

As filed with the Securities and Exchange Commission on October 10, 2003

Registration No. 333-

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

FORM S-2

**REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

HYBRIDON, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware **04-3072298**
(State or other Jurisdiction of (I.R.S. Employer Identification No.)
Incorporation or Organization)

**345 Vassar Street
Cambridge, Massachusetts 02139
(617) 679-5500**
(Address, Including Zip Code, and Telephone Number,
Including Area Code, of Registrant's Principal Executive Offices)

**Stephen R. Seiler
Chief Executive Officer
345 Vassar Street
Cambridge, Massachusetts 02139
(617) 679-5500**
(Name, Address, Including Zip Code, And Telephone Number,
Including Area Code, of Agent For Service)

**Copies to:
David E. Redlick, Esq.
Hale and Dorr LLP
60 State Street
Boston, Massachusetts 02109
(617) 526-6000**

Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If the registrant elects to deliver its latest annual report to security holders, or a complete and legible facsimile thereof, pursuant to Item 11(a) (1) of this form, check the following box.

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. _____

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. _____

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box.

CALCULATION OF REGISTRATION FEE

<u>Title of Shares to be Registered</u>	<u>Amount to be Registered(1)</u>	<u>Proposed Maximum Offering Price Per Share(2)</u>	<u>Proposed Maximum Aggregate Offering Price(2)</u>	<u>Amount of Registration Fee</u>
Common Stock, \$0.001 par value per share	29,852,703	\$1.12	\$33,435,027	\$2,705

- (1) Consists of (a) 20,053,022 shares of common stock and 9,799,681 shares of common stock issuable upon the exercise of common stock purchase warrants and (b) additional shares, of a currently indeterminable amount, as may from time to time become issuable by reason of stock splits, stock dividends and other similar transactions, which shares are registered hereunder pursuant to Rule 416 under the Securities Act.
- (2) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act and based upon the average of the high and low prices on the OTC Bulletin Board on October 8, 2003.

The Company hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Company shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), shall determine.

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The information in this prospectus is not complete and may be changed. The selling stockholders named in this prospectus may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and neither we nor the selling stockholders named in this prospectus are soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated October 10, 2003

PROSPECTUS

HYBRIDON, INC.

29,852,703 SHARES OF COMMON STOCK

This prospectus relates to the resale from time to time of up to 29,852,703 shares of common stock of Hybridon, Inc. by the selling stockholders identified in this prospectus. We will not receive any proceeds from the sale of shares of our common stock offered by this prospectus.

The selling stockholders identified in this prospectus, or their pledgees, donees, transferees or other successors-in-interest, may offer the shares offered by this prospectus from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices.

Our common stock is traded on the OTC Bulletin Board under the symbol "HYBN.OB." On October 9, 2003, the closing sale price of our common stock on the OTC Bulletin Board was \$1.14 per share. You are urged to obtain current market quotations for our common stock.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 3.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2003.

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We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus. The selling stockholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of common stock.

PROSPECTUS SUMMARY

This summary highlights important features of this offering and information included or incorporated in this prospectus. This summary may not contain all of the information that is important to you. You should read the entire prospectus carefully, including "Risk Factors" beginning on page 3, before deciding to invest in our common stock.

Hybridon, Inc.

We are engaged in the discovery and development of novel therapeutics and diagnostics using synthetic DNA. Our activities are based on four technologies:

- Our immunomodulatory oligonucleotide, or IMO, technology uses synthetic DNA that contains specific sequences that mimic bacterial DNA to modulate responses of the immune system.
- Our antisense technology uses synthetic DNA to block the production of disease causing proteins at the cellular level.
- Our cancer therapy potentiation technology uses synthetic DNA to enhance the antitumor activity of some marketed anticancer drugs and increase their effectiveness.
- Our Cyclicon technology uses novel synthetic DNA structures for identifying gene function in drug target validation and drug discovery.

We are currently conducting clinical trials of two drug candidates. We are conducting two phase 1 clinical trials of HYB2055, our lead 2nd generation IMO compound, for the treatment of solid tumor cancers, and a phase 1/2 clinical trial of GEM 231, our lead 2nd generation antisense compound, for the treatment of cancer.

Corporate Information

Our executive offices are located at 345 Vassar Street, Cambridge, MA 02139, our telephone number is (617) 679-5500 and our Internet address is www.hybridon.com. The information on our Internet website is not incorporated by reference in this prospectus and should not be considered to be part of this prospectus. Our website address is included in this prospectus as an inactive technical reference only. Unless the context otherwise requires, references in this prospectus to "Hybridon," "we," "us," and "our" refer to Hybridon, Inc.

Hybridon[®] and GEM[®] are our registered trademarks. Cyclicon[™] and IMO[™] are also our trademarks. All other trademarks and service marks are the property of their respective owners.

The Offering

Common stock offered by the selling stockholders

29,852,703 shares, including 9,799,681 shares issuable upon the exercise of warrants held by the selling stockholders.

Use of proceeds

We will not receive any proceeds from the sale of shares in this offering.

OTC Bulletin Board symbol

HYBN.OB

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below in addition to the other information included or incorporated by reference in this prospectus before purchasing our common stock. If any of the following risks actually occurs, our business, financial condition or results of operations would likely suffer, possibly materially. In that case, the trading price of our common stock could fall, and you may lose all or part of the money you paid to buy our common stock.

Risks Relating to Our Business, Strategy and Industry

If our clinical trials are unsuccessful, or if they are significantly delayed, we may not be able to develop and commercialize our products.

We may not be able to successfully complete any clinical trial of a potential product within any specified time period. In some cases, we may not be able to complete the trial at all. Moreover, clinical trials may not show our potential products to be both safe and efficacious. Thus, the United States Food and Drug Administration, or FDA, and other regulatory authorities may not approve any of our potential products for any indication.

In order to obtain regulatory approvals for the commercial sale of our products, we will be required to complete extensive clinical trials in humans to demonstrate the safety and efficacy of our drug candidates. In 2003, we commenced two phase 1 clinical trials of HYB2055, our lead 2nd generation IMO compound, for the treatment of solid tumor cancers, and we are currently conducting a phase 1/2 clinical trial of GEM231, our lead 2nd generation antisense compound, for the treatment of cancer. We may not be able to obtain authority from the FDA or other equivalent foreign regulatory agencies to complete these trials or commence and complete any other clinical trials.

The results from preclinical testing of a drug candidate that is under development may not be predictive of results that will be obtained in human clinical trials. In addition, the results of early human clinical trials may not be predictive of results that will be obtained in larger scale, advanced stage clinical trials. Furthermore, we, one of our collaborators, or a regulatory agency with jurisdiction over the trials, may suspend clinical trials at any time if the subjects or patients participating in such trials are being exposed to unacceptable health risks, or for other reasons. As an example, in 1997, after reviewing the results from the clinical trial of GEM91, our lead 1st generation antisense compound at the time, we determined not to continue the development of GEM91 and suspended clinical trials of this product candidate.

The rate of completion of clinical trials is dependent in part upon the rate of enrollment of patients. Patient accrual is a function of many factors, including:

- the size of the patient population,
- the proximity of patients to clinical sites,
- the eligibility criteria for the study,

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- the nature of the study,
- the existence of competitive clinical trials, and
- the availability of alternative treatments.

Delays in planned patient enrollment may result in increased costs and prolonged clinical development.

We face substantial competition which may result in others discovering, developing or commercializing drugs before or more successfully than us.

The biotechnology industry is highly competitive and characterized by rapid and significant technological change. We face, and will continue to face, intense competition from organizations such as pharmaceutical and biotechnology companies, as well as academic and research institutions and government agencies. Some of these organizations are pursuing products based on technologies similar to our technologies. Other of these organizations have developed and are marketing products, or are pursuing other technological approaches designed to produce products, that are competitive with our product candidates in the therapeutic effect these competitive products have on diseases targeted by our product candidates. Our competitors may discover, develop or commercialize products or other novel technologies that are more effective, safer or less costly than any that we are developing. Our competitors may also obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours.

Many of our competitors are substantially larger than we are and have greater capital resources, research and development staffs and facilities than we have. In addition, many of our competitors are more experienced than we are in drug discovery, development and commercialization, obtaining regulatory approvals and drug manufacturing and marketing.

We anticipate that the competition with our products and technologies will be based on a number of factors including:

- product efficacy,
- safety,
- reliability,
- availability,
- price and
- patent position.

The timing of market introduction of our products and competitive products will also affect competition among products. We also expect the relative speed with which we can develop products, complete the clinical trials and approval processes and supply commercial quantities of

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the products to the market to be an important competitive factor. Our competitive position will also depend upon our ability to attract and retain qualified personnel, to obtain patent protection or otherwise develop proprietary products or processes and to secure sufficient capital resources for the period between technological conception and commercial sales.

Because the products that we may develop will be based on new technologies and therapeutic approaches, the market may not be receptive to these products upon their introduction.

The commercial success of any of our products for which we may obtain marketing approval from the FDA or other regulatory authorities will depend upon their acceptance by the medical community and third party payors as clinically useful, cost-effective and safe. Many of the products that we are developing are based upon technologies or therapeutic approaches that are relatively new and unproven. The FDA has not granted marketing approval to any products based on antisense technology or IMO-like technology and no such products are currently being marketed, except for one antisense product that is currently being marketed for the treatment of cytomegalovirus retinitis, an infectious disease, in patients with AIDs. As a result, it may be more difficult for us to achieve market acceptance of our products. Our efforts to educate the medical community on these potentially unique approaches may require greater resources than would be typically required for products based on conventional technologies or therapeutic approaches. The safety, efficacy, convenience and cost-effectiveness of our products as compared to competitive products will also affect market acceptance.

Competition for technical and management personnel is intense in our industry and we may not be able to sustain our operations or grow if we are unable to attract and retain key personnel.

Our success is highly dependent on the retention of principal members of our technical and management staff, including Stephen Seiler and Sudhir Agrawal. Mr. Seiler, our Chief Executive Officer, has extensive experience in the pharmaceutical industry and as an investment banker and provides strategic leadership for us. The loss of Mr. Seiler's services would be detrimental to the execution of our strategic plan. Dr. Agrawal serves as our President and Chief Scientific Officer. Dr. Agrawal has made significant contributions to the field of nucleic acid chemistry and is named as an inventor on over 200 U.S. patents and patent applications. Dr. Agrawal provides the scientific leadership for our research and development activities and directly supervises our research staff. The loss of Dr. Agrawal's services would be detrimental to our ongoing scientific progress.

We are a party to employment agreements with each of Mr. Seiler and Dr. Agrawal, but each of these agreements may be terminated by us or the employee for any reason or no reason at any time upon notice to the other party. We do not carry key man life insurance for Mr. Seiler or Dr. Agrawal.

Furthermore, our future growth will require hiring a significant number of qualified technical and management personnel. Accordingly, recruiting and retaining such personnel in the future will be critical to our success. There is intense competition from other companies and research and academic institutions for qualified personnel in the areas of our activities. If we are

not able to continue to attract and retain, on acceptable terms, the qualified personnel necessary for the continued development of our business, we may not be able to sustain our operations or grow.

Regulatory Risks

We may not be able to obtain marketing approval for products resulting from our development efforts.

All of the products that we are developing or may develop in the future will require additional research and development, extensive preclinical studies and/or clinical trials and regulatory approval prior to any commercial sales. This process is lengthy, often taking a number of years, and is expensive. Since our inception, we have conducted clinical trials of five compounds. In 1997, we determined not to continue clinical development of GEM91. The other four compounds are still in development. Currently, we are conducting clinical trials of two of these compounds, GEM231 and HYB2055.

We may need to address a number of technological challenges in order to complete development of our products. Moreover, these products may not be effective in treating any disease or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining regulatory approval or prevent or limit commercial use.

We are subject to comprehensive regulatory requirements, which are costly and time consuming to comply with; if we fail to comply with these requirements, we could be subject to adverse consequences and penalties.

The testing, manufacturing, labeling, advertising, promotion, export and marketing of our products are subject to extensive regulation by governmental authorities in Europe, the United States, and elsewhere throughout the world.

In general, submission of materials requesting permission to conduct clinical trials may not result in authorization by the FDA or any equivalent foreign regulatory agency to commence clinical trials. In addition, submission of an application for marketing approval to the relevant regulatory agency following completion of clinical trials may not result in the regulatory agency approving the application if applicable regulatory criteria are not satisfied, and may result in the regulatory agency requiring additional testing or information.

Any regulatory approval of a product may contain limitations on the indicated uses for which the product may be marketed or requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. Any product for which we obtain marketing approval, along with the facilities at which the product is manufactured, any post-approval clinical data and any advertising and promotional activities for the product will be subject to continual review and periodic inspections by the FDA and other regulatory agencies.

Both before and after approval is obtained, violations of regulatory requirements may result in:

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- the regulatory agency's delay in approving, or refusal to approve, a product;
- restrictions on such products or the manufacturing of such products;
- withdrawal of the products from the market;
- voluntary or mandatory recall;
- fines;
- suspension of regulatory approvals;
- product seizure;
- injunctions or the imposition of civil penalties; and
- criminal penalties.

We have only limited experience in regulatory affairs and our products are based on new technologies; these factors may affect our ability or the time we require to obtain necessary regulatory approvals.

We have only limited experience in filing and prosecuting the applications necessary to gain regulatory approvals. Moreover, the products that result from our research and development programs will likely be based on new technologies and new therapeutic approaches that have not been extensively tested in humans. The regulatory requirements governing these types of products may be more rigorous than for conventional drugs. As a result, we may experience a longer regulatory process in connection with obtaining regulatory approvals of any product that we develop.

Risks Relating to Our Financial Results and Need for Financing

We have incurred substantial losses and expect to continue to incur losses. We will not be successful unless we reverse this trend.

We have incurred losses in every year since our inception, except for 2002 when our recognition of revenues under a license and collaboration agreement resulted in us reporting net income for the year. As of June 30, 2003, we had incurred operating losses of approximately \$272.7 million. We expect to continue to incur substantial operating losses in future periods. We have received no revenues from the sale of drugs. To date, almost all of our revenues have been from collaborative and license agreements, interest income and the sale of manufactured synthetic DNA and reagent products by the Hybridon Specialty Products Division prior to our selling that division in September 2000. We cannot be certain whether or when we will become profitable because of the significant uncertainties with respect to our ability to generate revenues from the sale of products and from any potential strategic alliances.

We will need additional financing, which may be difficult to obtain. Our failure to obtain necessary financing or doing so on unattractive terms could adversely affect our discovery and development programs and other operations.

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We will require substantial funds to conduct research and development, including preclinical testing and clinical trials of our drugs. We will also require substantial funds to conduct regulatory activities and to establish commercial manufacturing, marketing and sales capabilities. We believe that, based on our current operating plan, our existing cash resources, including the net proceeds from the private placement of securities that we consummated with the selling stockholders in August 2003, will be sufficient to fund our cash requirements at least through December 2004. However, we will need to raise additional funds to operate our business beyond such time.

Additional financing may not be available to us when we need it or may not be available to us on favorable terms. If we are unable to obtain adequate funding on a timely basis or at all, we may be required to significantly curtail one or more of our discovery or development programs. For example, we significantly curtailed expenditures on our research and development programs during 1999 and 2000 because we did not have sufficient funds available to advance these programs at planned levels. We could be required to seek funds through arrangements with collaborators or others that may require us to relinquish rights to some of our technologies, drug candidates or drugs which we would otherwise pursue on our own.

If we raise additional funds by issuing equity securities, our then existing stockholders will experience dilution. In addition, the terms of the financing may adversely affect the holdings or the rights of existing stockholders.

Our former independent public accountant, Arthur Andersen LLP, has been found guilty of a federal obstruction of justice charge. Arthur Andersen LLP has not consented to the inclusion of its audit report with respect to our consolidated financial statements in this prospectus, and you may be unable to exercise effective remedies against it in any legal action.

Our former independent public accountant, Arthur Andersen LLP, provided us with auditing services for prior fiscal periods through December 31, 2001, including issuing an audit report with respect to our audited consolidated financial statements as of and for the years ended December 31, 2000 and 2001, which report was included in our Annual Report on Form 10-K for the year ended December 31, 2002 and is incorporated by reference in this prospectus. On June 15, 2002, a jury in Houston, Texas found Arthur Andersen LLP guilty of a federal obstruction of justice charge arising from the federal government's investigation of Enron Corp. On August 31, 2002, Arthur Andersen LLP ceased practicing before the Securities and Exchange Commission, or SEC.

We were unable to obtain Arthur Andersen LLP's consent to include its report with respect to our audited consolidated financial statements as of and for the years ended December 31, 2000 and 2001 in our Annual Report on Form 10-K for the year ended December 31, 2002, in this prospectus or in any other filing that we may make with the SEC. As a result, you may not have an effective remedy against Arthur Andersen LLP in connection with a material misstatement or omission with respect to our audited consolidated financial statements that are included in our Annual Report on Form 10-K and incorporated by reference in this prospectus or any other filing that we may make with the SEC. In addition, even if you were able to assert such a claim, as a result of its conviction and other lawsuits, Arthur Andersen LLP

may fail or otherwise have insufficient assets to satisfy claims made by investors or by us that might arise under federal securities laws or otherwise relating to any alleged material misstatement or omission with respect to our audited consolidated financial statements.

Risks Relating to Collaborators

We need to establish collaborative relationships in order to succeed.

An important element of our business strategy includes entering into collaborative relationships for the development and commercialization of products based on our discoveries. We face significant competition in seeking appropriate collaborators. Moreover, these arrangements are complex to negotiate and time consuming to document. We may not be successful in our efforts to establish collaborative relationships or other alternative arrangements.

The success of collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Our collaborators will have significant discretion in determining the efforts and resources that they will apply to these collaborations. The risks that we face in connection with these collaborations include the following:

- disputes may arise in the future with respect to the ownership of rights to technology developed with collaborators;
- disagreements with collaborators could delay or terminate the research, development or commercialization of products, or result in litigation or arbitration;
- we may have difficulty enforcing the contracts if one of our collaborators fails to perform;
- our collaborators may terminate their collaborations with us, which could make it difficult for us to attract new collaborators or adversely affect the perception of us in the business or financial communities;
- collaborators have considerable discretion in electing whether to pursue the development of any additional drugs and may pursue technologies or products either on their own or in collaboration with our competitors that are similar to or competitive with our technologies or products that are the subject of the collaboration with us; and
- our collaborators may change the focus of their development and commercialization efforts. Pharmaceutical and biotechnology companies historically have re-evaluated their priorities following mergers and consolidations, which have been common in recent years in these industries. The ability of our products to reach their potential could be limited if our collaborators decrease or fail to increase spending relating to such products.

Given these risks, it is possible that any collaborative arrangements into which we enter may not be successful. Previous collaborative arrangements to which we were a party with F. Hoffmann-La Roche and G.D. Searle & Co. both were terminated prior to the development of any product. The failure of any of our collaborative relationships could delay our drug development or impair commercialization of our products.

Risks Relating to Intellectual Property

If we are unable to obtain patent protection for our discoveries, the value of our technology and products will be adversely affected.

Our patent positions, and those of other drug discovery companies, are generally uncertain and involve complex legal, scientific and factual questions.

Our ability to develop and commercialize drugs depends in significant part on our ability to:

- obtain patents;
- obtain licenses to the proprietary rights of others on commercially reasonable terms;
- operate without infringing upon the proprietary rights of others;
- prevent others from infringing on our proprietary rights; and
- protect trade secrets.

We do not know whether any of our patent applications or those patent applications which we license will result in the issuance of any patents. Our issued patents and those that may issue in the future, or those licensed to us, may be challenged, invalidated or circumvented, and the rights granted thereunder may not provide us proprietary protection or competitive advantages against competitors with similar technology. Furthermore, our competitors may independently develop similar technologies or duplicate any technology developed by us. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that, before any of our products can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thus reducing any advantage of the patent.

Because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in the scientific literature often lag behind actual discoveries, neither we nor our licensors can be certain that we or they were the first to make the inventions claimed in issued patents or pending patent applications, or that we or they were the first to file for protection of the inventions set forth in these patent applications.

Third parties may own or control patents or patent applications and require us to seek licenses, which could increase our development and commercialization costs, or prevent us from developing or marketing products.

We may not have rights under some patents or patent applications related to our products. Third parties may own or control these patents and patent applications in the United States and abroad. Therefore, in some cases, to develop, manufacture, sell or import some of our products, we or our collaborators may choose to seek, or be required to seek, licenses under third party patents issued in the United States and abroad or under patents that might issue from United States and foreign patent applications. In such event, we would be required to pay license fees or royalties or both to the licensor. If licenses are not available to us on acceptable terms, we or our collaborators may not be able to develop, manufacture, sell or import these products.

We may lose our rights to patents, patent applications or technologies of third parties if our licenses from these third parties are terminated. In such event, we might not be able to develop or commercialize products covered by the licenses.

We are party to eleven royalty-bearing license agreements under which we have acquired rights to patents, patent applications and technology of third parties. Under these licenses we are obligated to pay royalties on net sales by us of products or processes covered by a valid claim of a patent or patent application licensed to us. We also are required in some cases to pay a specified percentage of any sublicense income that we may receive. These licenses impose various commercialization, sublicensing, insurance and other obligations on us. Our failure to comply with these requirements could result in termination of the licenses. These licenses generally will otherwise remain in effect until the expiration of all valid claims of the patents covered by such licenses or upon earlier termination by the parties. The issued patents covered by these licenses expire at various dates ranging from 2006 to 2021. If one or more of these licenses is terminated, we may be delayed in our efforts, or be unable, to develop and market the products that are covered by the applicable license or licenses.

We may become involved in expensive patent litigation or other proceedings, which could result in our incurring substantial costs and expenses or substantial liability for damages or require us to stop our development and commercialization efforts.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the biotechnology industry. We may become a party to various types of patent litigation or other proceedings regarding intellectual property rights from time to time. For instance, in the fourth quarter of 2002, we became involved in an interference declared by the United States Patent and Trademark Office involving a patent application exclusively licensed by us from University of Massachusetts Medical Center, or UMMC, and three patents issued to the National Institutes of Health, and in the third quarter of 2003, we became involved in an interference declared by the United States Patent and Trademark Office involving another patent exclusively licensed to us from UMMC and a patent application assigned jointly to the University of Montreal and The Massachusetts Institute of Technology. We are not practicing nor do we intend to practice any of the intellectual property involved in either interference.

