

XENONICS HOLDINGS, INC.

**3186 Lionshead Avenue, Suite 100
Carlsbad, California 92010**

May 1, 2009

Dear Shareholder:

You are cordially invited to attend the 2009 Annual Meeting of Shareholders of Xenonics Holdings, Inc. The meeting will be held at the Company's offices at 3186 Lionshead Avenue, Carlsbad, California 92010, beginning at 10:00 A.M., local time, on Tuesday, June 2, 2009.

The Notice of Meeting and the Proxy Statement on the following pages cover the formal business of the meeting, which includes two items to be voted on by the shareholders. At the Annual Meeting, I will also report on Xenonics' current operations and will be available to respond to questions from shareholders.

Whether or not you plan to attend the meeting, it is important that your shares be represented and voted at the meeting. You are urged, therefore, to complete, sign, date and return the enclosed proxy card (or use telephone or internet voting procedures, if offered by your broker), even if you plan to attend the meeting.

I hope you will join us.

Sincerely,

A handwritten signature in black ink, appearing to read "Alan P. Magerman". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Alan P. Magerman
Chairman of the Board

XENONICS HOLDINGS, INC.

3186 Lionshead Avenue, Suite 100
Carlsbad, California 92010

NOTICE OF ANNUAL MEETING OF SHAREHOLDERS to be held on June 2, 2009

Notice is hereby given to the holders of common stock, \$0.001 par value per share, of Xenonics Holdings, Inc. (“**Xenonics**” or the “**Company**”) that the Annual Meeting of Shareholders will be held on Tuesday, June 2, 2009 at the Company’s offices at 3186 Lionshead Avenue, Carlsbad, California 92010, beginning at 10:00 A.M., local time, for the following purposes:

- (1) To elect four directors to serve until the 2010 Annual Meeting of Shareholders;
- (2) To ratify the selection of SingerLewak LLP as Xenonics’ independent auditors for the fiscal year ending September 30, 2009; and
- (3) To transact such other business as may properly come before the Annual Meeting or any postponement or adjournment of the Annual Meeting.

Only those shareholders of record at the close of business on April 15, 2009 are entitled to notice of and to vote at the Annual Meeting or any postponement or adjournment of the Annual Meeting. A complete list of shareholders entitled to vote at the Annual Meeting will be available at the Annual Meeting.

By Order of the Board of Directors



Richard S. Kay
Corporate Secretary

May 1, 2009

WHETHER OR NOT YOU EXPECT TO ATTEND THE ANNUAL MEETING, PLEASE COMPLETE, SIGN, DATE, AND RETURN THE ENCLOSED PROXY PROMPTLY IN THE ENCLOSED BUSINESS REPLY ENVELOPE (OR USE TELEPHONE OR INTERNET VOTING PROCEDURES, IF AVAILABLE THROUGH YOUR BROKER). IF YOU ATTEND THE ANNUAL MEETING YOU MAY, IF YOU WISH, REVOKE YOUR PROXY AND VOTE IN PERSON.

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XENONICS HOLDINGS, INC.

**3186 Lionshead Avenue, Suite 100
Carlsbad, California 92010**

Annual Meeting of Shareholders to be Held on June 2, 2009

PROXY STATEMENT

This Proxy Statement is furnished to holders of the common stock, \$0.001 par value per share, of Xenonics Holdings, Inc., a Nevada corporation, in connection with the solicitation of proxies by our Board of Directors for use at our 2009 Annual Meeting of Shareholders to be held at the Company's offices at 3186 Lionshead Avenue, Carlsbad, California 92010, beginning at 10:00 A.M., local time, on Tuesday, June 2, 2009, and at any postponement or adjournment of the Annual Meeting.

This Proxy Statement and the accompanying proxy card are first being mailed to our shareholders on or about May 1, 2009.

What is the purpose of the Annual Meeting?

At the Annual Meeting, shareholders will act upon the matters outlined in the attached Notice of Meeting and described in detail in this Proxy Statement, which are the election of directors, and the ratification of our appointment of independent accountants. In addition, management will report on our performance during fiscal 2008 and respond to questions from shareholders.

Who is entitled to vote at the Annual Meeting?

Only shareholders of record at the close of business on April 15, 2009 will be entitled to notice of, and to vote at, the Annual Meeting or any adjournment or postponement of the Annual Meeting.

What are the voting rights of the holders of our common stock?

Holders of our common stock are entitled to one vote per share with respect to each of the matters to be presented at the Annual Meeting. The affirmative vote of a majority of the votes cast at the Annual Meeting, provided a quorum is present, will be required for approval of each of the proposals described in this Proxy Statement other than the election of directors. With regard to the election of directors, the four nominees receiving the greatest number of votes cast will be elected.

Abstentions will be counted towards the tabulation of votes cast on matters properly presented to the shareholders (except the election of directors) and will have the same effect as negative votes. Broker non-votes will not be counted as votes cast and, therefore, will have no effect on the outcome of the matters presented at the Annual Meeting.

What constitutes a quorum?

Our Bylaws provide that the presence, in person or by proxy, at our Annual Meeting of the holders of a majority of the outstanding shares of our common stock will constitute a quorum.

