not deemed to be incorporated by reference in any filing of the Company under the Securities Act or the Exchange Act, other than the Company's Annual Report on Form 10 K, where it shall be deemed to be "furnished," whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

PROPOSAL 2

ADVISORY (NON-BINDING) VOTE ON EXECUTIVE COMPENSATION

At the 2011 Annual Meeting of Stockholders, the stockholders indicated their preference that Nanometrics solicit a non-binding advisory vote on the compensation of the named executive officers, commonly referred to as a “say-on-pay” vote, every year. The Board of Directors has adopted a policy that is consistent with that preference. In accordance with this policy, this year we are again requesting our stockholders to approve an advisory resolution on Nanometrics’ executive compensation as reported in this Proxy Statement, and as required by Section 14A(a)(1) of the Exchange Act. This vote is not intended to address any specific item of compensation, but the overall compensation of our named executive officers and the philosophy, policies and practices described in this Proxy Statement.

As described more fully in the Compensation Discussion and Analysis section and other compensation-related disclosures in the proxy statement, consistent with its compensation philosophy and pay-for-performance principles, Nanometrics’ executive compensation program has been designed to provide competitive compensation packages that enable Nanometrics to attract and retain talented executives, motivate executive officers to achieve Nanometrics’ short- and long-term business strategies and objectives, and align the interests of executives with those of stockholders, and are consistent with current market practices and good corporate governance principles.

We encourage you to read the Compensation Discussion and Analysis, compensation tables and related narrative discussion in this Proxy Statement.

The Compensation Committee and the Board of Directors believe that the policies and procedures articulated in the “Compensation Discussion and Analysis” are effective in achieving our goals and that the compensation of our named executive officers reported in this Proxy Statement has contributed to our recent and long-term success.

In accordance with Section 14A of the Exchange Act, as a matter of good corporate governance, and in accordance with the policy adopted by the Board of Directors to provide an annual “say-on-pay” advisory vote, we are asking stockholders to approve the following advisory resolution at the annual meeting:

RESOLVED, that the stockholders of Nanometrics Incorporated (the “Company”) approve, on an advisory basis, the compensation of Nanometrics’ named executive officers disclosed in the Compensation Discussion and Analysis, the Summary Compensation Table and the related compensation tables, notes and narratives in the Proxy Statement for Nanometrics’ 2013 Annual Meeting of Stockholders.

This advisory, “say-on-pay” resolution is non-binding on Nanometrics, the Compensation Committee and the Board of Directors. Although this resolution is non-binding, the Compensation Committee and the Board of Directors value the opinions that stockholders express in their votes and in any additional dialogue, and will review and consider the outcome of the vote and those opinions when making future compensation decisions.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT STOCKHOLDERS VOTE “FOR” THE ADVISORY RESOLUTION APPROVING THE COMPANY’S EXECUTIVE COMPENSATION.

PROPOSAL 3

APPROVAL OF OUR 2005 EQUITY INCENTIVE PLAN, AS AMENDED

The Board of Directors is requesting that the stockholders approve our 2005 Equity Incentive Plan, as amended. The 2005 Equity Incentive Plan was originally approved by our stockholders on August 26, 2005. On April 13, 2009, our Board of Directors approved the amendment and restatement of the 2005 Equity Incentive Plan to allow in 2009 for a one-time stock option exchange program for eligible employees and executive officers and to clarify the plan term, which was approved by the stockholders on May 27, 2009. On February 23, 2011, our Board of Directors approved the amendment of the 2005 Equity Incentive Plan to increase the shares of Nanometrics' common stock authorized for issuance under the 2005 Equity Incentive Plan by 2,000,000, which was subsequently approved by the stockholders on May 26, 2011.

The proposed amendment of the 2005 Equity Incentive Plan includes the following material changes:

- increases the aggregate number of shares of Nanometrics' common stock authorized for issuance under the 2005 Equity Incentive Plan by 2,600,000 shares (from 4,692,594 shares to a total of 7,292,594 shares);
- provides that the number of shares available for issuance under the 2005 Equity Incentive Plan, as amended, will be reduced by one share for each share of common stock issued pursuant to a stock option or stock appreciation right and changes the multiplier from two shares to 1.7 shares for each share of common stock issued pursuant to an award other than a stock option or stock appreciation right (a "Full Value Award");
- provides that shares not issued or reacquired to satisfy tax withholding obligations in connection with Full Value Awards will again become available for issuance;
- provides that the maximum term of stock options is seven years;
- for purposes of Section 162(m) of the Internal Revenue Code (i) confirms the applicable award limits for purposes of compliance with Section 162(m), (ii) confirms existing performance criteria upon which performance goals may be based with respect to performance awards under the 2005 Equity Incentive Plan, and (iii) confirms existing means of adjustment when calculating the attainment of performance goals for performance awards granted under the 2005 Equity Incentive Plan; and
- extends the term of the 2005 Equity Incentive Plan through 2023.

We believe that the 2005 Equity Incentive Plan provides a valuable opportunity for employees to acquire an ownership interest in Nanometrics and provides stockholder value by aligning employee and stockholder interests. We rely on equity incentives to attract and retain key employees, and we believe that such incentives are essential to our long-term growth and future success. The proposed authorized share increase will ensure that a sufficient reserve of common stock remains available under the 2005 Equity Incentive Plan to allow us to continue to provide equity incentives to our key employees on a competitive level determined appropriate by our Compensation Committee. The 2005 Equity Incentive Plan, as amended, will also allow us to utilize a broad array of equity incentives and performance cash incentives to secure and retain the services of our employees, consultants and directors, and to provide long term incentives that align the interests of our employees, consultants and directors with the interests of our stockholders.

Approval of the amended 2005 Equity Incentive Plan by our stockholders will also constitute approval of the terms and conditions set forth therein that will permit us to grant stock options and performance awards under the 2005 Equity Incentive Plan that may qualify as "performance-based compensation" within the meaning of Section 162(m) of the Internal Revenue Code. Section 162(m) of the Internal Revenue Code denies a deduction to any publicly held corporation and its affiliates for certain compensation paid to "covered employees" in a taxable year to the extent that compensation to a covered employee exceeds \$1 million. However, some kinds of compensation, including qualified "performance-based compensation," are not subject to this deduction limitation. We believe it is in the best interests of Nanometrics and our stockholders to preserve the ability to grant "performance-based compensation" under Section 162(m) of the Code. For the grant of awards under a plan to qualify as "performance-based compensation" under Section 162(m) of the Code, among other things, the plan must (i) describe the employees eligible to receive such awards, (ii) provide a per-person limit on the number of shares subject to stock options and performance stock awards, and the amount of cash that may be subject to performance cash awards, granted to any employee under the plan in any year, and (iii) include one or more pre-established business criteria upon which the performance goals for performance awards may be granted (or become vested or exercisable). These terms must be approved by the stockholders and, accordingly, our stockholders are requested to approve the 2005 Equity Incentive Plan, as amended, which includes terms regarding eligibility for awards, per-person limits on awards and the business criteria for performance awards granted under the 2005 Equity Incentive Plan (as described in the summary below).

The 2005 Equity Incentive Plan, as amended, is attached to this proxy statement as Appendix 1 and is incorporated herein by reference. The following description of the 2005 Equity Incentive Plan, as amended, is a summary of certain important provisions and does not purport to be a complete description of the 2005 Equity Incentive Plan. Please see Appendix 1 for more detailed information. If this Proposal 3 is approved by our stockholders, the 2005 Equity Incentive Plan, as amended, will become effective upon the date of the 2013 Annual Meeting. In the event that our stockholders do not approve this Proposal 3, the 2005 Equity Incentive Plan, as amended, will not become effective and the 2005 Equity Incentive Plan will continue in its current form.

Description of the 2005 Equity Incentive Plan, as Amended

A total of 1,200,000 shares of common stock were initially authorized for issuance under the 2005 Equity Incentive Plan, plus an annual increase to be added on the first day of our fiscal year for three years (beginning in 2006 and ending after the 2008 increase), equal to the least of (i) 3% of our outstanding common stock on that date or (ii) an amount determined by the board of directors. In 2011 the Board of Directors adopted, and the stockholders approved, the amendment of the 2005 Equity Incentive Plan to increase the shares of common stock authorized for issuance under the 2005 Equity Incentive Plan by 2,000,000 shares. At the end of the fiscal year, 1,093,565 shares of common stock were available for issuance under the 2005 Equity Incentive Plan. As a result of these increases and the amendment to add an additional 2,600,000 shares for which we are seeking shareholder approval, a total of 7,292,594 shares of common stock would be authorized.

Background and Purpose of the 2005 Equity Incentive Plan

The 2005 Equity Incentive Plan permits the grant of stock options, stock appreciation rights, restricted stock, restricted stock units and performance shares (each individually, an "Award"). The 2005 Equity Incentive Plan is intended to attract and retain the best available personnel for positions of substantial responsibility, including (1) employees of Nanometrics and any parent or subsidiary, (2) consultants who provide services to Nanometrics and any parent or subsidiary, and (3) directors of Nanometrics. The 2005 Equity Incentive Plan also is designed to provide additional incentive to these services providers, to promote the success of our business and to permit the payment of compensation that qualifies as performance-based compensation under Section 162(m) of the Internal Revenue Code.

Administration of the 2005 Equity Incentive Plan

A committee (the "Committee") of the Board of Directors administers the 2005 Equity Incentive Plan. The Committee generally is the compensation/stock option committee, which consists of two or more directors who qualify as "non-employee directors" under Rule 16b-3 of the Securities Exchange Act of 1934, and as "outside directors" under Section 162(m) (so that Nanometrics is entitled to a federal tax deduction for certain compensation paid under the 2005 Equity Incentive Plan). Notwithstanding the foregoing, the Board of Directors may itself administer the 2005 Equity Incentive Plan or one or more committees may be appointed to administer the 2005 Equity Incentive Plan with respect to different groups of service providers. The Board of Directors, the compensation committee or other committee administering the 2005 Equity Incentive Plan is referred to herein as the "Administrator."

Subject to the terms of the 2005 Equity Incentive Plan, the Administrator has the sole discretion to select the employees, consultants, and directors who will receive Awards, determine the terms and conditions of Awards (for example, the exercise price and vesting schedule), and interpret the provisions of the 2005 Equity Incentive Plan and outstanding Awards. The Administrator may not, however, reprice Awards or exchange Awards for other Awards, cash or a combination thereof, without the approval of the stockholders.

If an Award is cancelled, expires, or is forfeited or repurchased by Nanometrics for any reason without having been fully exercised or vested, the unvested, cancelled, forfeited or repurchased number of shares of our common stock ("Shares") generally will be returned to the available pool of Shares authorized for issuance under the 2005 Equity Incentive Plan. Any Shares subject to options or stock appreciation rights generally will be counted against the available pool as one Share for every Share subject to the option or stock appreciation rights. Any Shares of restricted stock or Shares subject to performance shares or restricted stock units with a per share or unit purchase price lower than 100% of fair market value on the date of grant generally will be counted against the available pool as 1.7 Shares for every one Share subject thereto. Shares actually issued under the 2005 Equity Incentive Plan or withheld to pay the exercise price of a stock option or stock appreciation right or to satisfy tax withholding obligations with respect to a stock option or stock appreciation right will not be returned to the 2005 Equity Incentive Plan and will not be available for future issuance under the 2005 Equity Incentive Plan. Shares withheld to pay the exercise price of a Full Value Award or to satisfy tax withholding obligations with respect to a Full Value Award will be returned to the 2005 Equity Incentive Plan and will be available for future issuance under the 2005 Equity Incentive Plan. Also, if we experience any dividend or other distribution (whether in the form of cash, Shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of Shares or other securities of Nanometrics, or other change in the corporate structure of Nanometrics affecting the Shares, a proportional adjustment will be made to the number of Shares available for issuance under

the 2005 Equity Incentive Plan, the number and price of Shares subject to outstanding Awards and the per-person limits on Awards, as appropriate to reflect the stock dividend or other change, should the Administrator determine that such an adjustment is appropriate to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the 2005 Equity Incentive Plan.

Eligibility to Receive Awards

The Administrator selects the employees, consultants, and directors who will be granted Awards under the 2005 Equity Incentive Plan. The actual number of individuals who will receive Awards cannot be determined in advance because the Administrator has the discretion to select the participants. As of March 15, Nanometrics has 532 employees, and nine directors who could be selected to receive Awards.

Stock Options

A stock option is the right to acquire Shares at a fixed exercise price for a fixed period of time. Under the 2005 Equity Incentive Plan, the Administrator may grant nonstatutory stock options and/or incentive stock options (which entitle employees, but not Nanometrics, to more favorable tax treatment than nonstatutory stock options). The Administrator will determine the number of Shares covered by each option, but during any fiscal year of Nanometrics, no participant may be granted options and stock appreciation rights together covering more than 500,000 Shares (250,000 Shares in a participant's first fiscal year of service with Nanometrics).

The exercise price of the Shares subject to each option is set by the Administrator but cannot be less than 100% of the fair market value (on the date of grant) of the Shares covered by the option. In addition, the exercise price of an incentive stock option must be at least 110% of fair market value if (on the grant date) the participant owns stock possessing more than 10% of the total combined voting power of all classes of stock of Nanometrics or any of its subsidiaries. The aggregate fair market value of the Shares (determined on the grant date) covered by incentive stock options which first become exercisable by any participant during any calendar year also may not exceed \$100,000.

Options issued under the 2005 Equity Incentive Plan become exercisable at the times and on the terms established by the Administrator. The Administrator also establishes the time at which options expire, but the expiration of an incentive stock option may not be later than seven years after the grant date (such term to be limited to 5 years in the case of an incentive stock option granted to a participant who owns stock possessing more than 10% of the total combined voting power of all classes of stock of Nanometrics or any of parent or subsidiary of Nanometrics).

The exercise price of each option must be paid in full at the time of exercise. The exercise price may be paid in any form as determined by the Administrator, including, but not limited to, cash, check, surrender of Shares that have a fair market value on the date of surrender equal to the aggregate exercise price of the Shares as to which the option is being exercised, consideration received pursuant to a cashless exercise program, promissory note, through a reduction in the amount of company liability to the participant, or other legal methods of consideration.

If a participant's service relationship with us terminates for any reason (excluding death or disability), then the participant may exercise the option within a period of time as determined by the Administrator and specified in the Award agreement to the extent that the Award is vested on the date of termination (but in no event later than the expiration of the term of such Award). In the absence of a specified time set forth in the Award agreement, the option will remain exercisable for three months following the termination of the participant's service relationship. If a participant's service relationship terminates due to the participant's disability or death, the participant (or his or her estate or beneficiary) may exercise the option within a period of time as determined by the Administrator and specified in the Award agreement to the extent the Award was vested on the date of termination of the service relationship (but in no event later than the expiration of the term of such Award). In the absence of a specified time in the Award agreement, the option will remain exercisable for the twelve months following the termination of the participant's service due to disability or death.

Stock Appreciation Rights

Stock appreciation rights are Awards that grant the participant the right to receive an amount equal to (1) the number of Shares exercised, times (2) the amount by which Nanometrics' stock price exceeds the exercise price. The Administrator sets the exercise price. An individual will be able to profit from a stock appreciation right only if the fair market value of the stock increases above the exercise price. Nanometrics' obligation arising upon the exercise of a stock appreciation right may be paid in Shares or in cash, or any combination thereof, as the Administrator may determine.

Awards of stock appreciation rights may be granted in connection with all or any part of an option or may be granted independently of options. No participant may be granted stock appreciation rights and options together covering more than 500,000 shares in any fiscal year of Nanometrics (250,000 Shares in a participant's first fiscal year of service with Nanometrics).

The Administrator determines the terms of stock appreciation rights. A stock appreciation right will be exercisable, in whole or in part, at such time as the Administrator will specify in the Award agreement, but will expire no later than ten (10) years after the date of grant.

If a participant's service relationship with us terminates for any reason (excluding death or disability), then the participant may exercise the stock appreciation right within a period of time as determined by the Administrator and specified in the Award agreement to the extent that the Award is vested on the date of termination (but in no event later than the expiration of the term of such Award). In the absence of a specified time set forth in the Award agreement, the stock appreciation right will remain exercisable for three months following the termination of the participant's service relationship. If a participant's service relationship terminates due to the participant's disability or death, the participant (or his or her estate or beneficiary) may exercise the stock appreciation right within a period of time as determined by the Administrator and specified in the Award agreement to the extent the Award was vested on the date of termination of the service relationship (but in no event later than the expiration of the term of such Award). In the absence of a specified time in the Award agreement, the stock appreciation right will remain exercisable for the twelve months following the termination of the participant's service due to disability or death.

Restricted Stock

Awards of restricted stock are Shares that vest in accordance with the terms and conditions established by the Administrator. The Administrator may set vesting criteria based upon the achievement of company-wide, departmental, business unit or individual goals, which may include continued employment or service, applicable federal or state securities laws or any other basis determined by the Committee. If the Administrator desires that the Award qualify as performance-based compensation under Section 162(m), any restrictions will be based on a specified list of performance goals (see "Performance Goals" below for more information). The Administrator will determine the number of Shares of restricted stock granted to any employee, consultant or director, but during any fiscal year of Nanometrics, no participant may be granted more than 250,000 Shares in the aggregate of restricted stock, performance shares or restricted stock units (125,000 Shares in a participant's first fiscal year of service with Nanometrics).

Unless the Administrator determines otherwise, Shares of restricted stock will be held by Nanometrics as escrow agent until any restrictions on the Shares have lapsed. The Administrator may accelerate the time at which any restriction may lapse or be removed. On the date set forth in the Award agreement, all unvested restricted stock will be forfeited to Nanometrics.

Restricted Stock Units

Awards of restricted stock units are Shares that vest in accordance with terms and conditions established by the Administrator. The Administrator determines the number of restricted stock units granted to any employee, consultant or director, but during any fiscal year of Nanometrics, no participant may be granted more than 250,000 Shares in the aggregate subject to restricted stock units, performance shares or restricted stock (125,000 Shares in a participant's first fiscal year of service with Nanometrics).

In determining whether an Award of restricted stock units should be made, and/or the vesting schedule for any such Award, the Administrator may impose whatever conditions to vesting it determines to be appropriate. The number of restricted stock units paid out to the participant will vary depending on the extent to which the vesting criteria are met. The Administrator may set vesting criteria based upon the achievement of company-wide, departmental, business unit or individual goals, which may include continued employment or service, applicable federal or state securities laws or any other basis determined by the Committee. Notwithstanding the foregoing, if the Administrator desires that the Award qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code, any restrictions will be based on a specified list of performance goals (see "Performance Goals" below for more information).

Upon satisfying the applicable vesting criteria, the participant shall be entitled to the payout specified in the Award agreement. Notwithstanding the foregoing, at any time after the grant of restricted stock units, the Administrator may reduce or waive any vesting criteria that must be met to receive a payout. The Administrator, in its sole discretion, may pay earned restricted stock units in cash, Shares, or a combination thereof. Shares represented by restricted stock units that are fully paid in cash will again be available for grant under the Plan. An Award agreement may provide that all unearned restricted stock units may be cancelled and will be forfeited to Nanometrics on the date set forth in the Award agreement.

Performance Shares

Performance shares are Awards that will result in a payment to a participant only if performance objectives established by the Administrator are achieved or the Awards otherwise vest. The Administrator may set vesting criteria based upon the achievement of company-wide, departmental, business unit or individual goals, which may include continued employment or service, applicable federal or state securities laws or any other basis determined by the Committee. Notwithstanding the foregoing, if the Administrator desires that the Award qualify as performance-based compensation under Section 162(m) of the

Internal Revenue Code, any restrictions will be based on a specified list of performance goals (see “Performance Goals” below for more information).

Performance shares have an initial value equal to the fair market value of a share on the date of grant. Performance shares may be granted to employees, consultants or directors at any time as shall be determined by the Administrator in its sole discretion. Subject to the terms of the 2005 Equity Incentive Plan, the Administrator will have complete discretion to determine the number of shares subject to a performance share award and the conditions that must be satisfied, which conditions typically will be based principally or solely on achievement of performance milestones but may include a service based component. Subject to the terms of the Plan, the Administrator will determine the number of performance shares granted to a service provider and, during any fiscal year of Nanometrics, no participant may be granted more than 250,000 Shares in the aggregate subject to performance shares, restricted stock units, or restricted stock (125,000 Shares in a participant’s first fiscal year of service with Nanometrics).

On the date set forth in the Award agreement, all unearned or unvested performance shares will be forfeited to Nanometrics.

Performance Goals

Under Section 162(m) of the Internal Revenue Code, the annual compensation paid to our Chief Executive Officer and to each of our other four most highly compensated executive officers may not be deductible to the extent it exceeds \$1,000,000. However, we are able to preserve the deductibility of compensation in excess of \$1,000,000 if the conditions of Section 162(m) are met. These conditions include stockholder approval of the 2005 Equity Incentive Plan, setting limits on the number of awards that any individual may receive and for awards other than options, establishing performance criteria that must be met before the award actually will vest or be paid.

We have designed the Plan so that it permits us to pay compensation that qualifies as performance-based under Section 162(m) of the Internal Revenue Code. Thus, the Administrator (in its discretion) may make performance goals applicable to a participant with respect to an award. At the Administrator’s discretion, one or more of the following performance goals may apply (all of which are defined in the Plan): annual revenue, cash position, earnings per share, individual performance objectives, marketing and sales expenses as a percentage of sales, net income as a percentage of sales, net income, operating cash flow, operating income, return on assets, return on equity, return on sales, and total stockholder return. The Performance Goals may differ from participant to participant and from Award to Award.

Any criteria used may be measured, as applicable (1) in absolute terms, (2) in relative terms (including, but not limited to, passage of time and/or against another company or companies), (3) on a per-share basis, (4) against the performance of Nanometrics as a whole or a business unit of Nanometrics, and/or (5) on a pre-tax or after-tax basis. The Administrator also will adjust any evaluation of performance under a performance goal to exclude (i) any extraordinary non-recurring items, or (ii) the effect of any changes in accounting principles affecting Nanometrics or a business units’ reported results.

Merger or Change in Control

In the event of a merger or “change in control” of Nanometrics, the successor corporation will either assume or provide a substitute award for each outstanding Award. In the event the successor corporation refuses to assume or provide a substitute award, the Award will immediately vest and become exercisable as to all of the Shares subject to such Award, or, if applicable, the Award will be deemed fully earned and will be paid out prior to the merger or change in control. In addition, if an option, stock appreciation right or right to purchase restricted stock has become fully vested and exercisable in lieu of assumption or substitution, the Committee will provide at least 15 days’ notice that the option, stock appreciation right or right to purchase restricted stock will immediately vest and become exercisable as to all of the Shares subject to such Award and all outstanding options, stock appreciation rights and rights to purchase restricted stock will terminate upon the expiration of such notice period.

Awards to be Granted to Certain Individuals and Groups

The number of Awards (if any) that an employee, consultant, or director may receive under the 2005 Equity Incentive Plan is in the discretion of the Administrator and therefore cannot be determined in advance.

Limited Transferability of Awards

Awards granted under the 2005 Equity Incentive Plan generally may not be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated, other than by will or by the applicable laws of descent and distribution and may be exercised during the lifetime of the participant, only by the participant. Notwithstanding the foregoing, the Administrator may permit an individual to transfer an Award. Any transfer shall be made in accordance with procedures established by the Administrator.

Amendment and Termination of the Plan

The Board of Directors generally may amend, alter, suspend or terminate the 2005 Equity Incentive Plan at any time and for any reason. However, no amendment, alteration, suspension, or termination may impair the rights of any participant in the 2005 Equity Incentive Plan without his or her consent. Amendments will be contingent on stockholder approval if required by applicable law. Unless terminated earlier by the Board of Directors, the 2005 Equity Incentive Plan will continue in effect until ten (10) years following its 2013 amendment by the stockholders.

Federal Tax Aspects

The following paragraphs are a summary of the general federal income tax consequences to U.S. taxpayers and Nanometrics of Awards granted under the 2005 Equity Incentive Plan. Tax consequences for any particular individual may be different.

Nonstatutory Stock Options. No taxable income is recognized when a nonqualified stock option is granted to a participant. Upon exercise, the participant will recognize ordinary income in an amount equal to the excess of the fair market value of the Shares on the exercise date over the exercise price. Any additional gain or loss recognized upon later disposition of the Shares is capital gain or loss.

Incentive Stock Options. No taxable income is recognized when an incentive stock option is granted or exercised (except for purposes of the alternative minimum tax, in which case taxation is the same as for nonstatutory stock options). If the participant exercises the option and then later sells or otherwise disposes of the Shares more than two years after the grant date and more than one year after the exercise date, the difference between the sale price and the exercise price will be taxed as capital gain or loss. If the participant exercises the option and then later sells or otherwise disposes of the Shares before the end of the two- or one-year holding periods described above, he or she generally will have ordinary income at the time of the sale equal to the fair market value of the Shares on the exercise date (or the sale price, if less) minus the exercise price of the option. Any additional gain or loss will be capital gain or loss.

Stock Appreciation Rights. No taxable income is reportable when a stock appreciation right is granted to a participant. Upon exercise, the participant generally will recognize ordinary income in an amount equal to the amount of cash received and the fair market value of any Shares received. Any additional gain or loss recognized upon any later disposition of the Shares would be capital gain or loss.

Restricted Stock and Performance Shares. A participant will not have taxable income upon grant unless he or she elects to be taxed at that time. Instead, he or she generally will recognize ordinary income at the time of vesting equal to the fair market value (on the vesting date) of the Shares or cash received minus any amount paid for the Shares.

Restricted Stock Units. A participant receiving a restricted stock unit structured to conform to the requirements of Section 409A of the Internal Revenue Code, or an exception from Section 409A of the Internal Revenue Code, will have taxable income at the time the restricted stock unit is settled and the cash or the shares of Nanometrics' common stock is delivered equal to the excess, if any, of the cash or the fair market value of the shares of Nanometrics' common stock received over any amount paid by the participant in exchange for the cash or shares of Nanometrics' common stock.

Section 280G and Parachute Payments. Acceleration of vesting or payment of Awards under the 2005 Equity Incentive Plan in the event of a change of control may cause part or all of the amount involved to be treated as an "excess parachute payment" under Section 280G of the Internal Revenue Code. Such treatment may subject the participant to a 20% excise tax and preclude deduction of such amounts by Nanometrics.

Section 409A and Deferred Compensation. Under Section 409A of the Internal Revenue Code, certain Awards granted under the 2005 Equity Incentive Plan may be treated as nonqualified deferred compensation. Section 409A of the Internal Revenue Code imposes on persons with nonqualified deferred compensation that does not meet the requirements of Section 409A of the Code (i) taxation immediately upon vesting of the nonqualified deferred compensation and earnings thereon (regardless of whether the compensation is then paid); (ii) interest at the underpayment rate plus 1%; and (iii) an additional 20% tax.

Tax Effect for the Company. Nanometrics generally will be entitled to a tax deduction in connection with an Award under the 2005 Equity Incentive Plan in an amount equal to the ordinary income realized by a participant and at the time the participant recognizes such income (for example, the exercise of a nonqualified stock option). As discussed above, special rules limit the deductibility of compensation paid to our Chief Executive Officer and to certain other named executive officers.

However, the 2005 Equity Incentive Plan has been designed to permit the Administrator to grant Awards that qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code, thereby permitting Nanometrics to receive a federal income tax deduction in connection with such Awards.

Also as discussed above, certain amounts paid in connection with a change of control could be treated as an “excess parachute payment” and preclude Nanometrics from taking a tax deduction for such amounts.

New Plan Benefits

All Awards under the 2005 Equity Incentive Plan, as amended, are made at the discretion of the Administrator. Therefore, the benefits and amounts that will be received or allocated under the 2005 Equity Incentive Plan, as amended, are not determinable at this time. However, please refer to the description of grants made to our named executive officers in the last fiscal year described in the “2012 Grants of Plan-Based Awards” table. Grants made to our non-employee directors in the last fiscal year are described in “Director Compensation For Fiscal Year 2012.” Also refer to “Compensation of Directors” for information regarding grants to directors.

2005 Equity Incentive Plan Benefits

The following table shows, for each of the named executive officers and the various groups indicated, the number of stock options and restricted stock units underlying shares of Nanometrics common stock that have been granted (even if not currently outstanding) under the 2005 Equity Incentive Plan since its approval by the stockholders in 2005 and through March 15, 2013.

2005 Equity Incentive Plan, as Amended

Name and position	Number of shares subject to grant (#)
Chief Executive Officer	645,075
Chief Financial Officer	83,500
Chief Operating Officer	368,863
General Counsel	45,000
All Current Executive Officers as a Group	1,142,438
All Current Non-Executive Directors as a Group	174,395
All Current Employees as a Group (including all current non-executive officers)	4,704,885
Nominee for Director	
Howard A. Bain III	24,214
J. Thomas Bentley	26,214
Edward J. Brown Jr.	0
Stephen G. Newberry	12,097
William G. Oldham	26,214
Bruce C. Rhine	37,228
Timothy J. Stultz	645,075
Each Associate of any Director, Executive Officer or Nominee	0
Each Other Current 5% Holder or Future 5% Recipient	0

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT THE STOCKHOLDERS VOTE “FOR” THE APPROVAL OF THE COMPANY’S 2005 EQUITY INCENTIVE PLAN, AS AMENDED.

PROPOSAL 4

RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of the Board of Directors has appointed PricewaterhouseCoopers LLP as our independent registered public accounting firm to audit the consolidated financial statements of Nanometrics for the fiscal year ending December 28, 2013.

Approval by the stockholders of the selection of the independent registered public accounting firm is not required, but the Audit Committee believes it is desirable as a matter of good corporate governance to submit this matter to the stockholders. If the holders of a majority of the shares present in person or by proxy at the meeting and entitled to vote at the annual meeting do not ratify the appointment of PricewaterhouseCoopers LLP as Nanometrics' independent registered public accounting firm for the fiscal year ending December 28, 2013, the Audit Committee will consider whether it should select another independent registered public accounting firm. Representatives of PricewaterhouseCoopers LLP are expected to attend the annual meeting and will have an opportunity to make a statement and respond to appropriate questions from stockholders.

Audit Fees

The following table summarizes the aggregate fees that we paid or expect to pay our independent registered public accounting firm, PricewaterhouseCoopers LLP, for the 2011 and 2012 fiscal years.

	<u>Fiscal 2012</u>	<u>Fiscal 2011</u>
Audit Fees ⁽¹⁾	\$891,606	\$939,948
Audit-Related Fees	3,186	---
Tax Fees	7,964	---
All Other Fees ⁽²⁾	\$1,800	\$1,800
Total	<u>\$904,556</u>	<u>\$941,748</u>

(1) Fees to PricewaterhouseCoopers LLP in 2012 and 2011 for audit services consist of:

- Audit of our annual financial statements including management's assessment of internal controls over financial reporting;
- Reviews of our quarterly financial statements; and
- Statutory and regulatory audits, consents and other services.

(2) Paid to PricewaterhouseCoopers LLP for accounting research and database tool.

In considering the nature of the services provided by the independent registered public accounting firm, the Audit Committee determined that such services are compatible with the provision of independent audit services. The Audit Committee discussed these services with the independent registered public accountants and our management to determine that they are permitted under the rules and regulations concerning auditors' independence promulgated by the Securities and Exchange Commission to implement the Sarbanes-Oxley Act of 2002, as well as the American Institute of Certified Public Accountants.

Audit Committee Pre-Approval Policy

Pursuant to our Audit Committee charter, our Audit Committee must pre-approve all audit and permissible non-audit services, and the related fees, provided to us by our independent registered public accounting firm, or subsequently approve permissible non-audit services in those circumstances where a subsequent approval is necessary and permissible under the Exchange Act or the rules of the Securities and Exchange Commission. The policy generally pre-approves specified services in the defined categories of audit services, audit-related services and tax services up to specified amounts. Pre-approval may also be given as part of the Audit Committee's approval of the scope of the engagement of the independent auditor or on an individual, explicit, case-by-case basis before the independent auditor is engaged to provide each service. The pre-approval of services may be delegated to one or more of the Audit Committee's members. Accordingly, the Audit Committee pre-approved all services and fees provided by PricewaterhouseCoopers LLP, during the year ended December 29, 2012, and has concluded that the provision of these services is compatible with the accountants' independence.

Report of the Audit Committee of the Board of Directors*

The Audit Committee reviews Nanometrics' financial reporting process on behalf of the Board of Directors. Management has the primary responsibility for establishing and maintaining adequate internal control over financial reporting, for preparing the financial statements and for the reporting process. The Audit Committee members do not serve as professional accountants or auditors, and their functions are not intended to duplicate or to certify the activities of management and the independent registered public accounting firm. Nanometrics' independent auditors are engaged to audit and report on the conformity of our financial statements to accounting principles generally accepted in the United States and the effectiveness of our internal control over financial reporting.

In this context, the Audit Committee reviewed and discussed with management the audited financial statements of Nanometrics for the year ended December 29, 2012. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by Statement on Auditing Standards No. 61, as amended, AICPA, *Professional Standards*, Vol. 1. AU section 380), as adopted by the Public Company Accounting Oversight Board ("PCAOB") in Rule 3200T. In addition, the Audit Committee has received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent registered public accounting firm's communications with the Audit Committee concerning independence, and has discussed with the independent registered public accounting firm its independence.

Based on the foregoing, the Audit Committee recommended to the Board of Directors that our audited financial statements as of and for the year ended December 29, 2012, be included in our Annual Report on Form 10-K for the fiscal year ended December 29, 2012, for filing with the United States Securities and Exchange Commission.

The Audit Committee
Howard A. Bain III, Chairman
J. Thomas Bentley
Bruce C. Rhine

* The material in this report is not "soliciting material," is not deemed "filed" with the Securities and Exchange Commission and is not to be incorporated by reference in any filing of Nanometrics under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT STOCKHOLDERS VOTE "FOR" THE RATIFICATION OF THE APPOINTMENT OF PRICEWATERHOUSECOOPERS LLP, AS NANOMETRICS' INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 28, 2013.

OTHER MATTERS

We know of no other matters to be submitted to the stockholders at the annual meeting. If any other matters properly come before the annual meeting, it is the intention of the persons named in the enclosed proxy card to vote the shares they represent as the Board of Directors may recommend.

BY ORDER OF THE BOARD OF DIRECTORS

/s/ Bruce C. Rhine
Bruce C. Rhine
Chairman of the Board of Directors

Milpitas, California
April 10, 2013

NANOMETRICS INCORPORATED
2005 EQUITY INCENTIVE PLAN

1. PURPOSES OF THE PLAN. The purposes of this Plan are:

- to attract and retain the best available personnel for positions of substantial responsibility,
- to provide additional incentive to Service Providers, and
- to promote the success of the Company's business.

Awards granted under the Plan may be Incentive Stock Options, Nonstatutory Stock Options, Restricted Stock, Stock Appreciation Rights, Performance Shares and Restricted Stock Units, as determined by the Administrator at the time of grant.

2. DEFINITIONS. As used herein, the following definitions shall apply:

- (a) "**Administrator**" means the Board or any of its Committees as shall be administering the Plan, in accordance with Section 4 of the Plan.
- (b) "**Annual Revenue**" means the Company's or a business unit's net sales for the Fiscal Year, determined in accordance with generally accepted accounting principles.
- (c) "**Applicable Laws**" means the requirements relating to the administration of equity compensation plans under U.S. state corporate laws, U.S. federal and state securities laws, the Code, any stock exchange or quotation system on which the Common Stock is listed or quoted and the applicable laws of any other country or jurisdiction where Awards are, or will be, granted under the Plan.
- (d) "**Award**" means, individually or collectively, a grant under the Plan of Options, Restricted Stock, Stock Appreciation Rights, Performance Shares or Restricted Stock Units.
- (e) "**Award Agreement**" means the written or electronic agreement setting forth the terms and provisions applicable to each Award granted under the Plan. The Award Agreement is subject to the terms and conditions of the Plan.
- (f) "**Awarded Stock**" means the Common Stock subject to an Award.
- (g) "**Board**" means the Board of Directors of the Company.
- (h) "**Cash Position**" means the Company's level of cash and cash equivalents.
- (i) "**Change in Control**" means the occurrence of any of the following events, in one or a series of related transactions:
 - (i) any "person," as such term is used in Sections 13(d) and 14(d) of the Exchange Act, other than the Company, a subsidiary of the Company or a Company employee benefit plan, including any trustee of such plan acting as trustee, is or becomes the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing fifty percent (50%) or more of the combined voting power of the Company's then outstanding securities entitled to vote generally in the election of directors; or
 - (ii) the consummation of a merger or consolidation of the Company or any direct or indirect subsidiary of the Company with any other corporation, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) at least fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity outstanding immediately after such merger or consolidation; or
 - (iii) the sale or disposition by the Company of all or substantially all the Company's assets; or
 - (iv) a change in the composition of the Board, as a result of which fewer than a majority of the directors are Incumbent Directors. "Incumbent Directors" shall mean directors who either (A) are Directors as of the date this Plan is approved by the Board, or (B) are elected, or nominated for election, to the Board with the affirmative votes of at least a majority of the Incumbent Directors and whose election or nomination was not in connection with any transaction described in (i) or (ii) above or in connection with an actual or threatened proxy contest relating to the election of directors of the Company.
- (j) "**Code**" means the Internal Revenue Code of 1986, as amended.