The cost to us of any patent litigation or other proceeding, including the interferences referred to above, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the cost of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. If any patent litigation or other proceeding is resolved against us, we or our collaborators may be enjoined from developing, manufacturing, selling or importing our drugs without a license from the other party and we may be held liable for significant damages. We may not be able to obtain any required license on commercially acceptable terms or at all.

Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

Risks Relating to Product Manufacturing, Marketing and Sales

We have no experience selling, marketing or distributing products and no internal capability to do so.

If we receive regulatory approval to commence commercial sales of any of our products, we will face competition with respect to commercial sales, marketing and distribution. These are areas in which we have no experience. To market any of our products directly, we would need to develop a marketing and sales force with technical expertise and with supporting distribution capability. In particular, we would need to recruit a large number of experienced marketing and sales personnel. Alternatively, we could engage a pharmaceutical or other healthcare company with an existing distribution system and direct sales force to assist us. However, to the extent we entered into such arrangements, we would be dependent on the efforts of third parties. If we are unable to establish sales and distribution capabilities, whether internally or in reliance on third parties, our business would suffer materially.

Because we have limited manufacturing experience, we are dependent on third-party manufacturers to manufacture products for us. If we can not rely on third party manufacturers, we will be required to incur significant costs and devote significant efforts to establish our own manufacturing facilities and capabilities.

We have limited manufacturing experience and no commercial scale manufacturing capabilities. In order to continue to develop our products, apply for regulatory approvals and commercialize products, we need to develop, contract for or otherwise arrange for the necessary manufacturing capabilities.

We currently rely upon third parties to produce material for preclinical and clinical testing purposes and expect to continue to do so in the future. We also expect to rely upon third parties to produce materials that may be required for the commercial production of our products.

There are a limited number of manufacturers that operate under the FDA's good manufacturing practices regulations capable of manufacturing our products. As a result, we may have difficulty finding manufacturers for our products with adequate capacity for our needs. If we are unable to arrange for third party manufacturing of our products on a timely basis, or to do

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so on commercially reasonable terms, we may not be able to complete development of our products or market them.

Reliance on third party manufacturers entails risks to which we would not be subject if we manufactured products ourselves, including:

- reliance on the third party for regulatory compliance and quality assurance,
- the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control,
- the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us,
- the potential that third party manufacturers will develop know-how owned by such third party in connection with the production of our products that is necessary for the manufacture of our products, and
- reliance upon third party manufacturers to assist us in preventing inadvertent disclosure or theft of our proprietary knowledge.

If we fail to obtain an adequate level of reimbursement for our products by third party payors, there may be no commercially viable markets for our products.

The availability and levels of reimbursement by governmental and other third party payors such as health maintenance organizations, Medicaid, medical insurance companies, medical plan administrators, pharmacy benefit managers, physician and hospital alliances and other physician organizations affect the market for healthcare products. These third party payors continually attempt to contain or reduce the costs of healthcare by challenging the prices charged for medical products and services. If reimbursement for our products is unavailable or limited in scope or amount, our business could be materially harmed.

In both the United States and some foreign jurisdictions, there have been a number of legislative and regulatory proposals to change the healthcare system and further proposals are likely. In the United States, for example, both the House of Representatives and Senate have passed bills that in different ways would reduce Medicare payments for drugs. The potential for adoption of these proposals affects or will affect our ability to raise capital, obtain collaborators and market our products.

We expect to experience pricing pressures in connection with the sale of our drugs due to the trend toward managed health care, the increasing influence of health maintenance organizations and additional legislative proposals.

We face a risk of product liability claims and may not be able to obtain insurance.

Our business exposes us to the risk of product liability claims that is inherent in the manufacturing, testing and marketing of human therapeutic drugs. Although we have product liability and clinical trial liability insurance that we believe is adequate, this insurance is subject to deductibles and coverage limitations. We may not be able to obtain or maintain adequate protection against potential liabilities. If we are unable to obtain insurance at acceptable cost or otherwise protect against potential product liability claims, we will be exposed to significant liabilities, which may materially and adversely affect our business and financial position. These liabilities could prevent or interfere with our commercialization efforts.

Risks Relating to an Investment in Our Common Stock

Our corporate governance structure, including provisions in our certificate of incorporation and by-laws, our stockholder rights plan and Delaware law, may prevent a change in control or management that stockholders may consider desirable.

Section 203 of the Delaware General Corporation Law and our certificate of incorporation, by-laws and stockholder rights plan contain provisions that might enable our management to resist a takeover of our company or discourage a third party from attempting to take over our company. These provisions include:

- a classified board of directors,
- limitations on the removal of directors,
- limitations on stockholder proposals at meetings of stockholders,
- the inability of stockholders to act by written consent or to call special meetings, and
- the ability of our board of directors to designate the terms of and issue new series of preferred stock without stockholder approval.

These provisions could have the effect of delaying, deferring, or preventing a change in control of us or a change in our management that stockholders may consider favorable or beneficial. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors and take other corporate actions. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock.

Our common stock is considered a “penny stock” and may be difficult to sell.

The SEC has adopted regulations which generally define “penny stock” to be an equity security that has a market price of less than \$5.00 per share or an exercise price of less than \$5.00 per share, subject to specific exemptions. Presently, the market price of our common stock is substantially less than \$5.00 per share and therefore is designated as a “penny stock” according to SEC rules. SEC rules require any broker or dealer selling such securities to

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obtain a written agreement to the transaction from the purchaser setting forth the identity and quantity of securities to be purchased, to determine that the securities are suitable for the purchaser and that the purchaser has sufficient knowledge and experience in financial matters to be capable of evaluating the risk of investment in such securities, to provide to the purchaser a written statement setting forth the basis upon which the broker has determined the investment to be suitable, and to obtain a written acknowledgement from the purchaser of the substance of the basis for the determination. These rules may restrict the ability of brokers or dealers to sell our common stock and may affect the ability of investors to sell their shares. In addition, since our common stock is only traded on the OTC Bulletin Board, investors may find it difficult to obtain accurate quotations of our common stock.

Our stock price could be extremely volatile, and you may not be able to resell your shares at or above the price you paid for such shares. You may lose all or a significant portion of your investment.

The stock market has experienced significant price and volume fluctuations, and the market prices of biotechnology companies have been highly volatile. In addition, broad market and industry fluctuations that are not within our control may adversely affect the trading price of our common stock. During the period from January 1, 2002 to September 1, 2003, the closing sale price of our common stock ranged from a high of \$1.85 per share to a low of \$0.60 per share. As a result, you may not be able to resell your shares at or above the price you paid for such shares. You must be willing to bear the risk of fluctuations in the price of our common stock and the risk that the value of your investment in our stock could decline.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents we incorporate by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements, other than statements of historical facts, included or incorporated in this prospectus regarding our strategy, future operations, financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words "anticipates," "believes," "estimates," "expects," "intends," "may," "plans," "projects," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly under the heading "Risk Factors," that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. In addition, any forward-looking statements represent our estimates only as of the date this prospectus is filed with the SEC and should not be relied upon as representing our estimates as of any subsequent date. We do not assume any obligation to update any forward-looking statements.

THE COMPANY

Overview

We are engaged in the discovery and development of novel therapeutics and diagnostics using synthetic DNA. Our activities are based on four technologies:

- our immunomodulatory oligonucleotide, or IMO, technology uses synthetic DNA that contains specific sequences that mimic bacterial DNA to modulate responses of the immune system. We have designed a class of IMO compounds, which we refer to as 2nd generation IMO compounds, that we believe may offer potential advantages over earlier immunostimulatory oligonucleotides. These earlier immunostimulatory oligonucleotides are generally referred to in the industry as CpG oligos because they contain a segment of DNA consisting of a cytosine (C) molecule and a guanine (G) molecule linked by a phosphorothioate bond (p). We are designing our IMO compounds to be used as monotherapies in the treatment of conditions such as cancer, infectious diseases and allergies/asthma, as well as in combination therapies with chemotherapeutics, vaccines and antibodies;
- our antisense technology uses synthetic DNA to block the production of disease causing proteins at the cellular level. We have developed advanced antisense chemistries that serve as the basis for our 2nd generation antisense drug candidates. We believe that these 2nd generation antisense drug candidates may offer potential advantages over earlier antisense drug candidates and are potentially applicable to a wide variety of therapeutic indications. We are currently focusing our internal antisense efforts on cancer and infectious diseases. In addition, we are collaborating with other companies to develop antisense therapeutics in the areas of cancer, infectious diseases and pulmonary disease;
- our cancer therapy potentiation technology uses synthetic DNA to enhance the antitumor activity of some marketed anticancer drugs and increase their effectiveness. This technology is based on our discovery in preclinical studies that when oligonucleotides are administered in combination with specific marketed anticancer drugs, such as irinotecan which is marketed in the United States under the name Camptosar[®], the activity of the co-administered anticancer drug is greatly improved; and
- our Cyclicon technology uses novel synthetic DNA structures for identifying gene function in drug target validation and drug discovery.

Drug Development Strategy

In the near term, we are focusing our internal drug development efforts on developing the two lead drug candidates in our pipeline, HYB2055 and GEM231.

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- **HYB2055.** HYB2055 is the lead clinical drug candidate in our IMO program. We are evaluating HYB2055 for the treatment of solid tumor cancers. The Investigational New Drug Application, or IND, we submitted to the FDA, covering HYB2055 became effective on March 6, 2003. In March 2003, we commenced a phase 1 clinical trial of HYB2055 in the United Kingdom in healthy volunteers. The goal of this trial is to study the safety and immunological activity of HYB2055 in healthy volunteers. We are evaluating the drug candidate over a broad range of dosing levels. We completed this trial during the third quarter of 2003 and expect to report the results of this trial in the fourth quarter of 2003.

In May 2003, we commenced a phase 1 clinical trial of HYB2055 in the United States in patients with refractory malignant tumors. This trial is being conducted at Georgetown University's Vince Lombardi Cancer Center. We plan to complete this trial in late 2003 or early 2004. Thereafter, we anticipate conducting future clinical trials of HYB2055 as a monotherapy for the treatment of cancer or in combination with other anticancer agents, including chemotherapeutics and antibodies.

- **GEM231.** GEM231 is a 2nd generation antisense compound for treating solid tumor cancers. GEM231 is designed to inhibit Protein Kinase A, or PKA, a protein levels of which have been shown to be increased in the cells of many human cancers. We are currently conducting a phase 1/2 clinical trial of GEM231 as a combination therapy with Camptosar. This trial is being conducted at Vanderbilt University's Vanderbilt Ingram Cancer Center. In this trial, we are evaluating the safety of GEM231 and Camptosar in combination and measuring the presence of extra-cellular PKA, or ECPKA, in blood as a potential biomarker for GEM231 antisense activity on PKA. A biomarker is a biological parameter monitored as a possible indicator of drug activity. We recently presented data from early patients in the trial indicating that ECPKA levels had been reduced in a statistically significant manner. We expect to complete enrollment of this combination treatment trial in the fourth quarter of 2003. Following analysis of the pharmacokinetic data and depending on these and other findings from the phase 1/2 clinical trial, we would plan to commence a phase 2 clinical trial using this drug combination in the first half of 2004.

Product Pipeline

The table below summarizes the principal products we are developing independently or in collaboration with third parties and the therapeutic use and development status of these products.

Product Description	Therapeutic Use	Development Status
IMO		
HYB2055 — 2nd generation IMO	Cancer	phase 1
HYB2055 — 2nd generation IMO being used as an adjuvant in combination with REMUNE™, an immune-based HIV therapeutic vaccine, in the development of a vaccine candidate ¹	HIV	preclinical candidate
Antisense		
GEM231 — 2nd generation antisense drug candidate targeted to PKA	Cancer	phase 1/2
GEM92 — 2nd generation antisense drug candidate targeted to a specific region of HIV-1	HIV	phase 1
MBI 1121 — 2nd generation antisense drug candidate targeted to human papillomavirus ² , an infectious disease	Human Papillomavirus	phase 1
GEM220 — 2nd generation antisense drug candidate targeted to Vascular Endothelial Growth Factor, a growth factor that contributes to the growth of new blood vessels	Cancer	preclinical candidate
GEM240 — 2nd generation antisense drug candidate targeted to Mdm2, a protein found in increased levels in many human cancers	Cancer	preclinical candidate
GEM640 (AEG35156) — 2nd generation antisense drug candidate targeted to the XIAP gene, ³ a gene which has been implicated in the resistance of cancer cells to chemotherapy	Cancer	preclinical candidate
Cancer Therapy Potentiation		
GEM231 — 2nd generation antisense drug candidate used to potentiate the antitumor activity of Camptosar	Cancer	phase 1/2

¹ Being developed by The Immune Response Corporation in collaboration with us.

² Being developed by Micrologix Biotech, Inc. in collaboration with us.

³ Being developed by Aegera Therapeutics, Inc. in collaboration with us.

Private Placement and Related Matters

In August 2003, we raised approximately \$14.6 million in gross proceeds from a private placement to institutional and accredited investors. In the private placement, we sold 20,053,022 shares of our common stock and warrants to purchase 6,015,934 shares of our common stock. The warrants to purchase common stock have an exercise price of \$1.00 per share and will expire if not exercised by August 28, 2008. The warrants may be exercised with cash or by

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using the cashless exercise feature in the warrants. We may redeem the warrants at a price of \$.05 per share of common stock issuable upon exercise of the warrants if the average closing price of our common stock for a ten consecutive trading day period is greater than or equal to \$2.00 per share. The net proceeds to us, excluding the proceeds of any exercise of the warrants, are expected to total approximately \$13.1 million.

In connection with the private placement, we also issued warrants to selected dealers and placement agents which assisted us with the private placement. These include warrants to purchase 2,458,405 shares of our common stock at an exercise price of \$0.73 per share and warrants to purchase 1,325,342 shares of our common stock at an exercise price of \$1.00 per share. These warrants will expire if not exercised by August 28, 2008. These warrants may be exercised with cash or by using the cashless exercise feature in the warrants. We may not redeem these warrants.

In conjunction with the private placement, we have entered into voting agreements with the holders of 59.3% of the outstanding shares of our series A convertible preferred stock. Under these voting agreements, these holders have agreed to vote to approve amendments to our certificate of incorporation providing for:

- a reduction in the liquidation preference of the series A convertible preferred stock from \$100 per share to \$1 per share;
- a reduction in the dividend on the series A convertible preferred stock from 6.5% per annum to 1.0% per annum; and
- an increase in the number of shares of common stock issuable upon conversion of our series A convertible preferred stock by 25% over the number of shares of common stock that would otherwise be issuable upon conversion of our series A convertible preferred stock, for a 30-day period following the filing of the certificate of amendment to certificate of incorporation effecting the amendments to our certificate of incorporation.

In addition, in these voting agreements, these holders of series A convertible preferred stock agreed to convert a number of shares of series A convertible preferred stock held by them, representing 46.3% of the outstanding shares of our series A convertible preferred stock into common stock during the 30-day period following the filing of the certificate of amendment. We expect that additional shares of series A convertible preferred stock will be converted into common stock during the 30-day period.

We have agreed to call a special meeting of stockholders to vote on the amendments to our certificate of incorporation. The amendments require the approval of the holders of a majority of the outstanding shares of series A convertible preferred stock entitled to vote at the meeting and the approval of the holders of a majority of the outstanding shares of common stock entitled to vote at the meeting, with each class voting separately. The description of the amendments and the special meeting of stockholders in this prospectus should not be deemed, and is not intended as, a solicitation of the approval of the amendments. We will only solicit

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approval of the amendments pursuant to a proxy statement filed with the SEC and complying with the Exchange Act.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares offered pursuant to this prospectus. The selling stockholders will receive all of the proceeds from the sale of the shares of common stock offered by this prospectus. For information about the selling stockholders, see "Selling Stockholders."

The selling stockholders will pay any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the selling stockholders in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including all registration and filing fees and fees and expenses of our counsel and our accountants.

SELLING STOCKHOLDERS

The shares of common stock covered by this prospectus include:

- 20,053,022 shares of common stock that we issued to the selling stockholders in a private placement in August 2003;
- 6,015,934 shares of common stock issuable upon exercise of warrants to purchase common stock which we issued to the selling stockholders in connection with their purchase of shares of common stock in the private placement, which we refer to as the investor warrants; and
- 3,783,747 shares of common stock issuable upon exercise of warrants to purchase common stock which we issued to the selected dealer and the placement agent for our private placement which we refer to as the dealer warrants.

The table below sets forth, to our knowledge, information about the selling stockholders as of September 1, 2003.

We do not know when or in what amounts a selling stockholder may offer shares for sale. The selling stockholders may not sell any or all of the shares offered by this prospectus. Because the selling stockholders may offer all or some of the shares pursuant to this offering, and because there are currently no agreements, arrangements or understandings with respect to the sale of any of the shares, we cannot estimate the number of shares that will be held by the selling stockholders after completion of this offering. For purposes of this table, however, we have assumed that, after completion of this offering, none of the shares covered by this prospectus will be held by the selling stockholders.

Beneficial ownership is determined in accordance with the rules of the SEC, and includes voting or investment power with respect to shares. Shares of common stock issuable upon exercise of warrants or stock options that are exercisable within 60 days after September 1, 2003 are deemed outstanding for computing the percentage ownership of the person holding the warrants or options but are not deemed outstanding for computing the percentage ownership of any other person. Unless otherwise indicated below, to our knowledge, all persons named in the table have sole voting and investment power with respect to the shares of common stock beneficially owned by them, except to the extent authority is shared by spouses under applicable law. The inclusion of any shares in this table does not constitute an admission of beneficial ownership for the person named below.

Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
Clarence A. Abramson	22,260	*	22,260	—	—
Lincoln Adair & Sally Adair TIC	71,232	*	71,232	—	—
Bruce Alexander	14,382(3)	*	14,382(3)	—	—
Marcos Anszelowicz	44,520	*	44,520	—	—
Charles Aquilina	2,877(3)	*	2,877(3)	—	—
Arnel Aquino	4,794(3)	*	4,794(3)	—	—
Dr. Jan Arnett	133,561	*	133,561	—	—
Sharon Aviles	4,448(3)	*	4,448(3)	—	—
Helen Bachthaler	1,918(3)	*	1,918(3)	—	—
DCG&T C/F Jack T. Badgett IRA R/O	22,260	*	22,260	—	—
Joel Barth	17,807	*	17,807	—	—
Donna Baselice	14,382(3)	*	14,382(3)	—	—
Glen Basinger	26,711	*	26,711	—	—
Roger Baumberger	23,969(3)	*	23,969(3)	—	—
Robert S. Beadle	44,520	*	44,520	—	—
Joe N. & Jamie Behrendt Revocable Trust 10/20/96	44,520	*	44,520	—	—
Bel Air Associates, LLC	89,041	*	89,041	—	—
Lon Bell	89,041	*	89,041	—	—
James Benedict	28,764(3)	*	28,764(3)	—	—
Robert Bennie	44,520	*	44,520	—	—
Stephanie C. Berg	17,807	*	17,807	—	—
Better Home Plastics Corp.	445,205	*	445,205	—	—
Fred B. Bialek	89,041	*	89,041	—	—
Ronni & Paul Bianco JTWROS	8,904	*	8,904	—	—
Blue & Gold Enterprises LLC	222,602	*	222,602	—	—
Delaware Charter G&T Co. FBO Elizabeth H. Bone SEP IRA	41,848	*	41,848	—	—
James Bonvissuto	89,041	*	89,041	—	—
Mark Boyce	44,520	*	44,520	—	—
John W. Boyd	35,616	*	35,616	—	—
Gordon Bruce	44,520	*	44,520	—	—
Laura Cabo	5,127(3)	*	5,127(3)	—	—
Deanna Caffarone	2,989(3)	*	2,989(3)	—	—

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Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
William J. Callahan	178,082	*	178,082	—	—
Capital Growth Equity Fund I, LLC	445,205	*	445,205	—	—
Scott Cardone	8,794(3)	*	8,794(3)	—	—
Jack Cardwell & Evonne Cardwell JTWROS	178,082	*	178,082	—	—
Jodi Castoro & Vincent Castoro TIC	13,355	*	13,355	—	—
Troy Cates	4,794(3)	*	4,794(3)	—	—
CGF Securities, LLC	53,425(3)	*	53,425(3)	—	—
Daniel Chestler	53,424	*	53,424	—	—
Clariden Bank	267,123	*	267,123	—	—
Morgan Stanley FBO Charles C. Clark IRA	89,041	*	89,041	—	—
John Clarke	12,221(3)	*	12,221(3)	—	—
John A. Cleary	35,616	*	35,616	—	—
Joseph L. Codi	44,520	*	44,520	—	—
Kevin P. Conroy	178,082	*	178,082	—	—
Geoff Coy	89,041	*	89,041	—	—
Rosa Cubeiro-Iglesias	2,877(3)	*	2,877(3)	—	—
Dr. Malcolm R. Currie	44,520	*	44,520	—	—
Ernst de Flines	89,041	*	89,041	—	—
Arnaud de Vienne	2,672(3)	*	2,672(3)	—	—
DCG&T C/F Dennis Deloach IRA RO	22,260	*	22,260	—	—
Dennis R. Deloach, Jr.	22,260	*	22,260	—	—
Nicholas & Barbara DeLuca JTWROS	44,520	*	44,520	—	—
Steven H. Deutsch & Wilma K. Deutsch JTWROS	48,120	*	44,520	3,600	*
David DiGiacinto	28,764(3)	*	28,764(3)	—	—
William Dioguardi	54,163(3)	*	54,163(3)	—	—
Dr. Richard Dold	26,711	*	26,711	—	—
Cindy Dolgin	44,520	*	44,520	—	—
Carl J. Domino	178,082	*	178,082	—	—
Heather Donahue	35,043(3)	*	35,043(3)	—	—
Jules H. Dreyfuss	44,520	*	44,520	—	—
Torben Duer	311,644	*	311,644	—	—
Andrew M. Dyer	178,082	*	178,082	—	—

Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
Matthew Ehrlich	22,260	*	22,260	—	—
Seymour J. Eisenberg	89,041	*	89,041	—	—
Ronald Eller	44,520	*	44,520	—	—
DiAnn Ellis	7,493(3)	*	7,493(3)	—	—
U. Bertram Ellis, Jr.	89,041	*	89,041	—	—
Jacob M. Engel	89,041	*	89,041	—	—
Theresa M. Fabiani	44,520	*	44,520	—	—
Donald Farley	33,557(3)	*	33,557(3)	—	—
Donald Farley Inter-Vivos Trust, U/A/D 7/31/98	44,520	*	44,520	—	—
Harold Finelt	44,520	*	44,520	—	—
Pershing LLC as Custodian IRA FBO					
Carol J. Fiol	44,520	*	44,520	—	—
DCG&T C/F Baruch Fischhoff IRA	22,260	*	22,260	—	—
Gary Fischhoff	44,520	*	44,520	—	—
Jonathan Fleisig	178,082	*	178,082	—	—
Richard J. Forsyth	44,520	*	44,520	—	—
James B. Gallinatti, Jr. & Ellen T. Gallinatti JTWR0S	89,041	*	89,041	—	—
Walter G. Gans	44,520	*	44,520	—	—
Garfield Associates LLC	89,041	*	89,041	—	—
Joseph Gatti, Jr.	4,794(3)	*	4,794(3)	—	—
Harold S. Gault	178,082	*	178,082	—	—
Pershing LLC as Custodian IRA FBO					
Phyllis Gelles	89,041	*	89,041	—	—
Alfred A. Gilbert	22,260	*	22,260	—	—
Richard Gill	44,520	*	44,520	—	—
David M. Gilson	53,424	*	53,424	—	—
Jerome Z. Ginsburg	44,520	*	44,520	—	—
Samuel Goekjian	44,520	*	44,520	—	—
Janine Goldblatt	2,877(3)	*	2,877(3)	—	—
William M. Goldstein	89,041	*	89,041	—	—
Peter C. Gould	44,520	*	44,520	—	—
Maurice & Stacy Gozlan TIE	89,041	*	89,041	—	—

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Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
Irwin Gruverman	44,520	*	44,520	—	—
Ronald Haboush	445,205	*	445,205	—	—
Anita C. Haffey Revocable Trust	44,520	*	44,520	—	—
Joseph W. Halligan Trust DTD Dec. 20, 2001	44,520	*	44,520	—	—
Robert Hammer	17,807	*	17,807	—	—
Tara Hanley	11,185(3)	*	11,185(3)	—	—
Todd Harrigan	59,431(3)	*	59,431(3)	—	—
Harold A. Havekotte Inc. Pension Plan 11/28/80	44,520	*	44,520	—	—
Headwaters Holdings LLC	178,082	*	178,082	—	—
John Heidenreich	15,768(3)	*	15,768(3)	—	—
DCG&T C/F Robert G. Heidenreich IRA	71,232	*	71,232	—	—
William Henner	44,520	*	44,520	—	—
Tim Herrmann	34,480(3)	*	34,480(3)	—	—
Kenneth J. Heuer	11,185(3)	*	11,185(3)	—	—
John Hewins	14,382(3)	*	14,382(3)	—	—
John Higgins	43,144(3)	*	43,144(3)	—	—
Lee O. Hill	17,807	*	17,807	—	—
DCG&T C/F Lee O. Hill IRA R/O	44,520	*	44,520	—	—
David Hochman	179,754(3)	*	179,754(3)	—	—
Susan Hoffmann	4,506(3)	*	4,506(3)	—	—
Timothy Holland	44,520	*	44,520	—	—
Byron C. & Julie L. Hughey Tenants by the Entirety	17,807	*	17,807	—	—
Ronald Hutchison & Lisa Hutchison JTWROS	22,260	*	22,260	—	—
Thomas Hutzel	28,764(3)	*	28,764(3)	—	—
Immunoclin Limited	6,500(3)	*	6,500(3)	—	—
Roland Isaacson	89,041	*	89,041	—	—
Andre Iseli	44,520	*	44,520	—	—
Alec Jaret	22,260	*	22,260	—	—

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Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
DCG&T C/F Chatri Jhunjnuwala SEP IRA	89,041	*	89,041	—	—
W. Kahle Johnson, Jr.	22,260	*	22,260	—	—
JSP Holdings ApS	291,327	*	178,082	113,245	*
K&R Negotiation Associates LLC	44,520	*	44,520	—	—
Pershing LLC as Custodian SEP FBO					
Robert Kalman	44,520	*	44,520	—	—
Arun Kapur & Meera Kapur TIC	44,520	*	44,520	—	—
Valerie Lee Karraker	22,260	*	22,260	—	—
John J. Kealy Revocable Trust dtd 8/15/96 John J. Kealy TTEE	22,260	*	22,260	—	—
Steven & Marilyn Keenan JTWROS	222,602	*	222,602	—	—
DCG&T C/F John H. Keller	35,616	*	35,616	—	—
The Shirley Keys Family Trust UAD 4/22/99 Shirley Keys TTEE	22,260	*	22,260	—	—
Delaware Charter G&T Co. FBO					
Benjamin King IRA	26,711	*	26,711	—	—
Everett P. Kirch & Linda R. Kirch JTWROS	22,260	*	22,260	—	—
Robert Klein	106,848	*	106,848	—	—
Charles D. Kleinow	89,041	*	89,041	—	—
William P. Klingenstein	89,041	*	89,041	—	—
John Kokales	44,520	*	44,520	—	—
Michael A. Kolber & Terri L. Meinking JTWROS	17,807	*	17,807	—	—
Christian Kolster	89,041	*	89,041	—	—
Patricia Koo	23,969(3)	*	23,969(3)	—	—
Kenneth J. Kostal	44,520	*	44,520	—	—
Athanasios Koukoulis	22,260	*	22,260	—	—

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Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
Kredietbank (Suisse) SA Acting for Customers A/C	89,041	*	89,041	—	—
John C. Kroening	44,520	*	44,520	—	—
Thaddeus B. Kubis & Maria G. Kubis					
JTWROS	26,711	*	26,711	—	—
J. Allen Lamb	44,520	*	44,520	—	—
David Landskowsky	86,003(3)	*	86,003(3)	—	—
Bruce Larson	178,082	*	178,082	—	—
Paul Latchford	33,557(3)	*	33,557(3)	—	—
William Lederer	11,185(3)	*	11,185(3)	—	—
Aaron Lehmann	17,807	*	17,807	—	—
Moseh Lehrfield & Jennifer Lehrfield JT TEN	17,807	*	17,807	—	—
Scott Leishman	23,969(3)	*	23,969(3)	—	—
DCG&T C/F Scott Leishman IRA Rollover	22,260	*	22,260	—	—
Bruno Lerer	33,557(3)	*	33,557(3)	—	—
Lee A. Levine	89,041	*	89,041	—	—
Robert Levy, Jr.	89,041	*	89,041	—	—
Lincoln Associates LLC	53,424	*	53,424	—	—
Charles Loegering	44,520	*	44,520	—	—
Kirk Loury	748(3)	*	748(3)	—	—
Ronald Luken	28,764(3)	*	28,764(3)	—	—
U/W/O Edward C. Mack 1973 Trust	44,520	*	44,520	—	—
Delaware Charter G&T Co. FBO Todd Maibach IRA	22,260	*	22,260	—	—
Brian J. Malecek	44,520	*	44,520	—	—
Richard Mandell & Audrey R. Lee Mandell					
JTWROS	44,520	*	44,520	—	—
Robert F. Mann Revocable Trust U/A/D 1/29/91	22,260	*	22,260	—	—
Robert Manning	11,185(3)	*	11,185(3)	—	—
Joseph O. Manzi	44,520	*	44,520	—	—
Erika McCarthy	2,877(3)	*	2,877(3)	—	—

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Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
Patrick McGovern	43,144(3)	*	43,144(3)	—	—
Kathleen S. McHugh	22,260	*	22,260	—	—
Meadowbrook Capital Corp. Profit Sharing Plan	178,082	*	178,082	—	—
Rosemarie Melnichuk	2,877(3)	*	2,877(3)	—	—
Daniel Michael	44,520	*	44,520	—	—
Lawrence W. Milne, MD PC, Profit Sharing Plan	178,082	*	178,082	—	—
Richard J. Mish	68,387(4)	*	68,387(4)	—	—
Delaware Charter Guarantee and Trust Co. FBO Richard Mish IRA	22,260	*	22,260	—	—
E.A. Moos & Co. LP	178,082	*	178,082	—	—
Leonard Moskowitz	44,520	*	44,520	—	—
Mouton Family Living Trust	22,260	*	22,260	—	—
Franz Muster	44,520	*	44,520	—	—
Howard Nathel	89,041	*	89,041	—	—
Steve Nicholson	6,360(3)	*	6,360(3)	—	—
Gus & Karen Nicolopoulos	17,807	*	17,807	—	—
O.T. Finance, SA	44,520	*	44,520	—	—
Gerard O'Brien	22,260	*	22,260	—	—
Edward J. O'Connell	89,041	*	89,041	—	—
Edwin O'Connor	17,807	*	17,807	—	—
Mel Okeon M.D. Med. Corp. Profit Sharing Trust	178,082	*	178,082	—	—
Bernard Oleyar	22,260	*	22,260	—	—
James Oliphant	44,520	*	44,520	—	—
Elizabeth Olsen	14,382(3)	*	14,382(3)	—	—
Gilbert S. Omenn	89,041	*	89,041	—	—
Dr. Peter Oppenheimer & Sandi Oppenheimer JTWROS	22,260	*	22,260	—	—
Optima Life Sciences Limited	7,150,495(5)	11.0%	7,150,495(5)	—	—
Reed S. Oslan	35,616	*	35,616	—	—

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Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
OTAPE Investments LLC	178,082	*	178,082	—	—
Larry Pallini	44,520	*	44,520	—	—
PAM Investments — I	89,041	*	89,041	—	—
Suresh Patel	44,520	*	44,520	—	—
Bruce H. Paul	89,041	*	89,041	—	—
Eric Paul	58,902(4)	*	58,902(4)	—	—
Tanya Peress	2,877(3)	*	2,877(3)	—	—
Performance Capital Group, LLC	89,041	*	89,041	—	—
Sheldon Perl & Ruth Perl TIC	89,041	*	89,041	—	—
Kenneth J. Peterson	89,041	*	89,041	—	—
Lisa Peterson & Mark Smith JTWROS	26,711	*	26,711	—	—
The Paul F. Petrus Rev. Trust of 1988					
UAD 4-15-88	44,520	*	44,520	—	—
Jessica Phillips	14,382(3)	*	14,382(3)	—	—
Pillar Investment Limited	587,709(6)	*	587,709(6)	—	—
James Pizzo	26,711	*	26,711	—	—
Plum Glen Partners LP/Jerry Mendelson					
General Partner	44,520	*	44,520	—	—
Joseph Porfeli	33,557(3)	*	33,557(3)	—	—
Alida Provence	2,877(3)	*	2,877(3)	—	—
K.V. Rajagopalan	35,616	*	35,616	—	—
Dr. V. J. L.K. Raju & Dr. Govind S. Raju					
JTWROS	22,260	*	22,260	—	—
Richard Ramlall	28,764(3)	*	28,764(3)	—	—
Susan Read	2,877(3)	*	2,877(3)	—	—
Joanne Reda	2,877(3)	*	2,877(3)	—	—
Delaware Charter G&T Co. FBO Gary					
Reich IRA	22,260	*	22,260	—	—
Donald S. Rice	26,711	*	26,711	—	—
George E. Robb, Jr.	89,041	*	89,041	—	—
Elisha Rothman	89,041	*	89,041	—	—
Eric Rubenstein	245,823(3)	*	245,823(3)	—	—

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Name of Selling Stockholder(1)	Shares of Common Stock Beneficially Owned Prior to Offering(2)		Number of Shares of Common Stock Being Offered(2)	Shares of Common Stock to be Beneficially Owned After Offering	
	Number	Percentage		Number	Percentage
Alan Rubin	178,082	*	178,082	—	—
Neil Rubin	90,638(3)	*	90,638(3)	—	—
Stanley M. Rubin	44,520	*	44,520	—	—
Richard Russey	22,260	*	22,260	—	—
Bernard D. Sadow	89,041	*	89,041	—	—
Richard Sakakeeny	17,807	*	17,807	—	—
Wayne Saker	89,041	*	89,041	—	—
Albert L. Salvatico	89,041	*	89,041	—	—
Antonio Santos	1,918(3)	*	1,918(3)	—	—
Stephen Schloss	89,041	*	89,041	—	—
Scott Schulte	5,244(3)	*	5,244(3)	—	—
Susan Schwartz-Giblin	22,260	*	22,260	—	—
Aaron Segal	17,016(3)	*	17,016(3)	—	—
Allen Sessoms	35,616	*	35,616	—	—
Barry Shemaria	44,520	*	44,520	—	—
Ship Commodities International Inc.	53,424	*	53,424	—	—
J. Edward Shrawder	44,520	*	44,520	—	—
Dr. Alan M. Shuman	44,520	*	44,520	—	—
Michael Siek	107,478(3)	*	107,478(3)	—	—
Laurie K. Silverman	8,904	*	8,904	—	—
Michael Silverman	6,423(3)	*	6,423(3)	—	—
Silverman Family Limited Partnership	53,424	*	53,424	—	—
Allen Snelling	14,581(3)	*	14,581(3)	—	—
Elliot Sokolow	44,520	*	44,520	—	—
Lydia Soler	11,185(3)	*	11,185(3)	—	—
James Soyak and Deborah Soyak JT/WROS	178,082	*	178,082	—	—
Spencer Trask & Co.	1,154,434(3)	1.8%	1,154,434(3)	—	—
Spencer Trask Illumination Fund LLC	178,082	*	178,082	—	—
Spencer Trask Investment Partners, LLC	1,780,822	2.8%	1,780,822	—	—
Spencer Trask Private Equity Accredited Fund III, LLC	445,205	*	445,205	—	—
Spencer Trask Private Equity Fund I LP	712,329	1.1%	712,329	—	—

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	Number	Percentage		Number	Percentage
Spencer Trask Private Equity Fund II LP	356,164	*	356,164	—	—
Richard M. Spitalny	44,520	*	44,520	—	—
Donald Spongberg	2,885(3)	*	2,885(3)	—	—
Statler Family Trust	35,616	*	35,616	—	—
Arthur Steinberg	44,520	*	44,520	—	—
Adam K. Stern	165,266(4)	*	165,266(4)	—	—
William C. Wetzel TTEE for the Livingston, Barger, Brandt & Schroeder Self Employment Ret. Plan DTD 9/30/94 FBO Richard Stites	89,041	*	89,041	—	—
David & Susan Stollwerk JTWROS	44,520	*	44,520	—	—
Lawrence Storch	44,520	*	44,520	—	—
Joanna Struett	89,041	*	89,041	—	—
Sunflower Trading Fund	178,082	*	178,082	—	—
Jack Swartz	67,620	*	44,520	23,100	*
Sweetland L.L.C	44,520	*	44,520	—	—
Pershing LLC as Custodian IRA Rollover FBO Robert Swift	208,082	*	178,082	30,000	*
Tan/DeMattel Family Trust of 1999	44,520	*	44,520	—	—
Christopher Terzini	14,382(3)	*	14,382(3)	—	—
William Thacker & Susan Thacker JTWROS	44,520	*	44,520	—	—
Matthew Thomas	23,881(3)	*	23,881(3)	—	—
Frederick Tramutola	44,520	*	44,520	—	—
Jed Trosper	33,557(3)	*	33,557(3)	—	—
Charles Tully & Kathleen Tully JTWROS	44,520	*	44,520	—	—
Sam V. Vail	30,878(3)	*	30,878(3)	—	—

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	Number	Percentage		Number	Percentage
CGM IRA Rollover Custodian FBO Sam V. Vail	44,520	*	44,520	—	—
John V. Wagner	44,520	*	44,520	—	—
DCG&T C/F Ross Graham Walker III					
IRA R/O	71,232	*	71,232	—	—
Joan K. Warnke	22,260	*	22,260	—	—
Rachel Waters	2,877(3)	*	2,877(3)	—	—
Jerold Weinger & Lilli Weinger JTWROS	178,082	*	178,082	—	—
Paul J. Weir	44,520	*	44,520	—	—
Kevin Weisbeck	44,520	*	44,520	—	—
Weiskopf, Silver & Co., LP	133,561	*	133,561	—	—
DIYR Plans, Inc. Money Purchase Plan and Trust as Adopted by Don Wheeler Enterprises, Inc.	178,082	*	178,082	—	—
Ralph C. Wintrode Trust dtd May 9, 2001	44,520	*	44,520	—	—
Josh Wisotsky	11,474(3)	*	11,474(3)	—	—
William Woodfield	23,969(3)	*	23,969(3)	—	—
Woodlands Construction LLC	44,520	*	44,520	—	—
James B. Wyngaarden	714,443(7)	1.1%	44,520	669,923	1.0%
Wayne P. Yetter	44,520	*	44,520	—	—
Don & Sheri Yohe JTWROS	89,041	*	89,041	—	—
Paul C. Zamecnik	921,030(8)	1.4%	89,041	831,989	1.3%
Carol Zenvoulei	18,869(3)	*	18,869(3)	—	—
Michael Zimmerman	17,807	*	17,807	—	—

* Less than one percent.

(1) The term “selling stockholders” includes donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other non-sale related transfer.

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- (2) Unless otherwise noted in these footnotes, includes shares of common stock issuable upon exercise of the investor warrants.
- (3) Consists of shares of common stock issuable upon exercise of the dealer warrants.
- (4) Includes shares of common stock issuable upon exercise of both the dealer warrants and the investor warrants.
- (5) Includes 1,650,114 shares of common stock issuable upon the exercise of warrants held by Optima.
- (6) Consists of shares of common stock issuable upon the exercise of warrants held by Pillar.
- (7) Includes 530,000 shares subject to outstanding stock options that are exercisable within 60 days after September 1, 2003 and 10,274 shares of common stock issuable upon the exercise of warrants.
- (8) Includes 201,200 shares subject to outstanding stock options that are exercisable within 60 days after September 1, 2003 and 20,548 shares of common stock issuable upon the exercise of warrants.

Relationships with Selling Stockholders

Except for the selling stockholders listed below, no selling stockholder has had any position, office or other material relationship with us or our affiliates within the past three years.

Optima Life Sciences Limited and Pillar Investment Limited

One of our directors, Youssef El-Zein, is a director of Optima Life Sciences Limited and Pillar Investment Limited. Pillar Investment Limited is the manager and investment advisor of Optima.

Pillar Investment Limited acted as a placement agent for us in connection with our August 2003 private placement under the terms of an engagement letter dated April 18, 2003 to which we are a party with Pillar Investment Limited and PrimeCorp Finance S.A. Under the terms of the engagement letter, we paid Pillar Investment Limited \$300,319 in cash and issued Pillar Investment Limited warrants to purchase 587,709 shares of common stock at an exercise price of \$1.00 per share as fees in connection with the participation of non-U.S. investors in our August 2003 private placement.

During the past three years, Pillar S.A., an affiliate of Pillar Investment Limited and Mr. El-Zein, has provided consulting services to us relating to international investor relations, employment contracts with our management team and various transactions in which we have engaged including our sale of shares of Methylgene Inc. in 2001, our license and collaboration with Isis Pharmaceuticals, Inc. in 2001, the conversion of our 8% convertible notes into our series B convertible preferred stock in 2001, our early exercise program in 2001 in which we exchanged common stock for our series B convertible preferred stock, several classes of our warrants and our 8% convertible notes and our repurchase of common stock in 2003. For these services, we paid Pillar a total of \$553,500 in cash and issued to Pillar 178,571 shares of common stock.

Mr. El-Zein converted 8% convertible notes in the principal amount of \$30,968 and accrued interest of \$1,057 into 317 shares of our series B convertible preferred stock in 2001 and exchanged 3,851 shares of our series B convertible preferred stock and warrants to purchase 748,248 shares of common stock for a total of 1,437,054 shares of common stock in our early exercise program in 2001.

Spencer Trask Entities

Spencer Trask Ventures, Inc., an affiliate of Spencer Trask & Co., Inc., Spencer Trask Illumination Fund LLC, Spencer Trask Investment Partners LLC, Spencer Trask Private Equity Accredited Fund III LLC, Spencer Trask Private Equity Fund I LP and Spencer Trask Private Equity Fund II LP, acted as a selected dealer for us in connection with our August 2003 private placement under the terms of a selected dealer agreement dated July 22, 2003. Under the terms of the selected dealer agreement, we paid Spencer Trask Ventures, Inc. \$1,064,310 in cash and issued warrants to purchase 2,458,405 shares of our common stock at an exercise price of \$0.73 per share and warrants to purchase 737,633 shares of our common stock at an exercise price of \$1.00 per share as fees in connection with our August 2003 private placement.

James B. Wyngaarden

James B. Wyngaarden has served as the Chairman of our Board of Directors since February 2000 and as one of our directors since 1990. In 2001, Dr. Wyngaarden acquired 27,737 shares of common stock upon the exercise of warrants in our early exercise program for an aggregate exercise price of \$10,817.

Paul C. Zamecnik

Paul C. Zamecnik has served as a director on our Board of Directors since 1990. Dr. Zamecnik also provides consulting services to us for which we pay Dr. Zamecnik a fee of \$20,000 per year. Since October 1, 2000, we have paid Dr. Zamecnik a total of \$60,000 in consulting fees.

Dr. Zamecnik converted 8% convertible notes in the principal amount of \$27,695 and accrued interest of \$954 into 286 shares of our series B convertible preferred stock in 2001. Dr. Zamecnik also participated in our early exercise program in 2001, exchanging 1,066 shares of our series B convertible preferred stock for 266,500 shares of common stock and acquiring 230,793 shares of common stock upon the exercise of warrants for an aggregate exercise price of \$91,018.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock summarizes the material terms and provisions of the indicated securities. For the complete terms of our common stock, preferred stock and preferred stock purchase rights, please refer to our certificate of incorporation, by-laws and stockholder rights plan that we have filed with the SEC. The terms of these securities may also be affected by the General Corporation Law of the State of Delaware.

