

CYBEROPTICS CORPORATION

5900 Golden Hills Drive
Minneapolis, MN 55416

NOTICE OF ANNUAL MEETING OF SHAREHOLDERS

May 21, 2010

To the Shareholders of
CYBEROPTICS CORPORATION:

The Annual Meeting of Shareholders of CyberOptics Corporation will be held on Friday, May 21, 2010, at the offices of Dorsey & Whitney LLP, 50 South Sixth Street, 15th Floor, Minneapolis, Minnesota at 3:00 p.m. for the following purposes:

- 1) To elect five directors to serve until the annual meeting in 2011;
- 2) To ratify the appointment of Grant Thornton LLP as independent registered public auditors; and
- 3) To consider such other matters as may properly come before the meeting or any adjournments thereof.

Only holders of record of Common Stock at the close of business on March 31, 2010, will be entitled to receive notice of and to vote at the meeting. Shareholders who do not expect to attend the meeting in person are urged to fill in, date, sign and promptly return the proxy in the enclosed envelope, or, for registered shareholders, promptly return your proxy online at <http://www.eproxy.com/cybe>, as described more completely on the enclosed proxy card. If you later desire to revoke your proxy, you may do so at any time before it is exercised.

PLEASE MAIL YOUR PROXY PROMPTLY. In order that there may be a proper representation at the meeting, we urge you, whether you own one share or many, to promptly complete, sign and mail your proxy, or to return it electronically at the website set up for this purpose.

By Order of the Board of Directors



Thomas Martin
Secretary

Minneapolis, Minnesota
April 9, 2010

Important notice
regarding the availability of proxy materials for the shareholder meeting to be held on May 21, 2010.
Our proxy statement, the form of our proxy card, and annual report on Form 10-K can be viewed online at
<http://www.idelivercommunications.com/proxy/cybe>

CYBEROPTICS CORPORATION

5900 Golden Hills Drive
Minneapolis, MN 55416

PROXY STATEMENT Annual Meeting of Shareholders to be held on May 21, 2010

We have prepared this proxy statement on behalf of our Board of Directors for use in soliciting proxies for our Annual Meeting of Shareholders to be held Friday, May 21, 2010. The annual meeting will be held on the 15th floor of the offices of Dorsey & Whitey LLP, 50 South Sixth Street, Minneapolis, Minnesota at 3:00 p.m. We will bear the cost of soliciting proxies, including the cost of preparing and mailing the Notice of Annual Meeting of Shareholders and this Proxy Statement. We have not retained a proxy solicitation agent or any other consulting firm to assist us with the proxy process. Instead, our officers or other regular employees may solicit proxies in person, by mail, telephone or facsimile, but will not receive any special compensation for these services.

The only matters that our Board of Directors knows will be presented at the annual meeting are (i) the election of directors, and (ii) the ratification of the appointment of Grant Thornton LLP as our independent registered public accounting firm. **The Board of Directors recommends that you vote in favor of the election of each director who has been nominated, and in favor of the ratification of Grant Thornton LLP as our independent registered public accounting firm.** If you return a signed proxy form and any other matter properly comes before the meeting, the persons named in the proxy form will have authority to vote the proxy on such matter in accordance with their judgment.

VOTING RIGHTS AND PROCEDURES

If you return a proxy card in the form solicited with this proxy statement, we will vote your shares in the manner that you have directed in the proxy card. If you complete the proxy card but do not direct us how to vote, your shares will be voted for the election of the nominees for director named in this proxy statement, for the ratification of the appointment of Grant Thornton LLP as our independent registered public accounting firm, and in the manner the named proxies decide on any other matters properly brought before the meeting. If you “withhold vote for” one or more directors or “abstain from” a vote for the auditors, we will consider your shares present and entitled to vote for purposes of determining the presence of a quorum at the meeting and as unvoted, although present and entitled to vote, for purposes of the election of the directors or the ratification of auditors for which you have abstained. If a broker submits a proxy that indicates the broker does not have discretionary authority to vote shares, those shares will be counted as shares that are present and entitled to vote for purposes of determining the presence of a quorum at the meeting, but will not be considered as present and entitled to vote on the matters voted on at the meeting. You may revoke your proxy at any time before the meeting by delivering to our corporate secretary a written notice of termination of the proxies’ authority or a signed proxy bearing a later date.

You must be a holder of record of our Common Stock at the close of business on March 31, 2010, to be entitled to receive notice of and to vote at the meeting. On March 31, 2010, we had 6,845,391 shares of common stock outstanding. Each outstanding share is entitled to one vote on all matters presented at the meeting.

We are providing a copy of our Annual Report on Form 10-K for the year ended December 31, 2009, with this Proxy Statement. We are mailing this Proxy Statement and a form of proxy on or about April 9, 2010.

DR. STEVEN K. CASE

We lost a unique individual on June 16, 2009: an individual who combined the best characteristics of human intelligence, enterprise and compassion. Dr. Steven K. Case, our founder, Chairman, and Chief Technical Officer, earned his PhD in physics from the University of Michigan in 1976 and was awarded a Fulbright Fellowship in Germany. He started his academic career as a Professor in Optical Physics at the University of Minnesota in 1979. Although he was an admired teacher and scientist, Dr. Case was not content with theoretical applications, and in 1984 formed CyberOptics to apply his optical science to business problems. He was our Chairman and Chief Technical Officer from formation until his death, and was our President and Chief Executive Officer until 1998. His scientific curiosity and rare ability to apply science to solve real business problems generated many successful products. His gentle manner, and his ability to value and recognize talent and integrity in our employees, our customers, and our advisors, generated a culture of humanity that CyberOptics continues to foster and cherish. He was a source of inspiration and friendship.