- (k) **“Committee”** means a committee of Directors or officers appointed by the Board in accordance with Section 4 of the Plan.
- (l) **“Common Stock”** means the common stock of the Company.
- (m) **“Company”** means Nanometrics Incorporated, a Delaware corporation.
- (n) **“Consultant”** means any person, including an advisor, engaged by the Company or a Parent or Subsidiary to render services and who is compensated for such services.
- (o) **“Continuous Status as a Service Provider”** means the absence of any interruption or termination of the employment or service relationship with the Company or any Subsidiary. Continuous Status as a Service Provider shall not be considered interrupted in the case of (i) medical leave, military leave, family leave, or any other leave of absence approved by the Administrator, provided, in each case, that such leave does not result in termination of the employment and service relationship with the Company or any Subsidiary, as the case may be, under the terms of the respective Company policy for such leave; however, vesting may be tolled while a Service Provider is on an approved leave of absence under the terms of the respective Company policy for such leave; or (ii) in the case of transfers between locations of the Company or between the Company, its Parent or any Subsidiary, or any successor. For purposes of Incentive Stock Options, no such leave may exceed ninety days, unless reemployment upon expiration of such leave is guaranteed by statute or contract. If reemployment upon expiration of a leave of absence approved by the Company is not so guaranteed, then three (3) months following the 91st day of such leave any Incentive Stock Option held by the Participant shall cease to be treated as an Incentive Stock Option and shall be treated for tax purposes as a Nonstatutory Stock Option.
- (p) **“Director”** means a member of the Board.
- (q) **“Disability”** means total and permanent disability as defined in Section 22(e)(3) of the Code.
- (r) **“Dividend Equivalent”** means a credit, payable in cash, made at the discretion of the Administrator, to the account of a Participant in an amount equal to the cash dividends paid on one Share for each Share represented by an Award held by such Participant.
- (s) **“Earnings Per Share”** means as to any Performance Period, the Company’s or a business unit’s Net Income, divided by a weighted average number of common shares outstanding and dilutive common equivalent shares deemed outstanding, determined in accordance with generally accepted accounting principles.
- (t) **“Employee”** means any person, including Officers and Directors, employed by the Company or any Parent or Subsidiary of the Company. Neither service as a Chairman nor as a Director nor payment of a director’s fee by the Company shall be sufficient to constitute “employment” by the Company.
- (u) **“Exchange Act”** means the Securities Exchange Act of 1934, as amended.
- (v) **“Exchange Program”** means a program under which (i) outstanding Awards are surrendered or cancelled in exchange for Awards of the same type (which may have lower exercise prices and different terms), Awards of a different type, and/or cash, and/or (ii) the exercise price of an outstanding Award is reduced. The terms and conditions of any Exchange Program will be determined by the Administrator in its sole discretion.
- (w) **“Fair Market Value”** means, as of any date, the value of Common Stock determined as follows:
 - (i) If the Common Stock is listed on any established stock exchange or a national market system, including without limitation the NASDAQ Global Market or The NASDAQ Capital Market of The NASDAQ Stock Market, its Fair Market Value shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or system, on the date of determination, as reported in The Wall Street Journal or such other source as the Administrator deems reliable;
 - (ii) If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, the Fair Market Value of a Share of Common Stock shall be the mean between the high bid and low asked prices for the Common Stock on the date of determination; or
 - (iii) In the absence of an established market for the Common Stock, the Fair Market Value shall be determined in good faith by the Administrator.
- (x) **“Fiscal Year”** means a fiscal year of the Company.
- (y) **“Individual Performance Objective”** means as to a Participant, the objective and measurable goals set by a “management by objectives” process and approved by the Committee (in its discretion).

- (z) **“Incentive Stock Option”** means an Option intended to qualify as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder and is expressly designated by the Administrator at the time of grant as an incentive stock option.
- (aa) **“Marketing and Sales Expenses as a Percentage of Sales”** means as to any Performance Period, the Company’s or a business unit’s marketing and sales expenses stated as a percentage of sales, determined in accordance with generally accepted accounting principles.
- (bb) **“Net Income as a Percentage of Sales”** means as to any Performance Period, the Company’s or a business unit’s Net Income stated as a percentage of sales, determined in accordance with generally accepted accounting principles.
- (cc) **“Net Income”** means as to any Performance Period, the income after taxes of the Company or a business unit determined in accordance with generally accepted accounting principles, provided that prior to the beginning of the Performance Period, the Committee shall determine whether any significant item(s) shall be included or excluded from the calculation of Net Income with respect to one or more Participants.
- (dd) **“Nonstatutory Stock Option”** means an Option that by its terms does not qualify or is not intended to qualify as an Incentive Stock Option.
- (ee) **“Officer”** means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.
- (ff) **“Operating Cash Flow”** means the Company’s or a business unit’s sum of Net Income plus depreciation and amortization less capital expenditures plus changes in working capital comprised of accounts receivable, inventories, other current assets, trade accounts payable, accrued expenses, product warranty, advance payments from customers and long-term accrued expenses, determined in accordance with generally acceptable accounting principles.
- (gg) **“Operating Income”** means the Company’s or a business unit’s income from operations determined in accordance with generally accepted accounting principles.
- (hh) **“Outside Director”** means a Director who is not an Employee.
- (ii) **“Option”** means a stock option granted pursuant to the Plan.
- (jj) **“Participant”** means the holder of an outstanding Award granted under the Plan.
- (kk) **“Parent”** means a “parent corporation,” whether now or hereafter existing, as defined in Section 424(e) of the Code.
- (ll) **“Performance Goals”** means the goal(s) (or combined goal(s)) determined by the Committee (in its discretion) to be applicable to a Participant with respect to an Award. As determined by the Committee, the Performance Goals applicable to an Award may provide for a targeted level or levels of achievement using one or more of the following measures: (a) Annual Revenue, (b) Cash Position, (c) Earnings Per Share, (d) Individual Performance Objectives, (e) Marketing and Sales Expenses as a Percentage of Sales, (f) Net Income as a Percentage of Sales, (g) Net Income, (h) Operating Cash Flow, (i) Operating Income, (j) Return on Assets, (k) Return on Equity, (l) Return on Sales, and (m) Total Shareholder Return. The Performance Goals may differ from Participant to Participant and from Award to Award. The Committee shall appropriately adjust any evaluation of performance under a Performance Goal to exclude (i) any extraordinary non-recurring items as described in Accounting Principles Board Opinion No. 30 and/or in management’s discussion and analysis of financial conditions and results of operations appearing in the Company’s annual report to shareholders for the applicable year, or (ii) the effect of any changes in accounting principles affecting the Company’s or a business unit’s reported results. Any criteria used may be measured, as applicable, (i) in absolute terms, (ii) in relative terms (including, but not limited to, passage of time and/or against another company or companies), (iii) on a per-share basis, (iv) against the performance of the Company as a whole or of a business unit of the Company, and/or (v) to the extent not otherwise specified by the definition of the Performance Goal, on a pre-tax or after-tax basis.
- (mm) **“Performance Period”** means the time period of any Fiscal Year or such longer period as determined by the Committee in its sole discretion during which the performance objectives must be met.
- (nn) **“Performance Share”** means a performance share Award granted to a Participant pursuant to Section 14.
- (oo) **“Period of Restriction”** means the period during which the transfer of Shares of Restricted Stock are subject to restrictions and therefore, the Shares are subject to a substantial risk of forfeiture. Such restrictions may be

based on the passage of time (including the continuation of employment or service), the achievement of target levels of performance, or the occurrence of other events as determined by the Administrator.

- (pp) "**Plan**" means this 2005 Equity Incentive Plan.
- (qq) "**Restricted Stock**" means shares of Common Stock granted pursuant to Section 12 of the Plan, as evidenced by an Award Agreement.
- (rr) "**Restricted Stock Unit**" means a bookkeeping entry representing an amount equal to the Fair Market Value of one Share, granted pursuant to Section 13. Each Restricted Stock Unit represents an unfunded and unsecured obligation of the Company.
- (ss) "**Return on Assets**" means the percentage equal to the Company's or a business unit's Operating Income before incentive compensation, divided by average net Company or business unit, as applicable, assets, determined in accordance with generally accepted accounting principles.
- (tt) "**Return on Equity**" means the percentage equal to the Company's Net Income divided by average shareholder's equity, determined in accordance with generally accepted accounting principles.
- (uu) "**Return on Sales**" means the percentage equal to the Company's or a business unit's Operating Income before incentive compensation, divided by the Company's or the business unit's, as applicable, revenue, determined in accordance with generally accepted accounting principles.
- (vv) "**Rule 16b-3**" means Rule 16b-3 of the Exchange Act or any successor to Rule 16b-3, as in effect when discretion is being exercised with respect to the Plan.
- (ww) "**Section 16(b)**" means Section 16(b) of the Exchange Act.
- (xx) "**Service Provider**" means an Employee, Director or Consultant.
- (yy) "**Share**" means a share of the Common Stock, as adjusted in accordance with Section 17 of the Plan.
- (zz) "**Stock Appreciation Right**" or "**SAR**" means a stock appreciation right granted pursuant to Section 10 below.
- (aaa) "**Subsidiary**" means a "subsidiary corporation", whether now or hereafter existing, as defined in Section 424(f) of the Code.
- (bbb) "**Total Shareholder Return**" means the total return (change in share price plus reinvestment of any dividends) of a share of the Company's common stock.

3. **STOCK SUBJECT TO THE PLAN.** Subject to the provisions of Section 17 of the Plan, the maximum aggregate number of Shares which may be issued under the Plan is 7,292,594 Shares. Any Shares subject to Options or SARs shall be counted against the numerical limits of this Section 3 as one Share for every Share subject thereto. Any Shares of Restricted Stock or Shares subject to Performance Shares or Restricted Stock Units with a per share or unit purchase price lower than 100% of Fair Market Value on the date of grant ("**Full Value Awards**") shall be counted against the numerical limits of this Section 3 as one and seven-tenths (1.7) Shares for every one Share subject thereto. To the extent that a Share that was subject to a Full Value Award is recycled back into the Plan under the next paragraph of this Section 3, the Plan shall be credited with one and seven-tenths (1.7) Shares.

If an Award expires or becomes unexercisable without having been exercised in full or is surrendered pursuant to an Exchange Program, or, with respect to Options, Restricted Stock, Performance Shares or Restricted Stock Units, is forfeited to or repurchased by the Company, the unpurchased Shares (or for Awards other than Options and SARs, the forfeited or repurchased shares) which were subject thereto shall become available for future grant or sale under the Plan (unless the Plan has terminated). With respect to SARs, the full number of Shares subject to each SAR, including any Shares withheld to pay the exercise price or satisfy tax withholding obligations shall cease to be available under the Plan regardless of the number of shares actually delivered. Shares that have actually been issued under the Plan under any Award shall not be returned to the Plan and shall not become available for future distribution under the Plan; provided, however, that if Shares of Restricted Stock, Performance Shares or Restricted Stock Units are repurchased by the Company at their original purchase price or are forfeited to the Company, such Shares shall become available for future grant under the Plan. Shares used to pay the exercise price of an Option or the purchase price of Restricted Stock shall not become available for future grant or sale under the Plan. Shares used to satisfy tax withholding obligations on Options and SARs shall not become available for future grant or sale under the Plan. Shares used to satisfy tax withholding obligations on Full Value Awards will again become available for issuance under the Plan. To the extent an Award under the Plan is paid out in cash rather than stock, such cash payment shall not reduce the number of Shares available for issuance under the Plan. Any payout of Dividend Equivalents, because they are payable only in cash, shall not reduce the

number of Shares available for issuance under the Plan. Conversely, any forfeiture of Dividend Equivalents shall not increase the number of Shares available for issuance under the Plan.

4. ADMINISTRATION OF THE PLAN.

- (a) Procedure.
- (i) **Multiple Administrative Bodies.** The Board or different Committees with respect to different groups of Service Providers may administer the Plan.
 - (ii) **Section 162(m).** To the extent that the Administrator determines it to be desirable to qualify Awards granted hereunder as “performance-based compensation” within the meaning of Section 162(m) of the Code, the Plan shall be administered by a Committee of two or more “outside directors” within the meaning of Section 162(m) of the Code.
 - (iii) **Rule 16b-3.** To the extent desirable to qualify transactions hereunder as exempt under Rule 16b-3, the transactions contemplated hereunder shall be structured to satisfy the requirements for exemption under Rule 16b-3.
 - (iv) **Other Administration.** Other than as provided above, the Plan shall be administered by (a) the Board or (b) a Committee, which committee shall be constituted to satisfy Applicable Laws. Notwithstanding the foregoing, to the extent consistent with Applicable Laws, the Board or the Committee may authorize one or more officers of the Company to grant Awards to non-executive officers of the Company and act as the Administrator with respect to such Awards.
- (b) **Powers of the Administrator.** Subject to the provisions of the Plan, and in the case of a Committee, subject to the specific duties delegated by the Board to such Committee, the Administrator shall have the authority, in its discretion:
- (i) to determine the Fair Market Value;
 - (ii) to select the Service Providers to whom Awards may be granted hereunder;
 - (iii) to determine the number of shares of Common Stock or equivalent units to be covered by each Award granted hereunder;
 - (iv) to approve forms of Award Agreement for use under the Plan;
 - (v) to determine the terms and conditions, not inconsistent with the terms of the Plan, of any Award granted hereunder. Such terms and conditions include, but are not limited to, the exercise price, the date of grant, the time or times when Awards may be exercised (or are earned) (which may be based on performance criteria), any vesting acceleration or waiver of forfeiture restrictions, and any restriction or limitation regarding any Award or the Shares relating thereto, based in each case on such factors as the Administrator, in its sole discretion, shall determine;
 - (vi) to institute an Exchange Program; however, the Administrator may not institute an Exchange Program without shareholder approval.
 - (vii) to construe and interpret the terms of the Plan and Awards granted pursuant to the Plan;
 - (viii) to prescribe, amend and rescind rules and regulations relating to the Plan, including rules and regulations relating to sub-plans established for the purpose of satisfying applicable foreign laws and/or qualifying for preferred tax treatment under foreign tax laws;
 - (ix) to modify or amend each Award (subject to Section 19(c) of the Plan), including the discretionary authority to extend the post-termination exercisability period of Options and SARs longer than is otherwise provided for in the Plan;
 - (x) to allow Participants to satisfy withholding tax obligations by electing to have the Company withhold from the Shares or cash to be issued upon exercise of an Option, SAR or right to purchase Restricted Stock or upon vesting or payout of another Award, that number of Shares or cash having a Fair Market Value equal to the minimum amount required to be withheld. The Fair Market Value of the Shares to be withheld shall be determined on the date that the amount of tax to be withheld is to be determined. All elections by a Participant to have Shares or cash withheld for this purpose shall be made in such form and under such conditions as the Administrator may deem necessary or advisable;
 - (xi) to determine whether Awards will be adjusted for Dividend Equivalents;

- (xii) to authorize any person to execute on behalf of the Company any instrument required to effect the grant of an Award previously granted by the Administrator; and
 - (xiii) to make all other determinations deemed necessary or advisable for administering the Plan.
 - (c) **Effect of Administrator's Decision.** The Administrator's decisions, determinations and interpretations shall be final and binding on all Participants and any other holders of Awards.
5. **ELIGIBILITY.** Awards may be granted to Service Providers; provided, however, that Incentive Stock Options may be granted only to Employees.
6. **NO EMPLOYMENT RIGHTS.** Neither the Plan nor any Award shall confer upon a Participant any right with respect to continuing the Participant's relationship as an Employee or other Service Provider with the Company or its Subsidiaries, nor shall they interfere in any way with the Participant's right or the Company's or Subsidiary's right, as the case may be, to terminate such relationship at any time, with or without cause.
7. **CODE SECTION 162(m) PROVISIONS.**
- (a) **Option and SAR Annual Share Limit.** No Participant shall be granted, in any Fiscal Year, Options and Stock Appreciation Rights to purchase more than 500,000 Shares; provided, however, that such limit shall be 250,000 Shares in the Participant's first Fiscal Year of Company service.
 - (b) **Restricted Stock, Performance Share and Restricted Stock Unit Annual Limit.** No Participant shall be granted, in any Fiscal Year, more than 250,000 Shares in the aggregate of the following: (i) Restricted Stock, (ii) Performance Shares, or (iii) Restricted Stock Units; provided, however, that such limit shall be 125,000 Shares in the Participant's first Fiscal Year of Company service.
 - (c) **Section 162(m) Performance Restrictions.** For purposes of qualifying grants of Restricted Stock, Performance Shares or Restricted Stock Units as "performance-based compensation" under Section 162(m) of the Code, the Administrator, in its discretion, may set restrictions based upon the achievement of Performance Goals. The Performance Goals shall be set by the Administrator on or before the latest date permissible to enable the Restricted Stock, Performance Shares or Restricted Stock Units to qualify as "performance-based compensation" under Section 162(m) of the Code. In granting Restricted Stock, Performance Shares or Restricted Stock Units which are intended to qualify under Section 162(m) of the Code, the Administrator shall follow any procedures determined by it from time to time to be necessary or appropriate to ensure qualification of the Award under Section 162(m) of the Code (e.g., in determining the Performance Goals).
 - (d) **Changes in Capitalization.** The numerical limitations in Sections 7(b) and (b) shall be adjusted proportionately in connection with any change in the Company's capitalization as described in Section 17(a).
 - (e) If an Award is cancelled in the same Fiscal Year in which it was granted (other than in connection with a transaction described in Section 17 of the Plan), the cancelled Award will be counted against the limits set forth in subsections (a) and (b) above. For this purpose, if the exercise price of an Option is reduced, the transaction will be treated as a cancellation of the Option and the grant of a new Option.
8. **TERM OF PLAN.** Subject to Section 19 of the Plan, the Plan will become effective upon its adoption by the Board. It will continue in effect for a term of ten (10) years unless terminated earlier under Section 19 of the Plan.
9. **STOCK OPTIONS.**
- (a) **Type of Option.** Each Option shall be designated in the Award Agreement as either an Incentive Stock Option or a Nonstatutory Stock Option. However, notwithstanding such designation, to the extent that the aggregate Fair Market Value of the Shares with respect to which Incentive Stock Options are exercisable for the first time by the Participant during any calendar year (under all plans of the Company and any Parent or Subsidiary) exceeds \$100,000, such Options shall be treated as Nonstatutory Stock Options. For purposes of this Section 9(a), Incentive Stock Options shall be taken into account in the order in which they were granted. The Fair Market Value of the Shares shall be determined as of the time the Option with respect to such Shares is granted.
 - (b) **Term.** The term of each Option shall be stated in the Award Agreement and shall be seven (7) years from the date of grant or such shorter term as may be provided in the Award Agreement. Moreover, in the case of an Incentive Stock Option granted to a Participant who, at the time the Incentive Stock Option is granted, owns stock representing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Parent or Subsidiary, the term of the Incentive Stock Option shall be five (5) years from the date of grant or such shorter term as may be provided in the Award Agreement.

(c) Option Exercise Price and Consideration.

- (i) **Exercise Price.** The per Share exercise price for the Shares to be issued pursuant to exercise of an Option will be determined by the Administrator, subject to the following:
- (1) In the case of an Incentive Stock Option granted to an Employee who, at the time the Incentive Stock Option is granted, owns stock representing more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the per Share exercise price will be no less than 110% of the Fair Market Value per Share on the date of grant.
 - (2) In the case of all other Options, the per Share exercise price will be no less than 100% of the Fair Market Value per Share on the date of grant.
 - (3) Notwithstanding the foregoing, Options may be granted with a per Share exercise price of less than 100% of the Fair Market Value per Share on the date of grant pursuant to a merger or other corporate transaction.
- (ii) **Waiting Period and Exercise Dates.** At the time an Option is granted, the Administrator shall fix the period within which the Option may be exercised and shall determine any conditions which must be satisfied before the Option may be exercised.
- (iii) **Form of Consideration.** The Administrator shall determine the acceptable form of consideration for exercising an Option, including the method of payment. In the case of an Incentive Stock Option, the Administrator shall determine the acceptable form of consideration at the time of grant. Subject to Applicable Laws, such consideration may consist entirely of:
- (1) cash;
 - (2) check;
 - (3) promissory note;
 - (4) other Shares which have a Fair Market Value on the date of surrender equal to the aggregate exercise price of the Shares as to which said Option shall be exercised and which meet the conditions established by the Administrator to avoid adverse accounting consequences (as determined by the Administrator);
 - (5) consideration received by the Company under a cashless exercise program implemented by the Company in connection with the Plan;
 - (6) a reduction in the amount of any Company liability to the Participant, including any liability attributable to the Participant's participation in any Company-sponsored deferred compensation program or arrangement;
 - (7) any combination of the foregoing methods of payment;
 - (8) such other consideration and method of payment for the issuance of Shares to the extent permitted by Applicable Laws; or
 - (9) any combination of the foregoing methods of payment.

10. STOCK APPRECIATION RIGHTS.

- (a) **Grant of SARs.** Subject to the terms and conditions of the Plan, a SAR may be granted to Service Providers at any time and from time to time as will be determined by the Administrator, in its sole discretion.
- (b) **Number of Shares.** The Administrator will have complete discretion to determine the number of SARs granted to any Service Provider, subject to the limits set forth in Section 7.
- (c) **Exercise Price and Other Terms.** The Administrator, subject to the provisions of the Plan, will have complete discretion to determine the terms and conditions of SARs granted under the Plan.
- (d) **Exercise of SARs.** SARs will be exercisable on such terms and conditions as the Administrator, in its sole discretion, will determine.
- (e) **SAR Agreement.** Each SAR grant will be evidenced by an Award Agreement that will specify the exercise price, the term of the SAR, the conditions of exercise, and such other terms and conditions as the Administrator, in its sole discretion, will determine.

- (f) **Expiration of SARs.** An SAR granted under the Plan will expire upon the date determined by the Administrator, in its sole discretion, and set forth in the Award Agreement; provided, however, that no SAR will have a term of more than ten (10) years from the date of grant.
- (g) **Payment of SAR Amount.** Upon exercise of an SAR, a Participant will be entitled to receive payment from the Company in an amount determined by multiplying:
 - (i) The difference between the Fair Market Value of a Share on the date of exercise over the exercise price; times
 - (ii) The number of Shares with respect to which the SAR is exercised.
- (h) **Form of Payment.** The Company's obligation arising upon the exercise of a SAR may be paid in Common Stock or in cash, or in any combination of Common Stock and cash, as the Administrator, in its sole discretion, may determine. Shares issued upon the exercise of a SAR shall be valued at their Fair Market Value as of the date of exercise.

11. EXERCISE OF OPTION OR SAR.

- (a) **Procedure for Exercise; Rights as a Shareholder.** Any Option or SAR granted hereunder shall be exercisable according to the terms of the Plan and at such times and under such conditions as determined by the Administrator and set forth in the Award Agreement. An Option may not be exercised for a fraction of a Share.

An Option or SAR shall be deemed exercised when the Company receives: (i) written or electronic notice of exercise (in accordance with the terms of the Option or SAR) from the person entitled to exercise the Option or SAR, and (ii) full payment for the Shares with respect to which the Option is exercised. Full payment may consist of any consideration and method of payment authorized by the Administrator and permitted by the Award Agreement and the Plan. Shares issued upon exercise of an Option or SAR shall be issued in the name of the Participant or, if requested by the Participant, in the name of the Participant and his or her spouse. Until the Shares are issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company), no right to vote or receive dividends or any other rights as a shareholder shall exist with respect to the Awarded Stock, notwithstanding the exercise of the Option. The Company shall issue or cause to be issued (and which issuance may be in electronic entry form) such Shares promptly after the Option is exercised. No adjustment will be made for a dividend or other right for which the record date is prior to the date the Shares are issued, except as provided in Section 17 of the Plan.

Exercising an Option in any manner shall decrease the number of Shares thereafter available, both for purposes of the Plan and for sale under the Option, by the number of Shares as to which the Option is exercised. Exercise of a SAR in any manner shall, to the extent the SAR is exercised, result in a decrease in the number of Shares which thereafter shall be available for purposes of the Plan, and the SAR shall cease to be exercisable to the extent it has been exercised.

- (b) **Termination of Continuous Status as a Service Provider.** Upon termination of a Participant's Continuous Status as a Service Provider (other than termination by reason of the Participant's death or Disability), the Participant may exercise his or her Option or SAR within such period of time as is specified in the Award Agreement to the extent that the Award is vested on the date of termination (but in no event later than the expiration of the term of such Award as set forth in the Award Agreement). In the absence of a specified time in the Option Agreement, the Option shall remain exercisable for three (3) months following the Participant's termination. If the Option or SAR is not so exercised within the time specified herein, the Option or SAR shall terminate, and the Shares covered by such Option or SAR shall revert to the Plan. Unless otherwise provided by the Administrator, if on the date of termination the Participant is not vested as to his or her entire Option or SAR, the Shares covered by the unvested portion of the Option or SAR will revert to the Plan on the date one (1) month following the Participant's termination. Notwithstanding the foregoing, in no event shall an Option or SAR be exercisable after the expiration of the term of the Award as provided in the Award Agreement.
- (c) **Disability of Participant.** If a Participant terminates his or her Continuous Status as a Service Provider as a result of his or her Disability, the Participant may exercise his or her Option or SAR within such period of time as is specified in the Award Agreement to the extent the Option or SAR is vested on the date of termination (but in no event later than the expiration of the term of such Option or SAR as set forth in the Award Agreement). In the absence of a specified time in the Award Agreement, the Option or SAR shall remain exercisable for twelve (12) months following the Participant's termination. If, after termination, the Participant does not exercise his or her Option or SAR within the time specified herein, the Option or SAR shall terminate, and the Shares covered by such Option or SAR shall revert to the Plan. Unless otherwise provided by the Administrator, if on the date of termination the Participant is not vested as to his or her entire Option or SAR, the Shares covered by the unvested portion of the Option or SAR will revert to the Plan on the date one (1)

month following the Participant's termination. Notwithstanding the foregoing, in no event shall an Option or SAR be exercisable after the expiration of the term of the Award as provided in the Award Agreement.

- (d) **Death of Participant.** If a Participant dies while a Service Provider, the Option or SAR may be exercised following the Participant's death within such period of time as is specified in the Award Agreement (but in no event may the option be exercised later than the expiration of the term of such Option or SAR as set forth in the Award Agreement), by the Participant's designated beneficiary, provided such beneficiary has been designated prior to Participant's death in a form acceptable to the Administrator. If no such beneficiary has been designated by the Participant, then such Option may be exercised by the personal representative of the Participant's estate or by the person(s) to whom the Option or SAR is transferred pursuant to the Participant's will or in accordance with the laws of descent and distribution. In the absence of a specified time in the Award Agreement, the Option or SAR shall remain exercisable for twelve (12) months following Participant's death. If the Option or SAR is not so exercised within the time specified herein, the Option or SAR shall terminate, and the Shares covered by such Option or SAR shall revert to the Plan. Unless otherwise provided by the Administrator, if on the date of termination the Participant is not vested as to his or her entire Option or SAR, the Shares covered by the unvested portion of the Option or SAR will revert to the Plan on the date one (1) month following the Participant's termination. Notwithstanding the foregoing, in no event shall an Option or SAR be exercisable after the expiration of the term of the Award as provided in the Award Agreement.

12. RESTRICTED STOCK.

- (a) **Grant of Restricted Stock.** Subject to the terms and provisions of the Plan (including the limits set forth in Section 7), the Administrator, at any time and from time to time, may grant Shares of Restricted Stock to Service Providers in such amounts as the Administrator, in its sole discretion, will determine.
- (b) **Restricted Stock Agreement.** Each Award of Restricted Stock will be evidenced by an Award Agreement that will specify the Period of Restriction, the number of Shares granted, and such other terms and conditions as the Administrator, in its sole discretion, will determine. Unless the Administrator determines otherwise, Shares of Restricted Stock will be held by the Company as escrow agent until the restrictions on such Shares have lapsed.
- (c) **Transferability.** Unless determined otherwise by the Administrator, Shares of Restricted Stock may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution until the end of the applicable Period of Restriction.
- (d) **Other Restrictions.** The Administrator, in its sole discretion, may impose such other restrictions on Shares of Restricted Stock as it may deem advisable or appropriate.
- (i) **General Restrictions.** The Administrator may set restrictions based upon the achievement of Company-wide, departmental, business unit, or individual goals (including, but not limited to, continued employment or service), applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion.
- (ii) **Section 162(m) Performance Restrictions.** For purposes of qualifying grants of Restricted Stock as "performance-based compensation" under Section 162(m) of the Code, the Committee, in its discretion, may set restrictions based upon the achievement of Performance Goals. The Performance Goals shall be set by the Committee on or before the latest date permissible to enable the Restricted Stock to qualify as "performance-based compensation" under Section 162(m) of the Code. In granting Restricted Stock which is intended to qualify under Section 162(m) of the Code, the Committee shall follow any procedures determined by it from time to time to be necessary or appropriate to ensure qualification of the Restricted Stock under Section 162(m) of the Code (e.g., in determining the Performance Goals).
- (e) **Removal of Restrictions.** Except as otherwise provided in this Section 12, Shares of Restricted Stock covered by each Restricted Stock grant made under the Plan will be released from escrow as soon as practicable after the last day of the Period of Restriction. The Administrator, in its discretion, may accelerate the time at which any restrictions will lapse or be removed.
- (f) **Voting Rights.** During the Period of Restriction, Service Providers holding Shares of Restricted Stock granted hereunder may exercise full voting rights with respect to those Shares, unless the Administrator determines otherwise.
- (g) **Dividends and Other Distributions.** During the Period of Restriction, Service Providers holding Shares of Restricted Stock will be entitled to receive all dividends and other distributions paid with respect to such Shares unless otherwise provided in the Award Agreement. If any such dividends or distributions are paid in Shares,

the Shares will be subject to the same restrictions on transferability and forfeitability as the Shares of Restricted Stock with respect to which they were paid.

- (h) **Return of Restricted Stock to Company.** On the date set forth in the Award Agreement, the Restricted Stock for which restrictions have not lapsed will revert to the Company and again will become available for grant under the Plan.

13. RESTRICTED STOCK UNITS.

- (a) **Grant.** Restricted Stock Units may be granted at any time and from time to time as determined by the Administrator. Each Restricted Stock Unit grant shall be evidenced by an Award Agreement that shall specify such other terms and conditions as the Administrator, in its sole discretion, shall determine, including all terms, conditions, and restrictions related to the grant, the number of Restricted Stock Units (subject to the limitations set forth in Section 7) and the form of payout, which, subject to Section 13(d), may be left to the discretion of the Administrator.
- (b) **Vesting Criteria and Other Terms.** The Administrator shall set vesting criteria in its discretion, which, depending on the extent to which the criteria are met, will determine the number of Restricted Stock Units that will be paid out to the Participant.
 - (i) **General Restrictions.** The Administrator may set vesting criteria based upon the achievement of Company-wide, departmental, business unit, or individual goals (including, but not limited to, continued employment or service), applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion.
 - (ii) **Section 162(m) Performance Restrictions.** For purposes of qualifying grants of Restricted Stock Units as “performance-based compensation” under Section 162(m) of the Code, the Committee, in its discretion, may set performance objectives based upon the achievement of Performance Goals. The Performance Goals shall be set by the Committee on or before the latest date permissible to enable the Restricted Stock Units to qualify as “performance-based compensation” under Section 162(m) of the Code. In granting Restricted Stock Units that are intended to qualify under Section 162(m) of the Code, the Committee shall follow any procedures determined by it from time to time to be necessary or appropriate to ensure qualification of the Restricted Stock Units under Section 162(m) of the Code (e.g., in determining the Performance Goals).
- (c) **Earning Restricted Stock Units.** Upon meeting the applicable vesting criteria, the Participant shall be entitled to receive a payout as specified in the Award Agreement. Notwithstanding the foregoing, at any time after the grant of Restricted Stock Units, the Administrator, in its sole discretion, may reduce or waive any vesting criteria that must be met to receive a payout.
- (d) **Form and Timing of Payment.** Payment of earned Restricted Stock Units shall be made as soon as practicable after the date(s) set forth in the Award Agreement. The Administrator, in its sole discretion, may pay earned Restricted Stock Units in cash, Shares, or a combination thereof. Shares represented by Restricted Stock Units that are fully paid in cash again shall be available for grant under the Plan.
- (e) **Cancellation.** On the date set forth in the Award Agreement, all unearned Restricted Stock Units shall be forfeited to the Company.

14. PERFORMANCE SHARES.

- (a) **Grant of Performance Shares.** Subject to the terms and conditions of the Plan, Performance Shares may be granted to Service Providers at any time as shall be determined by the Administrator, in its sole discretion. Subject to Section 7 hereof, the Administrator shall have complete discretion to determine the number of Shares subject to a Performance Share Award granted to any Service Provider.
- (b) **Value of Performance Shares.** Each Performance Share will have an initial value equal to the Fair Market Value of a Share on the date of grant.
- (c) **Performance Objectives and Other Terms.** The Administrator will set performance objectives in its discretion which, depending on the extent to which they are met, will determine the number or value of Performance Shares that will be paid out to the Service Providers. Each Award of Performance Shares will be evidenced by an Award Agreement that will specify the performance period during which the applicable objectives must be met, and such other terms and conditions as the Administrator, in its sole discretion, will determine.

- (i) **General Restrictions.** The Administrator may set performance objective based upon the achievement of Company-wide, departmental, business unit, or individual goals (including, but not limited to, continued employment or service), applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion.
 - (ii) **Section 162(m) Performance Restrictions.** For purposes of qualifying grants of Performance Shares as “performance-based compensation” under Section 162(m) of the Code, the Committee, in its discretion, may set performance objectives based upon the achievement of Performance Goals. The Performance Goals shall be set by the Committee on or before the latest date permissible to enable the Performance Shares to qualify as “performance-based compensation” under Section 162(m) of the Code. In granting Performance Shares that are intended to qualify under Section 162(m) of the Code, the Committee shall follow any procedures determined by it from time to time to be necessary or appropriate to ensure qualification of the Performance Shares under Section 162(m) of the Code (e.g., in determining the Performance Goals).
 - (d) **Earning of Performance Shares.** After the applicable Performance Period has ended, the holder of Performance Shares will be entitled to receive a payout of the number of Performance Shares earned by the Participant over the Performance Period, to be determined as a function of the extent to which the corresponding performance objectives have been achieved. After the grant of a Performance Share, the Administrator, in its sole discretion, may reduce or waive any performance objectives for such Performance Share.
 - (e) **Form and Timing of Payment of Performance Shares.** Payment of earned Performance Shares will be made as soon as practicable after the expiration of the applicable Performance Period. The Administrator, in its sole discretion, may pay earned Performance Shares in the form of cash, in Shares (which have an aggregate Fair Market Value equal to the value of the earned Performance Shares at the close of the applicable performance period) or in a combination thereof.
 - (f) **Cancellation of Performance Shares.** On the date set forth in the Award Agreement, all unearned or unvested Performance Shares will be forfeited to the Company, and again will be available for grant under the Plan.
15. **LEAVES OF ABSENCE.** Unless the Administrator provides otherwise or except as otherwise required by Applicable Laws, vesting of Awards granted hereunder shall cease commencing on the first day of any unpaid leave of absence and shall only recommence upon return to active service.
16. **TRANSFERABILITY OF AWARDS.** Unless determined otherwise by the Administrator or as otherwise provided in the Plan, an Award may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution, and may be exercised, during the lifetime of the Participant, only by the Participant. If the Administrator makes an Award transferable, such Award shall contain such additional terms and conditions as the Administrator deems appropriate.
17. **ADJUSTMENTS UPON CHANGES IN CAPITALIZATION, DISSOLUTION, MERGER OR CHANGE IN CONTROL.**
- (a) **Changes in Capitalization.** Subject to any required action by the shareholders of the Company, the number of shares of Common Stock covered by each outstanding Award and the number of shares of Common Stock which have been authorized for issuance under the Plan but as to which no Awards have yet been granted or which have been returned to the Plan upon cancellation or expiration of an Award, as well as the price per share, if any, of Common Stock covered by each such outstanding Award and the 162(m) fiscal year share issuance limits under Sections 7(a) and (b) hereof shall, shall be proportionately adjusted for any dividend or other distribution (whether in the form of cash, Shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of Shares or other securities of the Company, or other change in the corporate structure of the Company affecting the Shares should the Committee (in its sole discretion) determine such an adjustment to be appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan. Such adjustment shall be made by the Board or the Committee, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares of Common Stock subject to an Award.

- (b) **Dissolution or Liquidation.** In the event of the proposed dissolution or liquidation of the Company, all outstanding Awards will terminate immediately prior to the consummation of such proposed action, unless otherwise provided by the Administrator. The Administrator in its discretion may provide for a Participant to have the right to exercise his or her Option, SAR or right to purchase Restricted Stock until ten (10) days prior to such transaction as to all of the Awarded Stock covered thereby, including Shares as to which the Award would not otherwise be exercisable. In addition, the Administrator may provide that any Company repurchase option or forfeiture rights applicable to any Award shall lapse 100%, and that any Award vesting shall accelerate 100%, provided the proposed dissolution or liquidation takes place at the time and in the manner contemplated. To the extent it has not been previously exercised (with respect to Options, SARs and right to purchase Restricted Stock) or vested (with respect to other Awards), an Award will terminate immediately prior to the consummation of such proposed action.
- (c) **Merger or Change in Control.** In the event of a merger or Change in Control, each outstanding Award shall be assumed or an equivalent award substituted by the successor corporation or a Parent or Subsidiary of the successor corporation. In the event that the successor corporation refuses to assume or substitute for the Award, the Participant shall (i) fully vest in and have the right to exercise the Option, SAR or right to purchase Restricted Stock as to all of the Awarded Stock, including Shares as to which it would not otherwise be vested or exercisable, and (ii) fully earn and receive a payout with respect to other Awards. If an Award is not assumed or substituted for in the event of a merger or Change in Control, the Administrator shall notify the Participant in writing or electronically that (i) the Option, SAR or right to purchase Restricted Stock shall be fully vested and exercisable for a period of fifteen (15) days from the date of such notice, and (ii) all outstanding Options, SARs and rights to purchase Restricted Stock shall terminate upon the expiration of such period and (iii) all other outstanding Awards shall be paid out immediately prior to the merger or Change in Control. For the purposes of this paragraph, the Award shall be considered assumed if, following the merger or Change in Control, the assumed Award confers the right to purchase or receive, for each Share of Awarded Stock subject to the Award immediately prior to the merger or Change in Control, the consideration (whether stock, cash, or other securities or property) received in the merger or Change in Control by holders of Common Stock for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the merger or Change in Control is not solely common stock of the successor corporation or its Parent, the Administrator may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise (or payout or vesting, as applicable) of the Award, for each Share of Awarded Stock subject to the Award, to be solely common stock of the successor corporation or its Parent equal in fair market value to the per share consideration received by holders of Common Stock in the merger or Change in Control.