We are authorized to issue 150,000,000 shares of common stock and 5,000,000 shares of preferred stock, \$0.01 par value per share, of which 1,500,000 are designated series A convertible preferred stock and 100,000 shares are designated series C junior participating preferred stock. As of September 1, 2003, there were 63,578,377 shares of common stock outstanding, 699,980 shares of series A convertible preferred stock outstanding, no shares of series C junior participating preferred stock outstanding and no other shares of preferred stock issued and outstanding.

Common Stock

Voting. For all matters submitted to a vote of stockholders, each holder of common stock is entitled to one vote for each share registered in that stockholder's name on our books. Our common stock does not have cumulative voting rights. As a result, subject to the voting rights, of which there currently are none, of any outstanding preferred stock, persons who hold more than 50% of the outstanding common stock entitled to elect members of our board of directors can elect all of the directors who are up for election in a particular year.

Dividends. If our board of directors declares a dividend, holders of common stock will receive payments from our funds that are legally available to pay dividends. However, this dividend right is subject to any preferential dividend rights that we have granted or may grant to the persons who hold preferred stock.

Liquidation and Dissolution. If we are liquidated or dissolved, the holders of our common stock will be entitled to share ratably in all the assets that remain after we pay our liabilities, including without limitation liabilities under the unit purchase agreement described below, and any amounts we may owe to the persons who hold preferred stock, if any is outstanding.

Other Rights and Restrictions. The outstanding shares of our common stock are validly issued, fully paid and nonassessable. Holders of our common stock do not have preemptive rights, and they have no right to convert their common stock into any other securities. Our common stock is not subject to redemption by us. The rights, preferences and privileges of common stockholders are subject to the rights of the stockholders of any series of preferred stock that are issued and outstanding or that we may issue in the future. Our certificate of incorporation and by-laws do not restrict the ability of a holder of common stock to transfer his or her shares of common stock.

Transfer Agent and Registrar. The transfer agent and registrar for our common stock is Mellon Investor Services LLC.

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Put Right. Pursuant to the terms of a unit purchase agreement dated as of May 5, 1998, we issued and sold a total of 9,597,476 shares of common stock, which we refer to as the put shares, at a price of \$2.00 per share. Under the terms of the unit purchase agreement, the initial purchasers, which we refer to as the put holders, of the put shares have the right, which we refer to as the put right, to require us to repurchase the put shares. The put right may not be exercised by any put holder unless all of the following occur:

- we liquidate, dissolve or wind up our affairs pursuant to applicable bankruptcy law, whether voluntarily or involuntarily,
- all of our indebtedness and obligations, including without limitation the indebtedness under our outstanding notes, has been paid in full, and
- all rights of the holders of any series or class of capital stock ranking prior and senior to the common stock with respect to liquidation, including without limitation the series A convertible preferred stock, have been satisfied in full.

We may terminate the put right upon written notice to the put holders if the closing sales price of our common stock exceeds \$4.00 per share for the 20 consecutive trading days prior to the date of notice of termination. Because the put right is not transferable, in the event that a put holder has transferred put shares since May 5, 1998, the put right with respect to those shares has terminated. As a consequence of the put right, in the event we are liquidated, holders of shares of common stock that do not have put rights with respect to such shares may receive smaller distributions per share upon our liquidation than if there were no put rights outstanding.

As of December 31, 2002, 5,467,686 of the put shares continued to be held in the name of the put holders. On February 14, 2003, we repurchased 2,415,880 of these put shares. We cannot determine at this time whether the put rights with respect to the balance of the put shares have terminated.

Warrants

We have the following warrants outstanding and exercisable for the purchase of common stock as of September 1, 2003:

- a warrant to purchase 173,333 shares of common stock at an exercise price of \$3.00 per share, which expires on November 30, 2003;
- a warrant to purchase 500,000 shares of common stock at an exercise price of \$0.50 per share, which expires on March 31, 2006;
- a warrant to purchase 100,000 shares of common stock at an exercise price of \$1.65 per share, which expires on January 1, 2007;
- warrants to purchase an aggregate of 7,341,276 shares of common stock at an exercise price of \$1.00 per share, which expire on August 28, 2008; and

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- warrants to purchase an aggregate of 2,458,405 shares of common stock at an exercise price of \$0.73 per share, which expire on August 28, 2008.

Preferred Stock

Our board of directors is authorized, subject to any limitations prescribed by law, without further stockholder approval, to issue from time to time up to 5,000,000 shares of preferred stock, in one or more series. Each series of preferred stock shall have the number of shares, designations, preferences, voting powers, qualifications and special or relative rights or privileges as shall be determined by our board of directors, which may include, among others, dividend rights, voting rights, redemption and sinking fund provisions, liquidation preferences, conversion rights and preemptive rights.

Our stockholders have granted the board of directors authority to issue the preferred stock and to determine its rights and preferences in order to eliminate delays associated with a stockholder vote on specific issuances. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of holders of any preferred stock that may be issued in the future. The issuance of preferred stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, a majority of our outstanding voting stock.

Series A Convertible Preferred Stock

Dividends. Each share of series A convertible preferred stock is entitled to receive cumulative semi-annual dividends payable, at our option, in cash or additional shares of series A convertible preferred stock, at the rate of 6.5% per annum plus accrued but unpaid dividends. Dividends accrue from the date of issuance and are paid semi-annually on April 1 and October 1 of each year or, if any such day is not a business day, on the next business day. Dividends are paid, at our election, either in cash or additional shares of series A convertible preferred stock. In calculating the number of shares of series A convertible preferred stock to be paid with respect to each dividend, the series A convertible preferred stock is valued at \$100 per share, subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the series A convertible preferred stock.

Liquidation Preference. In the event of one of the following liquidation events:

- our liquidation, dissolution or winding up, whether voluntary or involuntary,
- a sale or other disposition of all or substantially all of our assets, or
- any consolidation, merger, combination, reorganization or other transaction in which we are not the surviving entity or if stock constituting more than 50% of our voting power is exchanged for or changed into stock or securities of another entity, cash, or any other property,

after payment of our debts and other liabilities, the holders of shares of series A convertible preferred stock will be entitled to be paid out of our available assets, before any payment to

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holders of shares ranking junior to the series A convertible preferred stock, an amount equal to \$100 per share plus accrued but unpaid dividends. In the case of a transaction listed in the third bullet above, however, this payment may be made in cash, property or securities of the entity surviving the transaction. If upon any liquidation event, whether voluntary or involuntary, the assets to be distributed to the holders of the series A convertible preferred stock are insufficient to permit the payment to such shareholders of the full amount owed, then all of our available assets will be distributed ratably to the holders of the series A convertible preferred stock.

All shares of series A convertible preferred stock rank, as to payment upon the occurrence of any liquidation event, senior to the common stock and senior to all other series of preferred stock, unless the terms of any series provides otherwise.

Right of Conversion. Shares of series A convertible preferred stock are convertible, at the option of the holder, into shares of common stock or other securities and property. The conversion price per share of common stock is \$4.25, and is subject to adjustment as described below. The conversion rate at which each share of series A convertible preferred stock is convertible at any time into common stock will be determined by dividing the then existing conversion price into the dividend base amount for a share of series A convertible preferred stock. The dividend base amount equals \$100 plus accrued but unpaid dividends, subject to adjustment to reflect any stock split, combination, reclassification or reorganization. As of September 1, 2003, each share of series A convertible preferred stock was convertible into approximately 23.53 shares of common stock.

Adjustment of Conversion Rate and Conversion Price. In order to preserve the economic value of shares of series A convertible preferred stock, the conversion rate and the conversion price will be adjusted if we do the following;

- pay a dividend or make a distribution on any class of capital stock in shares of common stock;
- subdivide our outstanding common stock into a greater number of shares;
- combine our outstanding common stock into a smaller number of shares;
- issue shares of common stock or preferred stock generally to the holders of our common stock or preferred stock rights to acquire shares of common stock or preferred stock at a price per share less than the market price;
- pay or distribute to the holders of common stock or preferred stock assets, properties or rights to acquire our capital stock at a price per share less than the market price; or
- make a distribution consisting solely of cash to the holders of any class of capital stock where, during a specified 12-month period, the cash distribution exceeds 10% of the product of the market price of the common stock multiplied by the total number of shares of outstanding common stock.

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Exceptions to Adjustments. No adjustment will, however, be made to either the conversion rate or the conversion price for issuances of common stock or preferred stock, or cash paid to holders of shares of convertible preferred stock as payment for accrued dividends or as a mandatory conversion or mandatory redemption payment.

Other Changes in Conversion Rate. We from time to time may increase the conversion rate by any amount for any period of time if the period is at least 20 days and if the increase is irrevocable during the period. Whenever the conversion rate is so increased, we will notify registered holders.

We may also increase the conversion rate in order to avoid or diminish any income tax to holders of common stock resulting from any dividend or distribution of stock or issuance of rights or warrants to purchase or subscribe for stock or from any event treated as such for income tax purposes.

The conversion price may not be adjusted to an amount less than \$0.001 per share, the current par value of the common stock into which the series A convertible preferred stock is convertible.

Mandatory Conversion. Upon giving notice to the holders of the convertible preferred stock, we may, at our option, cause the series A convertible preferred stock to be converted in whole or in part, on a pro rata basis, into shares of common stock using a conversion price equal to \$4.00 if the closing bid price of the common stock equals or exceeds 250% of the then current conversion price for at least 20 trading days in any period of 30 consecutive trading days.

Redemption. We may, at our option, redeem the series A convertible preferred stock for cash equal to the dividend base amount.

Class Voting Rights. We may not, without the affirmative vote or consent of the holders of at least 50% of all outstanding shares of series A convertible preferred stock, voting separately as a class:

- amend, alter or repeal any provision of our certificate of incorporation or by-laws so as adversely to affect the rights of the series A convertible preferred stock, except that the issuance of securities ranking prior to, or pari passu with, the series A convertible preferred stock upon a liquidation event or with respect to the payment of dividends or distributions will not be considered to affect adversely the relative rights of the series A convertible preferred stock; or
- authorize or issue, or increase the authorized amount of, the convertible preferred stock, other than the series A convertible preferred stock issuable as dividends on the series A convertible preferred stock.

Preemptive Rights. The series A convertible preferred stock is not entitled to any preemptive or subscription rights in respect of any of our securities.

Restrictions on Change of Control. So long as any 9% convertible subordinated notes issued by us under an indenture dated as of March 26, 1997 remain outstanding, no holder of any

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shares of series A convertible preferred stock may, without our prior written consent, have voting rights under our certificate of incorporation, be entitled to receive any of our voting securities under our certificate of incorporation, or be entitled to exercise any conversion rights with respect to the series A convertible preferred stock to the extent that such voting rights, receipt of voting securities or exercise of conversion rights could, in our reasonable judgment, either alone or in conjunction with other issuances or holdings of our capital stock, warrants or convertible securities, result in a change of control as defined in the indenture. As of September 1, 2003, the outstanding principal amount of our 9% notes was \$1,306,000. Our 9% notes mature on April 1, 2004.

Amendments to Series A Terms. In connection with our August 2003 private placement, our board of directors adopted, subject to stockholder approval, amendments to our certificate of incorporation and the terms of the series A convertible preferred stock. For a description of those amendments, see "The Company – Private Placement and Related Matters."

Series C Junior Participating Preferred Stock

Voting. Each share of series C junior participating preferred stock is entitled to 1,000 votes, subject to adjustment if we effect a stock split or issue a stock dividend. Except as provided below, each share of series C junior participating preferred stock votes together with the holders of common stock and all of our other capital stock on all matters voted on by stockholders.

Dividends. The holders of shares of series C junior participating preferred stock are entitled to quarterly cash dividends equal to the greater of \$10 or 1,000 times the dividend declared per share of common stock, if any, other than dividends payable in common stock or by a subdivision of the outstanding common stock.

Liquidation and Dissolution. If we are liquidated or dissolve or wind up, then we must pay the holders of outstanding shares of series C junior participating preferred stock, before we make any payment to the holders of shares of stock ranking junior to the series C junior participating preferred stock, an amount equal to \$1,000 per share, plus all accrued and unpaid dividends and an amount equal to 1,000 times the amount to be paid to holders of common stock. For purposes of this liquidation preference, neither the consolidation, merger or other business combination of us with another entity nor the sale of all or any of our property, assets or business will be treated as a liquidation, dissolution or winding up of our company.

Merger, Consolidation, etc. If we are a party to any merger, consolidation or similar transaction in which shares of our common stock are exchanged or changed into stock or securities of another entity, cash or property of another entity, then the series C junior participating preferred stock will be exchanged or changed into an amount per share equal to 1,000 times the amount of consideration into which or for which each share of common stock is changed or exchanged in the merger, consolidation or similar transaction.

Adjustments for Stock Splits and Other Events. If we declare a dividend on our common stock that is payable in common stock or if we effect a subdivision, combination or consolidation of the outstanding shares of our common stock into a greater or lesser number of shares, then the

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dividend, liquidation and merger or consolidation amounts payable to holders of series C junior participating preferred stock will be increased or reduced in proportion to the resulting increase or decrease in the total number of shares of common stock outstanding.

Redemption. We may not redeem the series C junior participating preferred stock.

Stockholder Rights Plan

On December 10, 2001, our board of directors adopted a stockholder rights plan. Under the plan, each holder of our common stock at the close of business on January 7, 2002 received a dividend of one preferred stock purchase right, or a right, for each outstanding share of common stock that the stockholder owned. In addition, each share of our common stock issued after January 7, 2002 receives one right. The rights trade automatically with our shares of common stock and become exercisable only under the circumstances described below. The rights will expire on the close of business on December 10, 2011, subject to earlier expiration or termination as described in the rights plan.

The purpose of the rights is to encourage potential acquirors to negotiate with our board of directors before attempting a takeover bid and to provide our board of directors with leverage in negotiating on behalf of our stockholders the terms of any proposed takeover. The rights may have antitakeover effects. They should not, however, interfere with any merger or other business combination approved by our board of directors.

The following description is a summary of the material terms of our stockholder rights plan. It does not restate all of the terms of the plan. The stockholder rights plan, and not this description, defines the terms and provisions of the plan.

Exercise of Rights. Until a right is exercised, the holder of a right will not have any rights as a stockholder. Currently, the rights are not exercisable. When the rights become exercisable, if ever, holders of the rights will be able to purchase from us a unit equal to 1/1000th of a share of our series C junior participating preferred stock at a purchase price of \$13.00 per unit.

In general, the rights will become exercisable upon the earlier of:

- ten business days following a public announcement that a person or group, other than an exempted person, has acquired beneficial ownership of 15% or more of the outstanding shares of our common stock; or
- ten business days after the beginning of a tender offer or exchange offer that would result in a person or group, other than an exempted person, beneficially owning 15% or more of our common stock.

Pillar Investment Limited, together with its affiliates and associates, are exempted persons under our stockholder rights plan. Pillar and its affiliates and associates will remain exempted persons until they beneficially own more than 11,000,000 shares of our common stock, subject to adjustment, or less than 14% of the outstanding shares of our common stock.

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Flip-In Event. If a person or group, other than an exempted person, becomes the beneficial owner of 15% or more of our common stock, then each right, other than those rights held by the person or group that exceeded the 15% threshold, will then entitle its holder to receive, upon exercise, a number of shares of our common stock which is equal to the exercise price of the right divided by one-half of the market price of our common stock on the date of the occurrence of the flip-in event. However, the rights are not exercisable following such an event until such time as the rights are no longer redeemable by us, as described below.

Flip-Over Event. If at any time after a person or group, other than an exempted person, becomes the beneficial owner of 15% or more of our common stock,

- we are acquired in a merger or other transaction in which we do not survive or in which our common stock is changed or exchanged; or
- 50% or more of our assets or earning power is sold or transferred,

then each holder of a right, other than the person or group that exceeded the 15% threshold, will be entitled to receive, upon exercise, a number of shares of common stock of the acquiring company in the transaction equal to the exercise price of the right divided by one-half of the market price of the acquiring company's common stock on the date of the occurrence of the flip-over event.

Exchange of Rights. At any time after a flip-in event, our board of directors may exchange the rights, other than those rights held by the person or group that exceeded the 15% threshold, in whole or in part, at an exchange ratio of one share of our common stock or one one-thousandth of a share of our series C junior participating preferred stock for each right.

Redemption of Rights. At any time prior to the tenth business day after the occurrence of a flip-in event, we may redeem the rights in whole, but not in part, at a price of \$0.001 per right.

Certain Effects of Authorized but Unissued Stock

We have shares of common stock and preferred stock available for future issuance without stockholder approval. We may use these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital, facilitating corporate acquisitions or paying a dividend on our capital stock.

The existence of unissued and unreserved shares of common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third party's attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of our management. In addition, our issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation.

Delaware Law and Specified Certificate of Incorporation and By-Law Provisions

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Staggered Board. Our certificate of incorporation and by-laws provide for the division of our board of directors into three classes as nearly equal in size as possible with staggered three-year terms. In addition, our certificate of incorporation and by-laws provide that directors may be removed only for cause by the affirmative vote of the holders of two-thirds of the shares of our capital stock entitled to vote. Under our certificate of incorporation and by-laws, any vacancy on the board of directors, however occurring, including a vacancy resulting from an enlargement of the board, may only be filled by vote of a majority of the directors then in office. The classification of the board of directors and the limitations on the removal of directors and filling of vacancies could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from acquiring, control of us.

Stockholder Action; Special Meeting of Stockholders. Our certificate of incorporation and by-laws provide that stockholders may take action only at a duly called annual or special meeting of stockholders and may not take action by written consent. Our certificate of incorporation and by-laws further provide that special meetings of our stockholders may be called only by a majority of the board of directors or by our chief executive officer or, if the office of chief executive officer is vacant, our president, and in no event may the stockholders call a special meeting.

Advance Notice Requirements for Stockholder Proposals and Director Nominations. Our by-laws provide that stockholders seeking to bring business before an annual meeting of stockholders, or to nominate candidates for election as directors at an annual meeting of stockholders, must meet specified procedural requirements. The by-laws also include a similar requirement for making nominations for directors. These provisions may preclude stockholders from bringing matters before an annual meeting of stockholders or from making nominations for directors at an annual or special meeting of stockholders.

Supermajority Votes Required. The General Corporation Law of Delaware provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or by-laws, unless a corporation's certificate of incorporation or by-laws, as the case may be, requires a greater percentage. Our certificate of incorporation and by-laws require the affirmative vote of the holders of at least 75% of the shares of our capital stock issued and outstanding and entitled to vote to amend or repeal any of the provisions described in the prior three paragraphs.

Limitation of Liability; Indemnification. Our certificate of incorporation contains provisions permitted under the General Corporation Law of Delaware relating to the liability of directors. The provisions eliminate a director's liability for monetary damages for a breach of fiduciary duty, except in circumstances involving wrongful acts, such as the breach of a director's duty of loyalty or acts or omissions that involve intentional misconduct or a knowing violation of law. This limitation of liability does not alter the liability of our directors and officers under federal securities laws. Furthermore, our certificate of incorporation contains provisions to indemnify our directors and officers to the fullest extent permitted by the General Corporation Law of Delaware. These provisions do not limit or eliminate our right or the right of any of our stockholders to seek non-monetary relief, such as an injunction or rescission in the event of a breach by a director or an officer of his or her duty of care. We believe that these provisions will assist us in attracting and retaining qualified individuals to serve as directors.

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Business Combinations. We are subject to the provisions of section 203 of the General Corporation Law of Delaware. Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A “business combination” includes mergers, asset sales and other transactions resulting in a financial benefit to the interested stockholder. Subject to specified exceptions, an “interested stockholder” is a person who, together with affiliates and associates, owns, or within three years did own, 15% or more of the corporation’s voting stock.

PLAN OF DISTRIBUTION

The selling shareholders may offer and sell the shares covered by this prospectus from time to time. The term "selling stockholders" includes donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from the selling stockholders as a gift, pledge, partnership distribution or other transfer. The selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price or in negotiated transactions. The selling stockholders may sell their shares by one or more of, or a combination of, the following methods:

- purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- block trades in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- an over-the-counter distribution;
- in privately negotiated transactions; and
- in options transactions.

In addition, the selling stockholders may sell any shares that qualify for sale pursuant to Rule 144 under Rule 144 rather than pursuant to this prospectus.

In connection with distributions of the shares or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions. In connection with such transactions, broker-dealers or other financial institutions may engage in short sales of the common stock in the course of hedging the positions they assume with selling stockholders. The selling stockholders may also sell the common stock short and redeliver the shares to close out such short positions. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus, as supplemented or amended to reflect such transaction. The selling stockholders may also pledge shares to a broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution, may effect sales of the pledged shares pursuant to this prospectus, as supplemented or amended to reflect such transaction.

In effecting sales, broker-dealers or agents engaged by the selling stockholders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive

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commissions, discounts or concessions from the selling stockholders in amounts to be negotiated immediately prior to the sale.

In offering the shares covered by this prospectus, the selling stockholders and any broker-dealers who execute sales for the selling stockholders may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. Any profits realized by the selling stockholders and the compensation of any broker-dealer may be deemed to be underwriting discounts and commissions.

In order to comply with the securities laws of some states, if applicable, the shares must be sold in those states only through registered or licensed brokers or dealers. In addition, some states may restrict the selling stockholders from selling their shares unless the shares have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and its affiliates. In addition, we will make copies of this prospectus available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against some liabilities, including liabilities arising under the Securities Act.

At the time a particular offer of shares is made, if required, we will distribute a prospectus supplement that will set forth the number of shares being offered and the terms of this offering, including the name of any underwriter, dealer or agent, the purchase price paid by any underwriter, any discount, commission and other item constituting compensation, any discount, commission or concession allowed or reallocated or paid to any dealer, and the proposed selling price to the public. In addition, we may amend or supplement this prospectus from time to time to describe a specific plan of distribution.

We have agreed to indemnify the selling stockholders against some liabilities, including some liabilities under the Securities Act.

We have agreed with the selling stockholders to use our best efforts to cause the registration statement of which this prospectus constitutes a part to remain effective until the earliest of:

- August 28, 2005;
- such time as all of the shares covered by this prospectus and held by the selling stockholders are eligible to be sold under Rule 144 of the Securities Act without restriction by the volume limitations of Rule 144(e) of the Securities Act; and
- such time as all of the shares covered by this prospectus have been sold pursuant to the registration statement of which this prospectus constitutes a part, to or through a broker or dealer or underwriter in a public securities transaction or in a

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transaction exempt from the registration and prospectus delivery requirements of the Securities Act such that all transfer restrictions and restrictive legends, if any, are removed upon the consummation of such sale.