Dr. Case was devoted to the success of CyberOptics, and we are dedicated to fulfilling his vision.

PROPOSAL I—ELECTION OF DIRECTORS

Our Nominating Committee has nominated five persons for election at the Annual Meeting: Alex B. Cimochoowski, Kathleen P. Iverson, Subodh Kulkarni, Irene M. Qualters and Michael M. Selzer, Jr. Each nominee, except for Dr. Kulkarni who was elected in December 2009, has served as one of our directors for more than one year. The following information is furnished with respect to each nominee as of March 31, 2010.

Alex B. Cimochoowski, age 70, has been a director of CyberOptics since its formation in 1984. Mr. Cimochoowski, received a BS in Engineering Physics from Penn State and a MS from the Massachusetts Institute of Technology, and started his career as an engineer with IBM Corporation. From 1964 until 1983, he held various management positions with Control Data Corporation, then the largest producer of supercomputers in the world, including Group Vice President. He founded Edge Computer Corporation in 1983, a venture capital backed company that developed a complete computer workstation, including a proprietary central processing unit, graphical processing unit, operating software and applications software, that was for a time during the early stages of the desktop computer industry the fastest workstation available. He was President of Edge until 1988. From 1988 until 1995, he was Chief Executive Officer of Delphax Systems, a manufacturer of high speed electronic printing solutions. From 1996 until his retirement in 2009, Mr. Cimochoowski was President and owner of Four Peaks Technologies, Inc., a printing company. Mr. Cimochoowski brings to our Board historical perspective of the operations of CyberOptics, detailed knowledge of the computer development process, assembly process and markets, and substantial experience with the management and finance of both emerging and established companies.

Kathleen P. Iverson, age 54, has been a director of CyberOptics since 1998, has been Chairman of our Board of Directors since August 2009, our Chief Executive Officer since January 2003, and our President since January 2002. From January 2002 until January 2003, Ms. Iverson was also our Chief Operating Officer. Prior to joining CyberOptics, Ms. Iverson was with Rosemount, Inc., a developer and manufacturer of industrial sensors and process control products for 22 years, lastly as Vice President and General Manager of Rosemount's Complete Point Solutions. Ms. Iverson also currently serves as a director of Navarre Corporation. Ms. Iverson, as the officer in charge of day to day operations and with the most direct management authority and broadest knowledge of company operations, is an essential member of the Board. Further, Ms. Iverson's previous positions managing the operations of a significant manufacturer of sensor controls, both locally and internationally, place her in the position to provide input regarding our business strategy.

Subodh Kulkarni, age 45, has been a director of CyberOptics since 2009. Dr. Kulkarni has been Chief Technology Officer and Senior Vice President, Global Commercial Business, of Imation Corp since 2009; was Vice President, Global Commercial Business, R&D and Manufacturing of Imation from 2007 through 2009; Vice President, R&D and Manufacturing of Imation from 2006 through 2007; Vice President of R&D of Imation from March 2006 until October 2006; and Executive Director of R&D of Imation from 2004 until March 2006. Prior to 2004, Dr. Kulkarni held various research management positions with 3M Corporation, and prior to that, with IBM. Dr. Kulkarni received his B.S. in chemical engineering (first in his class) from IIT—Bombay, India, and went on to obtain a master's degree and a PhD in chemical engineering from the Massachusetts Institute of Technology, with thesis work on disilane surface decomposition—used in the manufacture of semiconductors. He has won a number of awards for commercializing technologies he and others have developed in the electronics industry. Dr. Kulkarni brings to our Board significant expertise in management of technology-focused entities, in commercialization of technologies in the electronics, computer and semiconductor industries, and in the markets for our products.

Irene M. Qualters, age 60, has been a director of CyberOptics since 1999 and has been Lead Director since 2009. Since December 2009, she has been Program Director – Office of Cyberinfrastructure of the National Science Foundation. From 2008 until 2009, she was Senior Vice President—Products of Silicon Graphics, Inc., a manufacturer of high-performance computing solutions. From 2005 until 2008, Ms. Qualters was Vice President, Software Engineering of Ageia Technologies, Inc., a developer of gaming physics technology. From 1999 until 2005, she was Vice President, Research Information Services at Merck & Company, a global pharmaceuticals company. From 1995 until 1999, she held various executive positions with Cray Research, a developer of super computers, lastly as President of Cray Research and Senior Vice President of Silicon Graphics, Inc., then its holding company. Ms. Qualters received her Bachelor's degree from Duquesne University, and a Masters in Computer Science from the University of Detroit. Ms. Qualters has experience managing large organizations, particularly organizations in the computer industry and engaged in both software and semiconductor development, has significant industry connections, and has experience as an executive officer of several public companies.

Michael M. Selzer, Jr., age 57, has been a director of CyberOptics since 1999. Mr. Selzer has served as a consultant to medical products companies since 2009. He was a founder of ConcepTx Medical, Inc., a developmental-stage medical device company, and served as the Chief Executive Officer and a Director of ConcepTx, from 2007 until 2009. He was President, Chief Executive Officer and Director of Optobionics Corp., a technology startup that attempted to apply semiconductors to human optical disorders, from 2003 until it filed for protection under federal bankruptcy law in 2007. He was Chief Executive Officer of Urologix, Inc., a publicly held, medical device manufacturer from 1999 to 2003 and was Vice President and General Manager—Neurostimulation Business of Medtronic, Inc. from 1994 until December 1998. Mr. Selzer received his B.S. in electrical engineering from South Dakota School of Mines and his MBA from Arizona State University. Mr. Selzer has expertise in semiconductor and circuit board fabrication, public company management and sales, and emerging company finance, operations and management.