18. **DATE OF GRANT.** The date of grant of an Award shall be, for all purposes, the date on which the Administrator makes the determination granting such Award, or such other later date as is determined by the Administrator. Notice of the determination shall be provided to each Participant within a reasonable time after the date of such grant.

19. **AMENDMENT AND TERMINATION OF THE PLAN.**

- (a) **Amendment and Termination.** The Board may at any time amend, alter, suspend or terminate the Plan. Unless terminated sooner by the Board, the Plan shall automatically terminate on the day before May 24, 2023.
- (b) **Shareholder Approval.** The Plan will be subject to approval by the shareholders of the Company within twelve (12) months after the date the Plan is adopted. Such shareholder approval will be obtained in the manner and to the degree required under Applicable Laws. The Company shall obtain shareholder approval of any Plan amendment to the extent necessary and desirable to comply with Applicable Laws.
- (c) **Effect of Amendment or Termination.** No amendment, alteration, suspension or termination of the Plan shall impair the rights of any Participant, unless mutually agreed otherwise between the Participant and the Administrator, which agreement must be in writing (or electronic format) and signed by the Participant and the Company. Termination of the Plan shall not affect the Administrator's ability to exercise the powers granted to it hereunder with respect to Awards granted under the Plan prior to the date of such termination.

20. CONDITIONS UPON ISSUANCE OF SHARES.

- (a) **Legal Compliance.** Shares shall not be issued pursuant to the exercise or payout, as applicable, of an Award unless the exercise or payout, as applicable, of such Award and the issuance and delivery of such Shares shall comply with Applicable Laws and shall be further subject to the approval of counsel for the Company with respect to such compliance.
- (b) **Investment Representations.** As a condition to the exercise or payout, as applicable, of an Award, the Company may require the person exercising such Option, SAR or right to purchase Restricted Stock, or in the case of another Award, the person receiving the payout, to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required.

- 21. INABILITY TO OBTAIN AUTHORITY.** The inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.
- 22. SEVERABILITY.** Notwithstanding any contrary provision of the Plan or an Award to the contrary, if any one or more of the provisions (or any part thereof) of this Plan or the Awards shall be held invalid, illegal or unenforceable in any respect, such provision shall be modified so as to make it valid, legal and enforceable, and the validity, legality and enforceability of the remaining provisions (or any part thereof) of the Plan or Award, as applicable, shall not in any way be affected or impaired thereby.
- 23. NON-U.S. EMPLOYEES.** Notwithstanding anything in the Plan to the contrary, with respect to any employee who is resident outside of the United States, the Administrator may, in its sole discretion, amend the terms of the Plan in order to conform such terms to the requirements of local law or to meet the objectives of the Plan. The Administrator may, where appropriate, establish one or more sub-plans for this purpose.
- 24. 2009 EXCHANGE PROGRAM.** Notwithstanding any other provision of the Plan to the contrary, upon approval of the Company's shareholders, the Administrator may provide for, and the Company may implement, an Exchange Program, pursuant to which certain outstanding Options under the Plan as well as options under the 2002 Nonstatutory Stock Option Plan, the 2000 Employee Stock Option Plan and the Accent Optical Technologies, Inc. Stock Incentive Plan could, at the election of the Participant holding such Option, be tendered to the Company for cancellation in exchange for the issuance of a lesser amount of Options with a lower exercise price, provided that such Exchange Program is commenced within 2009.

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FORM 10-K

FOR THE FISCAL YEAR 2012 ENDED DECEMBER 29, 2012

NANOMETRICS INCORPORATED

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

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 29, 2012

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number: 0-13470

NANOMETRICS INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

94-2276314

(I.R.S. Employer Identification Number)

1550 Buckeye Drive
Milpitas, California

(Address of principal executive offices)

95035

(Zip Code)

Registrant's telephone number, including area code: (408) 545-6000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, \$0.001 par value per share	The NASDAQ Stock Market LLC (NASDAQ Global Select Market)

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the Registrant is a well-known seasoned issuer as defined in Rule 405 of the Securities Act. Yes No .

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No .

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No .

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No .

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer", "accelerated filer", and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer
Non-accelerated filer Smaller reporting company

Indicate by check mark whether the Registrant is a shell company (as defined by Rule 12b-2 of the Act) Yes No .

As of June 29, 2012, the last business day of the Registrant's most recently completed second fiscal quarter, the aggregate market value of the common stock of Registrant held by non-affiliates, based upon the closing sales price for the Registrant's common stock for such date, as quoted on the NASDAQ Global Select Market, was approximately \$325.4 million. Shares of common stock held by each officer and director and by each person who owned 5% or more of the outstanding common stock have been excluded because such persons may be deemed to be "affiliates" as that term is defined under the rules and regulations of the Exchange Act. This determination of affiliate status is not necessarily a conclusive determination for any other purpose.

The number of shares of the Registrant's common stock outstanding as of March 7th, 2013 was 23,403,446.

DOCUMENTS INCORPORATED BY REFERENCE

The Registrant has incorporated by reference into Part III of this Annual Report on Form 10-K portions of its Proxy Statement for its 2013 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A. The Proxy Statement will be filed within 120 days of Registrant's fiscal year ended December 29, 2012.

NANOMETRICS INCORPORATED
FORM 10-K
FOR THE FISCAL YEAR ENDED DECEMBER 29, 2012
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CAUTIONARY INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K for the year ended December 29, 2012, or "Form 10-K," contains forward-looking statements concerning our business, operations, and financial performance and condition as well as our plans, objectives, and expectations for business operations and financial performance and condition. Any statements contained herein that are not of historical facts may be deemed to be forward-looking statements. You can identify these statements by words such as "anticipate," "assume," "believe," "could," "estimate," "expect," "intend," "may," "plan," "should," "will," "would," and other similar expressions that are predictions of or indicate future events and future trends. These forward-looking statements are based on current expectations, estimates, forecasts, and projections about our business and the industry in which we operate and management's beliefs and assumptions and are not guarantees of future performance or development and involve known and unknown risks, uncertainties, and other factors that are in some cases beyond our control. As a result, any or all of our forward-looking statements in this Form 10-K may turn out to be inaccurate. Factors that could materially affect our business operations and financial performance and condition include, but are not limited to, those risks and uncertainties described herein under "Risk Factors". You are urged to consider these factors carefully in evaluating the forward-looking statements and are cautioned not to place undue reliance on the forward-looking statements. The forward-looking statements are based on information available to us as of the filing date of this Form 10-K. Unless required by law, we do not intend to publicly update or revise any forward-looking statements to reflect new information or future events or otherwise. You should, however, review the factors and risks we describe in the reports we will file from time to time with the Securities and Exchange Commission, or SEC, after the date of this Form 10-K.

PART I

ITEM 1. BUSINESS

Overview

Nanometrics Incorporated and its subsidiaries (“Nanometrics”, the “Company”, or “we”) is a leading provider of advanced, high-performance process control metrology and inspection systems used primarily in the fabrication of integrated circuits, high-brightness LEDs (“HB-LED”), discrete components and data storage devices. Our automated and integrated systems address numerous process control applications, including critical dimension and film thickness measurement, device topography, defect inspection, overlay registration, and analysis of various other film properties such as optical, electrical and material characteristics. Our process control solutions are deployed throughout the fabrication process, from front-end-of-line substrate manufacturing, to high-volume production of semiconductors and other devices, to advanced wafer-scale packaging applications. Our systems enable device manufacturers to improve yields, increase productivity and lower their manufacturing costs.

We were incorporated in California in 1975, and reincorporated in Delaware in 2006. We have been publicly traded since 1984 (NASDAQ: NANO). We have been a pioneer and innovator in the field of optical metrology and we have an installed base of over 6,500 systems in over 150 production factories worldwide. Our major customers and original equipment manufacturer (“OEM”) partners include Samsung Electronics Co. Ltd., Intel Corporation, SK Hynix Semiconductor, Inc., Toshiba Corporation, Applied Materials, Inc., Lam Research, Taiwan Semiconductor Manufacturing Company Limited, and Micron, Inc.

Additional information about us is available on our website at <http://www.nanometrics.com>. The information that can be accessed through our website, however, is not part of this Annual Report. Our investor relations web page is located at <http://www.nanometrics.com/investor.html>. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports are available on our web page as soon as reasonably practicable after we electronically file or furnish such materials to the United States Securities and Exchange Commission (“SEC”). In addition, the reports and materials that we file with the SEC are available at the SEC's website (<http://www.sec.gov>) and at the SEC's Public Reference Room at 100 F Street, NE, Washington DC 20549. Interested parties may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

Industry Background

We participate in the sale, design, manufacture, marketing and support of process control systems for thin film metrology, optical critical dimension metrology, advanced 3-D packaging process control, overlay registration, and wafer defect inspection used for semiconductor manufacturing. Semiconductors are primarily packaged as integrated circuits within electronic devices, including consumer electronics, personal computing devices, cell phones, data storage devices, and LEDs, and a multitude of other electronic products being proliferated worldwide. Integrated circuits are made up of semiconductor material layers integrating millions or billions of transistors and other electronic components, connected through a complex wiring scheme of small copper or aluminum wires, ultimately packaged into thin form factors to be mounted on circuit boards or other substrates. Our core focus is the measurement and control of the structure, composition, and geometry of the devices from the transistor layer through advanced wafer-scale packaging to improve device performance and manufacturing yields. Our end customers manufacture many types of integrated circuits for a multitude of applications, each having unique manufacturing challenges. This includes integrated circuits to enable information processing and management (logic integrated circuits), memory storage (NAND, NOR, and DRAM), thin film head components for hard disk drives, analog devices (e.g., Wi-Fi and 4G radio integrated circuits), and alternative energy devices such as LEDs and solar cells.

Demand for our products continues to be driven by our customers' desire for higher overall chip performance, and improvements in power efficiency, logic processing capability, data storage volume and manufacturing yield. To achieve these goals, our customers have increased their use of more complex materials and processing methods in their manufacturing flow. The majority of our chip customers manufacture devices with features as small as 45nm (nanometer) to 22nm and below, and in some cases our customers are implementing new materials and methods in high volume manufacturing, including high dielectric constant (or high-k) materials, fin-fet or tri-gate transistors, and double or quadruple patterning lithography. The use of these new materials and methods requires additional process control and we believe has increased demand for our products. Next-generation devices with features smaller than 22nm are in early production, which in turn likely will require new advancements in metrology and inspection capabilities. DRAM memory makers have shifted to 3x node production with development for 2x node devices currently underway. Non-volatile memory makers of NAND and NOR devices are ramping 1x node devices into high volume manufacturing with work extending into early 1y node production and 1z node development as well as new stacked or 3D non-volatile memory structures. Foundry and logic manufacturers are ramping production of both

28nm and 22nm node devices and beginning investment into 1x node devices. Thin film head components for hard disk drives are also being driven to smaller sizes to support next generation hard disk drives with ever increasing storage capacity requiring continued improvements in read and write head component scaling. We also enable clean energy device manufacturers, such as for LEDs and solar Photo-Voltaics ("PVs"), to achieve higher yields and lower manufacturing costs.

Our Business

We offer a diverse line of process control and inspection products and technologies to address the manufacturing requirements of the semiconductor (and other solid state device) manufacturing industry. Our metrology systems measure and characterize the physical dimensions, material composition, optical and electrical characteristics and other critical parameters of solid state devices, from initial wafer substrate manufacturing through final packaging. For the photolithographic process, thin-film metrology, critical-dimension and overlay systems provide control of device dimensions and layer alignment. Advanced packaging technology requires metrology systems to control wafer scale features for through-silicon-via ("TSV") and flip-chip technologies. Our metrology systems for materials monitor the physical, optical, and electrical characteristics of materials including compound semiconductor, LEDs, solar PVs and silicon wafers. Our defect inspection systems locate large area and microscopic defects on patterned and unpatterned wafers. The system can be used for inspection at nearly every stage of the semiconductor production flow.

We are continually working to strengthen our competitive position by developing new technologies and products in our market segment. We have expanded our product offerings to address growing applications within the semiconductor manufacturing industry. In continuance of our goals, we have:

- Introduced new products and applications in every core product line and primary market served;
- Diversified our product line and served markets through acquisitions, such as the 2006 acquisition of Accent Optical Technologies, Inc. a supplier of overlay and thin film metrology and process control systems; the 2008 acquisition of Tevet Process Control Technologies ("Tevet"), an integrated metrology supplier; the 2009 acquisition of the UniFire™ product line from Zygo Corporation; and the 2011 acquisition of Nanda Technologies GmbH, a supplier of high sensitivity, high throughput defect inspection systems;
- Continued development of new measurement and inspection technologies for advanced fabrication processes; and
- Researched and developed innovative applications of existing technology to new market opportunities within the solar PV, HB-LED, and data storage industries.

Nanometrics Products

We offer a diverse line of systems to address the broad range of process control requirements of the semiconductor manufacturing industry. In addition, we believe that our engineering expertise, strategic acquisitions, supplier alliances and short-cycle production strategies enable us to develop and offer advanced process control solutions in the future that should address industry advancement and trends.

Automated Standalone Systems

Our automated systems are made up of both semi-automated and fully automated metrology systems which are employed in both high-volume and low-volume production environments. The *Atlas® II*, *Atlas XP/Atlas XP** and *Atlas-M* represent our line of high-performance metrology systems providing optical critical dimension ("OCD"®), thin film metrology and wafer stress for transistor and interconnect metrology applications. The OCD technology is supported by our *NanoCD®* suite of solutions including our *NanoDiffract®* software and *NanoGen™* scalable computing engine that enables visualization, modeling, and analysis of complex structures. The *Mosaic™* family of systems provide cost effective overlay metrology solutions, for today's advanced 300mm overlay process technologies, and is available on our *Lynx™* platform. The UniFire™ system enables users to measure multiple parameters at any given process step in the advanced packaging process flow for critical dimension, overlay, and topography applications. Our SPARK defect inspection system, offers ultra-fast inspection of patterned and unpatterned semiconductor wafers.

We continue to offer automated products for 200mm factories running at 90nm nodes and above, as well as systems supporting micro-electrical mechanical systems ("MEMS"). Our *Q240™* is a 200mm overlay metrology system that incorporates the same measurement technology as the *Mosaic™*, which thereby extends the technology capability of our customers' existing factories.

System Platform

The *Lynx*[®] platform enables cluster metrology factory automation for improved cost of ownership to our customers by combining our *Mosaic*[™], *Atlas*^{® II} and *IMPULSE*[®], UniFire metrology and *SPARK* inspection systems in configurations to provide high throughput, reduced footprint systems for leading 300mm wafer metrology applications including OCD, overlay, and thin film process control.

Integrated Systems

Our integrated metrology (“IM”) systems are installed directly onto wafer processing equipment to provide near real-time measurements for improved process control and maximum throughput. Our IM systems are sold directly to end customers and through OEM channels. The *IMPULSE*[®] system is our latest metrology platform for OCD, DBO, and thin film metrology and has been successfully qualified on numerous OEM platforms. Our *90x0* system is qualified for OEM and direct sales supporting thin film and OCD applications. Our *NanoCD*^{™ solutions suite} is sold in conjunction with our *IMPULSE*[®] and legacy *90x0* systems. Our *Trajectory*[™] system provides in-line measurement of layers in thin film thickness and composition in semiconductor applications.

Materials Characterization

Our Materials Characterization products include systems that are used to monitor the physical, optical, electrical and material characteristics of discrete electronic industry, HB-LED, solar PV, compound semiconductor, strained silicon and silicon-on-insulator (“SOI”) devices, including composition, crystal structure, layer thickness, dopant concentration, contamination and electron mobility.

Our *Vertex*[™] is a photoluminescence (“PL”) mapping system designed for high-volume compound semiconductor metrology applications including power control and photonics applications. The *RPMBlue*[™] is our latest PL mapping system designed specifically for the HB-LED market. We sell Fourier-Transform Infrared (“FTIR”) automated and manual systems in the *QS2200/3300* and *QS1200* respectively. The FTIR systems are spectrometers designed for non-destructive wafer analysis for various applications. The *NanoSpec*[®] line of products includes the *3000 and 6100* supporting thin film measurement across all applications in both low volume production and research applications.

Our process control systems can be categorized as follows:

System	Market	Applications
System Platform		
Lynx [™]	Semiconductor	Platform
OCD Analysis		
NanoDiffract [®]	Semiconductor	OCD
NanoGen [®]	Semiconductor	OCD
Automated Standalone Systems		
Atlas II [®] /Atlas II+ [®] /Atlas XP [®] /Atlas XP+ [®] /Atlas-M [®]	Semiconductor	Film Thickness, Film Stress, CD
Mosaic II [™] , III [™]	Semiconductor	Overlay
SPARK	Semiconductor	Defect Inspection and Advanced Packaging Applications
UniFire [™]	Semiconductor	Film Thickness, Overlay, CD, and Advanced Packaging Applications
NanoSpec [®] 9100	Semiconductor	Film Thickness
Integrated Systems		
IMPULSE [®]	Semiconductor	Film Thickness, CD
9010 Series	Semiconductor	Film Thickness, CD
9000 Series	Semiconductor	Film Thickness
Trajectory	Semiconductor, Solar PV	Film Thickness, Composition

System	Market	Applications
Materials Characterization Instruments		
ECVPro	Compound Semiconductor, Solar PV, HB-LED	Electrical Properties
HL5500	Compound Semiconductor, Solar PV, HB-LED	Electrical Properties
QS1200	Substrate Semiconductor, Solar PV	Substrate Properties, Film Composition and Thickness
QS2200/3300	Substrate Semiconductor	Substrate Properties, Film Composition
NanoSpec® 3000	Semiconductor	Film Thickness (Tabletop)
NanoSpec® 6100	Semiconductor	Film Thickness (Tabletop)
RPMBlue™	HB-LED	Epitaxial Layer Properties
Stratus	Semiconductor	Substrate Properties, Film Composition and Thickness (Tabletop)
VerteX™	Compound Semiconductor, Solar PV, HB-LED	Epitaxial Layer Properties

Customers

We sell our metrology and inspection systems worldwide to several semiconductor manufacturers and equipment suppliers, producers of HB-LEDs, solar PVs, data storage devices, silicon wafers and photomasks. The majority of our systems are sold to customers located in Asia and the United States. Three customers, Samsung Electronics Co. Ltd., Intel Corporation and SK Hynix represented 27.8%, 22.3% and 16.5%, respectively, of our total net revenues in fiscal year 2012. Three customers, Samsung Electronics Co. Ltd., Intel Corporation and SK Hynix Semiconductor, Inc., represented 30.0%, 16.9% and 11.4%, respectively, of our total net revenues in the fiscal year 2011. Three customers, Samsung Electronics Co. Ltd., Intel Corporation and SK Hynix Semiconductor, represented 23.0%, 16.4% and 12.8%, respectively, of our total net revenues in the fiscal year 2010.

Sales and Marketing

We believe that the capability for direct sales and support is beneficial for developing and maintaining close customer relationships and for rapidly responding to changing customer requirements. We provide local direct sales, service and application support through our worldwide offices located in the United States, South Korea, Japan, Taiwan, China, Singapore, United Kingdom, Germany, France and Italy, and work with selected sales representatives in the United States and other countries. Our employees include our technical applications team, which is comprised of technically experienced sales engineers who are knowledgeable in the use of metrology systems generally and the unique features and advantages of our specific products. Supported by our technical applications team, our sales and support teams work closely with our customers to offer cost-effective solutions to complex measurement and process problems.

Direct exports of our metrology systems to our foreign customers and shipments to our foreign subsidiaries international offices require general export licenses.

Net revenues from customers located in the United States and in foreign countries, as a percentage of total net revenues, for fiscal years 2012, 2011 and 2010, were as follows:

	<u>2012</u>	<u>2011</u>	<u>2010</u>
United States	24.5%	21.9%	34.6%
South Korea	43.5%	38.1%	28.8%
Japan	9.2%	15.1%	10.5%
All other countries	22.8%	24.9%	26.1%

See Note 18 of our consolidated financial statements in Item 8, "Financial Statements and Supplementary Data" for segment and geographical financial information.

Customer Service and Support

We believe that customer service and technical support for our systems are important factors that distinguish us from our competitors and are essential to building and maintaining close, long-term relationships with our customers. We provide a standard one-year warranty on parts and labor for most of our products. We provide system support to our customers through

factory technical support and globally deployed field service offices. The factory technical support operations provide both OEM and end-user customers with telephonic technical support access, direct training programs, operating manuals and other technical support information to enable effective use of our metrology and measurement instruments and systems. In addition, our systems support group provides online and telephonic technical support to both OEM and end-user customers with respect to the software that we sell in connection with our measurement systems hardware. We coordinate warranty and post-warranty field service and spare parts support from our corporate headquarters in Milpitas, California. We also have field service operations based in various locations throughout the United States and Europe. In Asia, service is provided by direct offices in Japan, South Korea, Taiwan, China and Singapore.

Service revenue, including sales of replacement parts, represented 21.4%, 15.3%, and 17.8% of total net revenues in 2012, 2011 and 2010, respectively.

Backlog

As of December 29, 2012, and December 31, 2011, respectively, our backlog was \$10.0 million and \$43.6 million, respectively. Backlog includes orders for products, services and upgrades where written customer requests have been received and we expect to ship within 12 months. Orders are subject to cancellation or delay by the customer subject to possible penalties. However, historically, order cancellations have not been significant. Because orders presently in backlog could be canceled or rescheduled and some orders can be received and shipped within the same quarter, we do not believe that current backlog is an accurate indication of our future revenues or financial performance.

Competition

We offer different products for various sectors of semiconductor manufacturing, and several of our products extend across the same process flow. However, in each of these sectors, we have multiple competitors. In every market in which we participate, the global semiconductor equipment industry is intensely competitive, and driven by rapid technological adoption cycles. Our ability to effectively compete depends upon our ability to continually improve our products, applications and services, and our ability to develop new products, applications and services that meet constantly evolving customer requirements.

We believe that our competitive position in each of our markets is based on the ability of our products and services to address customer requirements related to numerous competitive factors. Competitive selections are based on many factors involving technological innovation, productivity, total cost of ownership of the system, including impact on end of line yield, price, product performance and throughput capability, quality, reliability and customer support.

In automated metrology, our principal competitors are KLA-Tencor Corporation ("KLA-Tencor") and Nova Measuring Instruments Ltd. ("Nova") for thin film, overlay, and critical dimension metrology. Our primary competitor in integrated metrology is Nova, while the HB-LED and solar PV markets are served by numerous competitors and no single competitor or group of competitors has established a majority position.

Manufacturing

In 2008, we consolidated our manufacturing operations to our Milpitas, California facility and to various contract manufacturers. It is our strategy to outsource all assemblies that do not contain elements that we believe lead to a direct competitive advantage. The majority of our automated and integrated products are currently manufactured at our Milpitas facility. We perform limited sub-assembly for certain products at our York, United Kingdom facility. We also use contract manufacturers in China, Israel, Japan and other locations in the United States. During the manufacturing process, we combine proprietary measurement technology produced in our facilities with components and sub-assemblies obtained from outside suppliers. We currently do not expect our manufacturing operations to require additional major investments in capital equipment.

We produce key parts and components and make reasonable efforts to ensure that any externally purchased parts or raw materials are available from multiple suppliers, but this is not always possible. Certain components, sub-assemblies and services necessary for the manufacture of our systems are obtained either from a sole supplier or limited group of suppliers. In June 2009, we signed a supply agreement with Zygo Corporation to supply OEM interferometer sensors for incorporation into the UniFire™ line of products as well as our family of automated metrology systems. Although we seek to reduce our dependence on sole and limited source suppliers, partial or complete loss of these sources could disrupt production, delay scheduled deliveries to customers and have a material adverse effect on our results of operations.

Our production processes require raw materials that meet specific standards, including some that are customized for, or are unique to, us. We generally have multiple sources and sufficient availability of supply but only a limited number of suppliers are capable of providing certain raw materials that meet our standards. If our supply of raw materials is interrupted, production and results of operations or financial condition could be adversely affected.

Research and Development

We continue to invest in research and development (R&D) to provide our customers with products that add value to their manufacturing processes and that provide a better and differentiated solution than our competitors, so that our products stay in the forefront of current and future market demands. Whether it is for an advancement of current technology yield and manufacturing improvement, enabling new end device technology, or the development of a new application in our core or emerging markets, we are committed to product excellence and longevity. We have several facilities located worldwide to support these objectives.

In 2012, our R&D investments were focused on new platforms and product upgrade programs, to improve both capability, and cost of ownership. These R&D efforts resulted in the successful product launch of the Atlas II 450mm[®] product in the marketplace, in addition to the Atlas II+[®], our flagship product for optical critical dimension metrology (OCD). The AtlasII product line extension with the Atlas II+[®], provides enhanced OCD capability with a significantly lower cost of ownership model. In our integrated markets, the IMPULSE[®] IM system has been further developed for inline lithography track configuration to extend our tool of record position for lithography OCD. We have further leveraged our IMPULSE[®] product to augment our SPARK defect inspection technology capability and platform as a review system. The UniFire[™] system development continued with new system configurations and applications development targeted at advanced packaging applications, including further extensions for advanced packaging applications. After the acquisition of Nanda, our macro defect inspection initiative, R&D investment continued on SPARK technology for multiple use cases including enhancements for advanced lithography cluster monitoring, CMP and end of line quality, and advanced packaging applications.

Additionally, in 2012 we are furthering our extension of our Lynx cluster platform to enable broad solutions and further leverage our R&D efforts by consolidating core technology. In 2012 we continued product releases on the Lynx including the first UniFire shipments as well as established our platform strategy for 450mm on the Lynx system.

The new products and capabilities that we introduced to the market in 2012 were adopted by customers in key applications believe indicates that our R&D spending is focused on appropriate products and technologies. Our R&D expenditures for each of the last three fiscal years were as follows:

	Fiscal Year		
	2012	2011	2010
Research and Development			
R&D Expenditures (in millions)	\$ 29.6	\$ 23.3	\$ 19.0
R&D Expenditures as percentage of net revenues	16.2 %	10.1 %	10.1 %

Patents and Intellectual Property

Our success depends in large part on the technical innovation of our products and protecting such innovations through a variety of methods. We actively pursue a program of filing patent applications to seek protection of technologically sensitive features of our metrology and inspection systems. We believe that our success will depend to a great degree upon innovation, technological expertise and our ability to adapt our products to new technology. While we attempt to establish our intellectual property rights through patents and trademarks and protect intellectual property rights through non-disclosure agreements, we may not be able to fully protect our technology, and competitors may be able to develop similar technology independently. Others may obtain patents and assert them against us. In addition, the laws of certain foreign countries may not protect our intellectual property to the same extent as do the laws of the United States. From time to time we receive communications from third parties asserting that our metrology systems may contain design features that the third parties claim, may infringe upon their proprietary rights. For more information, see Item 3, "Legal Proceedings."

Employees

At December 29, 2012, we employed 536 persons worldwide with sales, applications and service support in key geographic areas aligned with our customer locations. None of our employees are represented by a union and we have never experienced a work stoppage as a result of union actions. Many of our employees have specialized skills that are of value to us. Our future success will depend in large part upon our ability to attract and retain highly skilled scientific, technical and managerial personnel, who are in great demand in our industry. We consider our employee relations to be good.

Environmental Matters

Our operations are subject to various federal, state and local environmental protection regulations governing the use, storage, handling and disposal of hazardous materials, chemicals, and certain waste products. We believe that compliance with federal, state and local environmental protection regulations will not have a material adverse effect on our capital expenditures, earnings and competitive and financial position.

In the event that we fail to comply with such laws and regulations, we could be liable for damages, penalties and fines. We further discuss the impact of environmental regulation under "Risk Factors- *We are subject to various environmental laws and regulations that could impose substantial costs upon us and may harm our business, operating results and financial condition.*" in Item 1A.

Executive Officers of the Registrant

The names of our executive officers and their ages, titles and biographies as of March 11, 2013 are set forth below:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Timothy J. Stultz, Ph.D.	65	President, Chief Executive Officer and Director
Bruce A. Crawford	60	Chief Operating Officer
Ronald W. Kisling	52	Chief Financial Officer
Nancy E. Egan	46	General Counsel

Dr. Timothy J. Stultz has served as President, Chief Executive Officer and director of Nanometrics Incorporated since August 2007. Dr. Stultz has more than 30 years of executive management experience. Prior to joining Nanometrics, Dr. Stultz was President and Chief Executive Officer of Imago Scientific Instruments Corporation, a supplier of proprietary 3-D atom probe microscopes to the research, materials and microelectronics industries; President and Chief Executive Officer for ThauMDx, a developer of diagnostic systems for the healthcare industry; and Vice President and General Manager of Veeco Instruments' Metrology and Instrumentation Business. Dr. Stultz also serves on the Board of Directors of Tessera Technologies, Inc. Dr. Stultz received his B.S., M.S. and Ph.D. in Materials Science and Engineering from Stanford University.

Bruce A. Crawford has served as our Chief Operating Officer since July 2006. From July 2005 to July 2006, Mr. Crawford served as President and Chief Operating Officer of Accent Optical Technologies, Inc., a supplier of process control and metrology systems to the global semiconductor manufacturing industry, which we acquired in July 2006. From February 2003 to July 2005, Mr. Crawford served as Accent Optical's Chief Operating Officer and Executive Vice President and from October 2000 to February 2003, he served as Vice President of Worldwide Operations. Mr. Crawford holds an A.S. degree from De Anza College.

Ron Kisling joined Nanometrics as CFO in March 2011. Prior to Nanometrics, Mr. Kisling served as Vice President Finance and then CFO of PGP Corporation, a data encryption and security software company, from January, 2007 until its acquisition by Symantec in June, 2010. For the eight years prior, Mr. Kisling held CFO positions at Portal Software and SPL WorldGroup, both acquired by Oracle Corp., as well as Saba Software. Mr. Kisling holds a bachelor's degree in Economics from Stanford University.

Nancy E. Egan joined us as General Counsel in October 2011. Ms. Egan was the Associate General Counsel of Varian, Inc., a global supplier of scientific instruments, from 2004 until its acquisition by Agilent Technologies in 2010. Prior to Varian, Ms. Egan held positions as the Senior Vice President of Legal Affairs for LivePlanet, and the Vice President and Associate General Counsel of Excite@Home. Ms. Egan holds a Bachelor's degree in political science from the University of Buffalo and a juris doctor from the Notre Dame Law School.

ITEM 1A. RISK FACTORS

In addition to the other information contained in this Annual Report on Form 10-K, we have identified the following risks and uncertainties that may have a material adverse effect on our business, financial condition or results of operations. Investors should carefully consider the risks described below before making an investment decision. The risks described below are not the only ones we face. Additional risks not presently known to us or that we currently believe are immaterial may also impair our business operations. Our business could be harmed by any of these risks. The trading price of our common stock could decline due to any of these risks and investors may lose all or part of their investment. This section should be read in conjunction with the Consolidated Financial Statements and Notes thereto, and Management's Discussion and Analysis of Financial Condition and Results of Operations contained in this Annual Report on Form 10-K.

The current global economic conditions and the cyclical nature of the semiconductor industry have caused us losses in the past and reductions in available cash, and may, in the future, negatively impact our financial performance.

Current global economic conditions, the gradual recovery of the global economy and the cyclical nature of the semiconductor industry have impacted and could impact future customer demand for our products and our financial performance. The degree of this impact will depend on a number of factors, including the timing and extent of recovery of the U.S. and global economy from the recession. Demand for our products is largely dependent on our customers' capital spending on semiconductor equipment, which depends, in large part, on consumer spending, required manufacturing capacity, and customer access to capital. Economic uncertainty, higher levels of unemployment, higher interest rates, higher tax rates and other economic factors may lead to a decrease in consumer spending and may cause certain customers to cancel or delay placing orders. If we are unable to timely and appropriately adapt to changes resulting from difficult economic conditions, it may cause volatility in our operating results and our business, financial condition and results of operations may be adversely affected.

We may also experience supplier or customer issues as a result of adverse macroeconomic conditions. If our customers have difficulties in obtaining capital or financing, this could result in lower sales. Customers with liquidity issues could also result in an increase in bad debt expense. These conditions could also affect our key suppliers, which could affect their ability to supply parts and result in delays of our customer shipments.

The semiconductor industry is highly cyclical and is characterized by constant and rapid technological change, price erosion, product obsolescence, evolving standards, short product life cycles and significant volatility in supply and demand. Due to the cyclical nature of the industry, we may need to take actions to reduce costs in the future, which could reduce our ability to significantly invest in research and development at levels we believe are necessary. If we are unable to effectively align our cost structure with prevailing market conditions, our business, financial condition and results of operations may be materially and adversely affected.

Our largest customers account for a substantial portion of our revenue, and our revenue would materially decline if one or more of these customers were to purchase significantly fewer of our systems.

Historically, a significant portion of our revenues in each quarter and each year has been derived from sales to relatively few customers, and we expect this trend to continue. There are only a limited number of large companies operating in the semiconductor manufacturing industry. Accordingly, we expect that we will continue to depend on a small number of large customers for a significant portion of our revenues for the foreseeable future. If our current relationships with our large customers are impaired, or if we are unable to develop similar collaborative relationships with important customers in the future, our revenues could decline significantly. In addition, because there are a limited number of customers, customers may seek concessions related to price, terms and conditions and intellectual property. Any of these changes could negatively impact our financial performance and results of operations.

We obtain some of the components and subassemblies included in our systems from a single source or a limited group of suppliers, and the partial or complete loss of one of these suppliers could cause production delays and significant loss of revenue.

We rely on outside vendors to manufacture many components and subassemblies. Certain components, subassemblies and services necessary for the manufacture of our systems are obtained from a sole supplier or a limited group of suppliers. We do not maintain long-term supply agreements with most of our suppliers. We have entered into arrangements with J.A. Woollam Co., Inc. for the purchase of the spectroscopic ellipsometer component incorporated into our advanced measurement systems. We also have supply agreements with MPA and Spectral Systems, and subcontract manufacturing agreements with Fox Semiconductor, IFAT and Toho Technologies. Our reliance on a sole or a limited group of suppliers involves several risks, including the following:

- we may be unable to obtain an adequate supply of required components;
- we have reduced control over pricing and the timely delivery of components and subassemblies;
- our suppliers may be unable to develop technologically advanced products to support our growth and development of new systems.

Some of our suppliers have relatively limited financial and other resources. Because the manufacturing of certain of these components and subassemblies involves extremely complex processes and requires long lead times, we may experience delays or shortages caused by our suppliers. If we were forced to seek alternative sources of supply or to manufacture such components or subassemblies internally, we could be forced to redesign our systems, which could increase our cost structure, cause production delays and prevent us from shipping our systems to customers on a timely basis. Any inability to obtain adequate deliveries from our suppliers, or any other circumstance that would restrict our

ability to ship our products, could damage relationships with current and prospective customers, harm our business and result in significant loss of revenue. Any inability to manage our manufacturing cost volatility from our suppliers could adversely impact our operating results. If we are successful in growing our sales, the risks to our business from dependence on single source or a limited group of suppliers will become significantly greater.

Some of our current and potential competitors have significantly greater resources than we do, and increased competition could impair sales of our products.

We operate in the highly competitive semiconductor industry and face competition from a number of companies, many of which have greater financial, engineering, manufacturing, research and development, marketing and customer support resources than we do. As a result, our competitors may be able to respond more quickly to new or emerging technologies or market developments by devoting greater resources to the development, promotion and sale of products, which could impair sales of our products. Moreover, there has been merger and acquisition activity among our competitors and potential competitors. These transactions by our competitors and potential competitors may provide them with a competitive advantage over us by enabling them to rapidly expand their product offerings and service capabilities to meet a broader range of customer needs. Many of our customers and potential customers in the semiconductor industry are large companies that require global support and service for their metrology systems. Some of our larger or more geographically diverse competitors might be better equipped to provide this global support.

Because of the high cost of switching equipment vendors in our markets, it may be difficult for us to attract customers from our competitors even if our metrology systems are superior to theirs.

We believe that once a semiconductor customer has selected one vendor's metrology system, the customer generally relies upon that system and, to the extent possible, subsequent generations of the same vendor's system, for the life of the application. Once a vendor's metrology system has been installed, a customer must often make substantial technical modifications and may experience downtime to switch to another vendor's metrology system. Accordingly, unless our systems offer performance or cost advantages that outweigh a customer's expense of switching to our systems; it will be difficult for us to achieve significant sales from that customer once it has selected another vendor's system for an application.

We depend on Original Equipment Manufacturers ("OEMs") for sales of our integrated metrology systems, and the loss of our OEMs as customers could harm our business.

We believe that sales of integrated metrology systems will continue to be an important source of our revenues. Sales of our integrated metrology systems depend upon the ability of OEMs to sell semiconductor manufacturing equipment products that include our metrology systems as components. If our OEM customers are unable to sell such products, or if they choose to focus their attention on products that do not integrate our systems, our business could suffer. If we were to lose our OEM customers for any reason, our ability to realize sales from integrated metrology systems would be diminished, which would harm our business.

We are subject to order and shipment uncertainties. Our profitability will decline if we fail to accurately forecast customer demand when managing inventory.

We generally sell our products on the basis of purchase orders rather than long-term purchase commitments from our customers. Our customers can typically cancel purchase orders or defer product shipments for some period without incurring liabilities to us. We typically plan production and inventory levels based on internal forecasts of customer demand, which can be highly unpredictable and can fluctuate substantially, which could lead to excess inventory write-downs and resulting negative impacts on gross margin and net income. We have limited visibility into our customers' inventories, future customer demand and the product mix that our customers will require, which could adversely affect our production forecasts and operating margins. In addition, innovation in our industry could render significant portions of our inventory obsolete. If we overestimate our customers' requirements, we may have excess inventory, which could lead to obsolete inventory and unexpected costs. Conversely, if we underestimate our customers' requirements, we may have inadequate inventory, which could lead to foregone revenue opportunities, loss of potential market share and damage to customer relationships as product deliveries may not be made on a timely basis, disrupting our customers' production schedules. In response to anticipated long lead times to obtain inventory and materials from outside suppliers and foundries, we periodically order materials in advance of customer demand. This advance ordering has in the past and may in the future result in excess inventory levels or unanticipated inventory write-downs if expected orders fail to materialize, or other factors make our products less saleable. In addition, any significant future cancellation or deferral of product orders could adversely affect our revenue and margins, increase inventory write-downs due to obsolete inventory, and adversely affect our operating results and stock price.