LEGAL MATTERS

The validity of the common stock offered hereby will be passed upon for us by Hale and Dorr LLP, Boston, Massachusetts.

EXPERTS

Ernst & Young LLP, independent auditors, have audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2002, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

Our consolidated financial statements as of December 31, 2001 and 2000, and for each of the years then ended appearing in our Annual Report on Form 10-K have been audited by Arthur Andersen LLP, independent accountants. On August 31, 2002, Arthur Andersen LLP ceased practicing before the SEC. Therefore, Arthur Andersen LLP did not participate in the preparation of the Annual Report on Form 10-K, did not re-issue its audit report with respect to these financial statements and did not consent to the inclusion of its report in the Annual Report on Form 10-K or this prospectus. For more information, see "Risk Factors – Our former independent public accountant, Arthur Andersen LLP, has been found guilty of a federal obstruction of justice charge. Arthur Andersen LLP has not consented to the inclusion of its audit report with respect to our consolidated financial statements in this prospectus, and you may be unable to exercise effective remedies against it in any legal action."

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other documents with the SEC. You may read and copy any document we file at the SEC's public reference room at Judiciary Plaza Building, 450 Fifth Street, N.W., Room 1024, Washington, D.C. 20549. You should call 1-800-SEC-0330 for more information on the public reference room. Our SEC filings are also available to you on the SEC's Internet site at <http://www.sec.gov>.

This prospectus is part of a registration statement that we filed with the SEC. The registration statement contains more information than this prospectus regarding us and our common stock, including certain exhibits and schedules. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC's internet site.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate" into this prospectus information that we file with the SEC in other documents. This means that we can disclose important information to you by referring to other documents that contain that information. The information incorporated by reference is considered to be part of this prospectus. Information contained in this prospectus

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automatically updates and supersedes previously filed information. We are incorporating by reference the documents listed below.

The following documents filed by us with the SEC are incorporated herein by reference:

- (1) Our Annual Report on Form 10-K for the year ended December 31, 2002, as filed with the SEC on March 31, 2003.
- (2) Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2003, as filed with the SEC on May 15, 2003.
- (3) Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2003, as filed with the SEC on August 14, 2003.
- (4) Our Current Report on Form 8-K, as filed with the SEC on February 14, 2003.
- (5) Our Current Report on Form 8-K, as filed with the SEC on April 8, 2003.
- (6) Our Current Report on Form 8-K, as filed with the SEC on August 29, 2003.
- (7) Our Current Report on Form 8-K, as filed with the SEC on September 2, 2003.

Our Annual Report on Form 10-K for the year ended December 31, 2002 and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2003 accompany this prospectus. You may request copies of the other documents incorporated by reference, at no cost, by writing to or telephoning us at the address and telephone number below. We will provide copies of the exhibits to these filings only if they are specifically incorporated by reference in these filings.

Hybridon, Inc.
345 Vassar Street
Cambridge, Massachusetts 02139
Attention: Investor Relations
(617) 679-5500

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses Of Issuance And Distribution

The following table sets forth the various expenses to be incurred in connection with the sale and distribution of the securities being registered hereby (except any underwriting discounts and commissions), all of which will be borne by Hybridon. All amounts shown are estimates except the SEC registration fee.

Filing Fee – Securities and Exchange Commission	US\$	2,705
Legal fees and expenses	US\$	30,000
Accounting fees and expenses	US\$	17,500
Printing fees	US\$	20,000
Miscellaneous expenses	US\$	29,795
Total expenses	US\$	100,000

Item 15. Indemnification Of Directors And Officers

Article EIGHTH of the Registrant's Restated Certificate of Incorporation provides that no director of the Registrant shall be personally liable for any monetary damages for any breach of fiduciary duty as a director, except to the extent that the Delaware General Corporation Law prohibits the elimination or limitation of liability of directors for breach of fiduciary duty.

Article NINTH of the Registrant's Restated Certificate of Incorporation provides that a director or officer of the Registrant (a) shall be indemnified by the Registrant against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement incurred in connection with any litigation or other legal proceeding (other than an action by or in the right of the Registrant) brought against him by virtue of his position as a director or officer of the Registrant if he acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the best interests of the Registrant, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful and (b) shall be indemnified by the Registrant against all expense (including attorneys' fees) and amounts paid in settlement incurred in connection with any action by or in the right of the Registrant brought against him by virtue of his position as a director or officer of the Registrant if he acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the best interests of the Registrant, except that no indemnification shall be made with respect to any matter as to which such person shall have been adjudged to be liable to the Registrant, unless a court determines that, despite such adjudication but in view of all of the circumstances, he is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that a director or officer has been successful, on the merits or otherwise, including, without limitation, the

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dismissal of an action without prejudice, he is required to be indemnified by the Registrant against all expenses (including attorneys' fees) incurred in connection therewith. Expenses shall be advanced to a director or officer at his request, provided that he undertakes to repay the amount advanced if it is ultimately determined that he is not entitled to indemnification for such expenses.

Indemnification is required to be made unless the Registrant determines that the applicable standard of conduct required for indemnification has not been met. In the event of a determination by the Registrant that the director or officer did not meet the applicable standard of conduct required for indemnification, or if the Registrant fails to make an indemnification payment within 60 days after such payment is claimed by such person, such person is permitted to petition the court to make an independent determination as to whether such person is entitled to indemnification. As a condition precedent to the right of indemnification, the director or officer must give the Registrant notice of the action for which indemnity is sought and the Registrant has the right to participate in such action or assume the defense thereof.

Article NINTH of the Registrant's Restated Certificate of Incorporation further provides that the indemnification provided therein is not exclusive, and provides that in the event that the Delaware General Corporation Law is amended to expand the indemnification permitted to directors or officers the Registrant must indemnify those persons to the full extent permitted by such law as so amended.

Section 145 of the Delaware General Corporation law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the requires of the corporation in related capacities against amounts paid and expense incurred in connection with an action or proceeding to which he is or is threatened to be made a party by reason of such position, if such person shall have acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal proceeding, if such person had no reasonable cause to believe his conduct was unlawful; provided that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the adjudicating court determines that such indemnification is proper under the circumstances.

Hybridon has obtained directors and officers insurance for the benefit of its directors and its officers.

Item 16. Exhibits

The exhibits listed in the Exhibit Index immediately preceding the exhibits are filed as part of this Registration Statement on Form S-2.

Item 17. Undertakings

The undersigned Registrant hereby undertakes:

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- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement.
- (2) That, for the purposes of determining any liability under the Securities Act each post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at the time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the indemnification provisions described herein, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURE

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-2 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on October 9, 2003.

Hybridon, Inc.

By: /s/ Stephen R. Seiler

Stephen R. Seiler
Chief Executive Officer

SIGNATURES AND POWER OF ATTORNEY

We, the undersigned officers and directors of Hybridon, Inc., hereby severally constitute and appoint Stephen R. Seiler, Robert G. Andersen and Sudhir Agrawal and each of them singly, our true and lawful attorneys with full power to any of them, and to each of them singly, to sign for us and in our names in the capacities indicated below the Registration Statement on Form S-2 filed herewith and any and all pre-effective and post-effective amendments to said Registration Statement and generally to do all such things in our name and behalf in our capacities as officers and directors to enable Hybridon, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said Registration Statement and any and all amendments thereto.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ James B. Wyngaarden</u> James B. Wyngaarden, M.D.	Chairman of the Board of Directors	October 9, 2003
<u>/s/ Stephen R. Seiler</u> Stephen R. Seiler	Chief Executive Officer and Director (Principal Executive Officer)	October 9, 2003

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<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Sudhir Agrawal</u> Sudhir Agrawal, D. Phil	President, Chief Scientific Officer and Director	October 9, 2003
<u>/s/ Robert G. Andersen</u> Robert G. Andersen	Chief Financial Officer, Vice President of Operations, Treasurer and Secretary (Principal Financial and Accounting Officer)	October 9, 2003
<u>/s/ Youssef El-Zein</u> Youssef El-Zein	Director	October 8, 2003
<u>/s/ C. Keith Hartley</u> C. Keith Hartley	Director	October 9, 2003
<u>/s/ Anthony Georges Marcel</u> Anthony Georges Marcel, M.D., Ph.D.	Director	October 9, 2003
<u>/s/ William S. Reardon</u> William S. Reardon, C.P.A	Director	October 9, 2003
<u>/s/ Paul C. Zamecnik</u> Paul C. Zamecnik, M.D.	Director	October 9, 2003

EXHIBIT INDEX

Exhibit No.	Description
3.1(16)	Restated Certificate of Incorporation of the Registrant, as amended.
3.2(2)	Amended and Restated By-laws of the Registrant.
4.1(2)	Specimen Certificate for shares of Common Stock, \$.001 par value, of the Registrant.
4.2(3)	Indenture dated as of March 26, 1997 between Forum Capital Markets LLC and the Registrant.
4.3*	Rights Agreement dated December 10, 2001 by and between the Registrant and Mellon Investor Services LLC, as rights agent, as amended.
5.1*	Opinion of Hale and Dorr LLP.
†10.1(2)	License Agreement dated February 21, 1990 and restated as of September 8, 1993 between the Registrant and University of Massachusetts Medical Center.
†10.2(2)	Patent License Agreement effective as of October 13, 1994 between the Registrant and McGill University.
†10.3(2)	License Agreement effective as of October 25, 1995 between the Registrant and the General Hospital Corporation.
†10.4(2)	License Agreement dated as of October 30, 1995 between the Registrant and Yoon S. Cho-Chung.
†10.5(2)	System Design and Procurement Agreement dated as of December 16, 1994 between the Registrant and Pharmacia Biotech, Inc.
10.6(2)	Registration Rights Agreement dated as of February 21, 1990 between the Registrant, the Worcester Foundation for Biomedical Research, Inc. and Paul C. Zamecnik.
††10.7(2)	1990 Stock Option Plan, as amended.
††10.8(2)	1995 Stock Option Plan.
††10.9(2)	1995 Director Stock Plan.
††10.10(2)	1995 Employee Stock Purchase Plan.
††10.11(14)	Employment Agreement dated April 1, 2002 between the Registrant and Dr. Sudhir Agrawal.
††10.12(15)	Consulting Agreement dated as of March 1, 2003 between the Registrant and Dr. Paul C. Zamecnik.
†10.13(4)	Amendment No. 1 to License Agreement, dated as of February 21, 1990 and restated as of September 8, 1993, by and between University of Massachusetts Medical Center and the Registrant, dated as of November 26, 1996.
†10.14(5)	Licensing Agreement dated March 12, 1999 by and between the Registrant and Integrated DNA Technologies, Inc.
†10.15(6)	Licensing Agreement dated September 7, 1999 by and between the Registrant and Genzyme Corporation.
10.16(7)	License Agreement dated September 20, 2000 by and

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Exhibit No.	Description
	between the Registrant and Boston Biosystems, Inc.
10.17(7)	Assignment of Coexclusive License dated September 20, 2000 by and between the Registrant and the Public Health Service.
10.18(7)	Oligonucleotide Purification Patent License Agreement dated September 20, 2000 by and between the Registrant and Boston Biosystems, Inc.
10.19(8)	Asset Purchase Agreement dated June 29, 2000 by and between the Registrant and Boston Biosystems, Inc.
†10.20(7)	Assignment of Patent Rights dated September 20, 2000 by and between the Registrant and Boston Biosystems, Inc.
†10.21(7)	PNT Monomer Patent License and Option Agreement dated September 20, 2000 by and between the Registrant and Boston Biosystems, Inc.
†10.22(7)	Agreement Relating to Patents Forming Part of Acquired Assets but to be Licensed Back to the Registrant for the Purposes of OriGenix Agreements dated September 20, 2000 by and between the Registrant and Boston Biosystems, Inc.
10.23(9)	Agreement dated March 28, 2001 by and between the Registrant, Founders Financial Group, Pecks Management Partners L.T.D. and General Motors Investment Management Corporation, in its capacity as Trustee for the General Motors Employees Global Trust Group.
10.24(9)	Stock Purchase Agreement by and between Paul Capital Partners L.P. and PCP Associates and the Registrant dated March 30, 2001.
10.25(9)	Agreement and Mutual Release between the Registrant and MethylGene, Inc. dated March 21, 2001.
10.26(10)	Amended and Restated 1997 Stock Incentive Plan.
†10.27(11)	Collaboration and License Agreement by and between Isis Pharmaceuticals, Inc., and the Registrant, dated May 24, 2001.
10.28(11)	Master Agreement relating to the Cross License of Certain Intellectual Property and Collaboration by and between Isis Pharmaceuticals, Inc. and the Registrant, dated May 24, 2001.
10.29(11)	Share Purchase Agreement between Hybridon, Inc. and Royal Bank Ventures, Inc., Fonds De Solidarite Des Travailleurs Du Quebec (F.T.Q.), and Ontario Teacher's Pension Plan Board, dated May 11, 2001.
††10.30(12)	Employment Agreement by and between Stephen R. Seiler and the Registrant effective as of July 25, 2001.
10.31(13)	Unit Purchase Agreement by and among the Registrant and certain persons and entities listed therein, dated April 1, 1998.
10.32(13)	Offer to Exchange Hybridon Warrants and Shares of Series B Convertible Preferred Stock, dated July 29, 2001.
††10.33(14)	Employment Agreement dated April 1, 2002 between the Registrant and Robert G. Andersen.
††10.34(16)	Executive Stock Option Agreement for 3,150,000 Options effective as of July 25, 2001 between the Registrant and Stephen R. Seiler.
††10.35(16)	Executive Stock Option Agreement for 490,000 Options effective as of July 25, 2001 between the Registrant and Stephen R. Seiler.
††10.36(17)	Executive Stock Option Agreement for 1,260,000 Options effective as of July 25, 2001 between the Registrant and Dr. Sudhir Agrawal.
††10.37(17)	Executive Stock Option Agreement for 550,000 Options effective as of July 25, 2001 between the Registrant and Dr. Sudhir Agrawal.
††10.38(17)	Executive Stock Option Agreement for 500,000 Options effective as of July 25, 2001 between the Registrant and Dr. Sudhir Agrawal.
10.39(17)	Consulting Agreement effective as of October 1, 2002 between the Registrant and Pillar, S.A.
10.40(15)	Amendment No. 1 to the Collaboration and License Agreement, dated as of May 24, 2001, by and between Isis Pharmaceuticals, Inc. and the Registrant, dated as of August 14, 2002.

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Exhibit No.	Description
†10.41(15)	License Agreement by and between Louisiana State University and the Registrant, dated July 1, 1998.
10.42*	Engagement Letter, dated as of April 18, 2003, by and among Hybridon, Inc., Pillar Investment Limited and PrimeCorp Finance S.A.
10.43*	Registration Rights Agreement, dated as of August 28, 2003, by and among the Registrant, the Purchasers and the Agents.
10.44*	Form of Common Stock Purchase Warrant issued to purchasers of units in a private placement on August 28, 2003 and August 29, 2003.
10.45*	Form of Common Stock Purchase Warrant issued to selected dealers and placement agents on August 28, 2003 in connection with a private placement.
23.1*	Consent of Hale and Dorr LLP, included in Exhibit 5.1 filed herewith.
23.2*	Consent of Ernst & Young LLP.
24.1*	Power of Attorney (See page II-4 of this Registration Statement).

* Filed herewith.

- (1) Incorporated by reference to Exhibits to the Registrant's Amendment No. 1 to Form 8-A dated December 21, 2001. (File No. 0-27352)
- (2) Incorporated by reference to Exhibits to the Registrant's Registration Statement on Form S-1. (File No. 33-99024)
- (3) Incorporated by reference to Exhibits to the Registrant's Current Report on Form 8-K dated April 2, 1997. (File No. 0-27352)
- (4) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 1997. (File No. 0-27352)
- (5) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K for the year ended December 31, 1998. (File No. 0-27352)
- (6) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 1999. (File No. 0-27352)
- (7) Incorporated by reference to Exhibits to the Registrant's Registration Statement on Form S-1. (File No. 333-69649)
- (8) Incorporated by reference to the Registrant's Proxy Statement dated August 8, 2000. (File No. 0-27352)
- (9) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2000. (File No. 0-27352)
- (10) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2001. (File No. 0-27352)

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- (11) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2001. (File No. 0-27352)
- (12) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2001. (File No. 0-27352)
- (13) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2001. (File No. 0-27352)
- (14) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2002. (File No. 0-27352)
- (15) Incorporated by reference to Exhibits to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2002. (File No. 0-27352)
- (16) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2002. (File No. 0-27352)
- (17) Incorporated by reference to Exhibits to the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2002. (File No. 0-27352)

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- † Confidential treatment granted as to certain portions, which portions are omitted and filed separately with the Commission.
- †† Management contract or compensatory plan or arrangement required to be filed as an Exhibit to the Annual Report on Form 10-K.

RIGHTS AGREEMENT

BETWEEN

HYBRIDON, INC.

AND

MELLON INVESTOR SERVICES LLC

AS RIGHTS AGENT

DATED DECEMBER 10, 2001

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RIGHTS AGREEMENT

RIGHTS AGREEMENT, dated December 10, 2001 (the "Agreement"), between Hybridon, Inc., a Delaware corporation (the "Company"), and Mellon Investor Services LLC, a New Jersey limited liability company, as Rights Agent (the "Rights Agent").

W I T N E S S E T H

WHEREAS, on December 10, 2001 the Board of Directors of the Company (the "Board") authorized and declared a dividend distribution of one Right for each share of Common Stock (as hereinafter defined) of the Company outstanding at the close of business on January 7, 2002 (the "Record Date"), and authorized the issuance of one Right (as such number may hereinafter be adjusted pursuant to the provisions of Section 11(i) or Section 11(p) hereof) for each share of Common Stock of the Company issued between the Record Date (whether originally issued or delivered from the Company's treasury) and the earlier of the Distribution Date or the Expiration Date, each Right initially representing the right to purchase one one-thousandth of a share of Series C Junior Participating Preferred Stock of the Company having the rights, powers and preferences set forth in the form of Certificate of Designations attached hereto as Exhibit A, upon the terms and subject to the conditions hereinafter set forth (the "Rights");

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein set forth, the parties hereby agree as follows:

Section 1. Certain Definitions. For purposes of this Agreement, the following terms have the meanings indicated:

(a) "Acquiring Person" shall mean any Person who or which, together with all Affiliates and Associates of such Person, shall be the Beneficial Owner of

15% or more of the shares of Common Stock then outstanding, but shall not include (i) the Company, (ii) any Subsidiary of the Company, (iii) any employee benefit plan of the Company or of any Subsidiary of the Company, or (iv) any Person organized, appointed or established by the Company for or pursuant to the terms of any such plan. Notwithstanding the foregoing, (x) no Person shall become an "Acquiring Person" as the result of an acquisition of Common Stock by the Company which, by reducing the number of shares outstanding, increases the proportionate number of shares beneficially owned by such Person to 15% or more of the shares of Common Stock of the Company then outstanding; provided, however that if a Person shall become the Beneficial Owner of 15% or more of the shares of Common Stock of the Company then outstanding as the result of an acquisition of Common Stock by the Company and shall, following written notice from, or public disclosure by the Company of such share purchases by the Company become the Beneficial Owner of any additional Common Stock of the Company and shall then beneficially own 15% or more of the shares of Common Stock then outstanding, then such Person shall be deemed to be an "Acquiring Person" and (y) no Person who was a holder of Series A Preferred Stock on the date of this Agreement shall become an "Acquiring Person" solely as the result of

such holder's receipt after the date of this Agreement of additional shares of Series A Preferred Stock as a payment-in-kind dividend (or as a result of the conversion into Common Stock of any such additional shares of Series A Preferred Stock), unless and until such Person becomes the Beneficial Owner of 15% or more of the shares of Common Stock of the Company then outstanding (disregarding for purposes of this calculation (but not for purposes of any other calculation under this Agreement) (1) any Series A Preferred Stock received by such Person after the date of this Agreement as a payment-in-kind dividend and (2) any shares of Common Stock received by such Person as a result of the conversion into Common Stock of any shares of Series A Preferred Stock referred to in the foregoing clause (1)) and (z) if the Board determines in good faith that a Person who would otherwise be an "Acquiring Person," as defined pursuant to the foregoing provisions of this paragraph (a), has become such inadvertently, and such Person divests as promptly as practicable (as determined in good faith by the Board of Directors), but in any event within 15 Business Days, following receipt of written notice from the Company of such event, of Beneficial Ownership of a sufficient number of shares of Common Stock so that such Person would no longer be an "Acquiring Person," as defined pursuant to the foregoing provisions of this paragraph (a), then such Person shall not be deemed to be an "Acquiring Person" for any purposes of this Agreement unless and until such Person shall again become an "Acquiring Person."

(b) "Act" shall mean the Securities Act of 1933, as amended.

(c) "Affiliate" and "Associate" shall have the respective meanings ascribed to such terms in Rule 12b-2 of the General Rules and Regulations under the Securities Exchange Act of 1934, as amended (the "Exchange Act") as in effect on the date of this Agreement.

(d) "Adjustment Shares" shall have the meaning set forth in Section 11(a)(ii).