All nominees that are elected will serve until the next annual meeting or until their earlier death, resignation, removal or disqualification. We intend to vote the proxies in favor of the nominees named above as directors, unless you otherwise direct us in the proxy card. If a nominee for director becomes unavailable for any reason, the proxies will be voted in accordance with the best judgment of the named representatives. We have no reason to believe that any candidate will be unavailable.

Directors are elected by a plurality of votes cast. The five nominees receiving the highest number of votes will be elected. The Board of Directors recommends a vote FOR each nominee.

INFORMATION ABOUT OUR BOARD OF DIRECTORS AND ITS COMMITTEES, AND OTHER CORPORATE GOVERNANCE MATTERS

Our Board and Board Leadership

Composition and Independence. Under the Minnesota Business Corporation Act, and our Articles of Incorporation and Bylaws, our business and affairs are managed under the direction of our Board of Directors. Our officers are responsible for day to day management of operations. Our Board currently consists of five members, all of whom are standing for reelection at the annual meeting.

We require that a majority of the members of our Board of Directors be “independent” within the meaning of the requirements of the Nasdaq Stock Market listing standards. Based on information contained in questionnaires completed by each nominee for director and otherwise available to us, and based on inquiry of each of our directors, our Board of Directors has concluded that each of Mr. Cimochowski, Mr. Kulkarni, Ms. Qualters and Mr. Selzer, constituting a majority of our Board, is independent not only within the meaning of the Nasdaq Marketplace Rules, but within the meaning of the heightened standards applicable to members of an audit committee contained in Section 301 of The Sarbanes Oxley Act of 2002 and Rule 4350(d) of the Nasdaq Marketplace Rules. In considering the independence of our directors, our Board inquired and was advised that, to the knowledge of these individuals, neither they nor any member of their immediate family had engaged in any transaction with us except in their capacities as directors.

Meetings and Attendance. Our Board strives to maintain sound corporate governance, consistent with the scope of our operations and the integrity of our personnel. Accordingly, attendance by our Board members at all meetings has been a continuing goal and we devote considerable effort to scheduling meetings so that all directors may attend and may review financial information regarding our quarterly and annual results prior to public release. During the year ended December 31, 2009, we had five meetings of the Board and each director attended 100% of the meetings. Our directors met in separate, executive session without management twice during 2009. In addition, our audit committee, which consists of all the independent directors who served during most of 2009 and who are standing for reelection, meets in executive session without management at its meetings, and met in executive session five times during 2009.

We require that all Board members use their best efforts to attend our annual shareholder meeting. All of our directors attended the annual meeting held on May 18, 2009.

Our Chairman and our Lead Director. Although we have, since 1998, separated the roles of Chairman and Chief Executive Officer, Kathleen Iverson, our Chief Executive Officer, was also elected Chairman of the Board in August 2009, after Dr. Case’s death (our former Chairman). At the same time, our Board appointed Irene Qualters, who continues to be Chair of our Nominating and Corporate Governance Committee, as Lead Director with responsibility to chair executive sessions of the Board, to formulate and set the agenda for executive sessions, to consult with the Chief Executive Officer regarding matters related to and approve the general agenda for Board meetings, to otherwise coordinate relations and communications between the Chief Executive Officer and the Board, and to be available in the event shareholders desire communication with independent members of the Board. In making the decision to appoint Ms. Iverson to the position of Chairman, our Board considered the size of the Company’s operations, the number of Board members and the history of open communication among members, the mixed message regarding authority that would be generated by appointing a non-executive chair so soon after Dr. Case’s death, and the independence of all remaining Board members.

Responsibility for Risk Management. Our Board considers the identification and management of risk a responsibility of the board as a whole. Nevertheless our Audit Committee has specifically

undertaken to identify, and direct management in the control of, financial risk, and in its role in reviewing the periodic reports we file with the Securities and Exchange Commission, continues to focus on articulating known risks and identifying them for the Board. Our Compensation Committee is responsible for ensuring that the executive compensation plans and stock benefit plans that it establishes and oversees do not encourage our officers and employees to undertake unnecessary risks. Our Nominating and Corporate Governance Committee considers risks presented by changing law and regulation and recommends changes in governance and operations to comply. Each of these committees reports its recommendations on risk management to the Board as a whole.

Committees of Our Board

Our Board has three committees: An Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee, each of which has a written charter. Copies of the charters for all three committees may be reviewed on our website at www.cyberoptics.com.

Audit Committee. Our Audit Committee assists our Board in overseeing and monitoring our accounting and financial reporting processes, audits of our financial statements, the independence and performance of our independent auditors and our compliance with legal and regulatory requirements. The Audit Committee reviews all interested party transactions and oversees our Code of Business Conduct and Ethics. The Audit Committee generally requires any transaction between CyberOptics and a director or officer, the immediate family of a director or officer, or any entity that a director or officer controls to be reported to our Ethics Officer. The Ethics Officer, in turn, is obligated to report the transaction to the Committee. Although it has not adopted written standards of approval, the Audit Committee generally considers these transactions consistent with its fiduciary obligations and approves transactions only if they are fair and reasonable, in the best interests of the corporation, and on terms no less favorable than could be obtained from an unaffiliated third party.

The Audit Committee has sole authority to appoint, determine funding for, retain and oversee our independent registered public accounting firm and to pre-approve all audit services and permissible non-audit services. It is our policy to present to the entire Committee proposals for all audit services and permissible non-audit services prior to engagement.