For the purpose of determining the presence of a quorum, proxies marked "withhold authority" or "abstain" will be counted as present. Shares represented by proxies that include so-called broker non-votes also will be counted as shares present for purposes of establishing a quorum. On the record date of April 15,

2009, there were 20,458,968 shares of our common stock issued and outstanding, and those shares are the only shares that are entitled to vote at the Annual Meeting.

What are the Board's recommendations?

Unless you give other instructions on your proxy card, the persons named as proxy holders on the proxy card will vote in accordance with the recommendations of our Board of Directors. The recommendations of our Board of Directors are set forth together with the description of each Proposal in this Proxy Statement. In summary, our Board of Directors recommends a vote:

- “FOR” election of the directors named in this Proxy Statement (see Proposal I);
- “FOR” ratification of the appointment of SingerLewak LLP as our independent auditors for fiscal 2009 (see Proposal II).

Proxies

If the enclosed proxy card is executed, returned in time and not revoked, the shares represented by the proxy card will be voted at the Annual Meeting and at any postponement or adjournment of the Annual Meeting in accordance with the directions indicated on the proxy card. **IF NO DIRECTIONS ARE INDICATED, PROXIES WILL BE VOTED “FOR” ALL PROPOSALS DESCRIBED IN THIS PROXY STATEMENT AND, AS TO ANY OTHER MATTERS PROPERLY BROUGHT BEFORE THE ANNUAL MEETING OR ANY POSTPONEMENT OR ADJOURNMENT OF THE ANNUAL MEETING, IN THE SOLE DISCRETION OF THE PROXY HOLDERS.**

A shareholder who returns a proxy card may revoke it at any time prior to its exercise at the Annual Meeting by (i) giving written notice of revocation to our Corporate Secretary, (ii) properly submitting to us a duly executed proxy bearing a later date, or (iii) appearing at the Annual Meeting and voting in person. All written notices of revocation of proxies should be addressed as follows: Xenonics Holdings, Inc., 3186 Lionshead Avenue, Suite 100, Carlsbad, California 92010, Attention: Corporate Secretary.

How may I request multiple sets of proxy materials if two or more shareholders reside in my household?

To minimize our expenses, one proxy statement and 2008 Form 10-K may be delivered to two or more shareholders who share an address unless we have received contrary instructions from one or more of the shareholders. We will deliver promptly upon written or oral request a separate copy of the proxy statement and annual report to a shareholder at a shared address to which a single copy of the proxy statement and annual report was delivered. Requests for additional copies of the proxy statement and annual report, and requests that in the future separate documents be sent to shareholders who share an address, should be directed by writing to Xenonics Holdings, Inc., 3186 Lionshead Avenue, Suite 100, Carlsbad, California 92010, Attention: Corporate Secretary, or by calling Lupita Anderson at (760) 477-8900.

How may I request a single set of proxy materials for my household?

If you share an address with another shareholder and have received multiple copies of our proxy materials, you may write or call us at the address set forth in the preceding paragraph to request delivery of a single copy of these materials.

Important Notice Regarding the Internet Availability of Proxy Materials for the Shareholder Meeting to be Held on June 2, 2009

This proxy statement, the accompanying proxy and our 2008 Form 10-K are also available on our website at <http://www.xenonics.com>.

PROPOSAL I

ELECTION OF DIRECTORS

The following is information concerning the nominees for election as directors. We believe that each nominee will be able to serve as a director. In the event that a nominee is unable to serve, the proxy holders will vote the proxies for such other nominee as they may determine.

Nominees

Alan P. Magerman. Mr. Magerman, age 74, founded Xenonics, Inc. in November 1996, and has been Chairman of Xenonics Holdings, Inc. since its acquisition of Xenonics, Inc. in July 2003, and he served as Chief Executive Officer of Xenonics Holdings, Inc. from July 2003 through April 2005. Prior to founding Xenonics, Mr. Magerman was a founder and former chairman of Odyssey Sports, Inc., a privately held company engaged in the development and distribution of golf clubs from 1990 through 1995. Mr. Magerman was a consultant and director of NTN Communications, Inc., (NTN), a publicly held broadcasting and cable television company from 1984 through 1997.

Jeffrey P. Kennedy. Mr. Kennedy, age 55, has been a director and the President and Chief Operating Officer of Xenonics, Inc. since June 1997. Mr. Kennedy has held the same positions with Xenonics Holdings, Inc. since the acquisition of Xenonics, Inc. in July 2003. Prior to joining Xenonics, Inc., Mr. Kennedy held a variety of management positions with Mobil Corporation, including General Manager of the Mobil Chemical Plastics Division. He was educated at the University of Maine, receiving a BS degree in chemistry and an MS degree in chemical engineering.

Robert Petersen. Mr. Petersen, age 63, became a director of Xenonics Holdings, Inc. in April 2005. He is the President of Asset Management Group, which provides CFO-oriented financial consulting to developers and contractors. Mr. Petersen also serves as Chief Financial Officer and Senior Vice President of Collins Development Company and La Jolla Development Company, which are real estate management companies. Mr. Petersen is a certified public accountant and received an M.B.A. and an M.S. in Taxation from San Diego State University.