If we do not manage our supply chain effectively, our operating results may be adversely affected.

We need to continually evaluate our global supply chains and assess opportunities to reduce costs. We must also enhance quality, speed and flexibility to meet changing demand for our products and product mix and uncertain market conditions. Our success also depends in part on refining our cost structure and supply chains so that we have flexibility and are able to protect and improve profitability. For example, our gross margin was adversely affected in the first half of 2012 due to higher costs related to production of the *Atlas® II*, which was launched late in the fourth quarter of 2011. To improve our margins on that product, we will need to establish high volume supply agreements with our vendors. We cannot be certain that we will be able to timely negotiate vendor supply agreements on improved terms and conditions, or at all. Failure to achieve the desired level of cost reductions could adversely affect our financial results. Despite our efforts to control costs and increase efficiency in our facilities, changes in demand could still cause us to realize lower operating margins and profitability.

If we choose to acquire new and complementary businesses, products or technologies instead of developing them ourselves, we may be unable to complete these acquisitions or may not be able to successfully integrate an acquired business in a cost-effective and non-disruptive manner.

Our success depends on our ability to continually enhance and broaden our product offerings in response to changing technologies, customer demands and competitive pressures. To achieve this, from time to time we have acquired complementary businesses, products, or technologies instead of developing them ourselves and may choose to do so in the future. For example, in November 2011, we acquired Nanda Technologies GmbH, a supplier of high-throughput, high-sensitivity defect inspection technology for semiconductor manufacturing. In June 2009, we entered into a strategic partnership with Zygo under an exclusive OEM supply agreement to provide interferometer sensors to us for incorporation into our UniFire™ line of products as well as our family of automated metrology systems. However, we may not be able to identify suitable transactions in the future, or if we do identify such transactions, we may not be able to complete them on commercially acceptable terms, or at all. We also face intense competition for acquisitions from other acquirers in our industry. These competing acquirers may have significantly greater financial and other resources than us, which may prevent us from successfully pursuing a transaction.

Potential risks associated with acquisitions could include, among other things:

- our ability to realize the benefits or cost savings that we expect to realize as a result of the acquisition;
- diversion of management's attention;
- our ability to successfully integrate our businesses with the business of the acquired company;
- motivating, recruiting and retaining executives and key employees; conforming standards, controls, procedures and policies, business cultures and compensation structures among our company and the acquired company;
- consolidating and streamlining sales, marketing and corporate operations;
- potential exposure to unknown liabilities of acquired companies;
- loss of key employees and customers of the acquired business;
- and managing tax costs or inefficiencies associated with integrating our operations following completion of the acquisitions.

If an acquisition is not successfully completed or integrated into our existing operations, our business, financial condition and results of operations could be adversely impacted.

In addition, to finance any acquisitions:

- we may be required to raise additional funds through public or private equity or debt financings;
- we may be unable to obtain financing at all; or
- we may be forced to obtain financing on terms that are not favorable to us and, in the case of equity or convertible debt financing, which may result in dilution to our stockholders.

Our success depends on the performance of key personnel, including our senior management and on our ability to identify, hire and retain key management personnel.

We believe our continued ability to recruit, hire, retain and motivate highly-skilled engineering, operations, sales, administrative and managerial personnel is key to our future success. Competition for these employees is intense, particularly with respect to attracting and retaining qualified technical and senior management personnel. We have experienced turnover in our senior management team in the past. Our business may be harmed if we are unable to retain and effectively integrate our senior management into our business operations.

We do not have employment agreements with key members of our technical staff and our senior management team, and these individuals or other key employees may leave us. We do not have key person life insurance on any of our executives. In addition, to support our future growth, we will need to attract and retain additional qualified employees. If we fail to attract, motivate and retain qualified senior management personnel, our business could be harmed and our ability to implement our strategy could be compromised.

If we deliver systems with defects, our credibility will be harmed, revenue from, and market acceptance of, our systems will decrease and we could expend significant capital and resources as a result of such defects.

Our products are complex and frequently operate in high-performance, challenging environments. Notwithstanding our internal quality specifications, our systems have sometimes contained errors, defects and bugs when introduced. If we deliver systems with errors, defects or bugs, our credibility and the market acceptance and sales of our systems would be harmed. Further, if our systems contain errors, defects or bugs, we may be required to expend significant capital and resources to alleviate such problems and incur significant costs for product recalls and inventory write-offs. Defects could also lead to product liability lawsuits against us or against our customers. We have agreed to indemnify our customers in some circumstances against liability arising from defects in our systems. In the event of a successful product liability claim, we could be obligated to pay damages significantly in excess of our product liability insurance limits.

If we experience significant delays in shipping our products to our customers, our business and reputation may suffer.

Our products are complex and require technical expertise to design and manufacture properly. Various problems occasionally arise during the manufacturing process that may cause delays and/or impair product quality. Any significant delays stemming from the failure of our products to meet or exceed our internal quality specifications, or for any other reasons, would delay our shipments. Shipment delays could harm our business and reputation in the industry.

The average selling prices of our products may decrease over time, which could have a material adverse effect on our revenue.

It is common in our industry for the average selling price of a given product to decrease over time as production volumes increase, competing products are developed or new technologies featuring higher performance or lower cost emerge. To combat the negative effects that erosion of average selling prices have had in the past and may in the future have on our revenue, we attempt to actively manage the prices of our existing products and regularly introduce new process technologies and products in the market that exhibit higher performance, new features that are in demand, or lower manufacturing cost. Failure to maintain our current prices or to successfully execute on our new product development strategy will cause our revenue and gross margin to decline, which could decrease the value of your investment in our common stock.

Third party infringement claims could be costly to defend, and successful infringement claims by third parties could result in substantial damages, lost product sales and the loss of important intellectual property rights by us.

The semiconductor industry is generally subject to frequent litigation regarding patents and other intellectual property rights. Our commercial success depends, in part, on our ability to avoid infringing or misappropriating patents or other proprietary rights owned by third parties. From time to time we may receive communications from third parties asserting that our metrology systems may contain design features which are claimed to infringe on their proprietary rights. Our new or current products may infringe valid intellectual property rights, but even if our products do not infringe, we may be required to expend significant sums of money to defend against infringement claims, or to actively protect our intellectual property rights through litigation. In the event that a claim is made and there is an adverse result of any intellectual property rights litigation, we could be required to pay substantial damages for infringement, expend significant resources to develop non-infringing technology, incur material liability for royalty payments or fees to obtain licenses to the technology covered by the litigation, or be subjected to an injunction, which could prevent us from selling our products and materially and adversely affect our revenue and results of operations. We cannot be sure that we will be successful in any such non-infringing development or that any such license would be available on commercially reasonable terms, if at all. Any claims relating to the infringement of third-party proprietary rights, even if not meritorious, could result in costly litigation, lost sales or damaged customer relationships, and diversion of management's attention and resources.

Our intellectual property may be infringed by third parties despite our efforts to protect it, which could threaten our future success and competitive position and harm our operating results.

Our future success and competitive position depend in part upon our ability to obtain and maintain proprietary technology for our principal product families, and we rely, in part, on patent, trade secret and trademark law to protect that technology. If we fail to adequately protect our intellectual property, it will be easier for our competitors to sell competing

products. We own or may license patents relating to our systems, and have filed applications for additional patents. Any of our pending patent applications may be rejected, and we may not in the future be able to develop additional proprietary technology that is patentable. In addition, the patents we own, have been issued or licensed, may not provide us with competitive advantages and may be challenged by third parties. Third parties may also design around these patents.

In addition to patent protection, we rely upon trade secret protection for our confidential and proprietary information and technology. We routinely enter into confidentiality agreements with our employees. However, in the event that these agreements may be breached, we may not have adequate remedies. Our confidential and proprietary information and technology might also be independently developed by or become otherwise known to third parties.

We may be required to initiate litigation to enforce patents issued to or licensed by us, or to determine the scope or validity of a third party's patent or to enforce trade secret, confidentiality or other proprietary rights. Any such litigation, regardless of outcome, could be expensive and time consuming, and could subject us to significant liabilities or require us to re-engineer our product or obtain expensive licenses from third parties, any of which would adversely affect our business and operating results.

Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy or otherwise obtain or use our products or technology. Our ability to enforce our patents and other intellectual property is limited by our financial resources and is subject to general litigation risks. If we seek to enforce our rights, we may be subject to claims that the intellectual property rights are invalid, are otherwise not enforceable or are licensed to the party against whom we assert a claim. In addition, our assertion of intellectual property rights could result in the other party seeking to assert alleged intellectual property rights of its own against us, which is a frequent occurrence in such litigations.

Our efforts to protect our intellectual property may be less effective in some foreign countries where intellectual property rights are not as well protected as in the United States.

In 2012, 2011, and 2010, 75.5%, 78.1%, and 65.4%, respectively, of our total net revenues were derived from sales to customers in foreign countries, including certain countries in Asia, such as Japan, South Korea, China, Singapore and Taiwan. The laws of some foreign countries do not protect our proprietary rights to as great an extent as do the laws of the United States, and many U.S. companies have encountered substantial problems in protecting their proprietary rights against infringement in such countries. If we fail to adequately protect our intellectual property in these countries, it would be easier for our competitors to sell competing products and our business would suffer.

Variations in the amount of time it takes for us to sell our systems may cause volatility in our operating results, which could cause our stock price to decline.

Variations in the length of our sales cycles could cause our revenues to fluctuate widely from period to period. Our customers generally take long periods of time to evaluate our metrology systems. We expend significant resources educating and providing information to our prospective customers regarding the uses and benefits of our systems. The length of time that it takes for us to complete a sale depends upon many factors, including:

- the efforts of our sales force and our independent sales representatives;
- the complexity of the customer's metrology needs;
- the internal technical capabilities and sophistication of the customer;
- the customer's budgetary constraints; and
- the quality and sophistication of the customer's current processing equipment.

Because of the number of factors influencing the sales process, the period between our initial contact with a customer and the time at which we recognize revenue from that customer, if at all, varies widely. Our sales cycles, including the time it takes for us to build a product to customer specifications after receiving an order, typically range from three to nine months. Occasionally our sales cycles can be much longer, particularly with customers in Asia who may require longer evaluation periods. During the sales cycles, we commit substantial resources to our sales efforts in advance of receiving any revenue, and we may never receive any revenue from a customer despite our sales efforts.

If we do complete a sale, customers often purchase only one of our systems and then evaluate its performance for a lengthy period of time before purchasing additional systems. The purchases are generally made through purchase orders rather than through long-term contracts. The number of additional products that a customer purchases, if any, depends on many factors, including a customer's capacity requirements, and/or shifting to more and advanced manufacturing processes that require more or different products to control. If they change their rate of capacity or have technological change, we cannot compensate for this fluctuation in demand by adjusting the price of our products. The period between a customer's

initial purchase and any subsequent purchases is unpredictable and can vary from three months to a year or longer. Variations in the length of this period could cause fluctuations in our operating results, which could adversely affect our stock price.

Relatively small fluctuations in our system sales volume may cause our operating results to vary significantly each quarter.

During any quarter, a significant portion of our revenue is derived from the sale of a relatively small number of systems. Our automated metrology systems range in price from approximately \$200,000 to over \$1,700,000 per system, and our integrated metrology systems range in price from approximately \$100,000 to \$500,000 per system. Accordingly, a small change in the number or mix of systems that we sell could cause significant changes in our operating results.

Lack of market acceptance for our new products may affect our ability to generate revenue and may harm our business.

In 2012 we introduced our SPARK inspection solution. In 2011, we introduced the *Mosaic II*TM overlay metrology solution and the *Atlas II*[®] OCD system, a next-generation tool for high performance process control metrology. In 2010, the capability of our *NanoCD* suite was extended with launches of our new modeling and analysis software, *NanoDiffract*[®], and migration to the latest generation of cluster computers for fabrication wide analysis (*NanoGen*[®]). In 2009, we introduced the *Atlas*[®] XP+ system as the follow-on to our Atlas metrology system. We have invested substantial time and resources into the development of these products. However, we cannot accurately predict the future level of acceptance of our new products by our customers. As a result, we may not be able to generate anticipated revenue from sales of these products or future new products or improvements.

We depend on new products and processes for our success. Consequently, we are subject to risks associated with rapid technological change.

Rapid technological changes in semiconductor manufacturing processes subject us to increased pressure to develop technological advances enabling such processes. We believe that our future success depends in part upon our ability to develop and offer new products with improved capabilities and to continue to enhance our existing products. We cannot make assurances if or when the products and solutions where we have focused our research and development expenditures will become commercially successful. If new products have reliability or quality problems, our performance could be impacted by reduced orders, higher manufacturing costs, and delays in acceptance or payment for new products, and additional service and warranty expenses. We might not be able to develop and manufacture new products successfully, or new products that we introduce may fail in the marketplace. Our failure to complete commercialization of these new products in a timely manner could result in unanticipated costs and inventory obsolescence, which would adversely affect our financial results. Any significant delay in releasing new systems could adversely affect our reputation, give a competitor a first-to-market advantage or allow a competitor to achieve greater market share.

To develop new products and processes, we expect to continue to make significant investments in research and development and to pursue joint development relationships with customers, suppliers or other members of the industry. We must manage product transitions and joint development relationships successfully, as introduction of new products could adversely affect our sale of existing products.

We are subject to risks associated with our competitors' strategic relationships and their introduction of new products and we may lack the financial resources or technological capabilities of certain of our competitors needed to capture increased market share.

We expect to face significant competition from multiple current and future competitors. We believe that other companies are developing systems and products that are competitive to our products and are planning to introduce new products, which may affect our ability to sell our existing products. We face a greater risk if our competitors enter into strategic relationships with leading semiconductor manufacturers covering products similar to those we sell or may develop, as this could adversely affect our ability to sell products to those manufacturers.

Certain of our competitors have substantially greater financial resources and more extensive engineering, manufacturing, marketing and customer service and support resources than we do and therefore have the potential to increasingly dominate the semiconductor equipment industry. These competitors may deeply discount products similar to those that we sell, challenging or even exceeding our ability to make similar accommodations and threatening our ability to sell those products. As a result, we may fail to continue to compete successfully worldwide.

In addition, our competitors may provide innovative technology that may have performance advantages over systems we currently offer or may offer in the future. They may be able to develop products comparable or superior to those that we offer or may adapt more quickly to new technologies or evolving customer requirements. In particular, while we currently

are developing additional product enhancements that we believe will address future customer requirements, we may fail in a timely manner to complete the development or introduction of these additional product enhancements successfully, or these product enhancements may not achieve market acceptance or be competitive. Accordingly, we may be unable to continue to compete in our markets and competition may intensify, or future competition, operating results, financial condition, and/or cash flows could suffer.

If we are unable to adjust the scale of our business in response to rapid changes in demand in the semiconductor equipment industry, our operating results and our ability to compete successfully may be impaired.

The business cycle in the semiconductor equipment industry has historically been characterized by frequent periods of rapid change in demand that challenge our management to adjust spending and resources allocated to operating activities. During periods of growth or decline in demand for our products and services, we face significant challenges in maintaining adequate financial and business controls, management processes, information systems and procedures and in training, managing, and appropriately sizing our supply chain, our work force, and other components of our business on a timely basis. Our success will depend, to a significant extent, on the ability of our executive officers and other members of our senior management to identify and respond to these challenges, our gross margins and earnings may be impaired during periods of demand decline, and we may lack the infrastructure and resources to scale up our business to meet customer expectations and compete successfully during periods of demand growth.

We manufacture all of our systems at a limited number of facilities, and any prolonged disruption in the operations of those facilities could reduce our revenues.

We produce all of our systems in our manufacturing facilities located in Milpitas, California. We use contract manufacturers in China, Israel, Japan and the United States. In addition, we perform limited subassembly for certain products at our York, England facility. Our manufacturing processes are highly complex and require sophisticated, costly equipment and specially designed facilities. As a result, any prolonged disruption in the operations of our manufacturing facilities, such as those resulting from acts of war, terrorism, political instability, health epidemics, fire, earthquake, flooding or other natural disaster could seriously harm our ability to satisfy our customer order deadlines.

Our results of operations could vary as a result of the methods, estimates and judgments we use in applying our accounting policies.

The methods, estimates and judgments we use in applying our accounting policies have a significant impact on our results of operations, see "Note 1. Nature of Business, Basis of Presentation and Significant Accounting Policies" in Part II, Item 8, Note 1. Such methods, estimates and judgments are, by their nature, subject to substantial risks, uncertainties and assumptions, and factors may arise over time that leads us to change our methods, estimates and judgments. Changes in those methods, estimates and judgments could significantly affect our results of operations. In particular, our operating results have been affected by the calculation of share-based compensation expense and by the testing and potential impairment of long-lived assets such as goodwill and other intangible assets. The process of evaluating potential impairments is highly subjective and requires significant judgment, and our results of operations could vary significantly from estimates.

Our operating results have varied in the past and probably will continue to vary significantly in the future, which will cause volatility in our stock price.

Our quarterly and annual operating results have varied significantly in the past and are likely to vary in the future, which volatility could cause our stock price to decline. Some of the factors that may influence our operating results and subject our stock to extreme price and volume fluctuations include:

- general economic growth or decline in the U.S. or foreign markets;
- changes in customer demand for our systems;
- the gain or loss of a key customer or significant changes in the financial condition or one or more key customers;
- economic conditions in the semiconductor industries;
- the timing, cancellation or delay of customer orders and shipments;
- market acceptance of our products and our customers' products;
- our ability to recover the higher costs associated with meeting our customers' increasing service demands;
- competitive pressures on product prices and changes in pricing by our customers or suppliers;

- the timing of new product announcements and product releases by us or our competitors and our ability to design, introduce and manufacture new products on a timely and cost-effective basis;
- the occurrence of potential impairments of long-lived assets;
- the timing of acquisitions of businesses, products or technologies;
- the effects of war, natural disasters, acts of terrorism or political unrest;
- the loss of key personnel;
- the levels of our fixed expenses, relative to our revenue levels; and
- fluctuations in foreign currency exchange rates, particularly the Japanese yen and the British pound sterling.

The foregoing factors are difficult to forecast, and these, as well as other factors, could materially and adversely affect our quarterly and annual operating results. If our operating results in any period fall below the expectations of securities analysts and investors, the market price of our common stock would likely decline.

We are highly dependent on international sales and operations, which exposes us to foreign political and economic risks.

A majority of our sales and operations are outside of the United States. As a result, we are subject to regulatory, geopolitical and other risks associated with doing business in foreign countries. We anticipate that international sales will continue to account for a significant portion of our revenues. International sales and operations carry inherent risks such as:

- regulatory limitations imposed by foreign governments;
- obstacles to the protection of our intellectual property, political, military and terrorism risks;
- foreign currency controls and currency exchange rate fluctuations;
- periodic local or international economic downturns;
- political instability, natural disasters, acts of war or terrorism in regions where we have operations;
- repatriation of cash earned in foreign countries;
- longer payment cycles and difficulties in collecting accounts receivable outside of the U.S.;
- disruptions or delays in shipments caused by customs brokers or other government agencies;
- uncertainty regarding liability under foreign laws;
- unexpected changes in regulatory requirements (including import and export requirements), tariffs, customs, duties and other trade barriers;
- difficulties in staffing and managing foreign operations;
- potentially adverse tax consequences resulting from changes in tax laws; and
- other challenges caused by distance, language and cultural differences.

If any of these risks materialize and we are unable to manage them, our international sales and operations would suffer.

Changes in our effective income tax rate could affect our results of operations.

Fluctuations in our effective tax rate may affect operating results. Our effective tax rate is subject to fluctuation based on a variety of factors, such as:

- the jurisdictions in which our profits are determined to be earned and taxed;
- changes to tax laws, regulations and interpretations;
- our ability to obtain approval and the timing of receipt of approval from the Internal Revenue Service of certain tax elections;
- certain changes in the valuation of our deferred tax assets and liabilities;
- increases in expenses not deductible for tax purposes, including write-offs of acquired in-process research and development and impairment of goodwill in connection with acquisitions and
- changes in available tax credits.

Any material increase in our effective tax rate would adversely affect our operating results.

We are exposed to fluctuations in the foreign currency exchange rates.

As a global concern, we face exposure to adverse movements in foreign currency exchange rates. Our exposure to foreign currency exchange rate fluctuations arise in part from current intercompany accounts in which costs are charged between our U.S. headquarters and foreign subsidiaries. These exposures may change over time as business practices evolve and could have a material adverse impact on our financial results and cash flow.

Anti-takeover provisions in our charter documents and Delaware law could discourage, delay or prevent a change in control of our company and may affect the trading price of our common stock.

The anti-takeover provisions of the Delaware General Corporation Law may discourage, delay or prevent a change in control by limiting our ability to engage in a business combination with an interested stockholder, even if a change of control would be beneficial to our existing stockholders. In addition, our certificate of incorporation and bylaws may discourage, delay or prevent a change in our management or control over us that stockholders may consider favorable. Our certificate of incorporation and bylaws:

- authorize the issuance of “blank check” preferred stock that could be issued by our board of directors to thwart a takeover attempt;
- limit who may call special meetings of stockholders; and
- prohibit stockholder action by written consent, requiring all actions to be taken at a meeting of the stockholders.

We may experience periodic or prolonged disruption of our IT infrastructure, which may adversely affect our operations.

We rely on our Enterprise Resource Planning (“ERP”) system, SYSPRO, to manage our business and accurately and timely report key data with respect to our results of operations, financial position and cash flows. We are going to replace our ERP system during fiscal year 2013. We may experience periodic or prolonged disruption of our IT infrastructure arising out of general use of such systems, periodic upgrades and updates, the conversion to a new ERP system, or external factors that are outside of our control. Any such disruption could adversely affect our ability to complete essential business processes, including our evaluation of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act of 2002. If we encounter unforeseen problems with regard to our ERP system or other IT systems, our business, operations and financial condition could be adversely affected.

Our cash and cash equivalents and short-term investments are managed through various banks around the world and volatility in the capital and credit market conditions could cause financial institutions to fail which could have an adverse effect on our ability to timely access funds.

World capital and credit markets have been and may continue to experience volatility and disruption. Financial institutions, including banks, have failed or otherwise been largely taken over by governments. We maintain our cash, cash equivalents and short-term investments with a number of financial institutions around the world. Should some or all of these financial institutions fail, we would likely have a limited ability to timely access our cash deposited with such institutions, or, in extreme circumstances the failure of such institutions could cause us to be unable to access cash for the foreseeable future. If we are unable to quickly access our funds when we need them, we may need to increase the use of our existing credit lines or access more expensive credit, if available, which could have a negative impact on our operations, including our reported net income.

If our network security measures are breached and unauthorized access is obtained to a customer's data, to our data, or to our information technology systems, we may incur significant legal and financial exposure and liabilities.

As part of our business, we store our data and certain data about our customers in our information technology system. While our system is designed with access security, if a third party gain unauthorized access to our data, including any regarding our customers, such security breach could expose us to a risk of loss of this information, loss of business, litigation and possible liability. These security measures may be breached as a result of third-party action, including intentional misconduct by computer hackers, employee error, malfeasance or otherwise. Additionally, third parties may attempt to fraudulently induce employees or customers into disclosing sensitive information such as user names, passwords or other information to gain access to our customers' data or our data, including our intellectual property and other confidential business information, or our information technology systems. Because the techniques used to obtain unauthorized access, or to sabotage systems, change frequently and generally are not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. Any security breach could result in a loss of confidence by our customers, damage our reputation, disrupt our business, lead to legal liability and negatively impact our future sales.

We are subject to various environmental laws and regulations that could impose substantial costs upon us and may harm our business, operating results and financial condition.

Some of our operations use substances regulated under various federal, state, local, and international laws governing the environment, including those relating to the storage, use, discharge, disposal, labeling, and human exposure to hazardous and toxic materials. We could incur costs, fines and civil or criminal sanctions, third-party property damage or personal injury claims, or could be required to incur substantial investigation or remediation costs, if we were to violate or become liable under environmental laws. Liability under environmental laws can be joint and several and without regard to comparative fault. Compliance with current or future environmental laws and regulations could restrict our ability to expand our facilities or require us to acquire additional expensive equipment, modify our manufacturing processes, or incur other significant expenses. We may unintentionally violate environmental laws or regulations in the future as a result of human error, equipment failure or other causes.

Compliance with federal securities laws, rules and regulations, as well as NASDAQ requirements, is becoming increasingly complex, and the significant attention and expense we must devote to those areas may have an adverse impact on our business.

Federal securities laws, rules and regulations, as well as NASDAQ rules and regulations, require companies to maintain extensive corporate governance measures, impose comprehensive reporting and disclosure requirements, set strict independence and financial expertise standards for audit and other committee members and impose civil and criminal penalties for companies and their chief executive officers, chief financial officers and directors for securities law violations. These laws, rules and regulations have increased, and in the future are expected to continue to increase, the scope, complexity and cost of our corporate governance, reporting and disclosure practices, which could harm our results of operations and divert management's attention from business operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

At December 29, 2012, our owned or leased facilities included those described below:

<u>Type</u>	<u>Location</u>	<u>Square Footage</u>	<u>Use</u>
Owned	Milpitas, California	133,000	Corporate headquarters and manufacturing
Owned	Milpitas, California	3,038	Corporate housing
Owned	Pyongtack City, South Korea	1,139	Applications and service
Leased	United Kingdom	20,338	Sales, service, manufacturing and engineering
Leased	South Korea	21,341	Sales, service and corporate housing
Leased	Japan	12,286	Sales, service, application, logistics, corporate housing and administrations
Leased	United States	18,426	Engineering, sales and service
Leased	Taiwan	12,065	Sales and service
Leased	China	6,902	Sales and service
Leased	Germany	6,772	Sales and service
Leased	Singapore	4,529	Sales and service
Leased	France	828	Sales and service
Leased	Switzerland	387	Sales and service

We believe that our existing facilities are suitable and adequate for our current needs and anticipated growth. The lease in York, United Kingdom expires in October, 2017. The lease in Hwasung-City, South Korea expires in August, 2014.

ITEM 3. LEGAL PROCEEDINGS

Not Applicable.

ITEM 4 MINE SAFETY DISCLOSURES

Not Applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information for Common Stock

Our common stock is quoted on the NASDAQ Global Select Market under the symbol "NANO." The following table sets forth, for the periods indicated, the high and low closing sales prices per share of our common stock as reported on the NASDAQ Global Select Market.

2012	High	Low
First quarter	\$ 20.76	\$ 16.64
Second quarter	\$ 19.00	\$ 14.10
Third quarter	\$ 15.71	\$ 13.71
Fourth quarter	\$ 14.90	\$ 12.65
<hr/>		
2011	High	Low
First quarter	\$ 20.00	\$ 11.89
Second quarter	\$ 20.01	\$ 14.83
Third quarter	\$ 21.56	\$ 13.56
Fourth quarter	\$ 18.98	\$ 13.49

Stockholders

On March 7, 2013, there were approximately 235 holders of record of our common stock. Because brokers and the institutions on behalf of stockholders hold many of our shares of common stock, we are unable to estimate the total number of stockholders represented by these record holders.

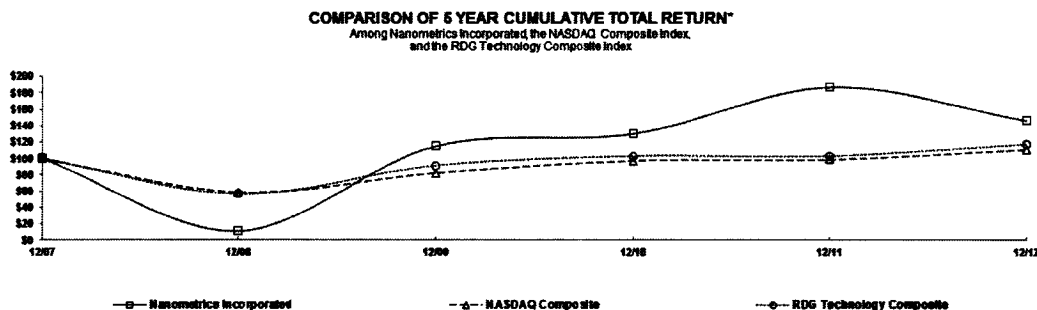
Dividend Policy

We have never declared or paid any cash dividends on our capital stock. We currently expect to retain future earnings, if any, for use in the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Under our loan and security agreement with Comerica Bank, we are not permitted to pay dividends without the consent of Comerica Bank.

Stock Performance Graph

The following graph presentation compares cumulative five-year stockholder returns on an indexed basis, assuming a \$100 initial investment and reinvestment of dividends, of (a) Nanometrics Incorporated, (b) a broad-based equity market index and (c) an industry-specific index. The broad-based equity market index used is the NASDAQ Composite Index and the industry-specific index used is the RDG Technology Composite Index.

This performance graph shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended or the Exchange Act.



*\$100 invested on 12/31/07 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

Pursuant to repurchase programs approved by the Board of Directors, the Company repurchased its common stock in the fourth quarter of fiscal year 2012 as follows (in thousands, except shares and per share data):

<u>Plan</u>	<u>Period(a)</u>	<u>Number of shares repurchased</u>	<u>Average price paid per share</u>	<u>Total shares repurchased under the plan</u>	<u>Amount remaining for repurchase</u>
May 2012	Oct. 28, 2012 - Nov. 24, 2012	128,400	\$ 13.93	128,400	\$ 18,217
May 2012	Nov. 25, 2012 - Dec. 29, 2012	122,000	\$ 14.39	250,400	\$ 16,462

On May 29, 2012, the Company's Board of Directors approved a program to repurchase up to \$20.0 million of the Company's common stock. Stock repurchases under this program may be made through open market and privately negotiated transactions, at times and in such amounts as management deems appropriate. The timing and actual number of shares repurchased is dependent on a variety of factors including price, corporate and regulatory requirements and other market conditions. During the fiscal year 2012, the Company repurchased and retired 250,400 shares the Company's common stock at the weighted average price of \$14.15 per share under this approved plan. As of December 29, 2012, there remained \$16.5 million available for the future repurchase of shares of common stock.

ITEM 6. SELECTED FINANCIAL DATA

The selected consolidated financial data set forth below should be read in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. Over the last five fiscal years, we have acquired Nanda Technologies GmbH in fiscal year 2011, Tevet Process Control Technologies in fiscal year 2008, and the UniFire™ product line from Zygo Corporation in fiscal year 2009. The results of these acquisitions have been included in our consolidated financial statements since the respective dates of these acquisitions.

	Fiscal Year				
	2012	2011	2010	2009 ^(a)	2008
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Net revenues:					
Products	\$ 143,827	\$ 194,774	\$ 154,548	\$ 49,153	\$ 75,596
Service	39,054	35,287	33,517	27,554	26,505
Total net revenues	<u>182,881</u>	<u>230,061</u>	<u>188,065</u>	<u>76,707</u>	<u>102,101</u>
Costs of revenues:					
Cost of products	75,878	88,579	66,484	26,594	38,692
Cost of service	20,526	18,304	19,328	13,992	18,675
Amortization of intangible assets	2,549	1,077	861	827	1,419
Total cost of net revenues	<u>98,953</u>	<u>107,960</u>	<u>86,673</u>	<u>41,413</u>	<u>58,786</u>
Gross profit	<u>83,928</u>	<u>122,101</u>	<u>101,392</u>	<u>35,294</u>	<u>43,315</u>
Operating expenses:					
Research and development	29,585	23,290	18,973	14,672	17,110
Selling	26,457	27,019	21,320	15,072	17,798
General and administrative	21,632	22,901	18,617	15,168	19,689
Amortization of intangible assets	776	625	695	708	2,112
Restructuring charge	—	—	—	1,134	1,525
Legal settlement	—	2,500	—	—	—
Asset impairment and disposition	—	—	463	1,899	68,545
Total operating expenses	<u>78,450</u>	<u>76,335</u>	<u>60,068</u>	<u>48,653</u>	<u>126,779</u>
Income (loss) from operations	5,478	45,766	41,324	(13,359)	(83,464)
Other (expense) income, net	(859)	(1,182)	(635)	(3,532)	1,174
Provision (benefit) for income taxes	154	15,899	(15,259)	(586)	436
Net income (loss)	<u>\$ 4,465</u>	<u>\$ 28,685</u>	<u>\$ 55,948</u>	<u>\$ (16,305)</u>	<u>\$ (82,726)</u>
Basic net income (loss) per share	<u>\$ 0.19</u>	<u>\$ 1.26</u>	<u>\$ 2.56</u>	<u>\$ (0.87)</u>	<u>\$ (4.46)</u>
Diluted net income (loss) per share	<u>\$ 0.19</u>	<u>\$ 1.22</u>	<u>\$ 2.43</u>	<u>\$ (0.87)</u>	<u>\$ (4.46)</u>
Shares used in per share computation:					
Basic	<u>23,358</u>	<u>22,743</u>	<u>21,855</u>	<u>18,639</u>	<u>18,546</u>
Diluted	<u>23,845</u>	<u>23,480</u>	<u>22,998</u>	<u>18,639</u>	<u>18,546</u>

(a) Fiscal year 2009 included 53 weeks, whereas the other periods presented included 52 weeks.

	Fiscal Year End				
	2012	2011	2010	2009	2008
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents and marketable securities	\$ 109,908	\$ 97,699	\$ 66,460	\$ 43,526	\$ 23,980
Working capital	158,587	160,629	135,770	76,771	57,901
Total assets	259,454	267,221	220,025	147,470	123,854
Long-term liabilities including current portion of debt obligation	13,884	17,213	17,142	15,963	14,302
Total stockholders' equity	215,771	209,992	170,849	106,754	92,767

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

You should read the following discussion and analysis of our financial condition and results of operations together with "Selected Financial Data" and our consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. This discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. The actual results may differ materially from those anticipated in these forward-looking statements as a result of certain factors, including, but not limited to, those presented under "Risk Factors" in Item 1A and elsewhere in this Annual Report on Form 10-K. Please see "Cautionary Information Regarding Forward-Looking Statements" at the beginning of this Form 10-K for additional information you should consider regarding forward-looking statements.

We are an innovator in the field of metrology and inspection systems for semiconductor manufacturing and other industries. Our systems are designed to precisely monitor film thickness and critical dimensions that are necessary to control the manufacturing process and to identify defects that can affect production yields and performance.

Principal factors that impact our revenue growth include capital expenditures by manufacturers of semiconductors to increase capacity and to enable their development of new technologies, and our ability to take market share. The increasing complexity of the manufacturing processes for semiconductors is an important factor in the demand for our innovative metrology systems, as are the adoption of optical critical dimension ("OCD") metrology across fabrication processes, adoption of immersion lithography and double patterning, adoption of new types of thin film materials, the adoption of advanced packaging strategies and wafer backside inspection and the need for improved process control to drive process efficiencies. Our strategy is to continue to innovate organically as well as to evaluate strategic acquisitions to address business challenges and opportunities.

Our revenues are primarily derived from product sales but are also derived from customer service and system upgrades for the installed base of our products. In 2012, we derived 78.6% of our total net revenues from product sales and 21.4% of our total net revenues from services.

Important Themes and Significant Trends

The semiconductor equipment industry is characterized by cyclical growth. Changing trends in the semiconductor industry continue to drive the need for metrology as a major component of manufacturing systems. These trends include:

- **Proliferation of Optical Critical Dimension Metrology across Fabrication Processes.** Our customers use photolithographic processes to create patterns on wafers. Critical dimensions must be carefully controlled during this process. In advanced node device definition, additional monitoring of thickness and profile dimensions on these patterned structures at CMP, Etch, and Thin Film processing is driving broader OCD adoption. Our proprietary OCD systems can provide the critical process control of these circuit dimensions that is necessary for successful manufacturing of these state of the art devices. Nanometrics OCD technology is broadly adopted across NAND, DRAM, HDD, and logic semiconductor manufacturing processes.
- **Adoption of Advanced Packaging Processes:** Our customers use photolithographic, etching, metallization and wafer thinning to enable next generation advanced packaging solutions for semiconductor devices. The new packaging leads to increased functionality in smaller, less expensive form factors. Advanced packages can be broken down into high density flip chip or bump packages that increase pin density allowing for more complex I/O on advanced CPU parts. Or, similar or different devices can be stacked at the wafer level using a Through Silicon Via process. The TSV process enables high density small form factor parts, being primarily driven by mobile consumer products (i.e. cellular telephones with integrated CMOS camera sensors). Increasingly advanced packaging technologies are being adopted by our end customers.
- **Adoption of New Types of Thin Film Materials.** The need for ever increasing device circuit speed coupled with lower power consumption has pushed semiconductor device manufacturers to begin the replacement of the traditional aluminum etch back interconnect flows as well as conventional gate dielectric materials, all which drive a broader adoption of thin film and OCD metrology systems. To achieve greater semiconductor device speed, manufacturers have adopted copper in Logic/IDM and it is now proliferating in next generation DRAM and Flash nodes. Additionally, to achieve improved transistor performance in logic devices and higher cell densities in memory devices, new materials including high dielectric constant (or high-k) gate materials are increasingly being substituted for traditional silicon-oxide gate dielectric materials. High-k materials are comprised of complex thin films including layers of hafnium oxide and a bi-layer of thin film metals. Our advanced metrology and inspection solutions are required for control of process steps, which are critical to enable the device performance improvements that these new materials allow.

- **Development of 3D Transistor Architectures.** Our end customers continue to improve device density and performance by scaling front end of line transistor architectures. Many of these designs, including fin-fet transistors and 3D-NAND have buried features and high aspect ratio stacked features that enable improved performance and density. The advanced designs require additional process control to manage the complex shapes and materials properties, driving additional applications for both OCD and our UniFire™ systems.
- **Need for Improved Process Control to Drive Process Efficiencies.** Competitive forces influencing semiconductor device manufacturers, such as price-cutting and shorter product life cycles, place pressure on manufacturers to rapidly achieve production efficiency. Device manufacturers are using our integrated and automated systems throughout the fabrication to ensure that manufacturing processes scale rapidly, are accurate and can be repeated on a consistent basis.
- **Reduced Number of Customers.** Our market is characterized by an ongoing oligopolistic trend which drives customer concentration. The largest customer accounted for 17.6% of our total revenue in the fiscal year 2001, and the largest customer accounted for 27.8% and 30.0% of our total revenue in the fiscal year 2012 and 2011, respectively.