Our Audit Committee currently consists of Mr. Cimochoowski (Chair), Ms. Qualters and Mr. Selzer, each of whom is an “independent director” within the meaning of Section 301 of The Sarbanes Oxley Act of 2002 and Nasdaq listing standards applicable to audit committees. Our Board of Directors has identified Mr. Cimochoowski and Mr. Selzer as “audit committee financial experts” within the definition established by the Securities and Exchange Commission. The Audit Committee held six meetings during 2009 and acted once by written consent. All members of the Committee attended all (100%) of the meetings. The report of the Audit Committee is contained on page 13 of this proxy statement.

Compensation Committee. Our Compensation Committee establishes the compensation of our executive officers, including our Chief Executive Officer, administers our stock-based benefit plans, including our 1998 Stock Incentive Plan and our Employee Stock Purchase Plan, and makes recommendations to our Board regarding director compensation. The Compensation Committee currently consists of Mr. Selzer (Chair), Mr. Cimochoowski and Dr. Kulkarni, each of whom is an independent director under Nasdaq listing standards. During 2009, the Compensation Committee held four meetings. All members of the Committee attended 100% of the meetings.

Nominating and Corporate Governance Committee. The charter of our Nominating Committee was amended in August 2009 to assign to the Committee the obligation of monitoring our corporate governance function, which had formerly been assigned to the Board as a whole, and renaming

the Committee as the Nominating and Corporate Governance Committee. In addition to monitoring our corporate governance function, the responsibilities of the Committee include identifying individuals qualified to become Board members, recommending to the Board nominees to fill vacancies in membership of the Board as they occur and recommending a slate of nominees for election as Directors at the annual meeting. The Nominating Committee currently consists of all of our independent directors, including Ms. Qualters (Chair), Mr. Cimochoowski, Dr. Kulkarni and Mr. Selzer. During 2009, the Nominating and Corporate Governance Committee held five meetings. All members of the Committee attended 100% of the meetings.

We generally require that each nominee for Director be an individual of the highest character and integrity, have substantial experience which is of particular relevance to CyberOptics, have sufficient time available to devote to our affairs, and represent the best interests of all our stakeholders, including our shareholders. The Nominating and Corporate Governance Committee has discretion as to the determination of which individuals will best fit these criteria. We believe that all of the current nominees to the Board possess these characteristics, as described above. Although the Nominating and Corporate Governance Committee considers the diversity of Board members, including diversity of experience, gender and ethnicity, when considering candidates and believes that the current composition of the Board reflects that diversity, we have not adopted any diversity policies in the nomination of candidates for director.

When seeking additions to, or replacements for, Board positions, we first poll members of the Nominating and Corporate Governance Committee, and the Board as a whole, as to the specific characteristics that they perceive are most desirable for an additional member of the Board, which regularly includes characteristics that Board members believe they as a whole do not possess. Although we could employ a search firm in the future, we have historically been able to locate suitable candidates through the recommendations of members of our Board and our professional advisors. After candidates are identified, a background check is completed and the resume of each candidate is circulated among members of the Committee. If the Committee believes that it is advisable to proceed with a candidate, the candidate is interviewed by several members of the Committee and the Board Chair, and the impressions generated from these interviews are circulated to all members of the Committee and discussed at a Committee meeting. If the impressions are favorable and the Committee so determines, the candidate is asked to stand for election.

Although most candidates have originated from recommendations of officers, Board members, or professional advisors, and all of the nominees for the 2010 annual meeting are currently directors and are being re-nominated as such, the Nominating and Corporate Governance Committee will consider suggestions from other stakeholders, including shareholders, for nominees for the 2011 annual meeting. A candidate suggested by a shareholder would be considered using the same process as a candidate suggested by a Board member or other adviser. Any shareholder who wishes to recommend that a specific individual (other than the shareholder and other than someone who would not be independent under Nasdaq listing standards) be considered for nomination for the 2011 meeting should contact the Board with specific information about the proposed nominee, including an appropriate resume, prior to February 19, 2011. Methods of communicating with our Board are described on our website at www.cyberoptics.com. The Nominating and Corporate Governance Committee will consider these recommendations, but has absolute discretion as to whether to recommend any individual for nomination. For the 2010 annual meeting, we did not receive any nominations from shareholders.

Code of Conduct and Shareholder Communications with the Board

Our Code of Business Conduct and Ethics, which is posted on our website at www.cyberoptics.com, is applicable to all of our officers, directors and employees, including our senior financial officers.

We have also established procedures for communication by our shareholders with our directors. Shareholders may send communications by mail to the attention of:

Ethics Officer
 CyberOptics Corporation
 5900 Golden Hills Drive
 Golden Valley, MN 55416

You may also send communications by e-mail to board@cyberoptics.com. Our Ethics Officer will review all communications received and provide copies, or summaries, of those communications which are not frivolous or vexatious to the Chair of our Audit Committee for consideration. These procedures may also be found at our website at www.cyberoptics.com.

Compensation of Our Independent Directors

None of Mr. Cimoehowski, Dr. Kulkarni, Ms. Qualters or Mr. Selzer receive any compensation from us for services other than services in their capacities as members of our Board of Directors or of a committee of our Board of Directors. For 2009, we paid our independent directors an annual retainer of \$25,000 plus directors' fees of \$1,000 per meeting of the Board of Directors attended in person and \$500 per meeting of the Board of Directors attended by conference call. We also pay fees of \$500 for each meeting of a committee attended that is not associated with a Board meeting.

Until 2008, each independent director received an option to purchase 4,500 shares on the date of each annual meeting at which he or she was reelected. These options, which were granted automatically under our Stock Option Plan for Non-Employee Directors, are fully exercisable from the date of grant at a price equal to the fair market value of our common stock on that date. Effective on the date of our 2008 Annual Meeting, these 4,500 option grants were replaced with the grant of 1,000 shares to each non-employee director at the annual meetings at which they are reelected. These shares are fully vested on grant. We do not provide any other stock awards, non-equity incentive compensation, pension benefits or any other form of compensation to our directors who are not employees.