Robert Buie. Mr. Buie, age 66, became a director of Xenonics, Inc. in December 1998, and has been a director of Xenonics Holdings, Inc. since the acquisition of Xenonics, Inc. in July 2003. Mr. Buie founded the Buie Group of Companies, a Southern California residential developer in 1983 and currently still serves as its Chief Executive Officer. From 1971 to 1983, he was a senior officer of Avco Communities, a major publicly traded homebuilder. Mr. Buie holds an MBA from Harvard University and a Civil Engineering degree from Virginia Polytechnic Institute.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE NOMINEES FOR ELECTION AS DIRECTORS.

Meetings of the Board of Directors and Committees

Board of Directors

The property, affairs and business of Xenonics Holdings, Inc. are conducted under the supervision and management of our Board of Directors as called for under the laws of Nevada and our Bylaws. Our Board of Directors has established a standing Audit Committee, Compensation Committee, and Nominating and Governance Committee, each member of which is “independent” under the independence standards of both the NYSE Amex and the Securities and Exchange Commission (the “SEC”).

The Board of Directors held seven meetings during the 2008 fiscal year. Each director attended at least 75% of the aggregate of the total meetings of the Board and the total number of meetings of all Board committees on which he served that were held during the portion of the 2008 fiscal year in which he served as a director or served on such committees, as applicable.

Our Board of Directors has determined that Messrs. Buie and Petersen are each “independent” under the independence standards of both the NYSE Amex and the SEC and have no material relationships with us (either directly or as a partner, shareholder or officer of any entity) that could be inconsistent with a finding of their independence as members of our Board of Directors or as the members of our Audit Committee, Compensation Committee or Nominating and Governance Committee. Our Board of Directors also has determined that Mr. Petersen, one of the independent directors serving on our Audit Committee, is an “audit committee financial expert” as defined by SEC rules.

The following table provides information concerning the current membership of our Board committees:

| Name | Audit Committee | Compensation Committee | Nominating and Governance Committee | Executive Committee |
|-------------------------|-----------------|------------------------|-------------------------------------|---------------------|
| Alan P. Magerman | | | | (4) |
| Jeffrey P. Kennedy..... | | | | (4) |
| Robert Buie | (1) | (2) | (3) | |
| Robert Petersen..... | (1) | (2) | (3) | |

- (1) These directors constitute the members of our Audit Committee. Mr. Petersen is the Chairman of the Committee.
- (2) These directors constitute the members of our Compensation Committee. Mr. Buie is the Chairman of the Committee.
- (3) These directors constitute the members of our Nominating and Governance Committee. Mr. Buie is Chairman of the Committee.
- (4) These directors constitute the members of our Executive Committee. Mr. Magerman is the Chairman of the Committee.

Audit Committee

The Audit Committee assists the Board of Directors in fulfilling its oversight responsibilities relating to:

- The quality and integrity of our financial statements and reports.
- The independent auditors' qualifications and independence.
- The performance of our internal audit function and independent auditors.

The Audit Committee appoints the outside auditors, reviews with the outside auditors the plans and results of the audit engagement, approves permitted non-audit services provided by our independent auditors, and reviews the independence of the auditors. The Audit Committee's responsibilities also include oversight activities described below under the "Report of the Audit Committee." The Audit Committee's Charter is on our website at www.xenonics.com.

The Audit Committee held four meetings during the 2008 fiscal year.

Compensation Committee

The Compensation Committee is authorized to review and make recommendations to the full Board of Directors relating to the annual salaries and bonuses of our officers and to determine in its sole discretion all grants of stock options, the exercise price of each option, and the number of shares to be issuable upon the exercise of each option under our stock option plans. The Committee also is authorized to interpret our stock option plans, to prescribe, amend and rescind rules and regulations relating to the plans, to determine the term and provisions of the respective option agreements, and to make all other determinations deemed necessary or advisable for the administration of the plans. The Compensation Committee's Charter is on our website at www.xenonics.com.

The Compensation Committee held three meetings during the 2008 fiscal year.

Nominating and Governance Committee

The Nominating and Governance Committee assists our Board of Directors in discharging its duties relating to corporate governance and the compensation and evaluation of the Board. The purpose of the Committee is to (1) identify individuals who are qualified to become members of the Board, consistent with criteria approved by the Board, (2) select, or recommend for the Board's selection, the director nominees for each annual meeting of shareholders, (3) develop and recommend to the Board a set of corporate governance principles applicable to Xenonics, (4) oversee the annual evaluation of the Board and management, and (5) perform such other actions within the scope of the Committee's Charter as the Committee deems necessary or advisable. A copy of the Nominating and Governance Committee's Charter is available on our website at www.xenonics.com.

The Nominating and Governance Committee held two meetings during the 2008 fiscal year.

The Nominating and Governance Committee has not established any specific minimum qualifications for director candidates or any specific qualities or skills that a candidate must possess in order to be considered qualified to be nominated as a director. Qualifications for consideration as a director nominee may vary according to the particular areas of expertise being sought as a complement to the existing board composition. In making its nominations, our Nominating and Governance Committee generally will consider, among other things, an individual's business experience, industry experience, financial background, breadth of knowledge

about issues affecting our company, time available for meetings and consultation regarding company matters and other particular skills and experience possessed by the individual.