Critical Accounting Policies

The preparation of our financial statements conforms to accounting principles generally accepted in the United States of America, which requires management to make estimates and judgments in applying our accounting policies that have an important impact on our reported amounts of assets, liabilities, revenue, expenses and related disclosures at the date of our financial statements. On an on-going basis, management evaluates its estimates including those related to bad debts, inventory valuations, warranty obligations, impairment and income taxes. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from management's estimates. We believe that the application of the following accounting policies requires significant judgments and estimates on the part of management. For a summary of all of our accounting policies, including those discussed below, see Note 1 to the Consolidated Financial Statements.

Revenue Recognition - We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price is fixed or determinable, and collectability is reasonably assured. We derive revenue from the sale of process control metrology and inspection systems ("product revenue") as well as spare part sales, billable services, service contracts, and upgrades (together "service revenue"). Upgrades are a group of parts and/or software that change the existing configuration of a product and are included in service revenue. They are distinguished from product revenue, which consists of complete, automated process control metrology systems (the "system(s)"). Nanometrics' systems consist of hardware and software components that function together to deliver the essential functionality of the system. Arrangements for sales of systems often include defined customer-specified acceptance criteria.

For product sales to existing customers, revenue recognition occurs when title and risk of loss transfer to the customer, which usually occurs upon shipment from the Company's manufacturing location, if it can be reliably demonstrated that the product has successfully met the defined customer specified acceptance criteria and all other recognition criteria has been met. For initial sales where the Company has not previously met the defined customer specified acceptance criteria, product revenues are recognized upon the earlier of receipt of written customer acceptance or expiration of the contractual acceptance period. In Japan, where contractual terms with the customer specify risk of loss and title transfers upon customer acceptance, revenue is recognized upon receipt of written customer acceptance, provided that all other recognition criteria has been met.

We warrant our products against defects in manufacturing. Upon recognition of product revenue, a liability is recorded for anticipated warranty costs. On occasion, customers request a warranty period longer than our standard warranty. In those instances where extended warranty services are separately quoted to the customer, the associated revenue is deferred and recognized as service revenue ratably over the term of the contract. The portion of service contracts and extended warranty services agreements that are uncompleted at the end of any reporting period are included in deferred revenue.

As part of customer services, we also sell software that is considered to be an upgrade to a customer's existing systems. These standalone software upgrades are not essential to the tangible product's functionality and are accounted for under software revenue recognition rules which require vendor specific objective evidence ("VSOE") of fair value to allocate revenue in a multiple element arrangement. Revenue from upgrades is recognized when the upgrades are delivered to the customer, provided that all other recognition criteria have been met.

Revenue related to spare parts is recognized upon shipment. Revenue related to billable services is recognized as the services are performed. Service contracts may be purchased by the customer during or after the warranty period and revenue is recognized ratably over the service contract period.

Frequently, we deliver products and various services in a single transaction. Our deliverables consist of tools, installation, upgrades, billable services, spare parts, and service contracts. Our typical multi-element arrangements include a sale of one or multiple tools that include installation and standard warranty. Other arrangements may consist of a sale of tools bundled with service elements or delivery of different types of services. Tools, upgrades, and spare parts are generally delivered to customers within a period of up to six months from order date. Installation is usually performed soon after delivery of the tool. The portion of revenue associated with installation is deferred based on estimated fair value and that revenue is recognized upon completion of the installation. Billable services are billed on a time and materials basis and performed as requested by customers. Under service contract arrangements, services are provided as needed over the fixed arrangement term and such terms can be up to 12 months. We do not generally grant customers a general right of return or refund and may impose a penalty on orders canceled prior to the scheduled shipment date.

On January 2, 2011, we adopted the new accounting guidance for arrangements with software elements and/or multiple deliverables. The amended guidance for multiple deliverable arrangements did not change the units of accounting for our revenue transactions, and most products and services qualify as separate units of accounting. The new guidance established a hierarchy of evidence to determine the standalone selling price of a deliverable based on vendor specific objective evidence ("VSOE"), third party evidence ("TPE"), or best estimated selling price ("BESP").

We regularly evaluate our revenue arrangements to identify deliverables and to determine whether these deliverables are separable into multiple units of accounting. In accordance with the new guidance, we allocate the arrangement consideration among the deliverables based on relative best estimated selling price. We have established VSOE for some of our products and services when a substantial majority of selling prices falls within a narrow range when sold separately. For deliverables with no established VSOE, we use best estimated selling price to determine standalone selling price for such deliverable. We do not use TPE to determine standalone selling price since this information is not widely available in the market as our products contain a significant element of proprietary technology and the solutions offered differ substantially from our competitors. We have established a process for developing estimated selling prices, which incorporates historical selling prices, the effect of market conditions, gross margin objectives, pricing practices, as well as entity-specific factors. We monitor and evaluate estimated selling price on a regular basis to ensure that changes in circumstances are accounted for in a timely manner. The adoption of the new accounting standards did not have a significant impact on our consolidated financial statements.

When certain elements in multiple-element arrangements are not delivered or accepted at the end of a reporting period, the relative selling prices of undelivered elements are deferred until these elements are delivered and/or accepted. If deliverables cannot be accounted for as separate units of accounting, the entire arrangement is accounted for as a single unit of accounting and revenue is deferred until all elements are delivered and all revenue recognition requirements are met.

Allowance for Doubtful Accounts – We maintain allowances for estimated losses resulting from the inability of our customers to make their required payments. Credit limits are established through a process of reviewing the financial history and stability of our customers. Where appropriate and available, we obtain credit rating reports and financial statements of customers when determining or modifying their credit limits. We regularly evaluate the collectability of our trade receivable balances based on a combination of factors such as the length of time the receivables are past due, customary payment practices in the respective geographies and our historical collection experience with customers. We believe that our allowance for doubtful accounts adequately reflects our risk associated with our receivables. If however, the financial conditions of customers were to deteriorate, resulting in their inability to make payments, we would assess the necessity of recording additional allowances. This would result in additional general and administrative expenses being recorded for the period in which such determination was made.

Inventories – Inventories are stated at the lower of cost or market. We are exposed to a number of economic and industry-specific factors that could result in portions of our inventory becoming either obsolete or in excess of anticipated usage, or saleable only for amounts that are less than their carrying amounts. These factors include, but are not limited to, technological changes in our market, our ability to meet changing customer requirements, competitive pressures in products and prices, and the availability of key components from our suppliers. We have established inventory reserves when conditions exist that suggest that our inventory may be in excess of anticipated demand or is obsolete based upon our assumptions about future demand for our products and market conditions. Once a reserve has been established, it is maintained until the part to which it relates is sold or is otherwise disposed of. Therefore, a sale of reserved inventory has a higher gross profit margin. We regularly evaluate our ability to realize the value of our inventory based on a combination of factors including the following: historical usage rates, forecasted sales of usage, product end-of-life dates, estimated current and future market values and new product introductions. Inventory includes evaluation tools placed at customer sites. For demonstration inventory, we also consider the age of the inventory and potential cost to refurbish the inventory prior to sale. Demonstration inventory is amortized over its useful life and the amortization expense is included in total inventory write down on our statements of cash flows. When recorded, our reserves are intended to reduce the carrying value of our inventory to its net realizable value. If actual demand for our products deteriorates, or market conditions are less favorable than those that we project, additional reserves may be required, which would adversely affect gross margin and net income.

Product Warranties – We sell the majority of our products with a standard twelve (12)-month repair or replacement warranty from the date of acceptance or shipment date. We provide an accrual for estimated future warranty costs based upon the historical relationship of warranty costs to the cost of products sold. The estimated future warranty obligations related to product sales are reported in the period in which the related revenue is recognized. The estimated future warranty obligations are affected by the warranty periods, sales volumes, product failure rates, material usage and labor and replacement costs incurred in correcting a product failure. If actual product failure rates, material usage, labor or replacement costs differ from our estimates, revisions to the estimated warranty obligations would be required. For new product introductions where limited or no historical information exists, we may use warranty information from other previous product introductions to guide us in estimating our warranty accrual. The warranty accrual represents the best estimate of the amount necessary to settle future and existing claims on products sold as of the balance sheet date. We periodically assess the adequacy of our recorded warranty reserve and adjust the amounts in accordance with changes in these factors.

Business Combinations - We allocate the purchase price of acquired companies to the tangible and intangible assets acquired and liabilities assumed based upon their estimated fair values at the acquisition date. The purchase price allocation process requires management to make significant estimates and assumptions, especially at the acquisition date with respect to intangible assets and inventory acquired. While we use our best estimates and assumptions as a part of the purchase price allocation process to accurately value assets acquired and liabilities assumed at the acquisition date, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our consolidated statements of operations.

We estimate the fair value of inventory acquired by utilizing the net realizable value method which is based on the estimated sales price of the product less appropriate costs to complete and selling costs. Examples of critical estimates in valuing certain of the intangible assets we have acquired or may acquire in the future include but are not limited to:

- future expected cash flows from sales of products, services and acquired developed technologies and patents;
- expected costs to develop the in-process research and development into commercially viable products and estimated cash flows from the projects when completed;
- the value of the acquired company's customer relationships, as well as assumptions about the estimated useful lives of the relationships; and
- discount rates.

Unanticipated events and circumstances may occur which may affect the accuracy or validity of assumptions, estimates or actual results associated with business combinations.

Goodwill and Intangible Assets - Intangible assets with finite lives are amortized over their useful lives while goodwill and indefinite lived assets are not amortized but tested annually for impairment. We perform a qualitative assessment of the goodwill during the fourth quarter of each fiscal year or whenever events or circumstances occur which indicate that an impairment may have occurred. As part of this assessment, we consider the trading value of our stock, the industry trends, and our sales forecast and products plans to determine if it is more likely than not that the fair value is higher than the carrying values of our reporting unit. If, after assessing the qualitative factors, we determine that it is not likely that the fair value of a reporting unit is less than its carrying value, then performing the two-step impairment test is unnecessary.

The process of evaluating the potential impairment of goodwill is highly subjective and requires significant judgment. In estimating the fair value of goodwill for the Company at the reporting unit level, we make estimates and judgments about future revenues and cash flows for the reporting unit. To determine the fair value, our review process includes the income method and is based on a discounted future cash flow approach that uses estimates including the following for the reporting unit: revenue, based on assumed market growth rates and our assumed market share; estimated costs; and appropriate discount rates based on the particular reporting unit's weighted average cost of capital. Our estimates of market segment growth, our market segment share and costs are based on historical data, various internal estimates and certain external sources, and are based on assumptions that are consistent with the plans and estimates we are using to manage the underlying businesses. Our business consists of both established and emerging technologies and our forecasts for emerging technologies are based upon internal estimates and external sources rather than historical information. We also consider our market capitalization on the dates of our impairment tests in determining the fair value of the respective businesses. As part of this assessment, we consider the trading value of our stock and implied value of as compared to our net assets as well as the valuation of acquired businesses. As part of the second step in determining the amount of goodwill impairment, if any, we allocate the fair value of the reporting unit to all of its assets and liabilities as if the reporting unit had been acquired in a business combination and the fair value of the reporting unit was the price paid to acquire the reporting unit. The excess of the fair value of the reporting unit over the amount assigned to its assets and liabilities is the implied fair value of goodwill. When impairment is deemed to have occurred, we will recognize an impairment charge to reduce the carrying amount of our goodwill to its implied fair value.

Income Tax Assets and Liabilities – We account for income taxes such that deferred tax assets and liabilities are recognized using enacted tax rates for the effect of temporary differences between the book and tax accounting for assets and liabilities. Also, deferred tax assets are reduced by a valuation allowance to the extent we cannot conclude that it is more likely than not that a portion of the deferred tax asset will be realized in the future. We evaluate the deferred tax assets on a continuous basis throughout the year to determine whether or not a valuation allowance is appropriate. Factors used in this determination include future expected income and the underlying asset or liability which generated the temporary tax difference. Our income tax provision is primarily impacted by federal statutory rates, state and foreign income taxes and changes in our valuation allowance.

Stock-Based Compensation – We estimate the value of employee stock options on the date of grant using the Black-Scholes model. The determination of fair value of share-based payment awards on the date of grant using an option-pricing model is affected by our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to the expected stock price volatility over the term of the awards, and actual and projected employee stock option exercise behaviors. The expected term of options granted is calculated based on the simplified method. The expected volatility is based on the historical volatility of our stock price.

Recent Accounting Pronouncements

See Note 2 "Recent Accounting Pronouncements" to the Consolidated Financial Statements for a description of recent accounting pronouncements, including the respective dates of adoption and effects on our results of operations and financial condition.

Results of Operations

The following table presents our consolidated statements of operations data as a percentage of total net revenues for fiscal years ended December 29, 2012, December 31, 2011, and January 1, 2011.

	Fiscal Year		
	2012	2011	2010
Net revenues:			
Products	78.6%	84.7%	82.2%
Service	21.4	15.3	17.8
Total net revenues	100.0	100.0	100.0
Costs of net revenues:			
Cost of products	41.5	38.5	35.3
Cost of service	11.2	8.0	10.3
Amortization of intangible assets	1.4	0.4	0.5
Total costs of net revenues	54.1	46.9	46.1
Products gross margin	47.2	54.5	57.0
Service gross margin	47.4	48.1	42.3
Total gross margin	45.9	53.1	53.9
Operating expenses:			
Research and development	16.2	10.1	10.1
Selling	14.5	11.7	11.3
General and administrative	11.8	10.0	9.9
Amortization of intangibles	0.4	0.3	0.3
Legal settlement	—	1.1	—
Asset impairment	—	—	0.3
Total operating expenses	42.9	33.2	31.9
Income from operations	3.0	19.9	22.0
Other income (expense):			
Interest income	0.1	0.1	0.1
Interest expense	(0.6)	(0.6)	(0.8)
Other, net	—	—	0.3
Total other expense, net	(0.5)	(0.5)	(0.4)
Income before income taxes	2.5	19.4	21.6
Provision (benefit) for income taxes	0.1	6.9	(8.1)
Net income	2.4%	12.5%	29.7%

Fiscal years 2012, 2011 and 2010 ended December 29, 2012, December 31, 2011 and January 1, 2011, respectively.

Total net revenues.

Our net revenues were comprised of the following product lines (in thousands, except percentages):

	Fiscal Year			Change
	2012	2011		
Automated systems	\$ 119,451	\$ 139,261	\$ (19,810)	(14.2)%
Integrated systems	12,379	25,413	(13,034)	(51.3)%
Materials characterization systems	11,997	30,100	(18,103)	(60.1)%
Total product revenue	143,827	194,774	(50,947)	(26.2)%
Service	39,054	35,287	3,767	10.7%
Total net revenues	\$ 182,881	\$ 230,061	\$ (47,180)	(20.5)%

	Fiscal Year			Change
	2011	2010		
Automated systems	\$ 139,261	\$ 110,955	\$ 28,306	25.5%
Integrated systems	25,413	17,437	7,976	45.7%
Materials characterization systems	30,100	26,156	3,944	15.1%
Total product revenue	194,774	154,548	40,226	26.0%
Service	35,287	33,517	1,770	5.3%
Total net revenues	\$ 230,061	\$ 188,065	\$ 41,996	22.3%

In 2012, revenue from products decreased by \$50.9 million from 2011, principally due to decreased demand from customers, particularly in the second half of 2012 as some of our largest customers significantly reduced their capital spending in 2012. Sales of our Automated Systems (primarily *Atlas*[®], *Lynx*[™], *NanoGen*[®], and *Mosaic*[™]) accounted for \$19.8 million of the decrease. Integrated Systems accounted for approximately \$13.0 million of decrease (primarily 9010 Series and *IMPULSE*[®]) and Materials Characterization (primarily *QSI200*, *QS2200/3300*, *RPMBLue*[™] and *VerteX*[™]) decreased by \$18.1 million. We expect the downturn to continue into at least the first quarter of 2013. Service revenue increased by \$3.8 million in 2012 compared to 2011 principally due to increased demand for upgrades and services provided under customer contracts during 2012.

In 2011, revenue from products increased by \$40.2 million from 2010, principally due to increased demand from our customers associated with the expansion of their semiconductor fabrication plants, particularly in the first half of 2011. Approximately \$28.3 million of the increase was attributable to sales of our Automated Systems (primarily for *Atlas*[®]). Integrated Systems accounted for approximately \$8.0 million of the increase (principally 9010 Series and *IMPULSE*[®]) and Materials Characterization increased by \$3.9 million. Service revenue increased by \$1.8 million in 2011 principally due to increased demand for services provided under customer contracts.

Gross margin.

Our gross margin breakdown which does not include amortization of intangible assets was as follows:

	Fiscal Year		
	2012	2011	2010
Products	47.2%	54.5%	57.0%
Service	47.4%	48.1%	42.3%

The gross margin on product revenue decreased to 47.2% in 2012 from 54.5% in 2011. The decrease is primarily due to lower margins in the first half of 2012 on the newly introduced *Atlas II*[®] and lower overall revenue volumes in the second half of 2012 which resulted in increased fixed costs as a percentage of revenue. The gross margin on service revenue in 2012 was 47.4% compared to 48.1%. The decline is primarily due to decline in the mix of upgrades which have higher gross margins within service revenue.

The gross margin on product revenue decreased from 57.0% in 2010 to 54.5% in 2011. The decrease is due to the approximately equal impact of higher warranty costs and higher installation costs driven by a change in product mix, and to a lesser extent due to lower factory absorption in the fourth quarter of 2011. The gross margin on service revenue improved in 2011 from 42.3% to 48.1%, principally due to reduction in field service labor costs and refinement of our allocation of warranty and installation costs between product and services.

Operating expenses.

Our operating expenses were comprised of the following categories (in thousands, except percentages):

	Fiscal Year		Change	
	2012	2011		
Research and development	\$ 29,585	\$ 23,290	\$ 6,295	27.0%
Selling	26,457	27,019	(562)	(2.1)%
General and administrative	21,632	22,901	(1,269)	(5.5)%
Amortization of intangible assets	776	625	151	24.2%
Legal settlement	—	2,500	(2,500)	(100.0)%
Total operating expenses	\$ 78,450	\$ 76,335	\$ 2,115	2.8%

	Fiscal Year		Change	
	2011	2010		
Research and development	\$ 23,290	\$ 18,973	\$ 4,317	22.8%
Selling	27,019	21,320	5,699	26.7%
General and administrative	22,901	18,617	4,284	23.0%
Amortization of intangible assets	625	695	(70)	(10.1)%
Legal settlement	2,500	—	2,500	100.0%
Asset impairment	—	463	(463)	(100.0)%
Total operating expenses	\$ 76,335	\$ 60,068	\$ 16,267	27.1%

Research and development.

Research and development costs increased by \$6.3 million or 27.0% in fiscal year 2012 compared to 2011. The increase is primarily related to increased investment in new platforms and product upgrade programs, to improve both capability, and cost of ownership. This increase consisted primarily of a \$2.8 million increase in development projects and related activities, a \$1.4 million increase due to salary, and stock based compensation associated with increased headcount as a result of the acquisition of Nanda, a \$0.8 million increase in depreciation expense, and a \$0.7 million increase in consulting expense. Investments in research and development personnel and associated projects are part of our strategy to ensure our products are in the forefront of current and future market demands.

Research and development costs increased by \$4.3 million or 22.8% in fiscal year 2011 compared to 2010 primarily related to development of the *Atlas II*TM and costs associated with the acquisition of Nanda. This increase consisted of \$2.5 million of labor costs relating to increased hiring, incentive compensation and benefit costs, \$1.5 million of increased engineering materials and tooling, \$0.2 million from increased depreciation, and \$0.1 million from consulting expense.

Selling.

Selling expenses decreased by \$0.6 million or 2.1% in fiscal year 2012 compared to 2011. The decrease is primarily due to \$1.8 million decrease in bonus, travel, commission costs and consulting expense resulted from overall lower revenue during 2012, partially offset by \$0.7 million increase in depreciation expense, and \$0.5 million increase in stock-based compensation and other costs.

Selling expenses increased by \$5.7 million or 26.7% in fiscal year 2011 compared to 2010. Higher costs are a result of labor costs of \$3.8 million related to increased hiring, compensation and benefits including commissions on higher revenues and stock-based compensation. The remainder of the increase represents principally \$0.9 million increase in travel expenses due to the increased number of sales personnel and transactions, \$0.4 million increase in facilities expense, \$0.3 million increase in marketing activities, a \$0.2 million increase in depreciation expense, and \$0.1 million of other costs.

General and administrative.

General and administrative expenses decreased by \$1.3 million or 5.5% in fiscal year 2012 compared to 2011. The decrease is primarily due to \$0.4 million of legal fees and \$1.4 million of acquisition costs including professional fees associated with the acquisition of Nanda in 2011, a \$0.5 million decrease in general legal expense, a \$0.8 million decrease in bonus expense, partially offset by a \$0.8 million increase in stock-based compensation including cost associated with Nanda employees, a \$0.6 million increase in labor costs and a \$0.5 million increase in facilities and software license expense.

General and administrative expenses increased by \$4.3 million or 22.8% in fiscal year 2011 compared to 2010. The higher costs are the result of \$1.8 million related to professional fees associated with the Nanda acquisition, a \$0.9 million increase in other professional services, a \$0.6 million increase in labor costs related to hiring of employees, \$0.3 million increase in facilities expense, a \$0.2 million increase in depreciation expense, a \$0.2 million increase in legal expenses and \$0.3 million aggregate increase in other costs including allowance for doubtful accounts, travel, and consulting services.

Amortization of intangible assets.

Amortization of intangibles assets included in operating expenses in fiscal year 2012 increased by \$0.2 million or 24.2%, compared to 2011, primarily as a result of the amortization of intangible assets acquired from Nanda for the full year of 2012, partially offset by a reduction in amortization of other intangible assets that became fully amortized in 2012.

Amortization of intangibles assets included in operating expenses in fiscal year 2011 decreased by \$0.1 million, compared to 2010, primarily as a result of the amortization of intangible assets acquired from Nanda, more than offset by a reduction in amortization of other intangible assets that became fully amortized in 2011.

Legal settlement.

On January 13, 2012, the Company entered into a settlement and limited patent cross license agreement with KLA to resolve all existing patent litigation between the parties. Pursuant to the settlement agreement, the Company agreed to make a one-time payment of \$2.5 million to KLA and agreed to a cross license of the patents that were subject to the litigation. As a result, the Company recorded a \$2.5 million charge to legal settlement in operating expense in the fourth quarter of fiscal 2011. The payment was made in the first quarter of fiscal 2012.

Asset impairment.

There were no asset impairment charges in 2012 and 2011.

During the fiscal year 2010, we recognized impairment charges of \$0.5 million related to write-offs of various IT projects.

Other expense, net.

Our other expense, net consisted of the following items (in thousands, except percentages):

	Fiscal Year		Change	
	2012	2011		
Interest income	\$ 133	\$ 220	\$ (87)	(39.5)%
Interest expense	(1,040)	(1,336)	296	(22.2)%
Other income (expense)	48	(66)	114	NM *
Total other expense, net	\$ (859)	\$ (1,182)	\$ 323	(27.3)%

* NM = not meaningful

	Fiscal Year		Change	
	2011	2010		
Interest income	\$ 220	\$ 107	\$ 113	105.6%
Interest expense	(1,336)	(1,556)	220	(14.1)%
Other income (expense)	(66)	814	(880)	NM *
Total other expense, net	\$ (1,182)	\$ (635)	\$ (547)	86.1%

* NM = not meaningful

During fiscal year 2012 interest expense decreased \$0.3 million compared to fiscal year 2011, due to \$2.2 million of principal payments on the mortgage related to our headquarter facility.

During fiscal year 2011 interest expense decreased \$0.2 million compared to fiscal year 2010, due to \$2.5 million of principal payments on the mortgage related to our headquarter facility. Other income decreased by \$0.9 million, to \$0.1 million of expense, principally as a result of \$0.6 million increase in foreign exchange loss, from a gain of \$0.3 million in fiscal 2010 to a loss of \$0.3 million in fiscal 2011. In addition, other income in 2010 included a \$0.2 million gain on the sale of fixed assets that did not recur in 2011.

Provision/Benefit for income taxes.

Our provision/(benefit) for income taxes was \$0.2 million, \$15.9 million, and \$(15.3) million in 2012, 2011, and 2010, respectively. The decrease in the tax provision for 2012 from prior year is primarily attributable to the lower pre-tax earnings as well as a one-time benefit associated with the recognition of deferred tax assets related to tax elections made in 2012 to include certain foreign subsidiaries as branches for US income tax purposes. The increase in the tax provision for 2011 from prior year is primarily due to a one-time benefit recorded in 2010 for the reversal of a valuation allowance against our U.S. and Japan deferred tax assets.

The Company's provision for income taxes for 2012 of \$0.2 million reflects an effective tax rate of 3.3%. This rate differs from the Federal statutory rate of 35% primarily due to a one-time benefit of \$1.3 million associated with the Internal Revenue Service approval of tax elections made in 2012 to treat certain foreign subsidiaries as branches for US income tax purposes as well as foreign income being taxed at lower rates, offset by state income taxes and equity compensation expenses for which no current tax deduction is available. The Company's provision for income taxes for 2011 of \$15.9 million reflects an effective tax rate of 35.7%. This rate differs from the Federal statutory rate of 35% due to state income taxes and higher foreign tax expense due to net operating losses without current benefit, partially offset by the domestic production activities deduction and research tax credits.

The Company maintains valuation allowances when it is likely that all or a portion of a deferred tax asset will not be realized. Changes in valuation allowances from period to period are included in the Company's income tax provision in the period of change. In determining whether a valuation allowance is warranted, the Company takes into account such factors as prior earnings history, expected future earnings, unsettled circumstances that, if unfavorably resolved, would adversely affect utilization of a deferred tax asset, carry-back and carry-forward periods, and tax strategies that could potentially enhance the likelihood of realization of a deferred tax asset.

On January 2, 2013, the President signed into law The American Taxpayer Relief Act of 2012 (ATRA). Under prior law, a taxpayer was entitled to a research tax credit for qualifying amounts incurred through December 31, 2011. The ATRA extends the research credit for two years for qualified research expenditures incurred through the end of 2013. The extension of the research credit is retroactive and includes amounts incurred after 2011. The Company estimates the benefit that it will receive relating to 2012 as a result of the credit extension will be approximately \$0.5 million. The benefit will be recognized in the period of enactment, which is the first quarter of 2013.

Liquidity and Capital Resources

At December 29, 2012, our cash, cash equivalents and marketable securities totaled \$109.9 million and working capital was \$158.6 million, compared to cash and cash equivalents of \$97.7 million and working capital of \$160.6 million as of December 31, 2011, and cash and cash equivalents of \$66.5 million and working capital of \$135.8 million as of January 1, 2011. Undistributed earnings that were not previously taxed amounted to \$1.4 million, and \$0.8 million as of December 29, 2012, and December 31, 2011, respectively.

Cash flows from operating activities –

During year ended December 29, 2012, cash provided by operating activities was \$24.0 million which reflected net income of \$4.5 million and non-cash transactions of \$19.8 million, offset by a \$0.3 million reduction in non-cash working capital. Non-cash transactions primarily consisted of depreciation and amortization expense of \$8.1 million, stock based compensation of \$5.9 million, inventory write down of \$3.5 million, and a \$2.8 million increase in deferred income taxes, offset by excess tax benefit from equity awards of \$0.9 million. The reduction in working capital was primarily due to a \$12.6 million decrease in accounts payable, accrued and other liabilities, including a \$4.9 million reduction in customer deposits, a \$2.5 million decrease in accrued legal settlement, and a \$2.3 million decrease in notes payable, offset by a \$7.7 million decrease in accounts receivable attributable to lower sales volume and increased efforts on collections, a \$2.5 million increase in deferred revenue, a \$1.1 million decrease in prepaid expenses and other, and a \$0.6 million decrease in inventory.

During year ended December 31, 2011, cash provided by operations was \$54.0 million which reflected net income of \$28.7 million, non-cash transactions of \$13.3 million and a \$12.1 million reduction in non-cash working capital. Non-cash transactions primarily consisted of depreciation and amortization expense of \$5.0 million, stock based compensation of \$4.5 million, excess tax benefit from equity awards of \$3.9 million, inventory write down of \$3.4 million, and \$3.8 million increase in deferred income taxes. Changes in working capital were mostly due to a \$16.1 million decrease in receivables resulting from timing of sales and collections, an increase in inventory of \$12.2 million, and a \$12.4 million increase in accruals related to \$4.9 million in customer deposits, \$2.5 million in accrued legal settlement, and \$5.0 million in accrued income taxes.

During year ended January 1, 2011, cash provided by operations was \$27.6 million which reflected net income of \$55.9 million, partially offset by non-cash transactions of \$7.5 million and a \$20.8 million increase in working capital. Non-cash transactions primarily included \$17.2 million net tax benefit, consisting primarily of a \$18.2 million release of income tax valuation allowance, stock based compensation of \$3.0 million, depreciation, and amortization expense of \$4.4 million, increases in inventory write down of \$2.9 million. Changes in working capital were mostly due to a \$21.0 million increase in receivables due to higher revenue and timing of collections, an increase of \$14.5 million in inventory and a \$11.5 million increase in payables and accruals as a result of tighter cash management.

Cash flows from investing activities –

During the year ended December 29, 2012, investing activities accounted for the use of \$51.8 million of cash, of which \$47.3 million was for the purchase of marketable securities net of sales and maturities and \$5.0 million was for purchases of capital equipment, partially offset by \$0.5 million of escrow payment received related to acquisition of Nanda.

During the year ended December 31, 2011, investing activities accounted for the use of \$26.7 million of cash, of which \$23.9 million was for the acquisition of Nanda, and \$2.8 million was for purchases of capital equipment.

During the year ended January 1, 2011, investing activities accounted for the use of \$2.6 million of cash, of which \$3.1 million was for purchases of capital equipment and patents. These were offset by \$0.5 million of cash received from the sale of assets, primarily related to the sale of the South Korean manufacturing facility.

Cash flows from financing activities –

During the year ended December 29, 2012, financing activities accounted for the use of \$6.8 million of cash, of which \$8.5 million was used for repurchases and retirements of our common stock, \$0.3 million was paid to Zygo related to royalties and sustaining engineering payments, \$0.6 million was used for taxes on net issuance of stock awards, and \$2.2 million was paid on the mortgage on our corporate headquarters. These activities were partially offset by proceeds from a \$0.9 million excess tax benefit related to equity awards, and \$3.9 million in proceeds from issuance of common stock from the employee stock purchase program and the exercise of stock options.

During the year ended December 31, 2011, financing activities contributed \$3.7 million of cash, that was primarily attributable to \$7.2 million from issuance of common stock from the employee stock purchase program and the exercise of stock options and a \$3.9 million excess tax benefit related to equity awards. These activities were partially offset by \$4.3 million used for repurchases and retirements of our common stock, \$2.6 million paid on the mortgage on our corporate headquarters, and \$0.4 million paid to Zygo related to royalties and sustaining engineering payments.

During the year ended January 1, 2011, financing activities accounted for the use of \$2.3 million, of which \$3.5 million was paid to Zygo related to inventories and fixed assets associated with the UniFire acquisition, \$3.0 million was paid on the mortgage on our corporate headquarters, and \$2.1 million was used for the repurchase of our common stock. These payments were partially offset by \$5.8 million in receipts from issuance of common stock for stock options exercised and stock purchased under the employee stock purchase program.

Line of Credit - On April 13, 2010, we amended our existing revolving line of credit facility to (i) increase the maximum principal amount available from \$15.0 million to \$20.0 million, (ii) extend the maturity date of such facility by one year to April 30, 2012, and (iii) decrease the unused revolving line commitment fee from 0.25% per annum to 0.1875% per annum. On April 23, 2012, the Company amended its revolving line of credit facility to (i) extend the maturity date of such facility by two years to April 30, 2014, (ii) decrease the unused revolving line commitment fee from 0.1875% per annum to 0.10% per annum, and (iii) reduce the minimum interest rate on borrowings from 5.75% to 3.00% per annum.

The instrument governing the facility includes certain financial covenants regarding net tangible net worth. The revolving line of credit agreement includes a provision for the issuance of commercial or standby letters of credit by the bank on our behalf. The value of all letters of credit outstanding reduces the total line of credit available. The revolving line of credit is collateralized by a blanket lien on all of our domestic assets excluding intellectual property and real estate. The minimum borrowing interest rate is 3.00% per annum. The maximum borrowing allowed on the line of credit is \$20.0 million. Borrowing

is limited to the lesser of (a) \$7.5 million plus the borrowing base or (b) \$20.0 million. The borrowing base available as of December 29, 2012 was \$13.5 million. As of December 29, 2012, we were not in breach of any restrictive covenants in connection with our line of credit and debt obligations. There was no borrowing against the line of credit during the fiscal year 2012 and 2011 and there are no amounts outstanding on this facility as of December 29, 2012 or December 31, 2011. Although we have no current plans to request advances under this credit facility, we may use the proceeds of any future borrowing for general corporate purposes, acquisitions or expansion of our business.

Mortgage Loan - In July 2008, we entered into a loan agreement with General Electric Commercial Finance ("GE") pursuant to which we borrowed \$13.5 million secured, in part, by a lien on and security interest in the building and land comprising our principal offices in Milpitas, California. The loan initially bears interest at the rate of 7.18% per annum, which rate will be reset in August 2013 to 3.03% over the weekly average yield of five-year U.S Dollar Interest Rate Swaps as published by the Federal Reserve. Monthly principal and interest payments are based on a twenty year amortization for the first sixty months and fifteen year amortization thereafter. The remaining principal balance of the loan and any accrued but unpaid interest will be due on August 1, 2018. According to the terms of the loan agreement, we can make annual pre-payments of up to 20% of the outstanding principal balance without incurring any penalty. GE subsequently sold the mortgage on March 31, 2011 to Sterling Saving Bank; however, no changes were made to the terms of the original loan agreement as a result of the sale. In July 2012, we prepaid \$1.4 million of the loan, representing 20% of the outstanding balance, and in July 2011, we prepaid \$1.95 million of the loan, representing 20% of the then outstanding balance. The total loan balance including current portion was \$5.3 million and \$7.5 million at December 29, 2012 and December 31, 2011, respectively.

Repurchases of Common Stock - On November 29, 2010, our Board of Directors approved a program to repurchase up to \$10.0 million of the Company's common stock. Stock repurchases under this program may be made through open market and privately negotiated transactions, at times and in such amounts as management deems appropriate. The timing and actual number of shares repurchased is dependent on a variety of factors including price, corporate and regulatory requirements and other market conditions. During the fiscal year 2010, we repurchased and retired 65,000 shares of the Company's common stock under this program at a weighted average price of \$11.96 per share. During the fiscal year 2011, we repurchased and retired a total of 265,040 shares of the Company's common stock under this program at a weighted average price of \$16.06 per share. During the fiscal year 2012, we repurchased and retired a total of 337,366 shares of the Company's common stock under this program at a weighted average price of \$14.70 per share. As of June 30, 2012, we repurchased and retired an aggregate of 667,406 shares of the Company's common stock at a weighted average price of \$14.97 per share under the plan, and the entire \$10.0 million approved by the Board on November 29, 2010 for the repurchase of shares of the Company's common stock had been used for this purpose.

On May 29, 2012, our Board of Directors approved a program to repurchase up to \$20.0 million of the Company's common stock. Stock repurchases under this program may be made through open market and privately negotiated transactions, at times and in such amounts as management deems appropriate. The timing and actual number of shares repurchased is dependent on a variety of factors including price, corporate and regulatory requirements and other market conditions. During the fiscal year 2012, we repurchased and retired 250,400 shares the Company's common stock under this approved program at the weighted average price of \$14.15 per share. As of December 29, 2012, there remained \$16.5 million available for the future repurchase of shares of common stock.

During the fiscal year of 2012, we repurchased and retired a total of 587,766 shares of the Company's common stock at a weighted average price of \$14.47 per share under the two approved programs above.

Business Partnership - On June 17, 2009, we announced a strategic business partnership with Zygo Corporation whereby we have purchased inventory and certain other assets from Zygo Corporation, and the two companies entered into a supply agreement. We will make payments to Zygo Corporation (with an estimated present value of \$2.5 million as of December 29, 2012) over a period of time as acquired inventory is sold and other aspects of the supply agreement are executed. We made royalty and sustaining engineering payments of \$0.3 million and \$0.4 million to Zygo in fiscal years 2012 and 2011, respectively. We have evaluated and will continue to evaluate the acquisitions of products, technologies or businesses that are complementary to our business. These activities may result in product and business investments, which may affect our cash position and working capital balances. Some of these activities might require significant cash outlays.

We believe our cash, cash equivalents, marketable securities and borrowing availability at December 29, 2012 will be sufficient to meet our needs through at least the next twelve months.

Off-Balance Sheet Arrangements

As of December 29, 2012, and December 31, 2011, we had no off-balance sheet arrangements or obligations.

Contractual Obligations

The following table summarizes our contractual cash obligations as of December 29, 2012, and the effect such obligations.

	Total	Payments due by period			
		Less than 1 year	1-3 years	3-5 years	More than 5 years
Debt obligations ⁽¹⁾	\$ 6,326	\$ 1,283	\$ 2,567	\$ 2,476	\$ —
Deferred payments to Zygo Corporation	3,496	709	2,087	400	300
Other long-term liabilities	32	—	—	—	32
Operating lease obligations	3,650	1,610	1,347	639	54
Total	<u>\$ 13,504</u>	<u>\$ 3,602</u>	<u>\$ 6,001</u>	<u>\$ 3,515</u>	<u>\$ 386</u>

Includes interest.