Ms. Iverson, who is also an employee and not an independent director, does not receive any additional compensation for service as a Board member. During 2009, we provided the following compensation to directors who are not also employees:

Director Compensation

Name	Fees Earned or Paid in Cash(\$)	Stock Awards ¹ (\$)	Total (\$)
Alex B. Cimoehowski	\$31,500	\$4,800	\$36,300
Irene M. Qualters	\$31,500	\$4,800	\$36,300
Michael M. Selzer, Jr.	\$31,500	\$4,800	\$36,300
Subodh Kulkarni ²	\$16,000	--	\$16,000

1. We did not grant options to directors in 2009 and all options previously granted had fully vested prior to the beginning of the year. Stock awards represent the expense recorded in 2009 for 1,000 shares granted each re-elected director based on the \$4.80 closing price on the date of our 2009 annual meeting. Options to purchase 22,500 shares for Mr. Cimoehowski, 36,000 shares for Ms. Qualters, and 27,000 shares for Mr. Selzer were outstanding at December 31, 2009.

2. Dr. Kulkarni was elected a director in December 2009.

EXECUTIVE COMPENSATION

Executive Officers

Ms. Iverson, our Chief Executive Officer, serves on the Board of Directors and her background is described above under the caption “Proposal I—Election of Directors.”

Jeffrey A. Bertelsen, 47, started as Vice President—Finance and Chief Financial Officer in 2005. Before joining CyberOptics, Mr. Bertelsen was Vice President, Finance, Corporate Controller and Treasurer and Assistant Secretary of Computer Network Technology Corporation (“CNT”), a provider of storage networking equipment and solutions. During his ten years at CNT, Mr. Bertelsen held various positions starting as controller in 1995. Prior to joining CNT, Mr. Bertelsen was a CPA with KPMG LLP.

Compensation

We provide three principal forms of compensation to our executives: (1) an annual cash salary that is established annually by reference to industry statistics that we gather from TechAmerica (formerly, American Electronics Association) and from Radford, and customize based on the seniority and level of performance of the executive; (2) annual, cash incentive pay based on an incentive plan that we have historically established for all employees; and (3) longer-term equity-based compensation in the form of stock options and restricted stock units. Our Compensation Committee, consisting solely of independent directors, sets executive compensation. Although our Chief Executive Officer participates in formulating compensation for employees other than herself, the Compensation Committee approves all executive compensation, and in the case of the Chief Executive Officer, without her participation.

In December 2008, because of global economic conditions, our Compensation Committee determined to freeze executive salaries for the 2009 fiscal year at the same level as salaries for 2008. Further, as the recession deepened in February 2009 the Committee approved a 12% decrease in executive salaries. These reductions, combined with the absence of any payout under our incentive plan and fewer paid officers as described below, resulted in significantly smaller overall executive compensation expense in 2009.

Our incentive plan as in effect for 2009 provided for payment of annual incentive pay based on a matrix of (i) revenue growth in 2009 over revenue averaged over the prior three years, to (ii) net income before interest and taxes that we generated for 2009. No incentive accrued under this matrix if revenue growth during 2009 was less than 9% over the three year average, or if net income before interest and taxes was less than 6% of revenue. The Committee made no changes in the incentive compensation plan during 2009, resulting in no payout whatsoever under the plan.

Because this matrix paid no bonus when revenue or profitability did not increase and resulted in no incentive pay for several years, for 2010 our Compensation Committee revised this plan to apply primarily to management level employees, and to base 70% of the incentive pay upon financial performance relative to budget, and 30% on specific operating goals. The financial performance goals (based upon revenue, operating income and cash balances) and the operating goals (based primarily upon product introductions) are uniform among all management employees in the 2010 plan.

We typically grant options and restricted stock units to continuing management employees as long-term compensation in December of each year, with both RSUs and options vesting over a four-year period commencing one year from the date of grant and options having a seven-year term. We made proportionately larger grants of options and RSUs in December 2008. Because of both these grants, and economic conditions, we made no grants in December 2009. Several management employees, including

Mr. Bertelsen, received option grants in May 2009 designed to compensate in part for the significantly reduced cash compensation that resulted from salary reductions in February, and Ms. Iverson received an option grant in September 2009 to reflect the significantly increased duties she assumed after the departure of our Vice President—Systems and the death of Dr. Case.

We do not maintain a pension plan and do not provide our executives non-qualified deferred compensation, but instead encourage retirement savings through our 401K Retirement Savings Plan. We have historically matched 50% of employee, including executive, contributions to the 401K plan, up to contributions by the employee equal to 6% of annual compensation.

We do not have employment agreements with our executives, although we have entered into severance pay agreements with Ms. Iverson and Mr. Bertelsen. Ms. Iverson's severance pay agreement provides that, in the event of her involuntary termination of employment for any reason other than misconduct, we will pay her twelve months' base salary. Further, Ms. Iverson's agreement provides that, in the event her employment is terminated by CyberOptics without cause or by Ms. Iverson with good reason after a change of control, we will pay her twice her total annual compensation averaged over the three years preceding termination and accelerate the vesting of her restricted stock units and options. We also have a severance pay agreement with Mr. Bertelsen that provides that he will be paid one times his annual compensation averaged over the three years preceding termination in the event his employment is terminated by CyberOptics without cause or by Mr. Bertelsen with good reason after a change of control. For purposes of these agreements "cause" is defined as the willful misconduct, or failure to perform services, by the executive, and "good reason" is defined as the failure of the successor to assign the executive comparable responsibilities, a relocation by more than 50 miles, or a reduction in compensation. A "change of control" is defined as a public announcement that any person or persons acting in concert have acquired 40% of our voting stock, a change of control required to be reported under proxy rules, a change in a majority of our directors, other than by succession, shareholder approval of a merger, consolidation or sale of substantially all our assets, or a decision of our directors that a change of control has occurred.