(e) A Person shall be deemed the "Beneficial Owner" of, and shall be deemed to "beneficially own," any securities:

(i) which such Person or any of such Person's Affiliates or Associates, directly or indirectly, owns or has the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding (other than customary agreements with and between underwriters and selling group members with respect to a bona fide public offering of securities), whether or not in writing, or upon the exercise of conversion rights, exchange rights, other rights, warrants or options, or otherwise; provided, however, that a Person shall not be deemed the "Beneficial Owner" of, or to "beneficially own," (A) securities tendered pursuant to a tender or exchange offer made by or on behalf of such Person or any of such Person's Affiliates or Associates until such tendered securities are accepted for purchase or exchange, or (B) securities issuable upon exercise of Rights at any time prior to the occurrence of a Triggering Event, or (C) securities issuable upon exercise of Rights from and after the occurrence of a Triggering Event which Rights were acquired by such Person or any of such Person's Affiliates or Associates prior to the Distribution Date or pursuant to Section 3(a) or Section 22 hereof (the "Original Rights") or pursuant to Section 11(i) hereof in connection with an adjustment made with respect to any Original Rights;

(ii) which such Person or any of such Person's Affiliates or Associates, directly or indirectly, has the right to vote or dispose of or has "beneficial ownership" of (as determined pursuant to Rule 13d-3 of the General Rules and Regulations under the Exchange Act, or any comparable or successor rule), including pursuant to any agreement, arrangement or understanding (other than customary agreements with and between underwriters and selling group members with respect to a bona fide public offering of securities), whether or not in writing; provided, however, that a Person shall not be deemed the "Beneficial Owner" of, or to "beneficially own," any security under this subparagraph (ii) as a result of an agreement, arrangement or understanding to vote such security if such agreement, arrangement or understanding: (A) arises solely from a revocable proxy or consent given in response to a public proxy or consent solicitation made pursuant to, and in accordance with, the applicable provisions of the General Rules and Regulations under the Exchange Act, and (B) is not then reportable by such Person on Schedule 13D under the Exchange Act (or any comparable or successor report); or

(iii) which are beneficially owned, directly or indirectly, by any other Person (or any Affiliate or Associate thereof) with which such Person (or any of such Person's Affiliates or Associates) has any agreement, arrangement or understanding (other than customary agreements with and between underwriters and selling group members with respect to a bona fide public offering of securities) whether or not in writing, for the purpose of acquiring, holding, voting (except pursuant to a revocable proxy or consent as described in the proviso to subparagraph (ii) of this paragraph (e)) or disposing of any voting securities of the Company.

For all purposes of this Agreement, any calculation of the number of shares of Common Stock outstanding at any particular time, including for purposes of determining the particular percentage of such outstanding shares of Common Stock of which any Person is the Beneficial Owner, shall be made in accordance with the last sentence of Rule 13d-3(d)(1)(i) of the General Rules and Regulations under the Exchange Act.

(f) "Board" shall have the meaning set forth in the WHEREAS clause at the beginning of this Agreement.

(g) "Business Day" shall mean any day other than a Saturday, Sunday or a day on which banking institutions in the State of New Jersey are authorized or obligated by law or executive order to close.

(h) "Close of Business" on any given date shall mean 5:00 p.m., New York time, on such date; provided, however, that if such date is not a Business Day it shall mean 5:00 p.m., New York time, on the next succeeding Business Day.

(i) "Common Stock" shall mean the common stock, \$.001 par value, of the Company, except that "Common Stock" when used with reference to any Person other than the Company shall mean the capital stock of such Person with the greatest voting power, or the equity securities or other equity interest having power to control or direct the management, of such Person.

(j) "Common stock equivalents" shall have the meaning set forth in Section 11(a)(iii) hereof.

(k) "Company" shall have the meaning set forth in the introductory paragraph hereof.

(l) "Current market price" shall have the meaning set forth in Section 11(d)(i) hereof.

(m) "Current Value" shall have the meaning set forth in Section 11(a)(iii) hereof.

(n) "Distribution Date" shall have the meaning set forth in Section 3(a) hereof.

(o) "Equivalent Preferred Stock" shall have the meaning set forth in Section 11(b) hereof.

(p) "Exchange Act" shall have the meaning set forth in Section 1(c)

hereof.

(q) "Exchange Ratio" shall have the meaning set forth in Section 24(a) hereof.

(r) "Expiration Date" shall have the meaning set forth in Section 7(a) hereof.

(s) "Final Expiration Date" shall mean the close of business on December 10, 2011.

(t) "Permitted Offer" shall mean a tender offer or an exchange offer for all outstanding shares of Common Stock at a price and on terms determined, prior to the consummation of such tender offer or exchange offer, by directors constituting at least 75% of all of the members of the Board, after receiving advice from a nationally recognized investment banking firm selected by the Board, to be (a) at a price that is fair to stockholders (taking into account all factors which such members of the Board deem relevant including, without limitation, prices which could reasonably be achieved if the Company or its assets were sold on an orderly basis designed to realize maximum value) and (b) otherwise in the best interests of the Company and its stockholders.

(u) "Person" shall mean any individual, firm, corporation, partnership, trust, association, limited liability company or other entity.

(v) "Preferred Stock" shall mean shares of Series C Junior Participating Preferred Stock, \$.01 par value, of the Company having the rights and preferences set forth in the form of Certificate of Designations attached to this Agreement as Exhibit A and, to the extent that there is not a sufficient number of shares of Series C Junior Participating Preferred Stock authorized to permit the full exercise of the Rights, any other series of Preferred Stock, \$.01 par value, of the Company designated for such purpose containing terms substantially similar to the terms of the Series C Junior Participating Preferred Stock.

(w) "Principal Party" shall have the meaning set forth in Section 13(b) hereof.

(x) "Purchase Price" shall have the meaning set forth in Section 4(a) hereof.

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(y) "Record Date" shall have the meaning set forth in the WHEREAS clause at the beginning of this Agreement.

(z) "Redemption Date" shall have the meaning set forth in Section 7(a) hereof.

(aa) "Redemption Price" shall have the meaning set forth in Section 23(a) hereof.

(bb) "Rights" shall have the meaning set forth in the WHEREAS clause at the beginning of this Agreement.

(cc) "Rights Agent" shall have the meaning set forth in the introductory paragraph hereof.

(dd) "Rights Certificates" shall have the meaning set forth in Section 3(a) hereof.

(ee) "Section 11(a)(ii) Event" shall mean an acquisition of Common Stock described in the first sentence of Section 11(a)(ii) hereof.

(ff) "Section 11(a)(ii) Trigger Date" shall have the meaning set forth in Section 11(a)(iii) hereof.

(gg) "Section 13 Event" shall mean any event described in clauses (x), (y) or (z) of Section 13(a) hereof.

(hh) "Series A Preferred Stock" shall mean the Series A Convertible Preferred Stock, \$.01 par value, of the Company established pursuant to the Certificate of Designation for Series A Convertible Preferred Stock dated May 5, 1998.

(ii) "Spread" shall have the meaning set forth in Section 11(a) (iii) hereof.

(jj) "Stock Acquisition Date" shall mean the first date of public announcement (which, for purposes of this definition, shall include, without limitation, a report filed pursuant to Section 13(d) under the Exchange Act) by the Company or an Acquiring Person that an Acquiring Person has become such; provided, however that, if such Person is deemed not to be an Acquiring Person pursuant to clause (y) of Section 1(a) hereof, no Stock Acquisition Date shall be deemed to have occurred.

(kk) "Subsidiary" shall mean, with reference to any Person, any corporation or other entity of which an amount of voting securities sufficient to elect at least a majority of the directors (or comparable body) of such corporation or other entity is beneficially owned, directly or indirectly, by such Person, or otherwise controlled by such Person.

(ll) "Substitution Period" shall have the meaning set forth in Section 11(a) (iii) hereof.

(mm) "Trading Day" shall have the meaning set forth in Section 11(d) (i) hereof.

(nn) "Triggering Event" shall mean any Section 11(a) (ii) Event or any Section 13 Event.

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Section 2. Appointment of Rights Agent. The Company hereby appoints the Rights Agent to act as agent for the Company in accordance with the terms and conditions hereof, and the Rights Agent hereby accepts such appointment. The Company may from time to time appoint such Co-Rights Agents as it may deem necessary or desirable upon ten days' prior written notice to the Rights Agent. The Rights Agent shall have no duty to supervise, and shall in no event be liable for, the acts or omissions of any such Co-Rights Agent.

Section 3. Issuance of Rights.

(a) Until the earlier of (i) the Close of Business on the tenth Business Day (or such later date as may be determined by the Board) after the Stock Acquisition Date (or, if the tenth Business Day after the Stock Acquisition Date occurs before the Record Date, the close of business on the Record Date), or (ii) the Close of Business on the tenth Business Day (or such later date as may be determined by action of the Board) after the date that a tender or exchange offer (other than a Permitted Offer) by any Person (other than the Company, any Subsidiary of the Company, any employee benefit plan of the Company or of any Subsidiary of the Company, or any Person organized, appointed or established by the Company for or pursuant to the terms of any such plan) is first published or sent or given within the meaning of Rule 14d-2 of the General Rules and Regulations under the Exchange Act, if upon consummation thereof, such Person would be the Beneficial Owner of 15% or more of the shares of Common Stock then outstanding, (the earlier of (i) and (ii) being herein referred to as the "Distribution Date"), (x) the Rights will be evidenced by the certificates for the Common Stock registered in the names of the holders of the Common Stock (which certificates for Common Stock shall be deemed also to be certificates for Rights) and not by separate certificates, and (y) the Rights will be transferable only in connection with the transfer of the underlying shares of Common Stock (including a transfer to the Company). As soon as practicable after the Distribution Date, the Rights Agent will, if notified thereof and provided with all necessary information, send by first-class, insured, postage prepaid mail, to each record holder of the Common Stock as of the close of business on the Distribution Date, at the address of such holder shown on the records of the Company, one or more rights certificates, in substantially the form of Exhibit B hereto (the "Rights Certificates"), evidencing one Right for each share of Common Stock so held, subject to adjustment as provided herein. The Company shall promptly notify the Rights Agent in writing upon the occurrence of the Distribution Date and, if such notification is given orally, the Company shall confirm same in writing on or prior to the Business Day next following. Until such notice is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that the Distribution Date has not occurred. With respect to certificates for the Common Stock outstanding as of the close of business on the Record Date, until the Distribution Date, the Rights will be evidenced by such certificates for the Common Stock and the registered holders

of the Common Stock shall also be the registered holders of the associated Rights. In addition, in connection with the issuance or sale of shares of Common Stock following the Distribution Date and prior to the redemption or expiration of the Rights, the Company (i) shall, with respect to shares of Common Stock so issued or sold pursuant to the exercise of stock options or under any employee benefit plan or arrangement, or upon the exercise, conversion or exchange of securities granted or issued by the Company prior to the Distribution Date (including, without limitation, shares of Series A Preferred Stock), and (ii) may, in any other case, if deemed necessary or appropriate by the Board, issue Rights Certificates representing the appropriate number of Rights in connection

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with such issuance or sale; provided, however, that (x) no such Rights Certificate shall be issued if, and to the extent that, the Company shall be advised by counsel that such issuance would create a significant risk of material adverse tax consequences to the Company or the Person to whom such Rights Certificate would be issued, and (y) no such Rights Certificate shall be issued if, and to the extent that, appropriate adjustment shall otherwise have been made in lieu of the issuance thereof. In the event that an adjustment in the number of Rights per share of Common Stock has been made pursuant to Sections 11(i) or 11(p) hereof, at the time of distribution of the Rights Certificates, the Company shall make the necessary and appropriate rounding adjustments (in accordance with Section 14(a) hereof) so that Rights Certificates representing only whole numbers of Rights are distributed and cash is paid in lieu of any fractional Rights. As of and after the Distribution Date, the Rights will be evidenced solely by such Rights Certificates.

(b) As promptly as practicable following the Record Date, the Company will send a copy of a Summary of Rights to Purchase Preferred Stock, in substantially the form attached hereto as Exhibit C, by first-class, postage prepaid mail, to each record holder of the Common Stock as of the close of business on the Record Date, at the address of such holder shown on the records of the Company. The failure to send a copy of the Summary of Rights shall not affect the enforceability of any part of this Rights Agreement or the rights of any holder of the Rights.

(c) Rights shall be issued (i) in respect of all shares of Common Stock that are issued (either as an original issuance or from the Company's treasury) after the Record Date but prior to the earlier of the Distribution Date or the Expiration Date and (ii) in connection with the issuance or sale of shares of Common Stock following the Distribution Date and prior to the redemption or expiration of the Rights (x) with respect to shares of Common Stock so issued or sold pursuant to the exercise of stock options or under any employee benefit plan or arrangement, or upon the exercise, conversion or exchange of securities, granted or issued by the Company prior to the Distribution Date (including, without limitation, shares of Series A Preferred Stock), and (y) with respect to shares of Common Stock so issued or sold in any other case, if deemed necessary or appropriate by the Board. Certificates representing such shares of Common Stock (including, without limitation, certificates issued upon transfer or exchange of Common Stock) shall also be deemed to be certificates for Rights, and shall bear the following legend:

This certificate also evidences and entitles the holder hereof to certain Rights as set forth in the Rights Agreement between Hybridon, Inc. (the "Company") and Mellon Investor Services LLC (the "Rights Agent") dated December 10, 2001, as the same may be amended, restated or renewed from time to time (the "Rights Agreement"), the terms of which are hereby incorporated herein by reference and a copy of which is on file at the principal offices of the Company. Under certain circumstances, as set forth in the Rights Agreement, such Rights will be evidenced by separate certificates and will no longer be evidenced by this certificate. The Company will mail to the holder of this certificate a copy of the Rights Agreement, as in effect on the date of mailing, without charge promptly after receipt of a written request therefor. Under certain circumstances set forth in the Rights Agreement,

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Rights issued to, or held by, any Person who is, was or becomes an Acquiring Person or any Affiliate or Associate thereof (as such terms are defined in the Rights Agreement), whether currently held

by or on behalf of such Person or by any subsequent holder, may become null and void.

With respect to such certificates containing the foregoing legend, until the earlier of (i) the Distribution Date and (ii) the Expiration Date, the Rights associated with the Common Stock represented by such certificates shall be evidenced by such certificates alone and registered holders of Common Stock shall also be the registered holders of the associated Rights. Notwithstanding this Section 3(c), the omission of a legend shall not affect the enforceability of any part of this Rights Agreement or the rights of any holder of the Rights.

(d) Until the earlier of the Distribution Date and the Expiration Date, the transfer of any certificates representing shares of Common Stock in respect of which Rights have been issued shall also constitute the transfer of the Rights associated with such shares of Common Stock. In the event that the Company purchases or acquires any shares of Common Stock after the Record Date but prior to the Distribution Date, any Rights associated with such shares of Common Stock shall be deemed cancelled and retired so that the Company shall not be entitled to exercise any Rights associated with the shares of Common Stock which are no longer outstanding.

Section 4. Form of Rights Certificates.

(a) The Rights Certificates (and the forms of election to purchase, certification and assignment to be printed on the reverse thereof) shall each be substantially in the form set forth in Exhibit B hereto and may have such marks of identification or designation and such legends, summaries or endorsements printed thereon as the Company may deem appropriate (which shall not affect the rights, duties or responsibilities of the Rights Agent) and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange or over-the-counter market on which the Rights may from time to time be listed, or to conform to usage. Subject to the provisions of Sections 7, 11 and 22 hereof, the Rights Certificates, whenever distributed, shall entitle the holders thereof to purchase such number of one one-thousandths of a share of Preferred Stock as shall be set forth therein at the price set forth therein (such exercise price per one one-thousandth of a share, the "Purchase Price"), but the amount and type of securities purchasable upon the exercise of each Right and the Purchase Price thereof shall be subject to adjustment as provided herein.

(b) Any Rights Certificate issued pursuant to Section 3, Section 11(i) or Section 22 hereof that represents Rights beneficially owned by persons known to be: (i) an Acquiring Person or an Associate or Affiliate of an Acquiring Person, (ii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee after the Acquiring Person becomes such, or (iii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee prior to or concurrently with the Acquiring Person becoming such and receives such Rights pursuant to either (A) a transfer (whether or not for consideration)

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from the Acquiring Person to holders of equity interests in such Acquiring Person or to any Person with whom such Acquiring Person has any continuing agreement, arrangement or understanding (whether or not in writing) regarding the transferred Rights or (B) a transfer which the Board has determined is part of a plan, arrangement or understanding (whether or not in writing) that has as a primary purpose or effect avoidance of Section 7(e) hereof, and any Rights Certificate issued pursuant to Section 6 or Section 11 hereof upon transfer, exchange, replacement or adjustment of any other Rights Certificate referred to in this sentence, shall contain (to the extent feasible and to the extent the Rights Agent has been notified thereof) the following legend:

The Rights represented by this Rights Certificate are or were beneficially owned by a Person who was or became an Acquiring Person or an Affiliate or Associate of an Acquiring Person (as such terms are defined in the Rights Agreement). Accordingly, this Rights Certificate and the Rights represented hereby may become null and void in the circumstances specified in Section 7(e) of such Agreement.

The provisions of Section 7(e) hereof shall be operative whether or not the foregoing legend is contained on any such Rights Certificate.

Section 5. Countersignature and Registration.

(a) The Rights Certificates shall be executed on behalf of the Company by its Chief Executive Officer, President or any Vice President, either manually or by facsimile signature, and shall have affixed thereto the Company's seal or a facsimile thereof, which shall be attested by the Secretary or an Assistant Secretary of the Company, either manually or by facsimile signature. The Rights Certificates shall be manually countersigned by the Rights Agent and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed any of the Rights Certificates shall cease to be such officer of the Company before countersignature by the Rights Agent and issuance and delivery by the Company, such Rights Certificates, nevertheless, may be countersigned by the Rights Agent and issued and delivered by the Company with the same force and effect as though the person who signed such Rights Certificates had not ceased to be such officer of the Company; and any Rights Certificates may be signed on behalf of the Company by any person who, at the actual date of the execution of such Rights Certificate, shall be a proper officer of the Company to sign such Rights Certificate, although at the date of the execution of this Rights Agreement any such person was not such an officer.

(b) Following the Distribution Date and receipt by the Rights Agent of all necessary information, the Rights Agent shall keep or cause to be kept, at its office designated as the appropriate place for surrender of Rights Certificates upon exercise or transfer, books for registration and transfer of the Rights Certificates issued hereunder. Such books shall show the names and addresses of the respective holders of the Rights Certificates, the number of Rights evidenced on its face by each of the Rights Certificates, the Rights Certificate number and the date of each of the Rights Certificates.

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Section 6. Transfer, Split Up, Combination and Exchange of Rights Certificates; Mutilated, Destroyed, Lost or Stolen Rights Certificates.

(a) Subject to the provisions of Section 4(b), Section 7(e) and Section 14 hereof, at any time after the close of business on the Distribution Date, and at or prior to the close of business on the Expiration Date, any Rights Certificate or Certificates (other than Rights Certificates representing Rights that have become void pursuant to Section 7(e) hereof or that have been exchanged pursuant to Section 24 hereof) may be transferred, split up, combined or exchanged for another Rights Certificate or Certificates, entitling the registered holder to purchase a like number of one one-thousandths of a share of Preferred Stock (or, following a Triggering Event, Common Stock, other securities, cash or other assets, as the case may be) as the Rights Certificate or Certificates surrendered then entitled such holder (or former holder in the case of a transfer) to purchase. Any registered holder desiring to transfer, split up, combine or exchange any Rights Certificate or Certificates shall make such request in writing delivered to the Rights Agent, and shall surrender the Rights Certificate or Certificates to be transferred, split up, combined or exchanged, with the form of assignment and certificate appropriately executed, at the office of the Rights Agent designated for such purpose. Neither the Rights Agent nor the Company shall be obligated to take any action whatsoever with respect to the transfer of any such surrendered Rights Certificate until the registered holder shall have properly completed and signed the certificate contained in the form of assignment on the reverse side of such Rights Certificate and shall have provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) or Affiliates or Associates thereof as the Company or the Rights Agent shall reasonably request. Thereupon the Rights Agent shall, subject to Section 4(b), Section 7(e) and Section 14 hereof, countersign and deliver to the Person entitled thereto a Rights Certificate or Rights Certificates, as the case may be, as so requested. The Company may require payment of a sum sufficient to cover any tax or governmental charge that may be imposed in connection with any transfer, split up, combination or exchange of Rights Certificates. The Rights Agent shall have no duty or obligation under this Section unless and until it is satisfied that all such taxes and/or charges have been paid.

(b) Upon receipt by the Company and the Rights Agent of evidence reasonably satisfactory to them of the loss, theft, destruction or mutilation of a Rights Certificate, and, in case of loss, theft or destruction, of indemnity or security satisfactory to them, and reimbursement to the Company and the Rights Agent of all reasonable expenses incidental thereto, and upon surrender to the Rights Agent and cancellation of the Rights Certificate if mutilated, the

Company will execute and deliver a new Rights Certificate of like tenor to the Rights Agent for countersignature and delivery to the registered owner in lieu of the Rights Certificate so lost, stolen, destroyed or mutilated.

Section 7. Exercise of Rights; Purchase Price; Expiration Date of Rights.

(a) Subject to Section 7(e) hereof, the registered holder of any Rights Certificate may exercise the Rights evidenced thereby (except as otherwise provided herein including, without limitation, the restrictions on exercisability set forth in Section 9(c), Section 11(a)(iii) and Section 23 hereof) in whole or in part at any time after the Distribution Date upon surrender of the Rights Certificate, with the form of election to purchase and the certificate on the reverse side

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thereof duly executed, to the Rights Agent at the office of the Rights Agent designated for such purpose, together with payment of the aggregate Purchase Price with respect to the total number of one one-thousandths of a share of Preferred Stock (or other shares, securities, cash or other assets, as the case may be) as to which such surrendered Rights are then exercisable, at or prior to the earliest of (i) the Final Expiration Date, (ii) the time at which the Rights expire as provided in Section 13(d) hereof, (iii) the time at which the Rights are redeemed as provided in Section 23 hereof (the "Redemption Date") and (iv) the time at which such Rights are exchanged as provided in Section 24 hereof (the earliest of (i), (ii), (iii) and (iv) being herein referred to as the "Expiration Date").

(b) The Purchase Price for each one one-thousandth of a share of Preferred Stock pursuant to the exercise of a Right shall initially be \$13.00 and shall be subject to adjustment from time to time as provided in Sections 11 and 13(a) hereof and shall be payable in lawful money of the United States of America in accordance with paragraph (c) below.

