

[NANOMETRICS INCORPORATED]

**CHARTER FOR THE COMPENSATION COMMITTEE
OF THE BOARD OF DIRECTORS OF NANOMETRICS INCORPORATED**

(as amended on February 22, 2011)

PURPOSE

The purpose of the Compensation Committee (the "Committee") of the Board of Directors (the "Board") of Nanometrics Incorporated (the "Company") shall be to oversee the Company's compensation policies and programs, including developing compensation policies, providing oversight of the implementation of the policies and benefit plans, administering the Company's various equity incentive plans and the issuance of stock options and other stock-related awards not granted pursuant to a plan, and specifically addressing the compensation of all of the "officers" of the Company (the "Section 16 Officers") as defined under Rule 16a-1(f) of the Securities and Exchange Act of 1934, as amended (the "Exchange Act").

The Committee has the authority to undertake the specific duties and responsibilities listed below and will have the authority to undertake such other specific duties as the Board from time to time prescribes.

MEMBERSHIP

The members of the Committee will be nominated by, will be appointed by, and will serve at the discretion of, the Board and will consist of at least two (2) members of the Board.

Each member of the Committee will be:

1. An independent director as defined by the rules of the NASDAQ Global Market ("NASDAQ") (to the extent that such requirements are effective from time to time);
2. An "outside director" as such term is defined with respect to Section 162(m) of the Internal Revenue Code of 1986, as amended; and
3. A "non-employee" director as defined under Rule 16b-3 promulgated under Section 16 of the Exchange Act.

The Board shall designate one member of the Committee as the Committee's Chairperson.

RESPONSIBILITIES AND AUTHORITY

The responsibilities and authority of the Committee shall include:

Determination of Compensation

1. Reviewing and approving, for all of the Section 16 Officers of the Company (a) the annual base salary, (b) the annual incentive bonus, including the specific goals and amount, (c) equity compensation (including all "plan" compensation, as such term is defined in Item 402(a)(7) of Regulation S-K promulgated by the Securities and Exchange Commission (the "SEC"), and all non-plan compensation), (d) employment agreements, severance arrangements, change in control agreements/provisions, and/or other post-employment benefits or payments, and (e) any other benefits, compensation or arrangements, other than benefits generally available to the Company's employees;
2. Establishing incentive compensation plans and performance criteria and goals for Section 16 Officers, reviewing and approving targets and incentive awards under these plans, evaluating performance under these plans and making any determinations required to be made by the Board or a committee of the Board under these plans;
3. Making recommendations to the Board with respect to compensation for service as a member of the Board or a Board committee;

4. Developing the Company's compensation philosophy, reviewing and approving general compensation goals and guidelines for the Company's employees and the criteria by which bonuses to the Company's employees are determined;
5. Reviewing at least annually the Company's overall compensation structure, policies, programs and related practices with the goal of evaluating whether the risks arising from the Company's compensation policies and practices for its employees would be reasonably likely to have a material adverse effect on the Company;

Equity Incentive Plans

6. Acting as Administrator (as defined therein) of the Company's equity compensation plans, as in effect from time to time (each, a "Plan" and together, the "Plans"). The Committee may, among other things, (1) grant stock options, stock purchase rights, or other awards of the Company's equity securities to individuals eligible for such grants, including grants to individuals subject to Section 16 of the Exchange Act in compliance with Rule 16b-3 promulgated thereunder, and (2) amend such stock options, stock purchase rights or other awards. The Committee may delegate to one or more officers of the Company the authority to make grants and awards to any non-executive officer of the Company under such Plans as the Committee deems appropriate in accordance with the terms of such Plans;
7. Reviewing and making recommendations to the Board with respect to amendments to the Plans and changes in the number of shares reserved for issuance under each Plan;
8. Reviewing and making recommendations to the Board regarding other plans that are proposed for adoption or adopted by the Company for compensation of the Company's directors, officers, employees and consultants;

Other Representations and Authority

9. Reviewing the Committee's own charter, structure, processes, performance and membership requirements periodically as circumstances dictate, but no less frequently than annually, and recommending any proposed changes to the Board for approval;
10. Preparing the Compensation Discussion and Analysis and issuing the Compensation Committee Report in accordance with the rules of the SEC;
11. If deemed appropriate by the Committee, reviewing and approving any stock ownership guidelines applicable to the Company's executive officers, and monitoring compliance therewith;
12. Assisting in the oversight of the administration of other material employee benefit plans of the Company, including the Company's 401(k) plan;
13. Reviewing and discussing with the Board and executive officers plans for officer development and corporate succession; and
14. Performing such other duties as may be requested by the Board.

MEETINGS AND ACTIONS OF THE COMMITTEE

The Committee will determine its own schedule and will meet at least four (4) times each year.

The presence of a majority of the members of the Committee shall constitute a quorum. The Committee shall act only by (a) the affirmative vote of the majority of members present at a meeting at which a quorum is present, or (b) unanimous written consent.

MINUTES

The Committee will maintain written minutes of its meetings, which minutes will be filed with the minutes of the meetings of the Board.

REPORTS

The Committee shall prepare or review all reports required to be included in the Company's proxy statement, pursuant to and in accordance with applicable rules of the SEC.

The Committee also shall report regularly to the full Board on any issue that the Committee believes should be brought to the attention of the full Board. Such reports may be made orally or in writing.

ADVISORS

The Committee may retain the services of legal, accounting or other consultants or advisors of its choosing to assist the Committee in the performance of its functions, without seeking Board approval with respect to the selection, fees or retention terms for any such consultants or advisors. The Board shall provide for appropriate funding, as determined by the Committee, to compensate any such consultants or advisors retained by the Committee pursuant to this Charter.

COMPENSATION

Members of the Committee shall receive such fees, if any, for their service as Committee members, as may be determined by the Board. Such fees may include retainers or per meeting fees and shall be paid in such form of consideration as is determined by the Board.

DELEGATION OF AUTHORITY

The Committee may, to the extent permitted under applicable law, the rules of NASDAQ and the SEC, and the Company's Certificate of Incorporation and Bylaws, form and delegate authority to a subcommittee when appropriate, including delegating to a subcommittee comprised solely of independent, non-employee, outside directors in order to make grants of stock options to executive officers and directors; provided, that such grants are presented to the full Committee for approval at the following Committee meeting.