Steven DiMarco, our former Vice President and General Manager of Systems, resigned effective May 20, 2009 and Michael Proulx, our former Vice President Operations, retired on May 29, 2009. The Company paid Mr. Proulx a stay bonus of \$40,800 to secure his services from the February 6, 2009 date he tendered his resignation until his retirement date. Mr. DiMarco, who left for another position, did not receive any special severance compensation. Steven K. Case, our Chairman, died in a plane crash on June 16, 2009 and we had no special compensation programs for, and did not pay, any special death benefits.

Summary Compensation Table

The following table summarizes, for 2009 and 2008, the total compensation that we paid or accrued for those of our executive officers whose total compensation exceeded \$100,000 in 2009. The stock awards and option awards reflected in the table represent the grant date value of the awards in the year in which they are granted.

	Year	Salary	Bonus	Stock Awards ¹	Option Awards ¹	Non-Equity Incentive Plan Compensation ²	All Other Compensation ³	Total
Kathleen P. Iverson Chief Executive Officer, President & Chairman	2009	\$257,755	\$ --	\$ --	\$29,450	--	\$7,875	\$295,080
	2008	277,500	--	38,039	90,182	--	7,386	413,107
Steven K. Case ⁴ Chairman	2009	107,131	50,000 ⁴	50,000	--	--	23,170	230,301
	2008	240,000	100,000 ⁴	100,000	--	--	12,350	452,350
Jeffrey A. Bertelsen Chief Financial Officer	2009	166,263	--	--	31,635	--	5,010	202,908
	2008	179,000	--	21,736	51,533	--	6,092	258,361
Michael Proulx ⁵ VP—Operations	2009	72,278	40,800	--	--	--	24,115	137,193
	2008	163,200	--	10,868	25,766	--	4,714	204,548

1. Represents the grant date fair market value as determined using the Black-Scholes valuation model for stock options, and based upon the market value of our common stock for restricted stock units. See note 3 to our consolidated financial statements included as Item 8 to our Annual Report on Form 10-K for a description of the calculation of grant date fair market value.
2. Payment for performance under our incentive plan.
3. Consists of company contributions to a 401K plan, for Dr. Case and Ms. Iverson tax preparation services, for Dr. Case in 2009 a payment for unused paid time off (PTO) in the amount of \$15,434 and for Mr. Proulx in 2009 a payment for unused PTO in the amount of \$20,119.
4. Dr. Case died in a plane crash on June 16, 2009. Salary for 2009 reflects salary through the approximate date of his death. The bonuses and stock awards listed were to compensate Dr. Case for development achievements and absence of increased compensation during consideration of compensation package and were earned prior to his death.
5. Mr. Proulx resigned effective May 29, 2009. Includes Mr. Proulx's 2009 stay bonus of \$40,800.

Outstanding Equity Awards at Fiscal Year-End

The following table lists the options and restricted stock units held by each of the named executive officers at December 31, 2009. All of the options become exercisable, to the extent not already vested, in annual increments of one-quarter of the number of shares to which they are subject and most expire seven years from the date of grant.

Name	Option Awards				Restricted Stock Unit Awards	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock Held That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ¹ (\$)
Ms. Iverson	50,000		11.87	2/15/12		
	30,000		11.42	5/16/12		
	12,375	4,125 ²	12.95	12/7/13		
	6,675	6,675 ³	12.34	12/7/14		
	11,550	34,650 ⁴	4.99	12/5/15		
		10,000 ⁵	6.29	9/11/16		
					700 ²	4,697
					1,112 ³	7,462
					5,717 ⁴	38,361
Case Estate	50,000 ⁶		6.02	2/14/10	--	
Mr. Bertelsen	10,000		14.60	7/26/12		
	5,003	1,667 ²	12.95	12/7/13		
	3,350	3,350 ³	12.34	12/7/14		
	6,600	19,800 ⁴	4.99	12/5/15		
		15,000 ⁷	4.80	5/18/16		
					275 ²	1,845
					550 ³	3,691
					3,267 ⁴	21,922
Mr. Proulx	--	--			--	

1. Based on the closing price on December 31, 2009 of \$6.71 per share.

2. Vests on December 7, 2010.

3. Vests with respect to 50% of the shares on December 7, 2010 and 2011.

4. Vests with respect to 33% of shares on December 5, 2010, 2011 and 2012

5. Vests with respect to 25% of the shares on September 11, 2010, 2011, 2012 and 2013.

6. Represents options that remain exercisable for one year after Dr. Case's death, and were exercised by the estate in February 2010.