Shareholder Recommendations of Director Candidates

The Nominating and Governance Committee will consider Board nominees recommended by shareholders. In order for a shareholder to nominate a candidate for director, timely notice of the nomination must be given in writing to the Corporate Secretary of the Company. To be timely, the notice must be received at the principal executive offices of the Company as set forth under "Shareholder Proposals" below. Notice of a nomination must include your name, address and number of shares you own; the name, age, business address, residence address and principal occupation of the nominee; and the number of shares beneficially owned by the nominee. It must also include the information that would be required to be disclosed in the solicitation of proxies for election of directors under the federal securities laws, as well as whether the individual can understand basic financial statements and the candidate's other board memberships (if any). You must submit the nominee's consent to be elected and to serve. The Nominating and Governance Committee may require any nominee to furnish any other information that may be needed to determine the eligibility and qualifications of the nominee.

Any recommendations in proper form received from shareholders will be evaluated in the same manner that potential nominees recommended by our Board members or management are evaluated.

Shareholder Communication with Board Members

Shareholders who wish to communicate with our Board members may contact us at our principal executive office at 3186 Lionshead Avenue, Suite 100, Carlsbad, California 92010. Written communications specifically marked as a communication for our Board of Directors, or a particular director, except those that are clearly marketing or soliciting materials, will be forwarded unopened to the Chairman of our Board, or to the particular director to whom they are addressed, or presented to the full Board or the particular director at the next regularly scheduled Board meeting.

Board Members' Attendance at Annual Meetings

Each director is expected to be present at the Annual Meeting of Shareholders. All of our four current directors attended the 2008 annual meeting.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934 requires our directors and executive officers, and persons who own more than 10% of the outstanding shares of our common stock (collectively, "**Reporting Persons**") to file reports of ownership and changes in ownership with the SEC. Reporting Persons are required by SEC regulations to furnish us with copies of all Section 16(a) forms that they file.

Based solely on our review of the copies of such forms received or written representations from the Reporting Persons, we believe that, with respect to the fiscal year ended September 30, 2008, all of the Reporting Persons complied with all applicable Section 16 filing requirements on a timely basis.

Beneficial Owners of More Than Five Percent of Xenonics' Common Stock; Shares Held by Directors and Executive Officers

The following table sets forth certain information regarding the beneficial ownership of our common stock as of April 15, 2009 by (i) each person who is known by us to own beneficially more than five percent of our outstanding common stock; (ii) each of our current directors and director nominees; (iii) the executive officers listed below in the Summary Compensation Table; and (iv) all current executive officers and directors of a group. The number of shares and the percentage of shares beneficially owned by each such person or group, as set forth below, include shares of common stock that such person or group had the right to acquire on or within sixty days after April 15, 2009 pursuant to the exercise of vested and exercisable options or warrants. References to options or warrants in the footnotes to the table below include only options or warrants to purchase shares that were exercisable on or within sixty days after April 15, 2009.

| Name & Address of Beneficial Owner ⁽¹⁾ | Amount of Common Stock & Nature of Beneficial Ownership ⁽²⁾ | Percent of Ownership of Common Stock |
|---|--|--------------------------------------|
| Gemini Master Fund | 1,406,021 ⁽³⁾ | 6.7% |
| Alan P. Magerman | 832,758 ⁽⁴⁾ | 4.0% |
| Jeffrey P. Kennedy | 916,600 ⁽⁵⁾ | 4.4% |
| Robert F. Buie | 583,529 ⁽⁶⁾ | 2.8% |
| 11260 El Camino San Diego, CA 92130 | | |
| Richard S. Kay..... | 72,500 ⁽⁷⁾ | 0.4% |
| Robert Petersen | 25,000 ⁽⁸⁾ | 0.1% |
| 11750 Sorrento Valley Road San Diego, CA 92121 | | |
| Charles W. Hunter | 89,000 ⁽⁹⁾ | 0.4% |
| Former Chief Executive Officer | | |
| All current executive officers and directors as a group... (5 persons) | 2,430,387 ⁽¹⁰⁾ | 11.3% |

(1) Except as otherwise indicated, the address of each shareholder is c/o Xenonics Holdings, Inc., 3186 Lionshead Avenue, Suite 100, Carlsbad, California, 92010.

(2) The number of shares of common stock issued and outstanding on April 15, 2009 was 20,458,968 shares.

(3) The Investment Manager of Gemini Master Fund, Ltd. is Gemini Strategies, LLC. The Managing Member of Gemini Strategies, LLC is Mr. Steven W. Winters. As such, Mr. Winters may be deemed beneficial owner of the shares; however, Mr. Winters disclaims beneficial ownership of such shares. Includes 337,500 shares issuable upon the exercise of currently exercisable warrants to purchase shares of common stock and 337,500 shares

issuable upon the exercise of currently unvested warrants to purchase shares of common stock.