We maintain certain open inventory purchase agreements with our suppliers to ensure a smooth and continuous supply availability for key components. Our liability under these purchase commitments is generally restricted to a forecasted time-horizon as mutually agreed upon between the parties. This forecasted time-horizon can vary among different suppliers. We estimate our open inventory purchase commitment as of December 29, 2012 was approximately \$14.9 million. Actual expenditures will vary based upon the volume of the transactions and length of contractual service provided. In addition, the amounts paid under these arrangements may be less in the event that the arrangements are renegotiated or canceled.

Excluded from the contractual obligation table above, are \$2.1 million of future payments related to uncertain tax positions because we cannot reliably estimate the timing of the settlements with the respective tax authorities.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to financial market risks related to foreign currency exchange rates and interest rates. We do not use derivative financial instruments.

Foreign Currency Risk

A substantial part of our business consists of sales made to customers outside the United States: 75.5%, 78.1%, and 65.4% of sales in 2012, 2011, and 2010, respectively. 13.9%, 19.5%, and 15.2% of the net revenues in 2012, 2011, and 2010, respectively, were denominated in currencies other than the U.S. dollar. Additionally, portions of our costs of net revenues and our operating expenses are incurred by our international operations and denominated in local currencies.

Our exposure to foreign currency exchange rate fluctuations arises in part from intercompany balances in which costs are charged between our U.S. headquarters and our foreign subsidiaries. On our consolidated balance sheet these intercompany balances are eliminated and thus no consolidated balances are associated with these intercompany balances; however, since each foreign entity's functional currency is generally its respective local currency, there is exposure to foreign exchange risk on a consolidated basis. Intercompany balances are denominated primarily in U.S. dollars and, to a lesser extent, other local currencies. The net intercompany balance, exposed to foreign currency risk, at December 29, 2012 was approximately \$8.1 million. A hypothetical change of 10% in the relative value of the US dollar versus local functional currencies could result in an increase or decrease of approximately \$0.8 million in transaction gains or losses which would be included in our statement of operations.

For 2012, 2011 and 2010, foreign currency transactions resulted in a loss of \$0.3 million, a loss of \$0.3 million and a gain of \$0.3 million, respectively.

Interest Rate Risk

Our exposure to market risk resulting from changes in interest rates relates primarily to our investment portfolio. The fair value of our marketable securities could be adversely impacted due to a rise in interest rates, but we do not believe such impact would be material. Securities with longer maturities are subject to a greater interest rate risk than those with shorter maturities and as of December 29, 2012 the average duration of our portfolio was less than nine months.

At December 31, 2011, the Company did not hold investments in marketable securities. As of December 29, 2012, and December 31, 2011, there were no amounts borrowed against the line of credit and the interest rate on the GE loan is fixed, therefore, there are no significant interest rate risks.

In July 2008, we entered into a loan agreement pursuant to which we borrowed \$13.5 million. The loan initially bears interest at the rate of 7.18% per annum, which rate will be reset after five years in 2013 to 3.03% over the then weekly average yield of five-year U.S. Dollar Interest Rate Swaps as published by the Federal Reserve. Monthly principal and interest payments are based on a twenty year amortization for the first sixty months and fifteen year amortization thereafter. The remaining principal balance of the loan and any accrued but unpaid interest will be due on August 1, 2018. The loan is secured, in part, by a lien on and security interest in the building and land comprising our principal offices in Milpitas, California. At December 29, 2012 and December 31, 2011 our total debt obligation was \$5.3 million and \$7.5 million, respectively, with a long-term portion of \$4.4 million and \$6.7 million, respectively.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by Item 8 of Form 10-K is presented here in the following order:

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of
Nanometrics Incorporated

In our opinion, the accompanying consolidated balance sheets and the related consolidated statement of comprehensive income, stockholders' equity, and of cash flows present fairly, in all material respects, the financial position of Nanometrics Incorporated and its subsidiaries at December 29, 2012 and December 31, 2011, and the results of their operations and their cash flows for each of the three years in the period ended December 29, 2012, in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the accompanying index appearing under Item 15(a)2 presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 29, 2012, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in "Report of Management on Internal Control over Financial Reporting" appearing under Item 9A. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
San Jose, California
March 11, 2013

NANOMETRICS INCORPORATED
CONSOLIDATED BALANCE SHEETS
(In thousands except per share amounts)

	<u>December 29, 2012</u>	<u>December 31, 2011</u>
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 62,915	\$ 97,699
Marketable securities	46,993	—
Accounts receivable, net of allowances of \$82 and \$117, respectively	21,388	29,289
Inventories	39,659	52,260
Inventories-delivered systems	2,274	1,637
Prepaid expenses and other	7,492	8,119
Deferred income tax assets	8,593	12,406
Total current assets	<u>189,314</u>	<u>201,410</u>
Property, plant and equipment, net	43,213	35,521
Goodwill	11,352	11,990
Intangible assets, net	10,980	14,394
Deferred income tax assets	3,671	2,864
Other assets	924	1,042
Total assets	<u>\$ 259,454</u>	<u>\$ 267,221</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 6,398	\$ 7,975
Accrued payroll and related expenses	6,670	8,837
Deferred revenue	8,485	5,788
Other current liabilities	7,822	16,709
Income taxes payable	424	707
Current portion of debt obligations	928	765
Total current liabilities	<u>30,727</u>	<u>40,781</u>
Deferred revenue	4,307	4,547
Income taxes payable	2,135	2,401
Other long-term liabilities	2,140	2,813
Debt obligations	4,374	6,687
Total liabilities	<u>43,683</u>	<u>57,229</u>
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred stock, \$0.001 par value; 3,000,000 shares authorized; no shares issued or outstanding	—	—
Common stock, \$0.001 par value, 47,000,000 shares authorized; 23,250,429 and 23,182,771, respectively, issued and outstanding	23	23
Additional paid-in capital	238,326	236,735
Accumulated deficit	(23,850)	(28,315)
Accumulated other comprehensive income	1,272	1,549
Total stockholders' equity	<u>215,771</u>	<u>209,992</u>
Total liabilities and stockholders' equity	<u>\$ 259,454</u>	<u>\$ 267,221</u>

See Notes to Consolidated Financial Statements

NANOMETRICS INCORPORATED
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In thousands except per share amounts)

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Net revenues:			
Products	\$ 143,827	\$ 194,774	\$ 154,548
Service	39,054	35,287	33,517
Total net revenues	<u>182,881</u>	<u>230,061</u>	<u>188,065</u>
Costs of net revenues:			
Cost of products	75,878	88,579	66,484
Cost of service	20,526	18,304	19,328
Amortization of intangible assets	2,549	1,077	861
Total costs of net revenues	<u>98,953</u>	<u>107,960</u>	<u>86,673</u>
Gross profit	<u>83,928</u>	<u>122,101</u>	<u>101,392</u>
Operating expenses:			
Research and development	29,585	23,290	18,973
Selling	26,457	27,019	21,320
General and administrative	21,632	22,901	18,617
Amortization of intangible assets	776	625	695
Asset impairment	—	—	463
Legal settlement	—	2,500	—
Total operating expenses	<u>78,450</u>	<u>76,335</u>	<u>60,068</u>
Income from operations	<u>5,478</u>	<u>45,766</u>	<u>41,324</u>
Other expense			
Interest income	133	220	107
Interest expense	(1,040)	(1,336)	(1,556)
Other income (expense), net	48	(66)	814
Total other expense, net	<u>(859)</u>	<u>(1,182)</u>	<u>(635)</u>
Income before income taxes	4,619	44,584	40,689
Provision for (benefit from) income taxes	154	15,899	(15,259)
Net income	<u>4,465</u>	<u>28,685</u>	<u>55,948</u>
Other comprehensive income:			
Unrealized loss, net of tax	(2)	—	—
Employee benefit plan adjustment	(11)	(39)	(51)
Foreign currency translation gain (loss)	(264)	(484)	750
Total Comprehensive Income	<u>\$ 4,188</u>	<u>\$ 28,162</u>	<u>\$ 56,647</u>
Net income per share:			
Basic	<u>\$ 0.19</u>	<u>\$ 1.26</u>	<u>\$ 2.56</u>
Diluted	<u>\$ 0.19</u>	<u>\$ 1.22</u>	<u>\$ 2.43</u>
Shares used in per share calculation:			
Basic	<u>23,358</u>	<u>22,743</u>	<u>21,855</u>
Diluted	<u>23,845</u>	<u>23,480</u>	<u>22,998</u>

See Notes to Consolidated Financial Statements

NANOMETRICS INCORPORATED
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except share amounts)

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Amount				
Balance, January 2, 2010	21,506,791	\$ 21	\$ 218,308	\$ (112,948)	\$ 1,373	\$ 106,754
Net income				55,948	—	55,948
Employee benefit plan adjustment				—	(51)	(51)
Foreign currency translation adjustments				—	750	750
Issuance of common stock under stock-based compensation plans	969,484	1	6,622	—	—	6,623
Common stock offering	—	—	(28)	—	—	(28)
Stock-based compensation expense	—	—	2,950	—	—	2,950
Repurchases and retirement of common stock	(161,492)	—	(2,097)	—	—	(2,097)
Balance, January 1, 2011	22,314,783	22	225,755	(57,000)	2,072	170,849
Net income				28,685	—	28,685
Employee benefit plan adjustment				—	(39)	(39)
Foreign currency translation adjustments				—	(484)	(484)
Issuance of common stock under stock-based compensation plans	1,133,028	1	10,764	—	—	10,765
Stock-based compensation expense	—	—	4,473	—	—	4,473
Repurchases and retirement of common stock	(265,040)	—	(4,257)	—	—	(4,257)
Balance, December 31, 2011	23,182,771	23	236,735	(28,315)	1,549	209,992
Net income				4,465	—	4,465
Employee benefit plan adjustment				—	(11)	(11)
Foreign currency translation adjustments				—	(264)	(264)
Unrealized loss on investments, net of tax				—	(2)	(2)
Issuance of common stock under stock-based compensation plans	655,424	—	4,205	—	—	4,205
Stock-based compensation expense	—	—	5,890	—	—	5,890
Repurchases and retirement of common stock	(587,766)	—	(8,504)	—	—	(8,504)
Balance, December 29, 2012	23,250,429	\$ 23	\$ 238,326	\$ (23,850)	\$ 1,272	\$ 215,771

See notes to consolidated financial statements.

NANOMETRICS INCORPORATED
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Cash flows from operating activities:			
Net income	\$ 4,465	\$ 28,685	\$ 55,948
Reconciliation of net income to net cash provided by operating activities:			
Depreciation and amortization	8,137	4,983	4,395
Asset impairment	—	—	463
Stock-based compensation	5,890	4,473	2,950
Excess tax benefit from equity awards	(910)	(3,915)	(801)
Loss on disposal of fixed assets	303	113	(140)
Inventory write down	3,519	3,421	2,920
Deferred income taxes	2,752	3,770	(17,233)
Other, net	—	—	(523)
Changes in fair value of contingent payments to Zygo Corporation	129	413	467
Changes in assets and liabilities:			
Accounts receivable	7,733	16,172	(20,996)
Inventories	1,383	(12,169)	(14,495)
Inventories-delivered systems	(758)	446	244
Prepaid expenses and other	1,114	(4,747)	(398)
Accounts payable, accrued and other liabilities	(12,567)	4,241	11,533
Deferred revenue	2,472	3,088	1,414
Income taxes payable	346	5,054	1,879
Net cash provided by operating activities	<u>24,008</u>	<u>54,028</u>	<u>27,627</u>
Cash flows from investing activities:			
Escrow payment received related to Nanda acquisition	508	—	—
Purchase of Nanda's net assets, net of cash received	—	(23,912)	—
Sales of marketable securities	3,000	—	—
Maturities of marketable securities	8,336	—	—
Purchases of marketable securities	(58,647)	—	—
Purchases of property, plant and equipment	(4,990)	(2,755)	(3,096)
Proceeds from sale of property, plant and equipment	—	—	492
Net cash used in investing activities	<u>(51,793)</u>	<u>(26,667)</u>	<u>(2,604)</u>
Cash flows from financing activities:			
Payments to Zygo Corporation related to acquisition	(300)	(432)	(3,503)
Repayments of debt obligations	(2,210)	(2,571)	(2,999)
Proceeds from sale of shares under employee stock option plans and purchase plan	3,913	7,186	5,784
Stock offering cost	—	—	(28)
Excess tax benefit from equity awards	910	3,915	801
Taxes paid on net issuance of stock awards	(618)	(126)	(299)
Repurchases of common stock	(8,504)	(4,257)	(2,097)
Net cash provided by (used in) financing activities	<u>(6,809)</u>	<u>3,715</u>	<u>(2,341)</u>
Effect of exchange rate changes on cash and cash equivalents	(190)	163	252
Net increase (decrease) in cash and cash equivalents	<u>(34,784)</u>	<u>31,239</u>	<u>22,934</u>
Cash and cash equivalents, beginning of period	97,699	66,460	43,526
Cash and cash equivalents, end of period	<u>\$ 62,915</u>	<u>\$ 97,699</u>	<u>\$ 66,460</u>
Supplemental disclosure of cash flow information:			
Cash paid for interest	<u>\$ 522</u>	<u>\$ 757</u>	<u>\$ 965</u>
Cash paid for income taxes	<u>\$ 5,113</u>	<u>\$ 11,149</u>	<u>\$ 1,572</u>

See Notes to Consolidated Financial Statements

NANOMETRICS INCORPORATED
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Nature of Business, Basis of Presentation and Significant Accounting Policies

Description of Business – Nanometrics Incorporated (“Nanometrics” or the “Company”) and its wholly owned subsidiaries design, manufacture, market, sell and support thin film, optical critical dimension and overlay dimension metrology and inspection systems used primarily in the manufacturing of semiconductors, solar photovoltaics (“solar PV”) and high-brightness LEDs (“HB-LED”), as well as by customers in the silicon wafer and data storage industries. Nanometrics' metrology systems precisely measure a wide range of film types deposited on substrates during manufacturing to control manufacturing processes and increase production yields in the fabrication of integrated circuits. The thin film metrology systems use a broad spectrum of wavelengths, high-sensitivity optics, proprietary software, and patented technology to measure the thickness and uniformity of films deposited on silicon and other substrates as well as their chemical composition. The Company's optical critical dimension technology is a patented critical dimension measurement technology that is used to precisely determine the dimensions on the semiconductor wafer that directly control the resulting performance of the integrated circuit devices. The overlay metrology systems are used to measure the overlay accuracy of successive layers of semiconductor patterns on wafers in the photolithography process. Nanometrics' inspection systems are used to find defects on patterned and unpatterned wafers at nearly every stage of the semiconductor production flow. The corporate headquarters of Nanometrics is located in Milpitas, California.

Basis of Presentation – The consolidated financial statements include Nanometrics Incorporated and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation.

Fiscal Year – The Company uses a 52/53 week fiscal year ending on the Saturday nearest to December 31. Accordingly, 2012 consisted of 52 weeks ending December 29, 2012 (fiscal year 2012), 2011 consisted of 52 weeks ending December 31, 2011 (fiscal year 2011), and 2010 consisted of 52 weeks ending January 1, 2011 (fiscal year 2010).

Reclassification – Certain prior year amounts have been reclassified to conform to the current year presentation.

Use of Estimates – The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported period. Actual results could differ materially from those estimates. Estimates are used for, but not limited to, revenue recognition, the provision for doubtful accounts, the provision for excess, obsolete, or slow moving inventories, depreciation and amortization, valuation of intangible assets and long-lived assets, warranty accruals, income taxes, valuation of stock-based compensation, and contingencies.

Foreign Currency Translation – The assets and liabilities of foreign subsidiaries are translated from their respective local functional currencies at exchange rates in effect at the balance sheet date and income and expense accounts are translated at average exchange rates during the reporting period. Resulting translation adjustments are reflected in “Accumulated other comprehensive income,” a component of stockholders' equity. Foreign currency transaction gains and losses are reflected in “Other income (expense)” in the consolidated statements of operations in the period incurred, and consist of a \$0.3 million million loss, \$0.3 million loss and \$0.3 million income for the years ended December 29, 2012, December 31, 2011, and January 1, 2011 respectively.

Revenue Recognition – The Company derives revenue from the sale of process control metrology systems (“product revenue”) as well as spare part sales, billable service, service contracts, and upgrades (together “service revenue”). Upgrades are a group of parts and/or software that change the existing configuration of a product and are included in service revenue. They are distinguished from product revenue, which consists of complete, automated process control metrology systems (the “system(s)”). Nanometrics' systems consist of hardware and software components that function together to deliver the essential functionality of the system. Arrangements for sales of systems often include defined customer-specified acceptance criteria.

In summary, the Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller's price is fixed or determinable, and collectability is reasonably assured.

For product sales to existing customers, revenue recognition occurs at the time title and risk of loss transfer to the customer, which usually occurs upon shipment from the Company's manufacturing location, if it can be reliably demonstrated that the product has successfully met the defined customer specified acceptance criteria and all other recognition criteria has been met. For initial sales where the product has not previously met the defined customer specified acceptance criteria, product revenues are recognized upon the earlier of receipt of written customer acceptance or expiration of the contractual acceptance period. In Japan, where contractual terms with the customer specify risk of loss and title transfers upon customer acceptance, revenue is recognized upon receipt of written customer acceptance, provided that all other recognition criteria have been met.

The Company warrants its products against defects in manufacturing. Upon recognition of product revenue, a liability is recorded for anticipated warranty costs. On occasion, customers request a warranty period longer than the Company's standard warranty. In those instances where extended warranty services are separately quoted to the customer, the associated revenue is deferred and recognized as service revenue ratably over the term of the contract. The portion of service contracts and extended warranty services agreements that are uncompleted at the end of any reporting period are included in deferred revenue.

As part of its customer services, the Company sells software that is considered to be an upgrade to a customer's existing systems. These standalone software upgrades are not essential to the tangible product's functionality and are accounted for under software revenue recognition rules which require vendor specific objective evidence ("VSOE") of fair value to allocate revenue in a multiple element arrangement. Revenue from upgrades is recognized when the upgrades are delivered to the customer, provided that all other recognition criteria have been met.

Revenue related to spare parts is recognized upon shipment. Revenue related to billable services is recognized as the services are performed. Service contracts may be purchased by the customer during or after the warranty period and revenue is recognized ratably over the service contract period.

Frequently, the Company delivers products and various services in a single transaction. The Company's deliverables consist of tools, installation, upgrades, billable services, spare parts, and service contracts. The Company's typical multi-element arrangements include a sale of one or multiple tools that include installation and standard warranty. Other arrangements consist of a sale of tools bundled with service elements or it includes delivery of different types of services. The Company's tools, upgrades, and spare parts are delivered to customers within a period of up to six months from order date. Installation is usually performed soon after delivery of the tool. The portion of revenue associated with installation is deferred based on estimated fair value and that revenue is recognized upon completion of the installation. Billable services are billed on a time and materials basis and performed as requested by customers. Billable services are billed on a time and materials basis and performed as requested by customers. Under service contract arrangements, services are provided as needed over the fixed arrangement term, which terms can be up to twelve months. The Company does not grant its customers a general right of return or any refund terms and imposes a penalty on orders canceled prior to the scheduled shipment date.

On January 2, 2011, the Company adopted the new accounting guidance for arrangements with software elements and/or multiple deliverables. The amended guidance for multiple deliverable arrangements did not change the units of accounting for the Company's revenue transactions, and most products and services qualify as separate units of accounting. The new guidance established a hierarchy of evidence to determine the standalone selling price of a deliverable based on vendor specific objective evidence ("VSOE"), third party evidence ("TPE"), or best estimate of selling price ("BESP").

The Company regularly evaluates its revenue arrangements to identify deliverables and to determine whether these deliverables are separable into multiple units of accounting. In accordance with the new guidance, the Company allocates the arrangement consideration among the deliverables based on relative selling prices. The Company has established VSOE for some of its products and services when a substantial majority of selling prices falls within a narrow range when sold separately. For deliverables with no established VSOE, the Company uses best estimate of selling price to determine standalone selling price for such deliverable. The Company does not use TPE to determine standalone selling price since this information is not widely available in the market as the Company's products contain a significant element of proprietary technology and the solutions offered differ substantially from competitors. The Company has established a process for developing estimated selling prices, which incorporates historical selling prices, the effect of market conditions, gross margin objectives, pricing practices, as well as entity-specific factors. The Company monitors and evaluates estimated selling price on a regular basis to ensure that changes in circumstances are accounted for in a timely manner. The adoption of the new accounting standards did not have a significant impact on the consolidated financial statements.

When certain elements in multiple-element arrangements are not delivered or accepted at the end of a reporting period, the relative selling prices of undelivered elements are deferred until these elements are delivered and/or accepted. If deliverables cannot be accounted for as separate units of accounting, the entire arrangement is accounted for as a single unit of accounting and revenue is deferred until all elements are delivered and all revenue recognition requirements are met.

Business Combinations - The Company allocates the purchase price of acquired companies to the tangible and intangible assets acquired and liabilities assumed based upon their estimated fair values at the acquisition date. The purchase price allocation process requires management to make significant estimates and assumptions, especially at the acquisition date with respect to intangible assets and inventory acquired. While best estimates and assumptions as a part of the purchase price allocation process are used to accurately value assets acquired and liabilities assumed at the acquisition date, estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, the Company may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets

acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded in the consolidated statements of operations.

The Company estimates the fair value of inventory acquired by utilizing the net realizable value method which is based on the estimated sales price of the product less appropriate costs to complete and selling costs. Examples of critical estimates in valuing certain intangible assets that were acquired or may be acquired in the future include but are not limited to:

- future expected cash flows from sales of products, services and acquired developed technologies and patents;
- expected costs to develop the in-process research and development into commercially viable products and estimated cash flows from the projects when completed;
- the acquired company's customer relationships, as well as assumptions about the estimated useful lives of the relationships;
- discount rates.

Unanticipated events and circumstances may occur that may affect the accuracy or validity of assumptions, estimates or actual results associated with business combinations.

Cash, Cash Equivalents and Marketable Securities – The Company considers all highly liquid investments with original maturities of three months or less, when purchased, to be cash equivalents. Marketable securities are classified as “available-for-sale” and are reported at fair value with unrealized gains and losses reported in stockholders' equity as a component of other comprehensive income. The cost of securities sold is based on the specific identification method. The Company classifies its investments as current based on the nature of the investment and their availability for use in current operations. The Company reviews its investment portfolio quarterly to determine if any securities may be other-than-temporarily impaired due to increased credit risk, changes in industry or sector of a certain instrument or ratings downgrades.

Fair Value of Financial Instruments – Financial instruments include cash and cash equivalents, accounts receivable, accounts payable and debt obligations. Cash equivalents are stated at fair market value based on quoted market prices. The carrying values of accounts receivable and accounts payable approximate their fair values because of the short-term maturity of these financial instruments. The estimated fair market value of debt is based on the discounted cash flow with inputs that are observable in the market or that could be derived from or corroborated with observable market data including interest rates based on yield curves of similar debt issued by parties with credit ratings similar to the Company's level.

Allowance for Doubtful Accounts – The Company maintains allowances for estimated losses resulting from the inability of its customers to make required payments. Credit limits are established through a process of reviewing the financial history and stability of its customers. Where appropriate and available, the Company obtains credit rating reports and financial statements of customers when determining or modifying their credit limits. The Company regularly evaluates the collectability of its trade receivable balances based on a combination of factors such as the length of time the receivables are past due, customary payment practices in the respective geographies and historical collection experience with customers. The Company believes that its allowance for doubtful accounts adequately reflects the risk associated with its receivables. If however, the financial conditions of customers were to deteriorate, resulting in their inability to make payments, the Company may need to record additional allowances which would result in additional general and administrative expenses being recorded for the period in which such determination was made.

Inventories – Inventories are stated at the lower of cost or market. The Company is exposed to a number of economic and industry factors that could result in portions of inventory becoming either obsolete or in excess of anticipated usage, or saleable only for amounts that are less than their carrying amounts. These factors include, but are not limited to, technological changes in the market, the Company's ability to meet changing customer requirements, competitive pressures in products and prices, and the availability of key components from suppliers. The Company has established inventory reserves when conditions exist that suggest that inventory may be in excess of anticipated demand or is obsolete based upon assumptions about future demand for the Company's products and market conditions. Once a reserve has been established, it is maintained until the part to which it relates is sold or is otherwise disposed of. The Company regularly evaluates its ability to realize the value of inventory based on a combination of factors including the following: historical usage rates, forecasted sales of usage, product end-of-life dates, estimated current and future market values and new product introductions. For demonstration inventory, the Company also considers the age of the inventory and potential cost to refurbish the inventory prior to sale. Demonstration inventory is amortized over its useful life and the amortization expense is included in total inventory write down on the statements of cash flows. When recorded, reserves are intended to reduce the carrying value of the Company's inventory to its net realizable value. If actual demand for the Company's products deteriorates, or market conditions are less favorable than those that the Company projects, additional reserves may be required.

Inventories – delivered systems – The Company reflects the cost of systems that were invoiced upon shipment but deferred for revenue recognition purposes separate from its inventory held for sale as “Inventories – delivered systems”.

Property, Plant and Equipment – Property, plant and equipment are stated at cost. Depreciation is computed using the straight-line method over the following estimated useful lives of the assets:

Building and Improvements	5 - 40 years
Machinery and equipment	3 - 10 years
Furniture and fixtures	3 - 10 years

Goodwill and Intangible Assets – Goodwill is initially recorded when the purchase price paid for an acquisition exceeds the estimated fair value of the net identified tangible and intangible assets acquired. Intangible assets with finite lives are amortized over their respective useful lives on a straight-line basis and are also evaluated annually for impairment or whenever events or circumstances occur which indicate that those assets might be impaired. Goodwill and indefinite lived assets are not amortized but tested annually for impairment. The Company’s impairment review process is completed during the fourth quarter of each year or whenever events or circumstances occur which indicate that an impairment may have occurred. In the fourth quarter of 2011, the Company adopted the accounting standard update for testing goodwill for impairment. The Company assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If, after assessing the qualitative factors, the Company determines that it is not likely that the fair value of a reporting unit is less than its carrying value, then performing the two-step impairment test is unnecessary. However, if the Company concludes otherwise, then it is required to perform the first step of the two-step goodwill impairment test. The first step requires a comparison of the fair value of Nanometrics’ reporting unit to its net book value. If the fair value is greater, then no impairment is deemed to have occurred. If the fair value is less, then the second step must be performed to determine the amount, if any, of actual impairment. Amortization of intangible assets with finite lives is computed using the straight-line method over the following estimated useful lives of the assets:

Developed technology	5 -10 years
Customer relationships	2 -10 years
Brand name	5 -10 years
Patented technology	7 -10 years
Trademark	5 years

Long-Lived Assets – The Company evaluates its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. When the sum of the undiscounted future net cash flows expected to result from the use of the asset and its eventual disposition is less than its carrying amount, impairment may exist. To determine the amount of impairment, the Company compares the fair value of the asset to its carrying value. If the carrying value of the asset exceeds its fair value, an impairment loss equal to the difference is recognized. See Note 3 “Acquisition, Goodwill Impairment and Long-lived Asset Impairment”.

Income Tax Assets and Liabilities – The Company accounts for income taxes such that deferred tax assets and liabilities must be recognized using enacted tax rates for the effect of temporary differences between the book and tax accounting for assets and liabilities. Also, deferred tax assets are reduced by a valuation allowance to the extent that management cannot conclude that it is more likely than not that a portion of the deferred tax asset will be realized in the future. The Company evaluates the deferred tax assets on a continuous basis throughout the year to determine whether or not a valuation allowance is appropriate. Factors used in this determination include future expected income and the underlying asset or liability which generated the temporary tax difference. The income tax provision is primarily impacted by federal statutory rates, state and foreign income taxes and changes in the valuation allowance.

Accumulated Other Comprehensive Income (Loss) – The composition of accumulated other comprehensive income (loss) is as follows:

	Years Ended			
	Foreign Currency Translations	Defined Benefit Pension Plans	Unrealized Loss on Investment	Accumulated Other Comprehensive Income (Loss)
Balance as of January 1, 2011	\$ 2,201	\$ (129)	\$ —	\$ 2,072
Current period change	(484)	(39)	—	(523)
Balance as of December 31, 2011	1,717	(168)	—	1,549
Current period change	(264)	(11)	(2)	(277)
Balance as of December 29, 2012	\$ 1,453	\$ (179)	\$ (2)	\$ 1,272

The items above, except for unrealized loss on investment, did not impact the Company’s income tax provision.

Product Warranties – The Company sells the majority of its products with a twelve months repair or replacement warranty from the date of acceptance which generally represents the date of shipment. The Company provides an accrual for estimated future warranty costs based upon the historical relationship of warranty costs to the cost of products sold. The estimated future warranty obligations related to product sales are reported in the period in which the related revenue is recognized. The estimated future warranty obligations are affected by the warranty periods, sales volumes, product failure rates, material usage and labor and replacement costs incurred in correcting a product failure. If actual product failure rates, material usage, labor or replacement costs differ from the Company's estimates, revisions to the estimated warranty obligations would be required. For new product introductions where limited or no historical information exists, the Company may use warranty information from other previous product introductions to guide us in estimating the warranty accrual. The warranty accrual represents the best estimate of the amount necessary to settle future and existing claims on products sold as of the balance sheet date. The Company periodically assesses the adequacy of its recorded warranty reserve and adjusts the amounts in accordance with changes in these factors.

Guarantees – In addition to product warranties, from time to time, in the normal course of business, the Company indemnifies certain customers with whom it enters into a contractual relationship. The Company has agreed to hold the other party harmless against third party claims that its products, when used for their intended purpose(s), infringe the intellectual property rights of such third party or other claims made against certain parties. It is not possible to determine the maximum potential amount of liability under these indemnification obligations due to the limited history of prior indemnification claims and the unique facts and circumstances that are likely to be involved in each particular claim. Historically, the Company has not made payments under these obligations and believes the estimated fair value of these agreements is minimal. Accordingly, no liabilities have been recorded for these obligations as of December 29, 2012 and December 31, 2011.

Shipping and Handling Costs – Shipping and handling costs are included as a component of cost of revenues.

Advertising Costs – The Company expenses advertising costs as incurred. Advertising costs were \$0.1 million in 2012, \$0.2 million in 2011, and \$0.2 million in 2010.

Stock-Based Compensation – The Company estimates the value of employee stock options on the date of grant using the Black-Scholes model. The determination of fair value of share-based payment awards on the date of grant using an option-pricing model is affected by the Company's stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to the expected stock price volatility over the term of the awards, and actual and projected employee stock option exercise behaviors. The expected term of options granted is calculated based on the simplified method allowed under SEC Staff Accounting Bulletin ("SAB") 107("SAB 107"). The expected volatility is based on the historical volatility of the Company's stock price.

Defined Employee Benefit Plans – The Company maintains a defined benefit pension plan in Taiwan for which current service costs are charged to operations as they accrue based on services rendered by employees during the year. Pension benefit obligations are determined by using management's actuarial assumptions, including discount rates, assumed asset rates of return, compensation increases and employee turnover rates.

Net Income Per Share - Basic net income (loss) per share excludes dilution and is computed by dividing net income (loss) by the number of weighted average common shares outstanding for the period. Diluted net income (loss) per share reflects the potential dilution from outstanding dilutive stock options (using the treasury stock method) and shares issuable under the employee stock purchase plan. The Company had net income in fiscal year 2012, 2011, and 2010, therefore, the potential dilutive effect of stock options was considered to calculate the diluted income per share. In applying the treasury stock method, 0.9 million, 0.5 million and 0.7 million of stock option shares for fiscal years 2012, 2011, and 2010 respectively were excluded because their effect was anti-dilutive. While these stock option shares are currently anti-dilutive, they could be dilutive in the future.

Certain Significant Risks and Uncertainties – Financial instruments that potentially subject us to a concentration of credit risk consist of cash, cash equivalents, marketable securities, and accounts receivable. The Company's cash and cash equivalents are primarily invested in deposit accounts and money market accounts with large financial institutions. At times, these deposits and securities may exceed federally insured limits; however, the Company has not experienced any losses on such accounts. The Company invests its cash not required for use in operations in high credit quality securities based on the Company's investment policy. The Company's investment policy provides guidelines and limits regarding credit quality, investment concentration, investment type, and maturity that the Company believes will provide liquidity while reducing risk of loss of capital. Investments are of a short-term nature and include investments in commercial paper, corporate debt securities, U.S. Treasury, U.S. Government, and U.S. Agency debt.

The Company sells its products primarily to end users in the United States, Asia and Europe and, generally, does not require its customers to provide collateral or other security to support accounts receivable. Management performs ongoing credit evaluations of its customers' financial condition and maintains an allowance for estimated potential bad debt losses. The

Company's customer base is highly concentrated and historically, a relatively small number of customers have accounted for a significant portion of its revenues. Aggregate revenue from the Company's top five largest customers in 2012, 2011 and 2010 consisted of 74%, 67% and 61%, respectively, of its total net revenues. The Company participates in a dynamic high technology industry and believes that changes in any of the following areas could have a material adverse effect on its future financial position, results of operations or cash flows. Advances and trends in new technologies and industry standards; competitive pressures in the form of new products or price reductions on current products; changes in product mix; changes in the overall demand for products offered; changes in third-party manufacturers; changes in key suppliers; changes in certain strategic relationships or customer relationships; litigation or claims against the Company based on intellectual property, patent, product, regulatory or other factors; fluctuations in foreign currency exchange rates; risk associated with changes in domestic and international economic and/or political regulations; availability of necessary components or sub-assemblies; disruption of manufacturing facilities; and its ability to attract and retain employees necessary to support its growth.

Certain components and sub-assemblies used in the Company's products are purchased from a sole supplier or a limited group of suppliers. In particular, the Company currently purchases its spectroscopic ellipsometer and robotics used in its advanced measurement systems from a sole supplier or a limited group of suppliers located in the United States. Any shortage or interruption in the supply of any of the components or sub-assemblies used in its products or its inability to procure these components or sub-assemblies from alternate sources on acceptable terms could have a material adverse effect on its business, financial condition and results of operations.

Note 2. Recent Accounting Pronouncements

Recently Issued Accounting Pronouncements

In October 2012, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2012-04, "Technical Corrections and Improvements". The amendments in this update cover a wide range of Topics in the Accounting Standards Codification and conforming amendments related to fair value measurements. The amendments in this update will be effective for fiscal periods beginning after December 15, 2012. The adoption of ASU 2012-04 is not expected to have a material impact on our financial position or results of operations.

In August 2012, the FASB issued ASU 2012-03, "Technical Amendments and Corrections to SEC Sections: Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin (SAB) No. 114, Technical Amendments Pursuant to SEC Release No. 33-9250, and Corrections Related to FASB Accounting Standards Update 2010-22 (SEC Update)". This update amends various SEC paragraphs pursuant to the issuance of SAB No. 114. The adoption of ASU 2012-03 is not expected to have a material impact on our financial position or results of operations.

In July 2012, the FASB issued ASU 2012-02, "Intangibles – Goodwill and Other (Topic 350): Testing Indefinite-Lived Intangible Assets for Impairment". This update amends ASU 2011-08, Intangibles – Goodwill and Other (Topic 350): Testing Indefinite-Lived Intangible Assets for Impairment and permits an entity first to assess qualitative factors to determine whether it is more likely than not that an indefinite-lived intangible asset is impaired as a basis for determining whether it is necessary to perform the quantitative impairment test in accordance with Subtopic 350-30, Intangibles - Goodwill and Other - General Intangibles Other than Goodwill. The amendments are effective for annual and interim impairment tests performed for fiscal years beginning after September 15, 2012. Early adoption is permitted, including for annual and interim impairment tests performed as of a date before July 27, 2012, if a public entity's financial statements for the most recent annual or interim period have not yet been issued or, for nonpublic entities, have not yet been made available for issuance. The adoption of ASU 2012-02 is not expected to have a material impact on our financial position or results of operations.

Note 3. Acquisition, Goodwill Impairment and Long-lived Asset Impairment

While the Company uses best estimates and assumptions as part of the purchase price allocation process to value assets acquired and liabilities assumed at the business combination date, estimates and assumptions are subject to refinement. As a result, during the preliminary purchase price allocation period, which may be up to one year from the business combination date, the Company records adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. The Company records adjustments to assets acquired or liabilities assumed subsequent to the purchase price allocation period in the operating results in the period in which the adjustments were determined. In the twelve month period ended December 29, 2012, the Company recorded a \$0.6 million reduction in the fair value of royalty payments to Real Time Metrology Inc. ("RTM") with a corresponding decrease of \$0.4 million in goodwill and \$0.2 million decrease in intangible assets. In the twelve month period ended December 29, 2012, the Company received \$0.5 million in cash from the escrow and recorded a corresponding decrease of \$0.5 million to goodwill.

The total purchase price allocated to the tangible assets acquired was assigned based on the fair values as of the date of the acquisition. The fair value assigned to identifiable intangible assets acquired was determined using the income approach which discounts expected future cash flows to present value using estimated assumptions determined by management. The Company believes that these identified intangible assets will have no residual value after their estimated economic useful lives.

Acquisition of Nanda Technologies GmbH in 2011

On November 21, 2011, the Company acquired 100% of the outstanding shares of Nanda Technologies GmbH ("Nanda"), a privately-held company with headquarters near Munich, Germany. The total purchase price consisted of approximately \$24.6 million in net cash after an adjustment of \$0.5 million that was formerly held in escrow and paid to the Company during the twelve month period December 29, 2012, and subject to certain post-closing adjustments associated with Nanda's working capital as of the acquisition date. As a result of the acquisition, the Company obtained a new technology and product line that enables the capture of full-wafer surface inspection images at high-volume production speeds. The transaction met the conditions of a business combination under ASC 805 and was accounted for under this guidance. The goodwill balance related to the acquisition of Nanda at December 29, 2012 was \$11.4 million. In addition to the transactions above, the difference in the goodwill balance between at the time of acquisition and at December 29, 2012 was also due to foreign currency exchange rate fluctuations.