7. Vests with respect to 25% of the shares on May 18, 2010, 2011, 2012 and 2013.

BENEFICIAL OWNERSHIP

The following table provides information at February 28, 2010 about the ownership of our common stock by each person known to us to beneficially own 5% or more of our common stock, by each of our directors, by each of our executive officers, and by all our officers and directors as a group:

Name and Address of Beneficial Owner	Amount and Nature of Beneficial Ownership (1)	Percent of Class
T. Rowe Price Associates, Inc. 100 E. Pratt Street Baltimore, MD 21202 (2)	885,837	12.9%
Dimensional Fund Advisors LP Palisades West, Building One, 6300 Bee Cave Road Austin, TX 78746 (3)	675,558	9.9%
Archer Advisors LLC 150 South Broadway Wayzata, MN 55391 (4)	412,854	6.0%
Perritt Capital Management, Inc. 300 South Wacker Drive, Suite 2880 Chicago, IL 60606 (5)	354,662	5.2%
Estate of Steven K. Case 2829 Inglewood Ave St. Louis Park, MN 55416	366,652	5.4%
Jeffrey Bertelsen	27,417	*
Alex B. Cimochoowski (6)	31,406	*
Kathleen P. Iverson (6)	147,604	2.1%
Subodh Kulkarni	--	*
Irene M. Qualters	39,000	*
Michael M. Selzer, Jr.	33,950	*
All executive officers and directors as a group (6 persons)	279,377	4.0%

*Less than 1%

- (1) Includes 24,953 shares for Mr. Bertelsen, 22,500 shares for Mr. Cimochoowski, 110,600 shares for Ms. Iverson, 36,000 shares for Ms. Qualters, 27,000 shares for Mr. Selzer, and 221,053 shares for all officers and directors as a group, purchasable upon exercise of options exercisable within 60 days of February 28, 2010.
- (2) Based on an amendment to Schedule 13G filed February 12, 2010 by T. Rowe Price Associates, Inc. and T. Rowe Price Small-Cap Value Fund, Inc. Includes shares held by various investors for which T. Rowe Price Associates serves as investment advisor, including 669,300 shares over which T. Rowe Price Small-Cap Value Fund, Inc. has sole voting power and no power of disposition, and 225,737 over which T. Rowe Price Associates, Inc. has sole voting power.
- (3) Based on an amendment to Schedule 13G filed February 8, 2010. Represents shares held by four investment companies over which Dimensional Fund Advisors has sole investment power and voting power. Dimensional Fund Advisors disclaims beneficial ownership of such shares.
- (4) Based on Schedule 13G filed January 9, 2010.
- (5) Based on Schedule 13G filed January 21, 2010 by Perritt Capital Management, Inc. as adviser to Perritt MicroCap Opportunities Fund, and Perritt Funds, Inc. and includes 7,500 shares over which Perritt Capital Management has sole voting power and power of disposition, and 347,162 shares over which Perritt Capital Management has sole voting power and power of disposition.
- (6) Includes, for Mr. Cimochoowski 4,425 shares, and for Ms. Iverson 155 shares, held by a spouse, or in trust for children.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Under federal securities laws, our directors and officers, and any beneficial owner of more than 10% of our common stock, are required to report their ownership of our equity securities and any changes in ownership to the Securities and Exchange Commission. Specific due dates for these reports have been established by the SEC, and we are required to disclose in this Proxy Statement any delinquent filing of those reports and any failure to file reports during the fiscal year ended December 31, 2009. Based upon information provided by officers and directors, all our officers, directors and 10% shareholders filed all reports on a timely basis in the 2009 fiscal year.

REPORT OF THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS

Our management is responsible for our internal controls and our financial reporting process. Our independent accountants are responsible for performing an independent audit of our consolidated financial statements in accordance with generally accepted auditing standards and to issue a report on those financial statements. The Audit Committee's responsibility is to monitor and oversee these processes. The Audit Committee has reviewed and discussed the audited financial statements contained in our Annual Report on Form 10-K with management and Grant Thornton LLP, our independent registered public accounting firm. Management has represented to the Audit Committee that the consolidated financial statements were prepared in accordance with generally accepted accounting principles.

In connection with our consolidated financial statements for the fiscal year ended December 31, 2009, the Audit Committee discussed with the independent auditors matters required to be discussed by *PCAOB AU sec. 380, Communications with Audit Committees* and *SEC Rule 2-07, Communications with Audit Committees*, which includes, among other items:

- matters related to the conduct of the audit of our financial statements;
- methods to account for significant unusual transactions;
- the effect of significant accounting policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus;
- the process used by management in formulating particularly sensitive accounting estimates and the basis for the auditors' conclusions regarding the reasonableness of those estimates; and
- disagreements, if any, with management over the application of accounting principles, the basis for management's accounting estimates and the disclosures in the financial statements (there were no such disagreements).

Grant Thornton LLP also provided the Audit Committee with written disclosures and the letter required by Rule 3526 of the PCAOB, *Communications with Audit Committees Concerning Independence*, which relates to the auditors' independence from our company and its related entities, and the Audit Committee discussed with Grant Thornton LLP its independence.

Based upon the Audit Committee's discussion with management and the independent accountants and the Audit Committee's review of the representation of management and the report of the independent accountants to the Audit Committee, the Audit Committee recommended to the Board of Directors that the audited consolidated financial statements be included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2009 filed with the Securities and Exchange Commission.

Members of the Audit Committee

Alex B. Cimochofski

Irene M. Qualters

Michael M. Selzer, Jr.

INDEPENDENT ACCOUNTANTS AND PAYMENT OF FEES

On April 8, 2009, we dismissed PricewaterhouseCoopers LLP, Minneapolis, Minnesota, as our Independent Registered Public Accounting Firm. PricewaterhouseCoopers LLP was our independent auditor from 1994 to the end of the 2008 audit year. The reports of PricewaterhouseCoopers LLP on our financial statements for the years ended December 31, 2007 and 2008 contained no adverse opinion or disclaimer of opinion and was not qualified or modified as to uncertainty, audit scope, or accounting principles. In connection with its audits for the years ended December 31, 2007 and 2008, there were no disagreements between PricewaterhouseCoopers LLP and CyberOptics on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedure, which disagreement, if not resolved to the satisfaction of PricewaterhouseCoopers LLP, would have caused PricewaterhouseCoopers LLP to make reference thereto in its report on the financial statements for such years. During the years ended December 31, 2007 and 2008, there had been no reportable events (as defined in regulations of the SEC). We provided this disclosure to PricewaterhouseCoopers LLP and by letter dated April 13, 2009 they confirmed that they agreed with the statements made regarding PricewaterhouseCoopers LLP. We retained Grant Thornton LLP as our Independent Registered Public Accounting Firm on April 8, 2009 and Grant Thornton LLP has audited our financial statements for the fiscal year ended December 31, 2009.