- (4) Includes 412,000 shares that Alan Magerman, a director and officer of Xenonics Holdings, Inc., has the right to acquire pursuant to stock options. Mr. Magerman's shareholdings also include 160,000 shares owned by his wife, Phyllis Magerman.
- (5) Includes 335,000 shares that Jeffrey Kennedy, a director and officer of Xenonics Holdings, Inc., has the right to acquire pursuant to stock options and 100,000 shares that he has the right to acquire pursuant to warrants.
- (6) Includes 50,000 shares that Robert Buie, a director of Xenonics Holdings, Inc., has the right to acquire pursuant to stock options.
- (7) Includes 52,500 shares that Richard S. Kay, an officer of Xenonics Holdings, Inc., has the right to acquire pursuant to stock options.
- (8) Includes 15,000 shares that Robert Petersen, a director of Xenonics Holdings, Inc., has the right to acquire pursuant to stock options.
- (9) Includes 85,000 shares that Charles W. Hunter, the former Chief Executive Officer of Xenonics Holdings, Inc., has the right to acquire pursuant to stock options. He resigned from his employment with the Company effective February 6, 2009.
- (10) Includes 964,500 shares that our current executive officers and directors have the right to acquire pursuant to stock options and warrants.

Executive Officers of Xenonics Holdings, Inc.

For biographical information regarding two of our executive officers, Alan P. Magerman and Jeffrey P. Kennedy, see "Proposal I – Election of Directors – Nominees". For information concerning executive officers' ownership of our common stock, see "Beneficial Owners of More Than Five Percent of Xenonics' Common Stock; Shares Held by Directors and Executive Officers" above.

Our Chief Financial Officer is Richard S. Kay, age 67. Mr. Kay joined Xenonics in May 2007 and has been our Chief Financial Officer, Secretary and Treasurer since then. From February 2001 through October 2006 he held the position of Chief Executive Officer of Pacer Technology. Mr. Kay graduated from University of Wisconsin – Milwaukee with a BBA and majored in Accounting and Military Science. Early in his career he worked as a CPA in Wisconsin and California.

Executive Compensation

The following table sets forth the compensation for the fiscal years ended September 30, 2008 and September 30, 2007 for services rendered to us (including our subsidiary, Xenonics, Inc.) by our Chief Executive Officer and our two most highly compensated executive officers other than our Chief Executive Officer (collectively, the “**Named Executive Officers**”):

Summary Compensation Table

| Name and Principal Position | Year | Salary (\$) | Bonus (\$) | Stock Awards (\$) | Option Awards (\$) ⁽⁵⁾ | Non-Equity Incentive Plan Compensation (\$) | Nonqualified Deferred Compensation Earnings (\$) | All Other Compensation (\$) | Total (\$) |
|--|------|--------------------------|------------|-------------------|-----------------------------------|---|--|-----------------------------|------------|
| Alan Magerman | 2008 | \$230,623 ⁽¹⁾ | - | - | \$63,905 | - | - | - | \$294,528 |
| Chairman of the Board | 2007 | \$228,968 ⁽²⁾ | - | - | \$151,596 | - | - | - | \$380,564 |
| Charles W. Hunter | 2008 | \$200,000 | - | - | \$38,382 | - | - | - | \$238,382 |
| Chief Executive Officer | 2007 | \$153,846 ⁽⁴⁾ | - | - | \$114,389 | - | - | - | \$268,235 |
| Jeffrey P. Kennedy | 2008 | \$242,167 ⁽³⁾ | - | - | \$40,339 | - | - | - | \$282,506 |
| Chief Operating Officer, President, Director | 2007 | \$228,968 ⁽²⁾ | - | - | \$106,726 | - | - | - | \$335,694 |

- (1) Includes \$24,751 of adjustments for vacation pay benefits paid for days accrued in excess of Company’s stated maximum.
- (2) Includes \$14,420 of catch-up inflation adjustments for prior years as prescribed in Mr. Magerman’s and Mr. Kennedy’s Employment Agreements and \$15,508 of vacation pay benefits paid to each of them for days accrued in excess of Company’s stated maximum.
- (3) Includes \$36,295 of adjustments for vacation pay benefits paid for days accrued in excess of Company’s stated maximum.
- (4) Mr. Hunter resigned from his employment with the Company effective February 6, 2009. He started his employment with the Company in January 2007. Accordingly, information for the 2007 fiscal year represents approximately nine months of salary.
- (5) This column represents the dollar amount recognized for financial statement reporting purposes for the fair value of stock options granted to the named executive in accordance with SFAS 123R. Pursuant to SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. For additional information on the valuation assumptions, refer to Note 10 of our financial statements included in our Form 10-KSB filed for the year ended September 30, 2008. These amounts reflect our accounting expense for these awards, and do not correspond to the actual value that may be recognized by the named executive from these awards.

Stock Option Grants

The following table sets forth information as of September 30, 2008 concerning unexercised options, unvested stock and equity incentive plan awards for each of the executive officers named in the Summary Compensation Table.