Recognized amounts of identifiable assets acquired and liabilities assumed:

	<u>Amount</u>
Cash and equivalents	\$ 1,239
Account receivables	724
Inventories	1,440
Property, plant and equipment – machinery and equipment	616
Other assets	227
Developed technology (included in intangibles)	9,042
Customer relationships (included in intangibles)	1,040
In-process research and development (included in intangibles)	308
Liabilities	(1,603)
Total identifiable net assets	<u>13,033</u>
Goodwill	11,610
Total Purchase Consideration	<u>\$ 24,643</u>

Inventories were measured at fair value as of the date of the acquisition. In estimating the fair value of finished goods and work-in-process inventory, the Company made assumptions about the selling price and selling costs associated with inventory.

With the acquisition, the Company recorded intangible assets of \$9.0 million of developed technology, \$1.0 million of customer relationships, and \$0.3 million of in-process research and development. The developed technology represents Nanda's full wafer, high volume inspection technology and was valued by discounting the estimated future net cash flows of this technology to their net present value utilizing the income approach. The value of the developed technology will be amortized over its estimated useful life of five years. The value of the customer relationship asset was determined based on management's estimates of the costs that would have been incurred to replicate Nanda's existing customer relationships. Based on industry experience, management estimates the useful life of the customer relationship asset to be three years, and the value of this asset will be amortized over this period. The in-process research and development asset was valued by discounting the estimated future net cash flows of the asset to their net present value utilizing the income approach. During fiscal 2012, the \$0.3 million of intangible assets related to in-process research and development as of December 31, 2011 was completed and incorporated in products sold during 2012 and the asset was reclassified to developed technology as of December 29, 2012.

The purchase price for this transaction exceeded the fair value allocated to tangible and identifiable intangible assets. The excess purchase price over the fair value of identifiable assets and liabilities of approximately \$11.6 million was recorded as goodwill. The Company establishes reporting units based on its reporting structure. The acquisition of Nanda did not trigger any significant changes to the existing reporting structure of the Company. Therefore, the Company continues to operate as a single reporting unit.

The Company expects to benefit from the goodwill through utilization of Nanda's technology in existing Nanometrics products, estimated future sales of existing Nanometrics products to Nanda's established customer base, incremental sales of Nanda's products through Nanometrics worldwide sales and service channels, and efficiencies expected to be achieved from the manufacturing of Nanda's products using Nanometrics operational facilities and processes.

The following table summarizes the identifiable intangible assets acquired as part of the acquisition, and adjustments to carrying value include foreign currency translation adjustments and adjustments to preliminary purchase price allocation during the year:

	Net carrying value as of December 31, 2011	Adjustments to carrying value during 2012	Amortization expense during 2012	Net carrying amount as of December 29, 2012
Developed technology	\$ 8,603	\$ 279	\$ (1,752)	\$ 7,130
Customer relationships	957	12	(330)	639
In-process research and development	316	(316)	—	—
Total identifiable intangible assets acquired	<u>\$ 9,876</u>	<u>\$ (25)</u>	<u>\$ (2,082)</u>	<u>\$ 7,769</u>

	Fair Value as of acquisition date, November 21, 2011	Adjustments to carrying value during 2011	Amortization expense during 2011	Net carrying amount as of December 31, 2011
Developed technology	\$ 9,200	\$ (393)	\$ (204)	\$ 8,603
Customer relationships	1,040	(45)	(38)	957
In-process research and development	330	(14)	—	316
Total identifiable intangible assets acquired	<u>\$ 10,570</u>	<u>\$ (452)</u>	<u>\$ (242)</u>	<u>\$ 9,876</u>

Prior to the acquisition, the Company had a pre-existing relationship with Nanda. In December 2010, the Company acquired certain patents from RTM under an asset purchase agreement. As part of the asset purchase, the Company assumed an existing license agreement between Nanda and RTM. Under the license agreement, Nanda is obligated to pay Nanometrics an annual royalty based on the number of tools sold with a minimum royalty payment. Under the asset purchase agreement with RTM, Nanometrics is required to remit to RTM 100% of the royalty payments received from Nanda for the first three years subsequent to the acquisition of the patents, and 50% of the royalty payments received subsequently until March 2018. In 2012, the amount of minimum royalty payments received by Nanometrics and remitted to RTM was immaterial.

As a result of the acquisition of Nanda in November 2011, a contingent liability of \$0.6 million has been recognized for the estimated royalty payments due to the existing license agreement between Nanda and RTM that Nanometrics assumed. The fair value of the contingent liability was estimated based on the projected system sales and the related estimated royalty obligations. The contingent liability was reduced to zero in the first quarter of 2012 and was zero as of December 29, 2012.

The unaudited pro forma financial information in the table below summarizes the combined results of operations for Nanometrics and Nanda as though the acquisition of Nanda occurred as of the beginning of fiscal 2010. The pro forma financial information for all periods presented also includes the business combination accounting effects resulting from the acquisition including additional amortization charges of \$2.4 million and \$2.6 million in fiscal 2011 and 2010 respectively relating to acquired intangible assets. Additional adjustments were made to account for additional stock-based compensation charges for restricted stock units awarded of \$0.8 million and \$1.9 million in fiscal 2011 and 2010 respectively, and there were no related tax effects in fiscal 2011 and fiscal 2010 of the pro forma adjustments. The pro forma financial information as presented below is for informational purposes only and is not indicative of the results of operations that would have been achieved had Nanda been combined with the Company as of the beginning of fiscal 2010.

The unaudited pro forma financial information combines the historical results of Nanometrics for fiscal year 2011 and 2010, the historical results of Nanda for the twelve months ended December 31, 2011 and December 31, 2010, respectively, and the effects of the pro forma adjustments described above.

(In thousands, except per share amounts)	Fiscal Years Ended	
	December 31, 2011	January 1, 2011
Total revenues	\$ 232,418	\$ 188,685
Net income	24,939	45,544
Net income per share:		
Basic	1.10	2.08
Diluted	1.06	1.98

There were no business acquisitions made by the Company during fiscal year 2012 and 2010.

Goodwill Impairment and Long-lived Asset Impairment

The Company's impairment review process is completed during the fourth quarter of each year or whenever events or circumstances occur that indicate that an impairment may have occurred. The accounting standard update described above provides the option to assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If, after assessing the qualitative factors, a company determines that it is more likely than not that the fair value of a reporting unit is less than its carrying value, then performing the two-step impairment test is necessary. Otherwise, no further testing is necessary.

The Company completed its annual goodwill impairment assessment during the fourth quarter of 2012 by first performing a qualitative assessment. As part of this assessment, the Company considered the trading value of the Company's stock, the industry trends, and the Company's sales forecast and products plans. The Company concluded that it was more likely than not that the fair value was more than the carrying values of the Company's reporting unit and therefore did not proceed to the Step 1 of the goodwill impairment test.

The process of evaluating the potential impairment of long-lived assets is highly subjective and requires significant judgment. In estimating the fair value of these assets, the Company made estimates and judgments about future revenues and cash flows. The Company's forecasts were based on assumptions that are consistent with the plans and estimates the Company is using to manage its business. Changes in these estimates could change the Company's conclusion regarding impairment of the long-lived assets and potentially result in future impairment charges for all or a portion of their balance at December 29, 2012. The Company did not record any impairment charges in the fiscal year 2012.

There was zero goodwill as of January 1, 2011. During the fiscal year 2010, the Company recorded \$0.5 million of impairment related to certain software implementation projects that were abandoned.

Note 4. Fair Value Measurements and Disclosures

Fair value is defined as the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The standard assumes that the transaction to sell the asset or transfer the liability occurs in the principal or most advantageous market for the asset or liability and establishes that the fair value of an asset or liability shall be determined based on the assumptions that market participants would use in pricing the asset or liability.

The Company determines the fair values of its financial instruments based on the fair value hierarchy established in ASC 820, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The classification of a financial asset or liability within the hierarchy is based upon the lowest level input that is significant to the fair value measurement. The fair value hierarchy prioritizes the inputs into three levels that may be used to measure fair value:

Level 1 — Quoted prices in active markets for identical assets or liabilities.

Level 2 — Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.

Level 3 — Unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Such unobservable inputs include an estimated discount rate used in the Company's discounted present value analysis of future cash flows, which reflects the Company's estimate of debt with similar terms in the current credit markets. As there is currently minimal activity in such markets, the actual rate could be materially different.

The following table presents the Company's assets and liabilities measured at estimated fair value on a recurring basis, excluding accrued interest components, categorized in accordance with the fair value hierarchy (in thousands):

	December 29, 2012				December 31, 2011			
	Fair Value Measurements Using Input Types				Fair Value Measurements Using Input Types			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Cash equivalents:								
Money market funds	\$ 60,315	\$ —	\$ —	\$ 60,315	\$ 97,699	\$ —	\$ —	\$ 97,699
Commercial paper and corporate debt securities	—	2,600	—	2,600	—	—	—	—
Cash and Cash Equivalents	60,315	2,600	—	62,915	97,699	—	—	97,699
Marketable Securities:								
U.S. Treasury, U.S. Government and U.S. Government agency debt securities	24,127	—	—	24,127	—	—	—	—
Commercial paper and corporate debt securities	—	22,866	—	22,866	—	—	—	—
Total	24,127	22,866	—	46,993	—	—	—	—
				109,90				
Total assets:	\$ 84,442	\$ 25,466	\$ —	\$ 8	\$ 97,699	\$ —	\$ —	\$ 97,699
Liabilities:								
Contingent consideration payable	\$ —	\$ —	\$ 2,462	\$ 2,462	\$ —	\$ —	\$ 3,194	\$ 3,194

Changes in Level 3 liabilities

Fair value at January 1, 2011	\$ 2,652
Payments made to Zygo Corporation	(432)
Addition: Fair value of royalty payment to RTM related to acquisition of Nanda	586
Change in fair value related to foreign currency exchange rate	(25)
Change in fair value included in earnings, Zygo	413
Fair value at December 31, 2011	3,194
Payments made to Zygo Corporation	(300)
Change in fair value included in earnings, Zygo	129
Adjustment to the purchase price allocation of royalty payments to RTM related to acquisition of Nanda Technologies GmbH	(561)
Fair Value at December 29, 2012	\$ 2,462

As of December 29, 2012, the Company had liabilities of \$ 2.5 million resulting from the acquisition of certain assets from Zygo Corporation ("Zygo") which are measured at fair value on a recurring basis, and changes in fair value are recorded in other income or expenses. Of the \$2.5 million of Zygo liability at December 29, 2012, \$0.7 million was a current liability and \$1.8 million was a long-term liability. The fair values of these liabilities were determined using level 3 inputs using a discounted cash flow model incorporating assumptions that market participants would use in their estimates of fair value. Some of these assumptions included estimates for discount rate, timing and amount of cash flows. In the twelve month period ended December 29, 2012, the Company recorded a \$0.6 million reduction in the fair value of royalty payments to RTM with a corresponding decrease of \$0.4 million to goodwill and \$0.2 million to intangible assets. See Note 4 for a summary of the acquisition and goodwill impairment analysis.

As of December 31, 2011, the Company had liabilities of \$0.6 million resulting from the acquisition of Nanda and \$2.6 million resulting from the acquisition of certain assets from Zygo which are measured at fair value on a recurring basis. Of the \$2.6 million of Zygo liability at December 31, 2011, \$0.7 million was a current liability and \$1.9 million was a long-term liability. The fair value of these liabilities were determined using level 3 inputs.

Available-for-sale marketable securities, readily convertible to cash, with maturity dates of 90 days or less are classified as cash equivalents, while those with maturity dates greater than 90 days are classified as marketable securities within short term assets. All marketable securities as of December 29, 2012, were available-for-sale and reported at fair value based on the estimated or quoted market prices as of the balance sheet date. Unrealized gains or losses, are recorded in accumulated other comprehensive income (loss) within stockholder's equity.

The gross unrealized gains and gross unrealized losses for the year ended December 29, 2012 were insignificant and no marketable securities had other than temporary losses as of December 29, 2012. All marketable securities as of December 29, 2012 had maturity dates of less than two years and none were invested in foreign entities.

The fair values of the marketable securities that are classified as Level 1 in the table above were derived from quoted market prices as substantially all of these instruments have maturity dates, if any, within one year from the date of purchase and active markets for these instruments exist. The fair value of marketable securities that are classified as Level 2 in the table above were derived from the following: non-binding market consensus prices that were corroborated by observable market data or quoted market prices for similar instruments. The fair value of the acquisition related liabilities were determined using level 3 inputs as described above.

Refer to Note 11 "Line of Credit and Debt Obligations" for the carrying value and fair value of the Company's debt obligations.

Note 5. Accounts Receivable

The Company maintains arrangements under which eligible accounts receivable in Japan are sold without recourse to unrelated third-party financial institutions. These receivables were not included in the consolidated balance sheet as the criteria for sale treatment had been met. After a transfer of financial assets, an entity stops recognizing the financial assets when control has been surrendered. The agreement met the criteria of a true sale of these assets since the acquiring party retained the title to these receivables and had assumed the risk that the receivables will be collectible. The Company pays administrative fees as well as interest ranging from 1.23% to 1.68% based on the anticipated length of time between the date the sale is consummated and the expected collection date of the receivables sold. The Company sold \$6.7 million and \$19.6 million of receivables, respectively, during the fiscal years ended December 29, 2012 and December 31, 2011. There were no material gains or losses on the sale of such receivables. There were zero amounts due from such third party financial institutions at December 29, 2012 and December 31, 2011.

Note 6. Inventories

Inventories are stated at the lower of cost (which approximates actual cost on a first-in, first-out basis), or market. Inventories consist of the following (in thousands):

	At	
	December 29, 2012	December 31, 2011
Raw materials and sub-assemblies	\$ 22,477	\$ 24,963
Work in process	5,812	11,143
Finished goods	11,370	16,154
Inventories	39,659	52,260
Inventories-delivered systems	2,274	1,637
Total inventories	\$ 41,933	\$ 53,897

The Company reflects the cost of systems that were invoiced upon shipment but deferred for revenue recognition purposes separate from its inventory held for sale as "Inventories-delivered systems."

Note 7. Property, Plant and Equipment

Property, plant and equipment consist of the following (in thousands):

	At	
	December 29, 2012	December 31, 2011
Land	\$ 15,573	\$ 15,570
Building and improvements	19,231	19,191
Machinery and equipment	21,523	14,693
Furniture and fixtures	2,228	2,285
Capital in progress	4,377	516
Total property, plant and equipment, gross	62,932	52,255
Accumulated depreciation	(19,719)	(16,734)
Total property, plant and equipment, net	<u>\$ 43,213</u>	<u>\$ 35,521</u>

Total depreciation expense for the years ended December 29, 2012, December 31, 2011 and January 1, 2010 was \$4.8 million, \$3.3 million, and \$2.8 million respectively.

Note 8. Intangible Assets

In November 2011, the Company acquired 100% of the outstanding shares of Nanda. In accounting for the transaction, the Company recorded \$10.6 million of specifically identified intangible assets. See Note 3 - "Acquisition, Goodwill Impairment and Long-lived Asset Impairment."

On December 9, 2010, the Company purchased three patents from RTM. The Company paid RTM \$0.4 million cash for these patents. The Company also incurred approximately \$0.1 million of legal expenses, which were capitalized and included with the cost of the patents acquired. The primary patent expires on March 31, 2018. The Company is amortizing the patents on a straight line basis over a period of 7 years and 3 months (from January 2011 through March 2018).

Intangible assets with an indefinite life are evaluated annually for impairment or whenever events or circumstances occur which indicate that those assets might be impaired.

Finite-lived intangible assets are recorded at cost, less accumulated amortization. Finite-lived intangible assets as of December 29, 2012 and December 31, 2011 consist of the following (in thousands):

	Adjusted cost as of December 29, 2012	Accumulated amortization as of December 29, 2012	Net carrying amount as of December 29, 2012
Developed technology	\$ 17,700	\$ (8,277)	\$ 9,423
Customer relationships	9,538	(8,643)	895
Brand names	1,927	(1,599)	328
Patented technology	2,252	(1,922)	330
Trademark	80	(76)	4
Total	<u>\$ 31,497</u>	<u>\$ (20,517)</u>	<u>\$ 10,980</u>

	Adjusted cost as of December 31, 2011	Accumulated amortization as of December 31, 2011	Net carrying amount as of December 31, 2011
Developed technology	\$ 17,489	\$ (5,600)	\$ 11,889
Customer relationships	9,517	(8,164)	1,353
Brand names	1,927	(1,499)	428
Patented technology	2,252	(1,856)	396
In-process research and development	316	—	316
Trademark	80	(68)	12
Total	<u>\$ 31,581</u>	<u>\$ (17,187)</u>	<u>\$ 14,394</u>

The amortization of finite-lived intangibles is computed using the straight-line method. Estimated lives of finite-lived intangibles range from two to ten years. During fiscal 2012, the \$0.3 million of intangible assets related to in-process research and development as of December 31, 2011 was completed and incorporated in products sold during 2012 and the asset was reclassified to developed technology as of December 29, 2012.

Total amortization expense for the fiscal years ended December 29, 2012, December 31, 2011 and January 1, 2011 was \$3.3 million, \$1.7 million, and \$1.5 million respectively.

In the three month period ended March 31, 2012, the Company recorded a \$0.6 million reduction in the fair value of royalty payments to RTM with a corresponding decrease of \$0.4 million to goodwill and \$0.2 million to intangible assets. There was no other adjustment to intangible assets recorded during the year ended December 29, 2012. See Note 3 for a summary of the acquisition and goodwill impairment analysis.

The estimated future amortization expense as of December 29, 2012 is as follows (in thousands):

Fiscal Years	Amounts
2013	\$ 3,315
2014	3,024
2015	2,330
2016	1,878
2017	227
Thereafter	206
Total amortization	\$ 10,980

Note 9. Other Current Liabilities

Other current liabilities consist of the following (in thousands):

	At	
	December 29, 2012	December 31, 2011
Accrued warranty	\$ 4,203	\$ 4,797
Accrued professional services	584	1,497
Customer deposits	27	4,912
Fair value of current portion of contingent payments to Zygo Corporation related to acquisition	649	679
Legal settlement	—	2,500
Other	2,359	2,324
Total other current liabilities	\$ 7,822	\$ 16,709

Note 10. Warranties

Product Warranty – The Company sells the majority of its products with a twelve months repair or replacement warranty from the date of acceptance. The Company provides an accrual for estimated future warranty costs based upon the historical relationship of warranty costs to the cost of products sold. The estimated future warranty obligations related to product sales are recorded in the period in which the related revenue is recognized. The estimated future warranty obligations are affected by the warranty periods, sales volumes, product failure rates, material usage, and labor and replacement costs incurred in correcting a product failure. If actual product failure rates, material usage, labor or replacement costs were to differ from the Company's estimates, revisions to the estimated warranty obligations would be required. The warranty accrual represents the best estimate of the amount necessary to settle future and existing claims on products sold as of the balance sheet date. The Company periodically assesses the adequacy of its reported warranty reserve and adjusts such amounts in accordance with changes in these factors. Components of the warranty accrual, which were included in the accompanying consolidated balance sheets with other current liabilities, were as follows (in thousands):

	Years Ended	
	December 29, 2012	December 31, 2011
Balance as of beginning of period	\$ 4,797	\$ 3,129
Accruals for warranties issued during period	4,156	4,747
Aggregate changes in liabilities related to preexisting warranties	2,403	4,194
Settlements during the period	(7,153)	(7,273)
Balance as of end of period	\$ 4,203	\$ 4,797

Note 11. Line of Credit and Debt Obligations

Debt obligations consist of the following (in thousands):

	At	
	December 29, 2012	December 31, 2011
Line of Credit		
Balance on line of credit	\$ —	\$ —
Debt Obligations		
Milpitas building mortgage	5,302	7,452
Total debt obligations	5,302	7,452
Current portion of debt obligations	(928)	(765)
Long-term debt obligations	<u>\$ 4,374</u>	<u>\$ 6,687</u>

On April 23, 2012, the Company amended its revolving line of credit facility to (i) extend the maturity date of such facility by two years to April 30, 2014, (ii) decrease the unused revolving line commitment fee from 0.1875% per annum to 0.10% per annum, and (iii) reduce the minimum interest rate on borrowings from 5.75% to 3.0% per annum.

The instrument governing the line of credit facility includes certain financial covenants regarding tangible net worth. The revolving line of credit agreement includes a provision for the issuance of commercial or standby letters of credit by the bank on behalf of the Company. The value of all letters of credit outstanding reduces the total line of credit available. The revolving line of credit is collateralized by a blanket lien on all of the Company's domestic assets excluding intellectual property and real estate. The minimum borrowing interest rate is 3.0% per annum. Borrowing is limited to the lesser of (a) \$7.5 million plus the borrowing base, or (b) \$20 million. The borrowing base available as of December 29, 2012 was \$13.5 million. As of December 29, 2012, the Company was not in breach of any restrictive covenants in connection with this line of credit. There were no outstanding amounts drawn on this facility as of December 29, 2012. Although management has no current plans to request advances under this credit facility, the Company may use the proceeds of any future borrowing for general corporate purposes, future acquisitions or expansion of the Company's business.

In July 2008, the Company entered into a mortgage agreement with General Electric Commercial Finance ("GE") pursuant to which it borrowed \$13.5 million. The mortgage initially bears interest at the rate of 7.18% per annum, which rate will be reset after five years to 3.03% over the then weekly average yield of five-year U.S. Dollar Interest Rate Swaps as published by the Federal Reserve. Monthly principal and interest payments are based on a twenty year amortization for the first sixty months and fifteen year amortization thereafter. The remaining principal balance of the mortgage and any accrued but unpaid interest will be due on August 1, 2018. The mortgage is secured, in part, by a lien on and security interest in the building and land comprising the Company's principal offices in Milpitas, California. GE subsequently sold the mortgage on March 31, 2011 to Sterling Savings Bank; however, no changes were made to the terms of the original loan agreement with GE as a result of the sale.

According to the terms of the loan agreement, the Company can make annual pre-payments of up to 20% of the outstanding principal balance without incurring any penalty. In July 2011, the Company prepaid \$1.95 million, representing 20% of the outstanding balance. In July 2012, the Company prepaid \$1.4 million, representing 20% of the outstanding balance. At December 29, 2012, future annual maturities of all debt obligations were as follows (in thousands):

Fiscal years	Amount
2013	\$ 928
2014	998
2015	1,073
2016	1,153
2017	1,150
Thereafter	—
Total loan amount	<u>\$ 5,302</u>

The Company estimates the fair value of its debt based on discounted cash flows with inputs that are observable in the market or that could be derived from, or corroborated with observable market data (referred to as Level 2), including interest rates based on yield curves of similar debt issued by parties with credit ratings similar to the Company. The estimated fair value of the debt as of December 29, 2012 and December 31, 2011 was \$5.7 million and \$8.3 million, respectively.

Note 12. Commitments and Contingencies

Intellectual Property Indemnification Obligations – The Company will, from time to time, in the normal course of business, agree to indemnify certain customers, vendors or others against third party claims that Nanometrics' products, when used for their intended purpose(s), or the Company's intellectual property, infringe the intellectual property rights of such third parties or other claims made against parties with whom it enters into contractual relationships. It is not possible to determine the maximum potential amount of liability under these indemnification obligations due to the limited history of prior indemnification claims and the unique facts and circumstances that are likely to be involved in each particular claim. Historically, the Company has not made payments under these obligations and believes that the estimated fair value of these agreements is immaterial. Accordingly, no liabilities have been recorded for these obligations in the accompanying unaudited consolidated balance sheets as of December 29, 2012 and December 31, 2011.

On January 13, 2012, the Company entered into a settlement and limited patent cross license agreement with KLA to resolve all existing patent litigation between the parties. Pursuant to the settlement agreement, the Company agreed to make a one-time payment of \$2.5 million to KLA. The settlement additionally included other features including limited cross-licenses of the patents that were subject to the litigation. The Company determined the principal benefit of the settlement was the economic benefit of avoiding litigation expenses and that the value attributable to the other settlement features was de minimus. As a result, the Company recorded a \$2.5 million charge to legal settlement in operating expense in the fourth quarter of fiscal 2011. The payment was made in the three month period ended March 31, 2012.

The Company maintains certain open inventory purchase agreements with our suppliers to ensure a smooth and continuous supply availability for key components. The Company's liability under these purchase commitments is generally restricted to a forecasted time-horizon as mutually agreed upon between the parties. The Company leases facilities and certain equipment under non-cancelable operating leases. Rent expense, which is recorded on a straight-line basis over the term of the respective lease, for 2012, 2011 and 2010, was approximately \$2.2 million, \$1.8 million and \$1.4 million, respectively. Future minimum lease payments under its operating leases are as follows (in thousands):

	<u>Operating Leases</u>
2013	\$ 1,610
2014	963
2015	384
2016	354
2017	285
Thereafter	54
Total	<u>\$ 3,650</u>

Note 13. Net Income Per Share

Basic net income per share excludes dilution and is computed by dividing net income by the number of weighted average common shares outstanding for the period. Diluted net income per share gives effect to all potentially dilutive common shares outstanding during the period, including contingently issuable shares and certain stock options, calculated using the treasury stock method. A reconciliation of the share denominator of the basic and diluted net income per share computations is as follows (in thousands):

	<u>Years Ended</u>		
	<u>December 29, 2012</u>	<u>December 31, 2011</u>	<u>January 1, 2011</u>
Weighted average common shares outstanding used in basic net income per share calculation	23,358	22,743	21,855
Potential dilutive common stock equivalents, using treasury stock method	487	737	1,143
Shares used in diluted net income per share computation	<u>23,845</u>	<u>23,480</u>	<u>22,998</u>

For the years ended December 29, 2012, December 31, 2011, and January 1, 2011, the Company had securities outstanding which could potentially dilute basic earnings per share in the future. For the years ended December 29, 2012, December 31, 2011, and January 1, 2011 weighted average common share equivalents consisting of stock options included in the calculation of diluted net income per share were 0.5 million, 0.7 million and 1.1 million respectively. However, these potential dilutive common stock equivalents would be anti-dilutive and excluded from the calculation of net loss per share, if a net loss was to be incurred in the future.

Note 14. Stockholders' Equity

Preferred and Common Stock

The authorized capital stock of Nanometrics consists of 47,000,000 shares of common stock, par value \$0.001 per share, and 3,000,000 shares of preferred stock, par value \$0.001 per share.

Stock Repurchase

On July 26, 2007, our Board of Directors approved the repurchase shares of our common stock up to \$4.0 million. During the fiscal year 2010, we repurchased and retired 96,492 shares of our common stock under this program for an aggregate consideration of \$1.3 million. As of January 1, 2011 the entire \$4.0 million approved by the Board for the repurchase of our shares of common stock had been used for the purpose.

On November 29, 2010, the Company's Board of Directors approved a program to repurchase up to \$10.0 million of the Company's common stock. Stock repurchases under this program may be made through open market and privately negotiated transactions, at times and in such amounts as management deems appropriate. The timing and actual number of shares repurchased is dependent on a variety of factors including price, corporate and regulatory requirements and other market conditions. During the fiscal year 2010, the Company repurchased and retired 65,000 shares of the Company's common stock under this program at a weighted average price of \$11.96 per share. During the fiscal year 2011, the Company repurchased and retired a total of 265,040 shares of the Company's common stock under this program at a weighted average price of \$16.06 per share. During the fiscal year 2012, the Company repurchased and retired a total of 337,366 shares of the Company's common stock under this program at a weighted average price of \$14.70 per share. As of June 30, 2012, the Company had repurchased and retired 667,406 shares of the Company's common stock at a weighted average price of \$14.97 per share under the plan, and the entire \$10.0 million approved by the Board on November 29, 2010 for the repurchase of shares of the Company's common stock had been used for this purpose.

On May 29, 2012, the Company's Board of Directors approved a program to repurchase up to \$20.0 million of the Company's common stock. Stock repurchases under this program may be made through open market and privately negotiated transactions, at times and in such amounts as management deems appropriate. The timing and actual number of shares repurchased is dependent on a variety of factors including price, corporate and regulatory requirements and other market conditions. Under this program, the Company repurchased and retired 250,400 shares the Company's common stock at the weighted average price of \$14.15 per share during fiscal 2012. As of December 29, 2012, there remained \$16.5 million available for the future repurchase of shares of common stock.

During the fiscal year of 2012, the Company repurchased and retired a total of 587,766 shares of the Company's common stock at a weighted average price of \$14.47 per share under the approved programs above.

Stock Option Plans

The Nanometrics option plans are as follows:

Plan Name	Participants	Shares Authorized
2005 Equity Incentive Plan	Employees, consultants and directors	4,692,594
2002 Non-statutory Stock Option Plan	Employees and consultants	1,200,000
2000 Employee Stock Option Plan	Employees and consultants	2,450,000
2000 Director Stock Option Plan	Non-employee directors	250,000
Accent Optical Technologies, Inc. Stock Incentive Plan	Employees and consultants	205,003

See Note 15 below for information on option activity in 2012.

Employee Stock Purchase Plan

Under the 2003 Employee Stock Purchase Plan ("ESPP"), eligible employees are allowed to have salary withholdings of up to 10% of their base compensation to purchase shares of common stock at a price equal to 85% of the lower of the market value of the stock at the beginning or end of each six-month offering period, subject to an annual limitation. At the end of the fiscal year ended December 29, 2012, Nanometrics had 0.7 million shares remaining for issuance under the ESPP. Shares purchased under the ESPP were 65,355 shares, 112,491 shares and 56,326 shares in 2012, 2011 and 2010 at a weighted average price of \$15.36, \$12.92 and \$8.88, respectively.

Note 15. Stock-Based Compensation

The Company measured and recognized compensation expense for all share-based payment awards made to employees and directors including employee stock options, restricted stock units and employee stock purchases related to the Employee Stock Purchase Plan (collectively "Employee Stock Purchases") based on estimated fair values. The fair value of share-based payment awards is estimated on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in the Company's consolidated statement of operations.

Stock-based compensation expense recognized during the period is based on the value of the portion of share-based payment awards that is ultimately expected to vest during the period. As stock-based compensation expense recognized in the consolidated statement of operations for the years ended December 29, 2012, December 31, 2011, and January 1, 2011 is based on awards expected to vest, it has been reduced for estimated forfeitures. ASC 740 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The Company's estimated forfeiture rate in 2012, 2011 and 2010 of 7.6%, 6.3%, and 8.6%, respectively, was based on historical forfeiture experience, which the Company believes is the best available information to estimate the future forfeiture rate. Tax benefits resulting from tax deductions in excess of the compensation cost recognized for those options are required to be classified as financing cash flows. The Company recognized \$0.9 million, \$3.9 million and \$0.8 million of excess tax benefit in fiscal years 2012, 2011 and 2010, respectively.

Valuation and Expense Information

The fair value of stock-based awards to employees is calculated using the Black-Scholes option pricing model, which requires subjective assumptions, including future stock price volatility and expected time to exercise. The expected term of options granted was calculated using the simplified method allowed by the SAB 107. The risk-free rate is based on the U.S Treasury rates in effect during the corresponding period of grant. The expected volatility is based on the historical volatility of Nanometrics' stock price. These factors could change in the future, which would affect the stock-based compensation expense in future periods.

The weighted-average fair value of stock-based compensation to employees is based on the single option valuation approach. Forfeitures are estimated and it is assumed no dividends will be declared. The estimated fair value of stock-based compensation awards to employees is amortized over the vesting period of the options. The weighted-average fair value calculations are based on the following average assumptions:

	Fiscal Year 2012	Fiscal Year 2011	Fiscal Year 2010
Stock Options:			
Expected life	4.5 years	4.5 years	4.5 years
Volatility	77.3%	77.0%	74.2%
Risk free interest rate	0.80%	1.82%	2.04%
Dividends	—	—	—
Employee Stock Purchase Plan:			
Expected life	0.5 years	0.5 years	0.5 years
Volatility	45.5%	73.4%	80.3%
Risk free interest rate	0.12%	0.19%	0.20%
Dividends	—	—	—

Stock Options and Restricted Stock Units ("RSUs")

Prior to December 2008, the majority of options granted by the Compensation Committee vested at a rate of 33 1/3 percent over the first three years of the seven-year option term on each of the first, second and third anniversary of such grants. Starting in December 2008, the majority of the options granted to employees employed for less than one year vest one-third (1/3rd) of the shares subject to the option on the first anniversary of the grant date, and vest one thirty sixth (1/36th) each month for the following two years, for a total three year vesting period with a seven-year option term. Starting in November 2008, the majority of the options granted for employees employed for more than one year vest one thirty-sixth (1/36th) of the shares subject to the options in equal monthly installments starting on the monthly anniversary of the date of grant with a seven-year option term. On February 22, 2010, the Compensation Committee reviewed best practice with regard to stock option vesting and made the following changes; existing employees generally receive vesting terms of monthly ratable vesting for a total period of four years. New employees, in general, receive vesting terms that are equivalent to 25% vesting on the one year anniversary of the grant with monthly vesting thereafter for a total of four years. All other terms remain the same. Grant of each Restricted Stock Unit ("RSU") counts against our available for grant pool at a ratio of 2:1 against the 2005 Equity Incentive Plan as depicted below under "RSUs granted". The number of RSUs granted during the fiscal year 2012 was 51,777

which counted as 103,554 against the stock option plan. Each RSU represents an amount equal to the fair value of one share of the Company's common stock.

A summary of activity under the Company's stock option plans including options and RSUs during fiscal year 2012, and shares available for grant at December 29, 2012 is as follows:

	<u>Shares Available for Grant (Options and RSUs)</u>
Options and RSUs	
Shares available for grant at December 31, 2011	1,391,930
Options granted	(281,085)
Options cancelled	139,376
RSUs granted	(103,554)
RSUs canceled	—
Plan shares expired	(53,102)
Shares available for grant at December 29, 2012	<u>1,093,565</u>

Options

The weighted average fair value per share of the stock options awarded in fiscal years 2012, 2011, and 2010 is \$10.00, \$9.98, and \$6.42, respectively. A summary of activity of stock options in 2012 is as follows:

	<u>Number of Shares Outstanding (Options)</u>	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Remaining Contractual Term (Years)</u>	<u>Aggregate Intrinsic Value (in Thousands)</u>
Options				
Outstanding at December 31, 2011	2,348,162	\$ 10.53	4.86	—
Exercised	(469,552)	6.52	—	—
Granted	281,085	16.74	—	—
Cancelled	(139,376)	15.07	—	—
Outstanding at December 29, 2012	<u>2,020,319</u>	<u>\$ 12.01</u>	<u>4.44</u>	<u>\$ 6,770</u>
Exercisable at December 29, 2012	<u>1,223,456</u>	<u>\$ 10.11</u>	<u>3.81</u>	<u>\$ 5,931</u>

The aggregate intrinsic value in the preceding table represents the total pretax intrinsic value, based on the Company's closing stock price of \$14.32 as of December 29, 2012 which would have been received by the option holders had all option holders exercised their options as of that date. The total intrinsic value of options exercised during 2012, 2011 and 2010 was \$4.9 million, \$11.6 million, and \$6.2 million, respectively. The fair value of options vested during 2012, 2011 and 2010 was \$3.6 million, \$2.9 million, and \$2.8 million, respectively.

The following table summarizes significant ranges of outstanding and exercisable options as of December 29, 2012.

Exercise Prices	Options Outstanding			Options Exercisable	
	Number Outstanding	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
\$0.93-\$2.71	212,592	2.75	\$ 1.35	212,592	\$ 1.35
\$5.25-\$7.50	229,259	3.48	\$ 7.13	229,259	\$ 7.13
\$7.78-\$10.21	152,130	2.81	\$ 9.26	121,151	\$ 9.18
\$10.46-\$10.46	206,280	4.30	\$ 10.46	106,756	\$ 10.46
\$10.83-\$11.37	212,518	4.79	\$ 11.30	123,872	\$ 11.25
\$11.63-\$15.21	205,997	5.04	\$ 13.74	87,966	\$ 13.12
\$15.31-\$16.16	213,464	4.52	\$ 15.85	141,573	\$ 15.92
\$16.41-\$16.59	26,400	5.46	\$ 16.52	10,077	\$ 16.52
\$16.70-\$16.70	351,079	5.22	\$ 16.70	145,755	\$ 16.70
\$17.23-\$19.84	210,600	6.01	\$ 18.35	44,455	\$ 18.53
\$0.93-\$19.84	<u>2,020,319</u>	4.44	\$ 12.01	<u>1,223,456</u>	\$ 10.11

As of December 29, 2012 the total unrecognized compensation costs related to unvested stock options was \$6.0 million which is expected to be recognized as an expense over a weighted average remaining amortization period of 2.30 years.

In August 2011, the Company added an additional 2.0 million shares of common stock to the Company's 2005 Equity Incentive Plan available for grant.

Restricted Stock Units ("RSUs")

Each RSU counts against our "2005 Equity Incentive Plan" at a ratio of two shares for each unit granted but represents an amount equal to the fair value of one share of the Company's common stock. The Company granted 51,777 and 315,472 RSUs during the years ended December 29, 2012 and December 31, 2011, respectively, to key employees with vesting periods spanning from one to three years. The Company granted 286,180 RSUs on November 21, 2011 as part of employment agreements with personnel hired by the Company subsequent to the acquisition of Nanda. The RSU's granted to these newly hired employees generally vest as follows: 10% on date of grant; the remaining vest one-third per year over each of the three years from date of grant, to the extent the participant continues to be employed at Nanometrics.

A summary of activity for RSUs is as follows:

RSU	Number of RSU	Weighted Average Fair Value as of December 29, 2012
Outstanding RSU as of December 31, 2011	300,058	\$ 15.30
Granted	51,777	17.79
Released	(116,673)	14.88
Cancelled	—	—
Outstanding RSU as of December 29, 2012	<u>235,162</u>	<u>\$ 16.32</u>

As of December 29, 2012 the total unrecognized compensation costs related to RSU's was \$3.0 million which is expected to be recognized as an expense over a weighted average remaining amortization period of 1.84 years.