(c) Upon receipt of a Rights Certificate representing exercisable Rights, with the form of election to purchase and the certificate duly executed, accompanied by payment, with respect to each Right so exercised, of the Purchase Price per one one-thousandth of a share of Preferred Stock (or other shares, securities, cash or other assets, as the case may be) to be purchased and an amount equal to any applicable tax or charge, the Rights Agent shall, subject to Section 20(k) hereof, thereupon promptly (i) (A) requisition from any transfer agent of the shares of Preferred Stock (or make available, if the Rights Agent is the transfer agent for such shares) certificates for the total number of one one-thousandths of a share of Preferred Stock to be purchased and the Company hereby authorizes its transfer agent to comply with such requests, or (B) if the Company shall have elected to deposit the total number of shares of Preferred Stock issuable upon exercise of the Rights hereunder with a depository agent, requisition from the depository agent depository receipts representing such number of one one-thousandths of a share of Preferred Stock as are to be purchased (in which case certificates for the shares of Preferred Stock represented by such receipts shall be deposited by the transfer agent with the depository agent) and the Company hereby directs the depository agent to comply with such requests, (ii) requisition from the Company the amount of cash, if any, to be paid in lieu of fractional shares in accordance with Section 14 hereof, (iii) after receipt of such certificates or depository receipts, cause the same to be delivered to or upon the order of the registered holder of such Rights Certificate, registered in such name or names as may be designated by such holder, and (iv) after receipt thereof, deliver such cash, if any, to or upon the order of the registered holder of such Rights Certificate. The payment of the Purchase Price (as such amount may be reduced pursuant to Section 11(a)(iii) hereof) may be made in cash or by certified bank check or money order payable to the order of the Company. In the event that the Company is obligated to issue other securities (including Common Stock) of the Company, pay cash and/or distribute other property pursuant to Section 11(a) hereof, the Company shall make all arrangements necessary so that such other securities, cash and/or other property are available for distribution by the Rights Agent, if and when necessary to comply with this Agreement.

(d) In case the registered holder of any Rights Certificate shall exercise less than all the Rights evidenced thereby, a new Rights Certificate evidencing Rights equivalent to the Rights remaining unexercised shall be issued by the Rights Agent and delivered to, or upon the

order of, the registered holder of such Rights Certificate, registered in such name or names as may be designated by such holder, subject to the provisions of Sections 6 and 14 hereof.

(e) Notwithstanding anything in this Agreement to the contrary, from and after the first occurrence of a Section 11(a)(ii) Event, any Rights beneficially owned by (i) an Acquiring Person or an Associate or Affiliate of an Acquiring Person, (ii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee after the Acquiring Person becomes such, or (iii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee prior to or concurrently with the Acquiring Person becoming such and receives such Rights pursuant to either (A) a transfer (whether or not for consideration) from the Acquiring Person to holders of equity interests in such Acquiring Person or to any Person with whom the Acquiring Person has any continuing agreement, arrangement or understanding (whether or not in writing) regarding the transferred Rights or (B) a transfer which the Board has determined is part of an agreement, arrangement or understanding (whether or not in writing) that has as a primary purpose or effect avoidance of this Section 7(e), shall become null and void without any further action and no holder of such Rights shall have any rights whatsoever with respect to such Rights, whether under any provision of this Agreement or otherwise. No Rights Certificate shall be issued at any time upon the transfer of any Rights to an Acquiring Person whose Rights would be void pursuant to the preceding sentence or any Associate or Affiliate thereof or to any nominee of such Acquiring Person, Associate or Affiliate; and any Rights Certificate delivered to the Rights Agent for transfer to an Acquiring Person whose Rights would be void pursuant to the preceding sentence shall be cancelled. The Company shall notify the Rights Agent when this Section 7(e) applies and shall use all reasonable efforts to insure that the provisions of this Section 7(e) and Section 4(b) hereof are complied with, but neither the Company nor the Rights Agent shall have any liability to any holder of Rights Certificates or other Person as a result of its failure to make any determinations with respect to an Acquiring Person or its Affiliates, Associates or transferees hereunder.

(f) Notwithstanding anything in this Agreement to the contrary, neither the Rights Agent nor the Company shall be obligated to undertake any action with respect to a registered holder upon the occurrence of any purported transfer or exercise as set forth in this Section 7 unless such registered holder shall have (i) duly and properly completed and signed the certificate following the form of assignment or election to purchase set forth on the reverse side of the Rights Certificate surrendered for such assignment or exercise, and (ii) provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) or any Affiliates or Associates thereof as the Company or the Rights Agent shall reasonably request.

Section 8. Cancellation and Destruction of Rights Certificates. All Rights Certificates surrendered for the purpose of exercise, transfer, split up, combination or exchange shall, if surrendered to the Company or any of its agents, be delivered to the Rights Agent for cancellation or in cancelled form, or, if surrendered to the Rights Agent, shall be cancelled by it, and no Rights Certificates shall be issued in lieu thereof except as expressly permitted by any of the provisions of this Agreement. The Company shall deliver to the Rights Agent for cancellation and retirement, and the Rights Agent shall so cancel and retire, any other Rights Certificate purchased or acquired by the Company otherwise than upon the exercise thereof. The Rights Agent shall deliver all cancelled Rights Certificates to the Company, or shall, at the

written request of the Company, destroy such cancelled Rights Certificates, and in such case shall deliver a certificate of destruction thereof to the Company.

Section 9. Reservation and Availability of Capital Stock.

(a) The Company covenants and agrees that it will cause to be reserved and kept available out of its authorized and unissued shares of Preferred Stock (and, following the occurrence of a Triggering Event, out of its authorized and unissued shares of Common Stock and/or other securities or out of its authorized and issued shares held in its treasury), the number of shares of Preferred Stock (and, following the occurrence of a Triggering Event, Common Stock and/or other securities) that, as provided in this Agreement including Section 11(a)(iii) hereof, will be sufficient to permit the exercise in full of all outstanding

Rights.

(b) So long as the shares of Preferred Stock (and, following the occurrence of a Section 11(a)(ii) Event, Common Stock and/or other securities) issuable and deliverable upon the exercise of the Rights may be listed on any national securities exchange or automated quotation system, the Company shall use its best efforts to cause, from and after such time as the Rights become exercisable, all shares reserved for such issuance to be so listed upon official notice of issuance upon such exercise.

(c) The Company shall use its best efforts to (i) file, as soon as practicable following the earliest date after the first occurrence of a Section 11(a)(ii) Event on which the consideration to be delivered by the Company upon exercise of the Rights has been determined in accordance with Section 11(a)(iii) hereof, or as soon as is required by law following the Distribution Date, as the case may be, a registration statement under the Act, with respect to the securities purchasable upon exercise of the Rights on an appropriate form, (ii) cause such registration statement to become effective as soon as practicable after such filing, (iii) cause such registration statement to remain effective (with a prospectus at all times meeting the requirements of the Act) until the earlier of (A) the date as of which the Rights are no longer exercisable for such securities, and (B) the Expiration Date, and (iv) obtain such other regulatory approvals as may be necessary for it to issue securities purchasable upon the exercise of the Rights. The Company will also take such action as may be appropriate under, or to ensure compliance with, the securities or "blue sky" laws of the various states in connection with the exercisability of the Rights. The Company may temporarily suspend, for a period of time not to exceed 90 days after the date set forth in clause (i) of the first sentence of this Section 9(c), the exercisability of the Rights in order to prepare and file such registration statement and permit it to become effective or to obtain any other required regulatory approval in connection with the exercisability of the Rights. Upon any such suspension, the Company shall issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect, each time with prompt written notice thereof to the Rights Agent. Notwithstanding any provision of this Agreement to the contrary, the Rights shall not be exercisable in any jurisdiction unless the requisite registration or qualification in such jurisdiction shall have been effected or obtained.

(d) The Company covenants and agrees that it will take all such action as may be necessary to ensure that all one one-thousandths of a share of Preferred Stock (and, following the

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occurrence of a Triggering Event, Common Stock and/or other securities) delivered upon exercise of Rights shall, at the time of delivery of the certificates for such shares (subject to payment of the Purchase Price), be duly and validly authorized and issued and fully paid and nonassessable.

(e) The Company further covenants and agrees that it will pay when due and payable any and all taxes and governmental charges that may be payable in respect of the issuance or delivery of the Rights Certificates and of any certificates for a number of one one-thousandths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) upon the exercise of Rights. The Company shall not, however, be required (i) to pay any tax or charge that may be payable in respect of any transfer or delivery of Rights Certificates to a Person other than, or the issuance or delivery of a number of one one-thousandths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) in respect of a name other than that of, the registered holder of the Rights Certificate evidencing Rights surrendered for exercise or (ii) to issue or deliver any certificates for a number of one one-thousandths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) in a name other than that of the registered holder upon the exercise of any Rights until such tax or charge shall have been paid (any such tax or charge being payable by the holder of such Rights Certificate at the time of surrender) or until it has been established to the Company's satisfaction that no such tax or charge is due.

Section 10. Preferred Stock Record Date. Each Person in whose name any certificate for a number of one one-thousandths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) is issued upon the exercise of Rights shall for all purposes be deemed to have become the holder of record of such fractional shares of Preferred Stock (or Common Stock and/or

other securities, as the case may be) represented thereby on, and such certificate shall be dated, the date upon which the Rights Certificate evidencing such Rights was duly surrendered with the forms of election and certification duly executed and payment of the Purchase Price (and all applicable taxes and charges) was made; provided, however, that if the date of such surrender and payment is a date upon which the Preferred Stock (or Common Stock and/or other securities, as the case may be) transfer books of the Company are closed, such Person shall be deemed to have become the record holder of such shares (fractional or otherwise) on, and such certificate shall be dated, the next succeeding Business Day on which the Preferred Stock (or Common Stock and/or other securities, as the case may be) transfer books of the Company are open. Prior to the exercise of the Rights evidenced thereby, the holder of a Rights Certificate, as such, shall not be entitled to any rights of a stockholder of the Company with respect to securities for which the Rights shall be exercisable, including, without limitation, the right to vote, to receive dividends or other distributions or to exercise any preemptive rights, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided herein.

Section 11. Adjustment of Purchase Price, Number and Kind of Shares or Number of Rights. The Purchase Price, the number and kind of shares covered by each Right and the number of Rights outstanding are subject to adjustment from time to time as provided in this Section 11.

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(a) (i) In the event the Company shall at any time after the date of this Agreement (A) declare a dividend on the Preferred Stock payable in shares of Preferred Stock, (B) subdivide the outstanding Preferred Stock, (C) combine the outstanding Preferred Stock into a smaller number of shares, or (D) issue any shares of its capital stock in a reclassification of the Preferred Stock (including any such reclassification in connection with a consolidation or merger in which the Company is the continuing or surviving corporation), except as otherwise provided in this Section 11(a) and Section 7(e) hereof, the Purchase Price in effect at the time of the record date for such dividend or of the effective date of such subdivision, combination or reclassification, and the number and kind of shares of Preferred Stock or capital stock, as the case may be, issuable on such date, shall be proportionately adjusted so that the holder of any Right exercised after such time shall be entitled to receive, upon payment of the Purchase Price then in effect, the aggregate number and kind of shares of Preferred Stock or capital stock, as the case may be, which, if such Right had been exercised immediately prior to such date and at a time when the Preferred Stock transfer books of the Company were open, he would have owned upon such exercise and been entitled to receive by virtue of such dividend, subdivision, combination or reclassification. If an event occurs that would require an adjustment under both this Section 11(a)(i) and Section 11(a)(ii) hereof, the adjustment provided for in this Section 11(a)(i) shall be in addition to, and shall be made prior to, any adjustment required pursuant to Section 11(a)(ii) hereof.

(ii) Subject to Section 24 of this Agreement, in the event that any Person, alone or together with its Affiliates or Associates, becomes an Acquiring Person (other than pursuant to a Permitted Offer), then, promptly following the first occurrence of such event, proper provision shall be made so that each holder of a Right (except as provided below and in Section 7(e) hereof) shall thereafter have the right to receive (subject to the last sentence of Section 23(a)), upon exercise thereof at the then current Purchase Price in accordance with the terms of this Agreement, in lieu of a number of one one-thousandths of a share of Preferred Stock, such number of shares of Common Stock of the Company that equals the result obtained by (x) multiplying the then current Purchase Price by the then number of one one-thousandths of a share of Preferred Stock for which a Right was exercisable immediately prior to the first occurrence of a Section 11(a)(ii) Event, and (y) dividing that product (which, following such first occurrence, shall thereafter be referred to as the "Purchase Price" for each Right and for all purposes of this Agreement) by 50% of the current market price (determined pursuant to Section 11(d) hereof) per share of Common Stock on the date of such first occurrence (such number of shares, the "Adjustment Shares").

(iii) In the event that the number of shares of Common Stock that are authorized by the Company's Certificate of Incorporation but not outstanding or reserved for issuance for purposes other than upon exercise of the Rights are not sufficient to permit the exercise in full of the Rights in accordance with the foregoing subparagraph (ii) of this Section 11(a), the

Company shall: (A) determine the excess of (1) the value of the Adjustment Shares issuable upon the exercise of a Right (the "Current Value") over (2) the Purchase Price (such excess, the "Spread"), and (B) with respect to each Right, make adequate provision to substitute for the Adjustment Shares, upon payment of the applicable Purchase Price, (1) cash, (2) a reduction in the Purchase Price, (3) Common Stock or other equity securities of the Company (including, without limitation, shares, or units of shares, of preferred stock which the

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Board has deemed to have the same value as shares of Common Stock (such shares of preferred stock, "common stock equivalents"), (4) debt securities of the Company, (5) other assets, or (6) any combination of the foregoing, having an aggregate value equal to the Current Value, where such aggregate value has been determined by the Board based upon the advice of a nationally recognized investment banking firm selected by the Board; provided, however, if the Company shall not have made adequate provision to deliver value pursuant to clause (B) above within thirty (30) days following the later of (x) the first occurrence of a Section 11(a)(ii) Event and (y) the date on which the Company's right of redemption pursuant to Section 23(a) expires (the later of (x) and (y) being referred to herein as the "Section 11(a)(ii) Trigger Date"), then the Company shall be obligated to deliver, upon the surrender for exercise of a Right and without requiring payment of the Purchase Price, shares of Common Stock (to the extent available) and then, if necessary, cash, which shares and/or cash have an aggregate value equal to the Spread. If the Board shall determine in good faith that it is likely that sufficient additional shares of Common Stock could be authorized for issuance upon exercise in full of the Rights, the thirty (30) day period set forth above may be extended to the extent necessary, but not more than ninety (90) days after the Section 11(a)(ii) Trigger Date, in order that the Company may seek shareholder approval for the authorization of such additional shares (such period, as it may be extended, the "Substitution Period"). To the extent that the Company determines that some action need be taken pursuant to the first and/or second sentences of this Section 11(a)(iii), the Company (x) shall provide, subject to Section 7(e) hereof, that such action shall apply uniformly to all outstanding Rights, and (y) may suspend the exercisability of the Rights until the expiration of the Substitution Period in order to seek any authorization of additional shares and/or to decide the appropriate form of distribution to be made pursuant to such first sentence and to determine the value thereof. In the event of any such suspension, the Company shall issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect, each time with prompt written notice to the Rights Agent. For purposes of this Section 11(a)(iii), the value of the Common Stock shall be the current market price (as determined pursuant to Section 11(d) hereof) per share of the Common Stock on the Section 11(a)(ii) Trigger Date and the value of any "common stock equivalent" shall be deemed to have the same value as the Common Stock on such date.

(b) In case the Company shall fix a record date for the issuance of rights, options or warrants to all holders of Preferred Stock entitling them to subscribe for or purchase (for a period expiring within forty-five (45) calendar days after such record date) Preferred Stock (or shares having the same rights, privileges and preferences as the shares of Preferred Stock ("equivalent preferred stock")) or securities convertible into Preferred Stock or equivalent preferred stock at a price per share of Preferred Stock or per share of equivalent preferred stock (or having a conversion price per share, if a security convertible into Preferred Stock or equivalent preferred stock) less than the current market price (as determined pursuant to Section 11(d) hereof) per share of Preferred Stock on such record date, the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which shall be the number of shares of Preferred Stock outstanding on such record date, plus the number of shares of Preferred Stock which the aggregate offering price of the total number of shares of Preferred Stock and/or equivalent preferred stock so to be offered (and/or the aggregate initial conversion price of the convertible

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securities so to be offered) would purchase at such current market price, and the denominator of which shall be the number of shares of Preferred Stock outstanding on such record date, plus the number of additional shares of Preferred Stock and/or equivalent preferred stock to be offered for subscription

or purchase (or into which the convertible securities so to be offered are initially convertible). In case such subscription price may be paid by delivery of consideration part or all of which may be in a form other than cash, the value of such consideration shall be as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes. Shares of Preferred Stock owned by or held for the account of the Company shall not be deemed outstanding for the purpose of any such computation. Such adjustment shall be made successively whenever such a record date is fixed, and in the event that such rights, options or warrants are not so issued, the Purchase Price shall be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(c) In case the Company shall fix a record date for a distribution to all holders of Preferred Stock (including any such distribution made in connection with a consolidation or merger in which the Company is the continuing corporation) of evidences of indebtedness, cash (other than a regular quarterly cash dividend out of the earnings or retained earnings of the Company), assets (other than a dividend payable in Preferred Stock, but including any dividend payable in stock other than Preferred Stock) or subscription rights or warrants (excluding those referred to in Section 11(b) hereof), the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which shall be the current market price (as determined pursuant to Section 11(d) hereof) per share of Preferred Stock on such record date, less the fair market value (as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes) of the portion of the cash, assets or evidences of indebtedness so to be distributed or of such subscription rights or warrants applicable to a share of Preferred Stock and the denominator of which shall be such current market price (as determined pursuant to Section 11(d) hereof) per share of Preferred Stock on such record date. Such adjustments shall be made successively whenever such a record date is fixed, and in the event that such distribution is not so made, the Purchase Price shall be adjusted to be the Purchase Price which would have been in effect if such record date had not been fixed.

(d) (i) For the purpose of any computation hereunder, other than computations made pursuant to Section 11(a) (iii) hereof, the "current market price" per share of Common Stock on any date shall be deemed to be the average of the daily closing prices per share of such Common Stock for the thirty (30) consecutive Trading Days (as such term is hereinafter defined) immediately prior to such date, and for purposes of computations made pursuant to Section 11(a) (iii) hereof, the "current market price" per share of Common Stock on any date shall be deemed to be the average of the daily closing prices per share of such Common Stock for the ten (10) consecutive Trading Days immediately following such date; provided, however, that in the event that the current market price per share of the Common Stock is determined during a period following the announcement by the issuer of such Common Stock of (A) a dividend or distribution on such Common Stock payable in shares of such Common Stock or securities convertible into shares of such Common Stock (other than the Rights), or (B) any subdivision, combination or reclassification of such Common Stock, and prior to the expiration

of the requisite thirty (30) Trading Day or ten (10) Trading Day period, as set forth above, after the ex-dividend date for such dividend or distribution, or the record date for such subdivision, combination or reclassification occurs, then, and in each such case, the "current market price" shall be properly adjusted to take into account ex-dividend or post record date trading. The closing price for each day shall be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading or, if the shares of Common Stock are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and the low asked prices in the over-the-counter market, as reported by The Nasdaq Stock Market, Inc. ("Nasdaq") or such other system then in use, or, if on any such date the shares of Common Stock are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Common Stock selected by the

Board. All references in this Section to closing prices, last quoted prices or other stock prices mean prices during regular trading hours, without giving effect to any after-hours or extended hours trading. If on any such date no market maker is making a market in the Common Stock, the fair value of such shares on such date shall be as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes. The term "Trading Day" shall mean a day on which Nasdaq or any national securities exchange on which the shares of Common Stock are listed or admitted to trading is open for the transaction of business or, if the shares of Common Stock are not listed or admitted to trading on Nasdaq or any national securities exchange, a Business Day. If the Common Stock is not publicly held or not so listed or traded, "current market price" per share shall mean the fair value per share as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes.

(ii) For the purpose of any computation hereunder, the "current market price" per share of Preferred Stock shall be determined in the same manner as set forth above for the Common Stock in clause (i) of this Section 11(d) (other than the last sentence thereof). If the current market price per share of Preferred Stock cannot be determined in the manner provided above or if the Preferred Stock is not publicly held or listed or traded in a manner described in clause (i) of this Section 11(d), the "current market price" per share of Preferred Stock shall be conclusively deemed to be an amount equal to 1,000 (as such number may be appropriately adjusted for such events as stock splits, stock dividends and recapitalizations with respect to the Common Stock occurring after the date of this Agreement) multiplied by the current market price per share of the Common Stock. If neither the Common Stock nor the Preferred Stock is publicly held or so listed or traded, "current market price" per share of the Preferred Stock shall mean the fair value per share as determined in good faith by the Board, which determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes. For all purposes of this Agreement, the "current market price" of one one-thousandth of a share of Preferred Stock shall be equal to the "current market price" of one share of Preferred Stock divided by 1,000.

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(e) Anything herein to the contrary notwithstanding, no adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least one percent in the Purchase Price; provided, however, that any adjustments which by reason of this Section 11(e) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 11 shall be made to the nearest cent or to the nearest ten-millionth of a share of Preferred Stock, or hundred-thousandth of a share of Common Stock or other security, as the case may be. Notwithstanding the first sentence of this Section 11(e), any adjustment required by this Section 11 shall be made no later than the earlier of (i) three years from the date of the transaction which mandates such adjustment, or (ii) the Expiration Date.

(f) If as a result of an adjustment made pursuant to Section 11(a)(ii) or Section 13(a) hereof, the holder of any Right thereafter exercised shall become entitled to receive any securities other than Preferred Stock, thereafter the number of such other securities so receivable upon exercise of any Right and the Purchase Price thereof shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Preferred Stock contained in Sections 11(a), (b), (c), (e), (g), (h), (i), (j), (k) and (m), and the provisions of Sections 7, 9, 10, 13 and 14 hereof with respect to the Preferred Stock shall apply on like terms to any such other securities; provided, however, that the Company shall not be liable for its inability to reserve and keep available for issuance upon exercise of the Rights pursuant to Section 11(a)(ii) a number of shares of Common Stock greater than the number then authorized by the Company's Certificate of Incorporation but not outstanding or reserved for other purposes.

(g) All Rights originally issued by the Company subsequent to any adjustment made to the Purchase Price hereunder shall evidence the right to purchase, at the adjusted Purchase Price, the number of one one-thousandths of a share of Preferred Stock purchasable from time to time hereunder upon exercise of the Rights, all subject to further adjustment as provided herein.