OUTSTANDING EQUITY AWARDS AT YEAR ENDED SEPTEMBER 30, 2008

| Name | Option Awards | | | | | | Stock Awards | | | |
|---|---------------|---|---|--|----------------------------|------------------------|---|--|---|--|
| | Grant Date | Number of Securities Underlying Unexercised Options (#) Exercisable | Number of Securities Underlying Unexercised Options (#) Unexercisable | Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned 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 (\$) | Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#) | Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$) |
| Alan Magerman Chairman of the Board | 7-29-03 | 150,000 | | | \$0.88 | 07-29-13 | | | | |
| | 10-11-04 | 62,000 | | | \$3.75 | 10-10-09 | | | | |
| | 4-15-05 | 200,000 | | | \$3.80 | 4-14-10 | | | | |
| | Total | 412,000 | | | | | | | | |
| Charles W. Hunter Former Chief Executive Officer | 1-16-07 | 25,000 | | | \$1.98 | 1-15-12 | | | | |
| | 5-31-07 | 60,000 | | | \$2.58 | 5-31-12 | | | | |
| | Total | 85,000 | | | | | | | | |
| Jeffrey P. Kennedy Chief Operating Officer, President, Director | 7-29-03 | 150,000 | | | \$0.88 | 7-29-13 | | | | |
| | 10-11-04 | 60,000 | | | \$3.75 | 10-10-09 | | | | |
| | 4-15-05 | 125,000 | | | \$3.80 | 4-14-10 | | | | |
| | Total | 335,000 | | | | | | | | |

Compensation of Directors

Previously, our directors did not receive any compensation for their services. However, in 2004, the company agreed to compensate new outside directors. Bob Petersen became a director on April 15, 2005. As a new director: (i) we issued Mr. Petersen stock options to purchase 15,000 shares of our common stock at an exercise price of \$3.80 per share which vested immediately; (ii) we agreed to pay \$5,000 as an annual director's fee, \$500 for each committee meeting that he attends (if such committee meeting is not held in conjunction with a Board meeting), and \$1,000 for each meeting of the Board of Directors that he attends. In addition, as Chairman of the Audit Committee he will receive an annual fee of \$10,000. The fees are paid on a quarterly basis. Mr. Petersen received \$23,000 for services for the fiscal year ended September 30, 2008. Other than the foregoing compensation payable to Mr. Petersen, we do not compensate our directors for their services.

During the fiscal year ended September 30, 2008, we did not grant stock options to any of our non-employee directors.

The following table sets forth information concerning the compensation paid to each of our non-employee directors during 2008 for their services rendered as directors.

DIRECTOR COMPENSATION FOR FISCAL YEAR 2008

| Name | Fees Earned or Paid in Cash (\$) | Stock Awards (\$) | Option Awards (\$) | Non-Equity Incentive Plan Compensation (\$) | Nonqualified Deferred Compensation Earnings (\$) | All Other Compensation (\$) | Total (\$) |
|-----------------|----------------------------------|-------------------|--------------------|---|--|-----------------------------|------------|
| Robert F. Buie | - | - | - | - | - | - | \$0 |
| Robert Petersen | \$23,000 | - | - | - | - | - | \$23,000 |

Equity Compensation Plan Information

The following table provides information as of September 30, 2008 with respect to securities that may be issued under our equity compensation plans.

| Plan Category | Number of securities to be issued upon exercise of outstanding options, warrants and rights (a) | Weighted-average exercise price of outstanding options, warrants and rights (b) | Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c) |
|--|--|--|--|
| Equity compensation plans approved by security holders | 1,443,000 | \$2.77 | 908,000 |
| Equity compensation plans not approved by security holders | 500,000 | \$1.60 | -- |
| Total | 1,943,000 | \$2.47 | 908,000 |

The equity compensation plans approved by the security holders are the 2003 Stock Option Plan of Xenonics Holdings, Inc. and the 2004 Stock Incentive Plan of Xenonics Holdings, Inc. Except as described in the following paragraph, the Company had not adopted as of September 30, 2008, without the approval of security holders, any equity compensation plan under which securities of the issuer are authorized for issuance.

On September 5, 2006, the Company and a consultant entered into an agreement pursuant to which the consultant will provide consulting services relating to financial public relations enhancing the Company's visibility in the financial community and introducing the Company and its products to possible merger candidates, financial institutions and other members of the investment community; and assisting Company personnel in preparing presentation materials in connection with meetings and conferences involving the investment community. As part of this agreement the Company issued to the consultant a five year Warrant, vested upon issuance to purchase 500,000 shares of the Company's common stock at \$1.60 per share (which

exceeded the fair market value of the common stock as of August 31, 2006, the day before an oral agreement was made).

Employment Agreements

Alan P. Magerman and Jeffrey P. Kennedy are our only employees who have employment agreements. Under his employment agreement, Mr. Magerman is to serve as the Chief Executive Officer of Xenonics, Inc., and Mr. Kennedy is to serve as President and Chief Operating Officer of Xenonics, Inc. Both employment agreements were entered into by Xenonics, Inc. as of January 1, 2003 and, except as set forth below, are substantially identical. Neither employment agreement has a fixed term or expiration date. Instead, Mr. Magerman's agreement will continue until 24 months after either he or Xenonics, Inc. gives the other notice of termination. Likewise, Mr. Kennedy's agreement will continue until 12 months after either he or Xenonics gives the other notice of termination. Both agreements provide for base compensation of \$180,000 per year, to be adjusted annually according to the Consumer Price Index. In addition, if either Mr. Magerman or Mr. Kennedy is terminated for any reason other than for cause, the agreements require that they must be paid the remaining balances due to them under the agreements as liquidated damages. Although the foregoing employment agreements were entered into with Xenonics, Inc. and not Xenonics Holdings, Inc., Mr. Magerman and Mr. Kennedy are currently also providing the services required by those employment agreements to Xenonics Holdings, Inc. without additional compensation, except that Mr. Magerman serves as Chairman of the Board rather than as Chief Executive Officer of Xenonics Holdings, Inc..