The following is a summary of the fees billed to us by PricewaterhouseCoopers LLP and Grant Thornton LLP for professional services rendered for the year ended December 31, 2008, and December 31, 2009:

<u>Fee Category</u>	<u>2008 Fees</u>	<u>2009 Fees</u>
Audit Fees	\$ 244,339	\$ 159,000
Audit-Related Fees	-	-
Tax Fees ¹	209,153	-
All Other Fees	-	-
<u>Total Fees</u>	<u>\$ 453,492</u>	<u>\$ 159,000</u>

(1) Tax services were not provided by our independent auditors in 2009

Audit Fees consist of fees billed for professional services rendered for the audit of our annual consolidated financial statements and reviews of the interim consolidated financial statements included in our quarterly reports, and services that are normally provided by our independent public accounting firm in connection with statutory and regulatory filings or engagements.

Audit-Related Fees consist of fees billed for assurance and related services that are reasonably related to the performance of the audit or review of our consolidated financial statements and are not reported under "Audit Fees." These services include audits in connection with acquisitions and divestitures, attest services that are not required by statute or regulation, tax consultation concerning treatment of income taxes in U.S. GAAP based financial statements and consultations concerning financial accounting and reporting standards.

Tax Fees consist of fees billed for professional services for corporate tax return preparation and filing, compliance, tax advice and tax planning, as well as some personal tax preparation services for US personnel (not associated with a financial reporting role) working on our behalf overseas. These services include assistance regarding federal, state and international tax compliance, tax audit defense, custom and duties, acquisitions and divestitures and international tax planning.

All Other Fees (if any) consist of fees for products and services other than the services reported above.

PROPOSAL 2 — RATIFY THE APPOINTMENT OF OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Our Audit Committee is asking shareholders to ratify its appointment of Grant Thornton LLP as our independent registered public accounting firm for fiscal 2010, in order to ascertain the views of our shareholders on this appointment. In the event the shareholders fail to ratify the appointment, the Audit Committee will reconsider this appointment. Even if the appointment is ratified, the Audit Committee, in its discretion, may appoint a different independent registered public accounting firm at any time during the year if the Audit Committee determines that such a change would be in the best interests of CyberOptics and its shareholders.

Representatives of Grant Thornton LLP will be present at the annual meeting and will have the opportunity to make a statement if they desire to do so. These representatives will also be available to respond to appropriate questions after the meeting.

The Audit Committee of the Board of Directors recommends that the shareholders vote FOR the ratification of the appointment of Grant Thornton LLP to serve as our independent registered public accounting firm for fiscal 2010. Proxies solicited by the Board of Directors will, unless otherwise directed, be voted for the ratification of the appointment.

The affirmative vote of the holders of a majority of the shares of common stock present and entitled to vote at the annual meeting on this item of business is required for the approval of the proposal (provided that the number of shares voted in favor of the proposal constitutes more than 25% of the outstanding shares of our common stock). If a shareholder abstains from voting on this proposal, then the shares held by that shareholder will be deemed present at the annual meeting for purposes of determining a quorum and for purposes of calculating the vote with respect to this proposal, but will not be deemed to have been voted in favor of this proposal. Brokers and other nominees have discretionary authority to vote on this matter as they choose unless they receive specific voting instructions from the beneficial owner. If you hold shares in any brokerage account or through a bank, trust or other nominee and wish to assure those shares are voted on this proposal in a specific manner, then you should instruct the broker, bank, trust or other nominee how to vote the shares using the instructions provided.

SHAREHOLDER PROPOSALS AND NOMINATIONS FOR THE NEXT ANNUAL MEETING

Any shareholder wishing to include a proposal in our proxy solicitation materials for our next annual meeting of shareholders must submit the proposal for consideration in writing to our corporate Secretary at our principal executive offices, 5900 Golden Hills Drive, Minneapolis, MN 55416, no later than December 10, 2010.

Under our Bylaws, in order for business to be properly brought before the next annual meeting by a shareholder, or in order for a nominee for director to be considered at the next annual meeting, the shareholder must give us written notice of the shareholder's intent to bring a matter before the annual meeting, or nominate the director, no later than February 19, 2011. Each notice must describe the matter, the shareholder who intends to bring the matter before the meeting and the business desired to be conducted, as set forth in greater detail in our Bylaws.

Our management will use discretionary authority to vote against any shareholder proposal, or director nominee not made by management, presented at the next annual meeting if: (i) the proposal or nominee has been properly omitted from our proxy materials under federal securities laws; (ii) notice of the proposal or nominee was not submitted to the Secretary at the address listed above by February 19, 2011; or (iii) the proponent has not solicited proxies in compliance with federal securities laws from the holders of at least the percentage of our voting shares required to carry the proposal or elect the nominee.

GENERAL

Our Board of Directors does not know of any matters other than those described in this proxy statement that will be acted upon at the Annual Meeting. In the event that any other matters properly come before the meeting calling for a vote of shareholders, the persons named as proxies in the enclosed form of proxy will vote in accordance with their best judgment.

BY ORDER OF THE BOARD OF
DIRECTORS

Thomas Martin
Secretary

Dated: April 9, 2010