Stock-based Compensation Expense

Stock-based compensation expense for all share-based payment awards made to the Company's employees and directors pursuant to the employee stock option and employee stock purchase plans by function were as follows (in thousands):

	Fiscal Year 2012	Fiscal Year 2011	Fiscal Year 2010
Cost of products	\$ 164	\$ 176	\$ 126
Cost of service	230	218	206
Research and development	1,220	984	514
Selling	1,791	1,366	596
General and administrative	2,485	1,729	1,508
Total stock-based compensation expense related to employee stock options and employee stock purchases	<u>\$ 5,890</u>	<u>\$ 4,473</u>	<u>\$ 2,950</u>

Note 16. Defined Benefit Pension Plan

Nanometrics sponsors a statutory government mandated defined benefit pension plan (the "Benefit Plan") in Taiwan for its local employees. The fair value of plan assets was \$0.2 million for fiscal year ended 2012, and \$0.1 million for each of the fiscal years ended 2011 and 2010 respectively; and the net funding deficiency of the Benefit Plan was \$0.3 million, \$0.2 million and \$0.3 million for the fiscal years ended December 29, 2012, December 31, 2011 and January 1, 2011, respectively. Based on the nature and limited extent of the pension plan, we have determined this pension plan is not material for separate disclosure.

Note 17. Income Taxes

Income Tax Assets and Liabilities - The Company accounts for income taxes whereby that deferred tax assets and liabilities are recognized using enacted tax rates for the effect of temporary differences between the book and tax accounting for assets and liabilities. Also, deferred tax assets are reduced by a valuation allowance to the extent that management cannot conclude that it is more likely than not that a portion of the deferred tax asset will be realized in the future. The Company evaluates the deferred tax assets on a continuous basis throughout the year to determine whether or not a valuation allowance is appropriate. Factors used in this determination include future expected income and the underlying asset or liability which generated the temporary tax difference. The income tax provision is primarily impacted by federal statutory rates, state and foreign income taxes and changes in the valuation allowance.

Income before provision for income taxes consists of the following (in thousands):

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Domestic	\$ 1,887	\$ 41,773	\$ 37,640
Foreign	2,732	2,811	3,049
Income (loss) before income taxes	<u>\$ 4,619</u>	<u>\$ 44,584</u>	<u>\$ 40,689</u>

The provision (benefit) for income taxes consists of the following (in thousands):

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Current:			
Federal	\$ (2,403)	\$ 11,059	\$ 2,031
State	(492)	1,048	659
Foreign	270	354	55
Total current	<u>(2,625)</u>	<u>12,461</u>	<u>2,745</u>
Deferred:			
Federal	1,753	2,366	(14,266)
State	379	(158)	(459)
Foreign	647	1,230	(3,279)
Total deferred	<u>2,779</u>	<u>3,438</u>	<u>(18,004)</u>
Provision (benefit) for income taxes	<u>\$ 154</u>	<u>\$ 15,899</u>	<u>\$ (15,259)</u>

Significant components of the Company's deferred tax assets and liabilities are as follows (in thousands):

	At	
	December 29, 2012	December 31, 2011
Deferred tax assets:		
Reserves and accruals	\$ 7,682	\$ 12,441
Deferred revenue	1,714	1,308
Shared based compensation	3,129	2,242
Tax credit carry-forwards	1,510	999
Net operating losses	10,830	10,133
Depreciation & amortization	3,273	2,957
Other	945	967
Total deferred tax assets	<u>29,083</u>	<u>31,047</u>
Less: Valuation allowance	<u>(10,229)</u>	<u>(8,142)</u>
Total deferred tax assets net of valuation allowance	<u>18,854</u>	<u>22,905</u>
Deferred tax liabilities:		
Depreciation & amortization	(5,797)	(6,229)
Other	(793)	(1,406)
Total deferred tax liabilities	<u>(6,590)</u>	<u>(7,635)</u>
Net deferred tax assets	<u>\$ 12,264</u>	<u>\$ 15,270</u>

As of December 29, 2012, the Company had net operating loss carryforwards of \$27.3 million in California and \$37.2 million in foreign countries, which begin to expire in 2016 and 2013 respectively. A total of \$1.8 million of the California net operating loss carryforward and \$1.7 million of the foreign net operating loss carryforwards are related to excess tax benefits as a result of stock option exercises and therefore will be recorded in additional paid-in capital in the period that they become realized. During the year ended December 29, 2012, the Company realized excess benefits as a result of stock option exercises in the amount of \$0.9 million, which was appropriately recorded to additional paid-in-capital.

As of December 29, 2012, the Company had available for carryforward state research and experimental tax credits and other credits of \$3.7 million. State research and experimental tax credits carryforward indefinitely. A total of \$0.2 million of the state research and experimental tax credits are related to excess tax benefits as a result of stock option exercises and therefore will be recorded to additional paid-in-capital in the period that they become realized.

During the years ended December 29, 2012 December 31, 2011 the valuation allowance increased by \$2.1 million and \$1.1 million, respectively. The valuation allowance increase in 2012 is primarily related to foreign losses without benefit.

Changes in tax laws and tax rates could affect our recorded deferred tax assets and liabilities in the future. Our tax liabilities involve dealing with uncertainties in the application of complex tax laws and regulations in a multitude of jurisdictions across our global operations. Management will account for any such changes or factors in the period in which such law changes are enacted.

Differences between income taxes computed by applying the statutory federal income tax rate to income before income taxes and the provision (benefit) for income taxes consist of the following (in thousands):

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Income taxes computed at U.S. statutory rate	\$ 1,616	\$ 15,604	\$ 14,241
State income taxes	(116)	636	1,766
Foreign tax rate differential	(275)	907	(3,512)
Change in valuation allowance	—	17	(28,825)
Domestic production activities deduction	(17)	(1,033)	(404)
Tax credits	—	(601)	(869)
Benefit of tax elections	(1,309)	—	—
Liabilities for uncertain tax positions	66	153	1,793
Other, net	189	216	551
Provision (benefit) for income taxes	\$ 154	\$ 15,899	\$ (15,259)

As of December 29, 2012, approximately \$1.4 million of undistributed earnings from non-U.S. operations held by our foreign subsidiaries are designated as indefinitely reinvested outside the U.S. Accordingly, no additional U.S. income taxes or additional foreign withholding taxes have been provided thereon. Determination of the amount of unrecognized deferred tax liability related to these earnings is not practicable.

On January 2, 2013, the President signed into law The American Taxpayer Relief Act of 2012 (ATRA). Under prior law, a taxpayer was entitled to a research tax credit for qualifying amounts incurred through December 31, 2011. The ATRA extends the research credit for two years for qualified research expenditures incurred through the end of 2013. The extension of the research credit is retroactive and includes amounts incurred after 2011. The Company estimates the benefit that it will receive relating to 2012 as a result of the credit extension will be approximately \$0.5 million. The benefit will be recognized in the period of enactment, which is the first quarter of 2013.

We recognize tax liabilities for uncertain tax positions and adjust these liabilities when our judgment changes as a result of the evaluation of new information not previously available. Due to the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from our current estimate of the tax liabilities. These differences will be reflected as increases or decreases to income tax expense in the period in which they are determined.

The accounting for uncertainty in income taxes recognized in an enterprise's financial statements prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken on a tax return, and the derecognition of tax benefits, classification on the balance sheet, interest and penalties, accounting in interim periods, disclosure, and transition.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Unrecognized tax benefits-beginning of the period	\$ 3,599	\$ 3,370	\$ 1,032
Foreign currency movements	—	—	(15)
Gross increases-tax positions in prior period	—	154	1,971
Gross decreases-tax positions in prior period	(183)	—	—
Gross increases-current-period tax positions	265	622	530
Lapse of statute of limitations	(217)	(547)	(148)
Unrecognized tax benefits - end of the period	\$ 3,464	\$ 3,599	\$ 3,370

The unrecognized tax benefits at December 29, 2012 were \$3.5 million, of which \$2.9 million would impact the effective tax rate if recognized. The Company accrues interest and penalties related to unrecognized tax benefits in its provision for income taxes. The total amount of penalties and interest are not material as of December 29, 2012, December 31, 2011, and January 1, 2011. The Company does not expect a material change in its unrecognized tax benefits within the next 12 months.

The Company is subject to taxation in the U.S. and various states including California, and foreign jurisdictions including Korea, Japan and United Kingdom. Due to tax attribute carry-forwards, the Company is subject to examination for tax years 2003 forward for U.S. tax purposes. The Company was also subject to examination in various states for tax years 2002 forward. The Company is subject to examination for tax years 2006 forward for various foreign jurisdictions.

Note 18. Segment, Geographic, Product and Significant Customer Information

The Company has one operating segment, which is the sale, design, manufacture, marketing and support of thin film, optical critical dimension and overlay dimension metrology systems. The Chief Executive Officer has been identified as the Chief Operating Decision Maker ("CODM") because he has the final authority over resource allocation decisions and performance assessment. The CODM does not receive discrete financial information about individual components of the Company's business. For the years ended December 29, 2012, December 31, 2011, and January 1, 2011, the Company recorded revenue from customers primarily in the United States, Asia and Europe. The following table summarizes total net revenues and long-lived assets (excluding intangible assets) attributed to significant countries (in thousands):

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Total net revenues:			
United States	\$ 44,811	\$ 50,447	\$ 65,099
Japan	16,832	34,806	19,776
South Korea	79,555	87,533	54,156
Other	41,683	57,275	49,034
Total net revenues	\$ 182,881	\$ 230,061	\$ 188,065

* Net revenues are attributed to countries based on the customer's deployment and service locations of systems.

	December 29, 2012	December 31, 2011
Long-lived tangible assets:		
United States	\$ 40,600	\$ 33,127
Japan	148	159
South Korea	520	503
All Other	1,945	1,732
Total long-lived tangible assets	\$ 43,213	\$ 35,521

The Company's product lines differ primarily based on the environment in which the systems will be used. Automated systems are used primarily in high-volume production environments. Materials characterization products are primarily used to measure the composition, band gap, structure, and other physical and electrical properties of semiconducting materials for discrete electronic industry, high brightness LED and solar/photovoltaic structures in both development and high volume environments. Integrated systems are installed inside wafer processing equipment to provide near real-time measurements for improving process control and increasing throughput. Revenues by product type were as follows (in thousands):

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Automated Systems	\$ 119,451	\$ 139,261	\$ 110,955
Integrated Systems	12,379	25,413	17,437
Materials Characterization Systems	11,997	30,100	26,156
Total product revenues	\$ 143,827	\$ 194,774	\$ 154,548

The following customers accounted for 10% or more of total accounts receivable:

	At		
	December 29, 2012	December 31, 2011	January 1, 2011
Samsung Electronics Co. Ltd.	***	41.1%	19.2%
Intel Corporation	12.3%	***	***
Taiwan Semiconductor Manufacturing Company Limited	17.3%	***	***

*** The customer accounted for less than 10% of total accounts receivable as of that period end.

The following customers accounted for 10% or more of total revenue:

	Years Ended		
	December 29, 2012	December 31, 2011	January 1, 2011
Samsung Electronics Co. Ltd.	27.8%	30.0%	23.0%
SK Hynix	16.5%	11.4%	12.8%
Intel Corporation	22.3%	16.9%	16.4%

SUPPLEMENTAL FINANCIAL INFORMATION

Selected Quarterly Financial Results (Unaudited)

The following table sets forth selected consolidated quarterly results of operations for the years ended December 29, 2012, and December 31, 2011 (in thousands, except per share amounts):

	Quarters Ended			
	Dec. 29, 2012 ⁽¹⁾	Sep. 29, 2012	Jun. 30, 2012	Mar. 31, 2012
Total net revenues	\$ 30,270	\$ 43,938	\$ 53,181	\$ 55,492
Gross profit	11,951	22,152	24,759	25,066
Income (loss) from operations	(6,538)	3,614	4,296	4,106
Net income (loss)	(3,647)	1,903	4,506	1,703
Net income (loss) per share:				
Basic	\$ (0.16)	\$ 0.08	\$ 0.19	\$ 0.07
Diluted	\$ (0.16)	\$ 0.08	\$ 0.19	\$ 0.07
Shares used in per share computations:				
Basic	23,408	23,310	23,395	23,349
Diluted	23,408	23,760	23,877	23,981

	Quarters Ended			
	Dec. 31, 2011	Oct. 1, 2011	Jul. 2, 2011	Apr. 2, 2011
Total net revenues	\$ 45,277	\$ 58,269	\$ 64,372	\$ 62,143
Gross profit	21,120	30,799	36,104	35,155
Income (loss) from operations	(528)	11,746	17,485	17,063
Net income (loss)	(531)	7,619	11,087	10,510
Net income (loss) per share:				
Basic	\$ (0.02)	\$ 0.33	\$ 0.49	\$ 0.47
Diluted	\$ (0.02)	\$ 0.32	\$ 0.47	\$ 0.45
Shares used in per share computations:				
Basic	23,074	22,875	22,709	22,568
Diluted	23,074	23,526	23,442	23,397

(1) Includes a pretax out of period charge to cost of goods sold of \$0.3 million. Management believes that the impact on the December 2012 quarter, and all prior periods is not material.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), as appropriate, to allow timely decisions regarding required disclosure. Our management, with participation of our CEO and CFO, has evaluated the effectiveness of our disclosure controls and procedures as of the end of the fiscal year covered by this Annual Report on Form 10-K.

Based upon that evaluation, our CEO and CFO have concluded that, as of the end of the period covered in this report, our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Report of Management on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting was designed to provide reasonable, not absolute, assurance regarding the integrity, reliability and fair presentation of our financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected. Under the supervision and with the participation of our management, including our CEO and CFO, we assessed the effectiveness of our internal control over financial reporting as of December 29, 2012. In making this assessment, we used the criteria established in the framework on *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations ("COSO") of the Treadway Commission.

Based on our assessment, which was conducted according to the COSO criteria, we have concluded that our internal control over financial reporting was effective in achieving its objectives as of December 29, 2012.

The effectiveness of our internal control over financial reporting as of December 29, 2012 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Changes in Internal Control over Financial Reporting

No change in our internal controls over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fourth quarter ended December 29, 2012, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item is incorporated by reference to our Proxy Statement for our 2013 Annual Meeting of Stockholders (the "Proxy Statement") to be filed with the SEC not later than 120 days after the end of our fiscal year ended December 29, 2012, specifically:

- Information regarding our directors and any persons nominated to become a director, as well as with respect to some other required board matters, is set forth under Proposal 1 entitled "Election of Directors" and under "Corporate Governance."
- Information regarding our audit committee and our designated "audit committee financial expert" is set forth under the caption "Corporate Governance."
- Information on our code of business conduct and ethics for directors, officers and employees is set forth under the caption "Code of Ethics" under "Corporate Governance."
- Information regarding Section 16(a) beneficial ownership reporting compliance is set forth under the caption "Section 16(a) Beneficial Ownership Reporting Compliance."
- Information regarding procedures by which stockholders may recommend nominees to our board of directors is set forth under the caption "Nominating and Governance Committee" under "Board of Directors Meetings and Committees" under "Corporate Governance."

Information regarding our executive officers is set forth at the end of Item 1, Part 1 of this Annual Report on Form 10-K under the caption "Executive Officers of the Registrant."

ITEM 11. EXECUTIVE COMPENSATION

Information regarding compensation of our named executive officers is set forth under the caption "Executive Compensation" in the Proxy Statement, which information is incorporated herein by reference.

Information regarding compensation of our directors is set forth under the caption "Compensation of Directors" in the Proxy Statement, which information is incorporated herein by reference.

Information relating to compensation policies and practices as they relate to risk management is set forth in the section entitled "The Board's Role in Risk Oversight" under the caption "Corporate Governance" in the Proxy Statement,

Information regarding compensation committee interlocks is set forth under the caption "Compensation Committee Interlocks and Insider Participation" in the Proxy Statement, which information is incorporated herein by reference.

The Compensation Committee Report is set forth under the caption "Compensation Committee Report" in the Proxy Statement, which report is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information regarding security ownership of certain beneficial owners, directors and executive officers is set forth under the caption "Security Ownership of Certain Beneficial Owners and Management" in the Proxy Statement, which information is incorporated herein by reference.

Equity Compensation Plan Information

The following table gives information about the common stock that may be issued under all of our existing equity compensation plans as of December 29, 2012.

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in first column)
Equity compensation plans approved by security holders	1,977,817	\$ 10.06	1,093,565
Equity compensation plans not approved by security holders ⁽¹⁾	277,664	\$ 15.74	—
Total	2,255,481	\$ 10.76	1,093,565

(1) The material features of the 2002 Non-statutory Stock Plan, which was adopted without the approval of security holders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

Information regarding certain relationships and related transactions is set forth under the caption "Related Person Transaction Policy" in the Proxy Statement, which information is incorporated herein by reference.

Information regarding director independence is set forth under the caption "Board of Directors Meetings and Committees" under "Corporate Governance" in the Proxy Statement, which information is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information regarding principal auditor fees and services is set forth under the proposal entitled "Ratification of Appointment of Independent Registered Public Accounting Firm" in the Proxy Statement, which information is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report on Form 10-K:

(1) **Consolidated Financial Statements.**

See Index to Consolidated Financial Statements in Item 8 on page 34 of this Annual Report on Form 10-K.

(2) **Consolidated Financial Statement Schedule.**

The following consolidated financial statement schedule of Nanometrics Incorporated is filed as part of this Annual Report on Form 10-K and should be read in conjunction with the Consolidated Financial Statements:

Schedule	Page
II – Valuation and Qualifying Accounts as of and for the years ended December 29, 2012, December 31, 2011, and January 1, 2011	71

Schedules not listed above have been omitted because they are not applicable or are not required or the information required to be set forth therein is included in the Consolidated Financial Statements or notes thereto.

(3) **Exhibits.**

See Exhibit Index beginning on page 69 of this Annual Report on Form 10-K which is incorporated by reference here.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: March 8, 2013

NANOMETRICS INCORPORATED

By: /s/ TIMOTHY J. STULTZ

Timothy J. Stultz
President and Chief Executive Officer
(Duly Authorized Officer and Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report on Form 10-K has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ TIMOTHY J. STULTZ</u> Timothy J. Stultz	President, Chief Executive Officer and Director (Principal Executive Officer)	<u>March 8, 2013</u>
<u>/s/ RONALD W. KISLING</u> Ronald W. Kising	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	<u>March 8, 2013</u>
<u>/s/ BRUCE C. RHINE</u> Bruce C. Rhine	Chairman of the Board of Directors	<u>March 8, 2013</u>
<u>/s/ HOWARD A. BAIN III</u> Howard A. Bain III	Director	<u>March 8, 2013</u>
<u>/s/ J. THOMAS BENTLEY</u> J. Thomas Bentley	Director	<u>March 8, 2013</u>
<u>/s/ EDWARD J. BROWN JR.</u> Edward J. Brown Jr.	Director	<u>March 8, 2013</u>
<u>/s/ NORMAN COATES</u> Norman Coates	Director	<u>March 8, 2013</u>
<u>/s/ STEPHEN G. NEWBERRY</u> Stephen G. Newberry	Director	<u>March 8, 2013</u>
<u>/s/ WILLIAM G. OLDHAM</u> William G. Oldham	Director	<u>March 8, 2013</u>
<u>/s/ STEPHEN J. SMITH</u> Stephen J. Smith	Director	<u>March 8, 2013</u>

EXHIBIT INDEX

Exhibit No.	Description
3.(i)	Certificate of Incorporation
3.1 ⁽¹⁾	Certificate of Incorporation of the Registrant
3.(ii)	Bylaws
3.2 ⁽²⁾	Bylaws of the Registrant
4	Instruments Defining the Rights of Security Holders, Including Indentures
4.1 ⁽³⁾	Form of Common Stock Certificate
10	Material Contracts
	Management Contracts, Compensatory Plans, Contracts or Arrangements
10.1 ⁽⁴⁾	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers
10.2 ⁽⁵⁾	Registrant's 2000 Employee Stock Option Plan and form of Stock Option Agreement
10.3 ⁽⁶⁾	Registrant's 2000 Director Stock Option Plan and form of Stock Option Agreement
10.4 ⁽⁷⁾	Registrant's 2002 Non-statutory Stock Option Plan and form of Stock Option Agreement
10.5 ⁽⁸⁾	Registrant's Amended and Restated 2003 Employee Stock Purchase Plan
10.6 ⁽⁹⁾	Form of Subscription Agreement Under the Registrant's Amended and Restated 2003 Employee Stock Purchase Plan
10.7 ⁽²¹⁾	Registrant's Amended and Restated 2005 Equity Incentive Plan
10.8 ⁽⁶⁾	Registrant's Amended and Restated 2005 Equity Incentive Plan forms of Stock Option and Restricted Stock Unit Agreements
10.9 ⁽¹⁰⁾	2011 Executive Performance Bonus Plan
10.10 ⁽¹¹⁾	Form of Offer Letter to Timothy J. Stultz
10.11 ⁽¹²⁾	Amended and Restated Executive Severance Agreement between the Registrant and Timothy J. Stultz, dated February 23, 2010
10.12 ⁽¹²⁾	Amended and Restated Executive Severance Agreement between the Registrant and Bruce A. Crawford, dated February 23, 2010
10.13 ⁽¹³⁾	Employment Agreement between Registrant and Ronald W. Kisling, dated February 28, 2011
10.14 ⁽¹⁴⁾	Employment Agreement between Registrant and Nancy E. Egan, dated October 31, 2011
	All Other Material Contracts
10.15 ⁽⁷⁾	Loan and Security Agreement effective as of February 14, 2007 by and between Comerica Bank, the Registrant, Accent Optical Technologies, Nanometrics, Inc. and Nanometrics IVS Division, Inc.
10.16 ⁽¹⁵⁾	First Amendment to the Loan and Security Agreement dated September 14, 2007
10.17 ⁽¹⁵⁾	Second Amendment to the Loan and Security Agreement dated May 11, 2009, with an effective date of April 29, 2009
10.18 ⁽¹⁶⁾	Third Amendment to the Loan and Security Agreement dated June 15, 2009
10.19 ⁽¹⁷⁾	Fourth Amendment to the Loan and Security Agreement dated April 13, 2010
10.20 ⁽¹⁸⁾	Security Agreement, Balloon Promissory Note, and Deed of Trust by and between GE Commercial Finance Business Property Corporation and the Registrant, each dated July 25, 2008
10.21 ⁽¹⁶⁾	Asset Transfer Agreement by and between Zygo Corporation and the Registrant, dated June 17, 2009
10.22 ⁽¹⁶⁾	Supply Agreement by and between Zygo Corporation and the Registrant dated June 17, 2009
10.23 ⁽²⁰⁾	Fifth Amendment to the Loan and Security Agreement dated April 23, 2012
10.24*	Executive Performance Bonus Plan
14	Code of Ethics
14.1 ⁽¹⁹⁾	Registrant's Code of Business Conduct and Ethics
21	Subsidiaries
21.1*	Subsidiaries of the Registrant
23	Consents of Experts and Counsel
23.1*	Consent of PricewaterhouseCoopers LLP Independent Registered Public Accounting Firm
31	Rule 13a-14(a)/15d-14(a) Certifications
31.1*	Certification of Timothy J. Stultz, principal executive officer of the Registrant, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Ronald W. Kisling, principal financial officer and principal accounting officer of the Registrant, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32	Section 1350 Certifications
32.1*	Certification of Timothy J. Stultz, principal executive officer of the Registrant, and Ronald W. Kisling, principal financial officer and principal accounting officer of the Registrant pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS**	XBRL Instance Document
101.SCH**	XBRL Taxonomy Extension Schema Document
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document

- (1) Incorporated by reference to Exhibit 3.1 filed with the Registrant's Current Report on Form 8-K (File No. 000-13470) filed October 5, 2006.
 - (2) Incorporated by reference to Exhibit 3.1 filed with the Registrant's Current Report on Form 8-K (File No. 000-13470) filed April 12, 2012.
 - (3) Incorporated by reference to Exhibit 4.1 filed with the Registrant's Quarterly Report on Form 10-Q (File No. 000-13470) filed November 9, 2006.
 - (4) Incorporated by reference to Exhibit 10.1 filed with the Registrant's Current Report on Form 8-K (File No. 000-13470) filed February 20, 2013.
 - (5) Incorporated by reference to Exhibit 4.2 filed with the Registrant's Registration Statement on Form S-8 (File No. 333-40866) filed on July 6, 2000.
 - (6) Incorporated by reference to the like-described exhibit filed with the Registrant's Annual Report on Form 10-K (File No. 000-13470) filed March 13, 2008.
 - (7) Incorporated by reference to the like-described exhibit filed with the Registrant's Quarterly Report on Form 10-Q (File No. 000-13470) filed May 10, 2007.
 - (8) Incorporated by reference to Appendix 1 filed with the Registrant's definitive proxy statement on Schedule 14A (File No. 000-13470) filed April 21, 2009.
 - (9) Incorporated by reference to Exhibit 4.1 filed with the Registrant's Registration Statement on Form S-8 (File No.333-108474) filed on September 3, 2003.
 - (10) Incorporated by reference to the like-described exhibit filed with the Registrant's Quarterly Report on Form 10-Q (File No. 000-13470) filed on May 11, 2011.
 - (11) Incorporated by reference to Exhibit 10.1 filed with the Registrant's Current Report on Form 8-K (File No. 000-13470) filed August 8, 2007.
 - (12) Incorporated by reference to the like-described exhibit filed with the Registrant's Annual Report on Form 10-K (File No. 000-13470) filed on March 26, 2010.
 - (13) Incorporated by reference to Exhibits 10.20 filed with the Registrant's Annual Report on Form 10-K (File No. 000-13470) filed March 14, 2011.
 - (14) Incorporated by reference to Exhibit 10.14 filed with the Registrant's Annual Report on Form 10-K (File No. 000-13470) filed March 14, 2012.
 - (15) Incorporated by reference to the like-described exhibit filed with the Registrant's Quarterly Report on Form 10-Q (File No. 000-13470) filed May 12, 2009.
 - (16) Incorporated by reference to the like-described exhibit filed with the Registrant's Quarterly Report on Form 10-Q (File No. 000-13470) filed August 11, 2009.
 - (17) Incorporated by reference to Exhibit 99.1 filed with the Registrant's Current Report on Form 8-K (File No. 000-13470) filed April 19, 2010.
 - (18) Incorporated by reference to Exhibit 10.2 filed with the Registrant's Quarterly Report on Form 10-Q (File No. 000-13470) filed November 6, 2008.
 - (19) Incorporated by reference to Exhibit 14 filed with the Registrant's Annual Report on Form 10-K (File No. 000-13470) filed April 1, 2004.
 - (20) Incorporated by reference to Exhibit 10.1 filed with the Registrant's Quarterly Report on Form 10-Q (File No. 000-13470) filed May 9, 2012.
 - (21) Incorporated by reference to Appendix 1 filed with the Registrant's definitive proxy statement on Schedule 14A (File No. 000-13470) filed April 13, 2011.
- * Filed herewith.
- ** Furnished herewith.

SCHEDULE II

**NANOMETRICS INCORPORATED
VALUATION AND QUALIFYING ACCOUNTS**

Our allowance for doubtful accounts receivable consists of the following (in thousands):

Year Ended	Balance at beginning of period	Charged to costs and expenses	Deductions – write-offs of accounts	Balance at end of period
December 29, 2012	\$ 117	\$ (3)	\$ (32)	\$ 82
December 31, 2011	\$ 63	\$ 81	\$ (27)	\$ 117
January 1, 2011	\$ 241	\$ (131)	\$ 47	\$ 63

Our valuation allowance for deferred tax assets consists of the following (in thousands):

Year Ended	Balance at beginning of period	Charged to costs and expenses	Deductions – write-offs of accounts	Balance at end of period
December 29, 2012	\$ 8,142	\$ 2,087	\$ —	\$ 10,229
December 31, 2011	\$ 7,002	\$ 1,140	\$ —	\$ 8,142
January 1, 2011	\$ 39,145	\$ (32,143)	\$ —	\$ 7,002

List of Subsidiaries

Name	Jurisdiction
Nanometrics France S.A.S	France
Accent Optical Technologies (Germany) GmbH	Germany
Nanometrics (Switzerland) GmbH	Switzerland
Nanometrics U.K. Ltd.	United Kingdom
Nanometrics China Company Ltd.	China
Nanometrics Israel, Ltd.	Israel
Nanometrics Japan K.K.	Japan
Nanometrics Korea Limited	South Korea
Nanometrics Southeast Asia Pte. Limited	Singapore
Nanda Technologies GmbH	Germany

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-33583, 333-40866, 333-91714, 333-101137, 333-108474, 333-136557, 333-149339, 333-164088, and 333-176502) and on Form S-3 (No. 333-163168) of Nanometrics, Inc. of our report dated March 11, 2013 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

San Jose, CA

March 11, 2013

**Certification of the Principal Executive Officer Pursuant to
Act of Rules 13a-14(a) or 15d-14(a) of the Securities Exchange 1934,
As Adopted Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002**

I, Timothy J. Stultz, the Chief Executive Officer of Nanometrics Incorporated, certify that:

1. I have reviewed this annual report on Form 10-K of Nanometrics Incorporated;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 8, 2013

By: /s/ Timothy J. Stultz

Timothy J. Stultz

Chief Executive Officer

**Certification of the Principal Financial Officer Pursuant to
Rules 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934,
As Adopted Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002**

I, Ronald W. Kisling, the Chief Financial Officer of Nanometrics Incorporated, certify that:

1. I have reviewed this annual report on Form 10-K of Nanometrics Incorporated;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 8, 2013

By: /s/ Ronald W. Kisling
 Ronald W. Kisling
 Chief Financial Officer

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED
PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

Each of the undersigned hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, in his capacity as an officer of Nanometrics Incorporated (the "Company") that based on his knowledge:

1. The Annual Report on Form 10-K of the Company for the fiscal year ended December 29, 2012 (the "Report") fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended, and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: <u>March 8, 2013</u>	By: <u>/S/ TIMOTHY J. STULTZ</u> Name: Timothy J. Stultz Title: Chief Financial Officer
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Date: <u>March 8, 2013</u>	By: <u>/S/ RONALD W. KISLING</u> Name: Ronald W. Kisling Title: Chief Financial Officer
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EXECUTIVE PERFORMANCE BONUS PLAN

General

The Executive Performance Bonus Plan (the "Plan") is intended to motivate senior executives to achieve corporate objectives relating to the performance of Nanometrics or one of our business units as established by the Compensation Committee, and to reward them when those objectives are achieved, thereby tying performance to stockholder value. If the set corporate objectives are met and awards are payable, such awards will qualify as deductible "performance-based compensation" within the meaning of Section 162(m) of the Internal Revenue Code.

Administration

The Executive Performance Bonus Plan is administered by the Compensation Committee of the Board of Directors or the Outside Directors (as defined in Section 162(m) of the Internal Revenue Code) of our Board of Directors ("Plan Administrator"). Among other things, the Plan Administrator will have the authority to select participants in this Plan, to determine the performance goals, award amounts and other terms and conditions of awards under this Plan. The Plan Administrator also will have the authority to establish and amend rules and regulations relating to the administration of this Plan. All decisions made by the Plan Administrator in connection with this Plan will be made in the Plan Administrator's sole discretion and will be final and conclusive. The Plan Administrator will administer the Plan in a manner intended to comply with the requirements for "performance-based compensation" under Section 162(m) of the Internal Revenue Code and applicable Treasury Regulations thereunder.

Eligibility

The Plan Administrator has the sole authority to designate participants in this Plan. No person is automatically entitled to participate in the Executive Performance Bonus Plan. Only executives designated by the Plan Administrator are eligible to participate in this Plan.

Terms of Awards

Awards under this Plan will be payable following the end of the applicable performance period, based upon the achievement of performance goals established by the Plan Administrator for such performance period. The Plan Administrator will establish performance goals based on some or all of the performance criteria set forth in this Plan. Prior to the earlier of (i) 90 days following the commencement of the applicable performance period (or of any interim period related to interim goals established by the Plan Administrator) or (ii) the passage of 25% of the duration of such performance period (or such interim period) and while the outcome is substantially uncertain, the Plan Administrator will establish in writing the performance goals for each award and the threshold, target and maximum amount of the award, as applicable, that will be earned if the performance goals are achieved at the corresponding level.

The total incentive opportunity is expressed as a percentage of the participant's base salary as approved by the Compensation Committee of the Board of Directors. Base salary does not include relocation allowances and reimbursements, tuition reimbursements, car/transportation allowances, expatriate allowances, commissions, long-term disability payments, or bonuses paid during the fiscal year.

After the end of the performance period, the Plan Administrator will certify in writing the extent to which the performance goals were achieved during the performance period and determine the amount of the award that is payable. The Plan Administrator will have the discretion to determine that the actual amount paid with respect to an award will be equal to or less than (but not greater than) the maximum payout calculated for awards made under this Plan. The maximum payout for awards made under this Plan to any participant in any one calendar year is \$6 million. The amounts that will be paid out, if any, under the Plan are not currently determinable.

Bonus awards will be pro-rated in the case of an executive joining after the start of the performance period. A participant must be a regular employee of the Company on the last day of the performance period to earn any bonus under the Plan; provided, however that if the regular employment of a participant ends before the end of the performance period because of death, disability or termination of employment, the participant will be paid a pro-rata portion of the bonus, if any, that otherwise would have been payable under this Plan based upon the actual achievement of the performance goals applicable during the performance period in which such termination of employment occurs, unless the Plan Administrator determines in its sole discretion that payment is not appropriate. Any such pro rated bonus payment will be paid at the same time as other bonus payments with respect to the applicable performance period.

Performance Criteria

Pursuant to the terms of this Plan, the Plan Administrator will establish in writing one or more objective performance goals based on the attainment of specified levels of one of or any combination of the following "performance criteria" for the Company as a whole or any business unit of the Company, as reported or calculated by the Company: cash flows (including, but not limited to, operating cash flow, free cash flow or cash flow return on capital); working capital; earnings per share; net earnings; book value per share; operating income (including or excluding taxes, depreciation, amortization, extraordinary items, restructuring charges or other expenses); pre-tax profit; earnings before interest, taxes and depreciation; earnings before interest, taxes, depreciation and amortization; revenue; margins including gross margin or specific product margins; return on stockholder equity or average stockholder's equity; return on assets; return on net assets; debt; debt reduction; debt levels; expenditures; debt plus equity; market or economic value added; stock price appreciation; expenses; cost control; strategic initiatives; market share; return on invested capital; improvements in capital structure; or customer satisfaction, employee satisfaction, customer satisfaction; and services performance, cash management or asset management metrics.

Such performance goals also may be based on the achievement of specified levels of Company performance (or performance of an applicable affiliate or business unit of the Company) under one or more of the performance criteria described above or relative to the performance of other companies, the industry or a sector of the industry. Performance may be measured by adjusting the evaluation of performance either in accordance with U.S. generally accepted accounting principles ("GAAP") or on a non-GAAP basis as specified in the performance goal.

The Plan Administrator may provide in any award that any evaluation of performance may include or exclude any of the following events that occurs during a performance period: (i) asset write-downs, (ii) litigation or claim judgments or settlements, (iii) the effect of changes in tax laws, accounting principles, or other laws or provisions affecting reported results, (iv) any reorganization and restructuring programs, (v) extraordinary nonrecurring items as described in Accounting Standards Codification 225-20 and/or in Management's Discussion and Analysis of Financial Condition and Results of Operations appearing in the Company's annual report to stockholders for the applicable year, (vi) mergers, acquisitions or divestitures, (vii) foreign exchange gains and losses and (viii) gains and losses on asset sales. These inclusions or exclusions will be prescribed in a form that satisfies the requirements for "performance-based compensation" within the meaning of Section 162(m)(4)(C) of the Internal Revenue Code.

The performance goals may be based on (i) absolute target values, (ii) growth, maintenance or limiting losses (iii) values relative to peers or indices, or (iv) one or more goal categories compared to a prior period, and may include goals for interim periods within the performance period designated by the Plan Administrator. Goals may differ for each participant.

Program Payments

Bonus payments, if any, under the Plan will be paid as soon as administratively feasible after the Plan Administrator certifies the extent to which the performance goals were achieved during the applicable performance period and determines the amount of the awards payable, but in no event later than March 15 immediately following the last day of the performance period to which such payments relate. Bonus payments are expected to be made within 75 days following the end of the applicable performance period. The Plan Administrator will determine within the timeframe specified in this Plan the amount of the awards that will be paid to each plan participant if the specified performance goals are met and the method by which such amounts will be calculated. No amount is due and owing to any participant until the Plan Administrator has approved the bonus payment, and no bonus payment will be made unless and until the Plan Administrator has certified in writing regarding the achievement of the performance goals as required by Section 162(m) of the Internal Revenue Code.

Term of the Plan

The Executive Performance Bonus Plan shall first apply in 2013 should our stockholders approve the Plan and will continue until the earlier of (i) the date as of which the Plan Administrator terminates the Plan or (ii) the last day of the fiscal year ending in 2016 unless it is again approved by our stockholders prior to such day.

Amendment and Termination

The Compensation Committee may amend, modify suspend or terminate the Executive Performance Bonus Plan, in whole or in part, at any time and in any respect, including the adoption of amendments deemed necessary. However, in no event may any such amendment, modification, suspension or termination result in an increase in the amount of compensation payable as identified for the performance period or cause compensation that is, or may become, payable under the Executive Performance Bonus Plan to fail to qualify as deductible "performance-based compensation" within the meaning of Section 162(m) of the Internal Revenue Code.

Section 409A of the Internal Revenue Code

It is intended that this Plan and any awards granted under this Plan either be exempt from the requirements of, or else comply with the requirements of, Section 409A of the Internal Revenue Code and any related regulations or other guidance promulgated with respect to such section by the U.S. Department of the Treasury or the Internal Revenue Service. Any provision that would cause any award granted under this Plan to incur additional taxes under Section 409A of the Internal Revenue Code shall have no force or effect until amended by the Plan Administrator to comply with Section 409A of the Internal Revenue Code, and such amendment may be retroactive to the extent permitted by Section 409A of the Internal Revenue Code.

Unfunded Obligation

The Company's obligations under this Plan will, in every case, be an unfunded and unsecured promise. Participants' rights as to the benefit under this Plan shall be no greater than those of general, unsecured creditors of the Company. The Company will not be obligated to fund its financial obligations under this Plan.

nanometrics