Code of Ethics

We have adopted a Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, and principal accounting officer or controller. You can obtain a copy of the Code, without charge, by writing to our Corporate Secretary at Xenonics Holdings, Inc., 3186 Lionshead Avenue, Suite 100, Carlsbad, California 92010. A copy of the Code is also available on our website at www.xenonics.com.

Report of the Audit Committee

Notwithstanding anything to the contrary set forth in any of our previous or future filings under the Securities Act or the Exchange Act that might incorporate by reference previous or future filings, including this Proxy Statement, in whole or in part, the following report shall not be incorporated by reference into any of such filings.

The responsibilities of the Audit Committee include providing oversight to the financial reporting process of Xenonics Holdings, Inc. through periodic meetings with the Company's independent auditors and management to review accounting, auditing, internal controls, and financial reporting matters. The management of Xenonics Holdings, Inc. is responsible for the preparation and integrity of the financial reporting information and related systems of internal controls. The Audit Committee, in carrying out its role, relies on senior management, including senior financial management, and its independent auditors.

The Audit Committee has reviewed and discussed with senior management the audited financial statements of Xenonics Holdings, Inc. that are included in the fiscal year 2008 Annual Report on Form 10-KSB. Management has confirmed to the Audit Committee that such financial statements (i) have been prepared with integrity and objectivity and are the responsibility of management and (ii) have been prepared in conformity with accounting principles generally accepted in the United States.

The Audit Committee discussed with SingerLewak LLP, our independent auditors, the matters required to be discussed by SAS 61 (Communications with Audit Committee). SAS 61 requires our independent auditors to provide us with additional information regarding the scope and results of their audit of

the Company's financial statements with respect to (i) their responsibility under auditing standards generally accepted in the United States, (ii) significant accounting policies, (iii) management judgments and estimates, (iv) any significant audit adjustments, (v) any disagreements with management, and (vi) any difficulties encountered in performing the audit.

The Audit Committee received from SingerLewak LLP a letter providing the disclosures required by Independence Standards Board Standard No. 1 (Independence Discussions with Audit Committees) with respect to any relationships between SingerLewak LLP and Xenonics Holdings, Inc. that in its professional judgment may reasonably be thought to bear on independence. SingerLewak LLP has discussed its independence with us. SingerLewak LLP confirmed in its letter, in its professional judgment, it is independent of Xenonics Holdings, Inc. within the meaning of the federal securities laws.

Based on the review and discussions described above with respect to the audited financial statements of Xenonics Holdings, Inc., the Audit Committee recommended to the Board of Directors that such financial statements be included in the Company's Annual Report on Form 10-KSB for the fiscal year ended September 30, 2008.

It is not the duty of the Audit Committee to plan or conduct audits or to determine that the Company's financial statements are complete and accurate and in accordance with accounting principles generally accepted in the United States. That is the responsibility of management and the Company's independent auditors. In giving its recommendation to the Board of Directors, the Audit Committee relied on (i) management's representation that such financial statements have been prepared with integrity and objectivity and in conformity with accounting principles generally accepted in the United States and (ii) the report of the Company's independent auditors with respect to such financial statements.

Respectfully submitted,

Audit Committee

Robert Petersen

Robert F. Buie

PROPOSAL II

RATIFICATION OF APPOINTMENT OF AUDITORS

Accounting Fees

Aggregate fees billed to us by Eisner, LLP for professional services rendered with respect to our 2007 fiscal year and by SingerLewak LLP with respect to our 2007 and 2008 fiscal years were as follows:

| | <u>2008</u> | <u>2007</u> |
|-------------------------|------------------|------------------|
| Audit Fees | \$85,000 | \$119,000 |
| Audit-Related Fees..... | 50,000 | -- |
| Tax Fees | -- | -- |
| All Other Fees | -- | 47,000 |
| Total | <u>\$135,000</u> | <u>\$166,000</u> |

In the above table, in accordance with the SEC's definitions and rules, "audit fees" are fees that Xenonics Holdings, Inc. paid for professional services for the audit of our consolidated financial statements included in our Form 10-KSB and for services that are normally provided by the accountants in connection with statutory and regulatory filings or engagements; "audit-related fees" are fees for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements; and "tax fees" are fees for tax compliance, tax advice and tax planning. "All other fees" are related to services attributable to registration statements.

All of the audit-related services and other services described in the above table were pre-approved by our Audit Committee. The Audit Committee has adopted a pre-approval policy that provides for the pre-approval of all services performed for us by SingerLewak LLP. The policy authorizes the Audit Committee to delegate to one or more of its members pre-approval authority with respect to permitted services. Pursuant to this policy, the Audit Committee delegated such authority to the Chairman of the Audit Committee. All pre-approval decisions must be reported to the Audit Committee at its next meeting.

Shareholder Ratification of the Appointment of SingerLewak LLP

On September 20, 2007, Eisner LLP ("Eisner") was dismissed as the independent registered public accounting firm of Xenonics Holdings, Inc. (the "Company"). The Audit Committee of the Company's Board of Directors approved the dismissal of Eisner.

Eisner's reports on the Company's financial statements for the years ended September 30, 2006 and 2005 did not contain any adverse opinion or disclaimer of opinion, nor were they qualified or modified as to audit scope or accounting principles. Eisner's reports on the Company's financial statements as of and for the years ended September 30, 2006 and 2005 included an explanatory paragraph and expressed substantial doubt about the Company's ability to continue as a going concern. Additionally, the Company filed an amended Form 10-KSB for the fiscal year ended September 30, 2006 on June 21, 2007, to restate litigation settlement as a capital transaction and not as gain on settlement of litigation for the year ended September 30, 2005, as further described in the amendment.

During the years ended September 30, 2006 and 2005 and through September 20, 2007, there were no disagreements with Eisner on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the

satisfaction of Eisner, would have caused it to make reference thereto in connection with its reports on the financial statements for such years. During the years ended September 30, 2006 and 2005 and through September 20, 2007, there were no reportable events as described in Item 304(a)(1)(iv)(B) of Regulation S-B.

The Company provided Eisner with a copy of the foregoing disclosures and requested Eisner to furnish the Company with a letter addressed to the Securities and Exchange Commission stating whether or not Eisner agrees with the disclosures. A copy of Eisner's letter was filed as Exhibit 16.1 to the Form 8-K filed on September 26, 2007.

On September 21, 2007, the Audit Committee of the Company's Board of Directors engaged SingerLewak LLP as the Company's new independent registered public accounting firm for the fiscal year ended September 30, 2007. During the Company's fiscal years ended September 30, 2006 and 2005 and through September 21, 2007, neither the Company, nor anyone acting on its behalf, consulted with SingerLewak LLP regarding the application of accounting principles to a specific completed or contemplated transaction or the type of audit opinion that might be rendered on the Company's financial statements, and no written or oral advice was provided to the Company by SingerLewak LLP that was an important factor considered by the Company in reaching a decision as to any such accounting, auditing or financial reporting issue.

The Audit Committee of the Board of Directors has approved SingerLewak LLP as our independent accountants to audit our consolidated financial statements for the fiscal year ending September 30, 2009. We are not required to seek shareholder approval for the appointment of our independent accountants. However, the Audit Committee and the full Board of Directors believe it to be sound corporate practice to seek such approval. If the appointment is not ratified, the Audit Committee will investigate the reasons for shareholder rejection and will re-consider the appointment. Even if the selection is ratified, the Audit Committee in its discretion may direct the appointment of different independent auditors at any time during the year if it determines that such a change would be in the best interests of the Company and its shareholders.

Representatives of SingerLewak LLP will be present at the Annual Meeting and will be available to respond to appropriate questions from shareholders.

THE BOARD OF DIRECTORS RECOMMENDS THAT SHAREHOLDERS VOTE FOR RATIFICATION OF THE APPOINTMENT OF SINGERLEWAK LLP AS THE COMPANY'S INDEPENDENT AUDITORS FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2009.

SHAREHOLDER PROPOSALS

Any proposal that a Xenonics Holdings, Inc. shareholder intends to present in accordance with Rule 14a-8 of the Securities Exchange Act of 1934 (the "**Exchange Act**") at our next annual meeting of shareholders to be held in 2010 must be received by us on or before January 4, 2010. Notice of shareholder proposals submitted outside of Rule 14a-8 of the Exchange Act will be considered untimely if received by us after March 19, 2010. Only proper proposals under Rule 14a-8 of the Exchange Act that are timely received will be included in the 2010 Proxy Statement. All proposals described in this paragraph should be sent to Xenonics Holdings, Inc., 3186 Lionshead Avenue, Suite 100, Carlsbad, California 92010, Attention: Corporate Secretary.

OTHER MATTERS

Expenses of Solicitation

Xenonics Holdings, Inc. will bear the cost of soliciting proxies in the accompanying form. In addition to the use of the mails, proxies may be solicited by our directors, officers and other employees, personally or by telephone, facsimile or email. Such persons will not be compensated separately for these solicitation activities.

Miscellaneous

Our management does not intend to present any other items of business and is not aware of any matters other than those set forth in this Proxy Statement that will be presented for action at the Annual Meeting. However, if any other matters properly come before the Annual Meeting, the persons named in the enclosed proxy intend to vote the shares of our common stock that they represent in accordance with their best judgment.

Annual Report

A copy of our Annual Report on Form 10-KSB, without exhibits, for the year ended September 30, 2008 that we filed with the Securities and Exchange Commission accompanies this Proxy Statement. Copies of the Form 10-KSB exhibits are available without charge. Shareholders who would like such copies should direct their requests in writing to: Xenonics Holdings, Inc., 3186 Lionshead Avenue, Suite 100, Carlsbad, California 92010, Attention: Corporate Secretary.

By Order of the Board of Directors



Richard S. Kay
Corporate Secretary

May 1, 2009