(h) Unless the Company shall have exercised its election as provided in Section 11(i), upon each adjustment of the Purchase Price as a result of the

calculations made in Sections 11(b) and (c), each Right outstanding immediately prior to the making of such adjustment shall thereafter evidence the right to purchase, at the adjusted Purchase Price, that number of one one-thousandths of a share of Preferred Stock (calculated to the nearest ten-millionth) obtained by (i) multiplying (x) the number of one one-thousandths of a share covered by a Right immediately prior to this adjustment, by (y) the Purchase Price in effect immediately prior to such adjustment of the Purchase Price, and (ii) dividing the product so obtained by the Purchase Price in effect immediately after such adjustment of the Purchase Price.

(i) The Company may elect on or after the date of any adjustment of the Purchase Price to adjust the number of Rights, in lieu of any adjustment in the number of one one-thousandths of a share of Preferred Stock purchasable upon the exercise of a Right. Each of the Rights outstanding after the adjustment in the number of Rights shall be exercisable for the number of one one-thousandths of a share of Preferred Stock for which a Right was exercisable immediately prior to such adjustment. Each Right held of record prior to such adjustment of the number of Rights shall become that number of Rights (calculated to the nearest one-hundred-

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thousandth) obtained by dividing the Purchase Price in effect immediately prior to adjustment of the Purchase Price by the Purchase Price in effect immediately after adjustment of the Purchase Price. The Company shall make a public announcement (with prompt written notice thereof to the Rights Agent) of its election to adjust the number of Rights, indicating the record date for the adjustment, and, if known at the time, the amount of the adjustment to be made. This record date may be the date on which the Purchase Price is adjusted or any day thereafter, but, if the Rights Certificates have been issued, shall be at least ten days later than the date of the public announcement. If Rights Certificates have been issued, upon each adjustment of the number of Rights pursuant to this Section 11(i), the Company shall, as promptly as practicable, cause to be distributed to holders of record of Rights Certificates on such record date Rights Certificates evidencing, subject to Section 14 hereof, the additional Rights to which such holders shall be entitled as a result of such adjustment, or, at the option of the Company, shall cause to be distributed to such holders of record in substitution and replacement for the Rights Certificates held by such holders prior to the date of adjustment, and upon surrender thereof, if required by the Company, new Rights Certificates evidencing all the Rights to which such holders shall be entitled after such adjustment. Rights Certificates so to be distributed shall be issued, executed and countersigned in the manner provided for herein (and may bear, at the option of the Company, the adjusted Purchase Price) and shall be registered in the names of the holders of record of Rights Certificates on the record date specified in the public announcement.

(j) Irrespective of any adjustment or change in the Purchase Price or the number of one one-thousandths of a share of Preferred Stock issuable upon the exercise of the Rights, the Rights Certificates theretofore and thereafter issued may continue to express the Purchase Price per one one-thousandth of a share and the number of one one-thousandths of a share which were expressed in the initial Rights Certificates issued hereunder.

(k) Before taking any action that would cause an adjustment reducing the Purchase Price below the then par value, if any, of the number of one one-thousandths of a share of Preferred Stock issuable upon exercise of the Rights, the Company shall take any corporate action which may, in the opinion of its counsel, be necessary in order that the Company may validly and legally issue such number of one one-thousandths of a share of fully paid and nonassessable Preferred Stock at such adjusted Purchase Price.

(l) In any case in which this Section 11 shall require that an adjustment in the Purchase Price be made effective as of a record date for a specified event, the Company may elect to defer (and shall give prompt written notice of such election to the Rights Agent) until the occurrence of such event the issuance to the holder of any Right exercised after such record date the number of one one-thousandths of a share of Preferred Stock and other capital stock or securities of the Company, if any, issuable upon such exercise over and above the number of one one-thousandths of a share of Preferred Stock and other capital stock or securities of the Company, if any, issuable upon such exercise on the basis of the Purchase Price in effect prior to such adjustment; provided, however, that the Company shall deliver to such holder a due bill or other appropriate instrument evidencing such holder's right to receive such additional

shares (fractional or otherwise) or securities upon the occurrence of the event requiring such adjustment.

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(m) Anything in this Section 11 to the contrary notwithstanding, the Company shall be entitled to make such reductions in the Purchase Price, in addition to those adjustments expressly required by this Section 11, as and to the extent that in their good faith judgment the Board shall determine to be advisable in order that any (i) consolidation or subdivision of the Preferred Stock, (ii) issuance wholly for cash of any shares of Preferred Stock at less than the current market price, (iii) issuance wholly for cash of shares of Preferred Stock or securities which by their terms are convertible into or exchangeable for shares of Preferred Stock, (iv) stock dividends or (v) issuance of rights, options or warrants referred to in this Section 11, hereafter made by the Company to holders of its Preferred Stock shall not be taxable to such stockholders.

(n) The Company covenants and agrees that it shall not, at any time after the Distribution Date, (i) consolidate with any other Person (other than a Subsidiary of the Company in a transaction that complies with Section 11(o) hereof), (ii) merge with or into any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), or (iii) sell or transfer (or permit any Subsidiary to sell or transfer), in one transaction, or a series of related transactions, assets or earning power aggregating more than 50% of the assets or earning power of the Company and its Subsidiaries (taken as a whole) to any other Person or Persons (other than the Company and/or any of its Subsidiaries in one or more transactions each of which complies with Section 11(o) hereof), if (x) at the time of or immediately after such consolidation, merger or sale there are any charter or bylaw provisions or any rights, warrants or other instruments or securities outstanding or agreements in effect that would substantially diminish or otherwise eliminate the benefits intended to be afforded by the Rights or (y) prior to, simultaneously with or immediately after such consolidation, merger or sale, the stockholders of the Person who constitutes, or would constitute, the "Principal Party" for purposes of Section 13(a) hereof shall have received a distribution of Rights previously owned by such Person or any of its Affiliates or Associates. The Company shall not consummate any consolidation, merger, sale or transfer described in clause (i), (ii) or (iii) of the prior sentence unless prior thereto the Company and such other Person shall have executed and delivered to the Rights Agent a supplemental agreement evidencing compliance with this Section 11(n).

(o) The Company covenants and agrees that, after the Distribution Date, it will not, except as permitted by Section 23, Section 24 or Section 27 hereof, take (or permit any Subsidiary to take) any action if at the time such action is taken it is reasonably foreseeable that such action will diminish substantially or otherwise eliminate the benefits intended to be afforded by the Rights.

(p) Anything in this Agreement to the contrary notwithstanding, in the event that the Company shall at any time after the Record Date and prior to the Distribution Date (i) declare or pay any dividend on the outstanding shares of Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding shares of Common Stock, or (iii) combine the outstanding shares of Common Stock into a smaller number of shares, the number of Rights associated with each share of Common Stock then outstanding, or issued or delivered thereafter but prior to the Distribution Date, shall be proportionately adjusted so that the number of Rights thereafter associated with each share of Common Stock following any such event shall equal the result obtained by multiplying the number of Rights associated with each share of Common Stock immediately prior to such event by a fraction, the numerator of which shall be the number of

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shares of Common Stock outstanding immediately prior to the occurrence of such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately following the occurrence of such event.

Section 12. Certificate of Adjusted Purchase Price or Number of Shares. Whenever an adjustment is made as provided in Section 11 and/or Section 13 hereof, the Company shall promptly (a) prepare a certificate setting forth such adjustment and a brief statement of the facts and computations accounting for such adjustment, (b) file with the Rights Agent, and with each transfer agent

for the Preferred Stock and the Common Stock, a copy of such certificate, and (c) mail a brief summary thereof to each holder of a Rights Certificate (or, if prior to the Distribution Date, to each holder of a certificate representing shares of Common Stock) in accordance with Section 26 hereof. The Rights Agent shall be fully protected in relying on any such certificate and on any adjustment or statement therein contained, and shall have no duty or liability with respect to, and shall not be deemed to have knowledge of, any adjustment unless and until it shall have received such certificate.

Section 13. Consolidation, Merger or Sale or Transfer of Assets or Earning Power.

(a) In the event that, at any time after a Person has become an Acquiring Person, (x) the Company shall consolidate with, or merge with and into, any other Person (other than a Subsidiary of the Company in a transaction that complies with Section 11(o) hereof), and the Company shall not be the continuing or surviving corporation of such consolidation or merger, (y) any Person (other than a Subsidiary of the Company in a transaction that complies with Section 11(o) hereof) shall consolidate with, or merge with or into, the Company, and the Company shall be the continuing or surviving corporation of such consolidation or merger and, in connection with such consolidation or merger, all or part of the outstanding shares of Common Stock shall be changed into or exchanged for stock or other securities of any other Person or cash or any other property, or (z) the Company shall sell or otherwise transfer (or one or more of its Subsidiaries shall sell or otherwise transfer), in one transaction or a series of related transactions, assets or earning power aggregating more than 50% of the assets or earning power of the Company and its Subsidiaries (taken as a whole) to any Person or Persons (other than the Company or any Subsidiary of the Company in one or more transactions each of which complies with Section 11(o) hereof), then, and in each such case and except as contemplated by Section 13(d) hereof, proper provision shall be made so that: (i) each holder of a Right, except as provided in Section 7(e) hereof, shall thereafter have the right to receive, upon the exercise thereof at the then current Purchase Price in accordance with the terms of this Agreement, such number of validly authorized and issued, fully paid, non-assessable and freely tradeable shares of Common Stock of the Principal Party (as such term is hereinafter defined), which shall not be subject to any liens, encumbrances, rights of first refusal or other adverse claims, as shall be equal to the result obtained by (1) multiplying the then current Purchase Price by the number of one one-thousandths of a share of Preferred Stock for which a Right is exercisable immediately prior to the first occurrence of a Section 13 Event (or, if a Section 11(a)(ii) Event has occurred prior to the first occurrence of a Section 13 Event, multiplying the number of such one one-thousandths of a share for which a Right was exercisable immediately prior to the first occurrence of a Section 11(a)(ii) Event by the Purchase Price in effect immediately prior to such first occurrence), and (2) dividing that product (which, following the first occurrence of a

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Section 13 Event, shall be referred to as the "Purchase Price" for each Right and for all purposes of this Agreement) by 50% of the current market price (determined pursuant to Section 11(d)(i) hereof) per share of the Common Stock of such Principal Party on the date of consummation of such Section 13 Event; (ii) such Principal Party shall thereafter be liable for, and shall assume, by virtue of such Section 13 Event, all the obligations and duties of the Company pursuant to this Agreement; (iii) the term "Company" shall thereafter be deemed to refer to such Principal Party, it being specifically intended that, subject to clause (v) below, the provisions of Section 11 hereof shall apply only to such Principal Party following the first occurrence of a Section 13 Event; (iv) such Principal Party shall take such steps (including, but not limited to, the reservation of a sufficient number of shares of its Common Stock) in connection with the consummation of any such transaction as may be necessary to assure that the provisions hereof shall thereafter be applicable, as nearly as reasonably may be, in relation to its shares of Common Stock thereafter deliverable upon the exercise of the Rights; and (v) the provisions of Section 11(a)(ii) hereof shall be of no effect following the first occurrence of any Section 13 Event.

(b) "Principal Party" shall mean

(i) in the case of any transaction described in clause (x) or (y) of the first sentence of Section 13(a), the Person that is the issuer of any securities into which shares of Common Stock of the Company are converted in such merger or consolidation, and if no

securities are so issued, the Person that is the other party to such merger or consolidation; and

(ii) in the case of any transaction described in clause (z) of the first sentence of Section 13(a), the Person that is the party receiving the greatest portion of the assets or earning power transferred pursuant to such transaction or transactions;

provided, however, that in any such case, (1) if the Common Stock of such Person is not at such time and has not been continuously over the preceding twelve (12) month period registered under Section 12 of the Exchange Act, and such Person is a direct or indirect Subsidiary of another Person the Common Stock of which is and has been so registered, "Principal Party" shall refer to such other Person; (2) in case such Person is a Subsidiary, directly or indirectly, of more than one Person, the Common Stocks of two or more of which are and have been so registered, "Principal Party" shall refer to whichever of such Persons is the issuer of the Common Stock having the greatest aggregate market value; and (3) in case such Person is owned, directly or indirectly, by a joint venture formed by two or more Persons that are not owned, directly or indirectly, by the same Person, the rules set forth in (1) and (2) above shall apply to each of the chains of ownership having an interest in such joint venture as if such party were a "Subsidiary" of both or all of such joint ventures and the Principal Parties in each such chain shall bear the obligations set forth in this Section 13 in the same ratio as their direct or indirect interests in such Person bear to the total of such interests.

(c) The Company shall not consummate any such consolidation, merger, sale or transfer unless the Principal Party shall have a sufficient number of authorized shares of its

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Common Stock which have not been issued or reserved for issuance to permit the exercise in full of the Rights in accordance with this Section 13 and unless prior thereto the Company and such Principal Party shall have executed and delivered to the Rights Agent a supplemental agreement providing for the terms set forth in paragraphs (a) and (b) of this Section 13 and further providing that, as soon as practicable after the date of any consolidation, merger or sale of assets mentioned in paragraph (a) of this Section 13, the Principal Party will

(i) prepare and file a registration statement under the Act, with respect to the Rights and the securities purchasable upon exercise of the Rights on an appropriate form, and will use its best efforts to cause such registration statement to (A) become effective as soon as practicable after such filing and (B) remain effective (with a prospectus at all times meeting the requirements of the Act) until the Expiration Date;

(ii) use its best efforts to qualify or register the Rights and the securities purchasable upon exercise of the Rights under the blue sky laws of such jurisdictions as may be necessary or appropriate; and

(iii) deliver to holders of the Rights historical financial statements for the Principal Party and each of its Affiliates that comply in all respects with the requirements for registration on Form 10 under the Exchange Act.

The provisions of this Section 13 shall similarly apply to successive mergers or consolidations or sales or other transfers. In the event that a Section 13 Event shall occur at the same time as, or at any time after, the occurrence of a Section 11(a)(ii) Event, the Rights which have not theretofore been exercised shall thereafter become exercisable in the manner described in Section 13(a).

(d) Notwithstanding anything in this Agreement to the contrary, Section 13 shall not be applicable to a transaction described in subparagraphs (x) and (y) of Section 13(a) if (i) such transaction is consummated with a Person or Persons (or a wholly owned subsidiary of any such Person or Persons) who acquired shares of Common Stock pursuant to a Permitted Offer, (ii) the price per share of Common Stock paid in such transaction is not less than the price per share of Common Stock paid to all holders of shares of Common Stock whose shares were purchased pursuant to such Permitted Offer, and (iii) the form of consideration paid in such transaction is the same as the form of consideration paid pursuant

to such Permitted Offer. Upon consummation of any such transaction contemplated by this Section 13(d), all Rights hereunder shall expire.

Section 14. Fractional Rights and Fractional Shares.

(a) The Company shall not be required to issue fractions of Rights, except prior to the Distribution Date as provided in Section 11(i) or (p) hereof, or to distribute Rights Certificates that evidence fractional Rights. In lieu of such fractional Rights, there shall be paid to the registered holders of the Rights Certificates with regard to which such fractional Rights would otherwise be issuable, an amount in cash equal to the same fraction of the current market value of a whole Right. For purposes of this Section 14(a), the current market value of a whole Right shall be the closing price of the Rights for the Trading Day immediately prior to the date on

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which such fractional Rights would have been otherwise issuable. The closing price of the Rights for any day shall be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the principal national securities exchange on which the Rights are listed or admitted to trading, or if the Rights are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and the low asked prices in the over-the-counter market, as reported by Nasdaq or such other system then in use or, if on any such date the Rights are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Rights selected by the Board. All references in this Section to closing prices, last quoted prices or other stock prices means prices during regular trading hours, without giving effect to any after-hours or extended hours trading. If on any such date no such market maker is making a market in the Rights, the fair value of the Rights on such date as determined in good faith by the Board shall be used, which determination shall be described in a statement filed with Rights Agent and shall be conclusive for all purposes.

(b) The Company shall not be required to issue fractions of shares of Preferred Stock (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock) upon exercise of the Rights or to distribute certificates that evidence fractional shares of Preferred Stock (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock). Fractional shares of Preferred Stock in integral multiples of one one-thousandth of a share of Preferred Stock may, at the election of the Company, be evidenced by depositary receipts; provided, however, that holders of such depositary receipts shall have all of the designations and the powers, preferences and rights, and the qualifications, limitations and restrictions to which they are entitled as beneficial owners of the shares of Preferred Stock represented by such depositary receipts. In lieu of fractional shares of Preferred Stock (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock), the Company shall pay to the registered holders of Rights Certificates at the time such Rights are exercised as herein provided an amount in cash equal to the same fraction of the current market value of one one-thousandth of a share of Preferred Stock. For purposes of this Section 14(b), the current market value of one one-thousandth of a share of Preferred Stock shall be one one-thousandth of the closing price of a share of Preferred Stock (as determined pursuant to Section 11(d)(ii) hereof) for the Trading Day immediately prior to the date of such exercise.

(c) Following the occurrence of a Triggering Event, the Company shall not be required to issue fractions of shares of Common Stock upon exercise of the Rights or to distribute certificates which evidence fractional shares of Common Stock. In lieu of fractional shares of Common Stock, the Company shall pay to the registered holders of Rights Certificates at the time such Rights are exercised as herein provided an amount in cash equal to the same fraction of the current market price of one (1) share of Common Stock (as determined pursuant to Section 11(d)(i) hereof) for the Trading Day immediately prior to the date of such exercise.

(d) The holder of a Right by the acceptance of such Right expressly waives his right to receive any fractional Rights or any fractional shares upon exercise of a Right, except as permitted by this Section 14. The Rights Agent shall have no duty or obligation with respect to

this Section 14 and Section 24(e) unless and until it has received specific instructions (and sufficient cash, if required) from the Company with respect to the Rights Agent's duties and obligations under such Sections.

(e) Whenever a payment for fractional Rights or fractional shares is to be made by the Rights Agent, the Company shall (i) promptly prepare and deliver to the Rights Agent a certificate setting forth in reasonable detail the facts related to such payments and the prices and/or formulas utilized in calculating such payments, and (ii) provide sufficient monies to the Rights Agent in the form of fully collected funds to make such payments. The Rights Agent shall be fully protected in relying upon such a certificate and shall have no duty with respect to, and shall not be deemed to have knowledge of any payment for fractional Rights or fractional shares under any Section of this Agreement relating to the payment of fractional Rights or fractional shares unless and until the Rights Agent shall have received such a certificate and sufficient monies.

Section 15. Rights of Action. All rights of action in respect of this Agreement, except the rights of action expressly given to the Rights Agent in Section 18 hereof, are vested in the respective registered holders of the Rights Certificates (and, prior to the Distribution Date, the registered holders of the Common Stock); and any registered holder of any Rights Certificate (or, prior to the Distribution Date, of the Common Stock), without the consent of the Rights Agent or of the holder of any other Rights Certificate (or, prior to the Distribution Date, of the Common Stock), may, in his own behalf and for his own benefit, enforce, and may institute and maintain any suit, action or proceeding against the Company to enforce, or otherwise act in respect of, his right to exercise the Rights evidenced by such Rights Certificate in the manner provided in such Rights Certificate and in this Agreement. Without limiting the foregoing or any remedies available to the holders of Rights, it is specifically acknowledged that the holders of Rights would not have an adequate remedy at law for any breach of this Agreement and shall be entitled to specific performance of the obligations hereunder and injunctive relief against actual or threatened violations of the obligations hereunder of any Person subject to this Agreement.

Section 16. Agreement of Rights Holders. Every holder of a Right by accepting the same consents and agrees with the Company and the Rights Agent and with every other holder of a Right that:

(a) prior to the Distribution Date, the Rights will be transferable only in connection with the transfer of Common Stock;

(b) after the Distribution Date, the Rights Certificates are transferable only on the registry books of the Rights Agent if surrendered at the office of the Rights Agent designated for such purposes, duly endorsed or accompanied by a proper instrument of transfer and with the appropriate forms and certificates duly completed and fully executed;

(c) subject to Section 6(a) and Section 7(f) hereof, the Company and the Rights Agent may deem and treat the person in whose name a Rights Certificate (or, prior to the Distribution Date, the associated Common Stock certificate) is registered as the absolute owner thereof and of the Rights evidenced thereby (notwithstanding any notations of ownership or writing on the Rights Certificates or the associated Common Stock certificate made by anyone

other than the Company or the Rights Agent) for all purposes whatsoever, and neither the Company nor the Rights Agent, subject to the penultimate sentence of Section 7(e) hereof, shall be required to be affected by any notice to the contrary; and

(d) notwithstanding anything in this Agreement to the contrary, neither the Company nor the Rights Agent shall have any liability to any holder of a Right or other Person as a result of its inability to perform any of its obligations under this Agreement by reason of any preliminary or permanent injunction or other order, decree or ruling issued by a court of competent jurisdiction or by a governmental, regulatory or administrative agency or commission, or any statute, rule, regulation or executive order promulgated or enacted by any governmental authority, prohibiting or otherwise restraining

performance of such obligation; provided, however, the Company must use its best efforts to prevent the issuance of any such order, decree or ruling and to have any such order, decree or ruling lifted or otherwise overturned as soon as possible.

Section 17. Rights Certificate Holder Not Deemed a Stockholder. No holder, as such, of any Rights Certificate shall be entitled to vote, receive dividends or be deemed for any purpose the holder of the number of one one-thousandths of a share of Preferred Stock or any other securities of the Company which may at any time be issuable on the exercise of the Rights represented thereby, nor shall anything contained herein or in any Rights Certificate be construed to confer upon the holder of any Rights Certificate, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting stockholders (except as provided in Section 25 hereof), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by such Rights Certificate shall have been exercised in accordance with the provisions hereof.

Section 18. Concerning the Rights Agent.

(a) The Company agrees to pay to the Rights Agent reasonable compensation for all services rendered by it hereunder and, from time to time, on demand of the Rights Agent, its reasonable expenses and counsel fees and disbursements and other disbursements incurred in the preparation, delivery, amendment, administration and execution of this Agreement and the exercise and performance of its duties hereunder. The Company also agrees to indemnify the Rights Agent for, and to hold it harmless against, any loss, liability, damage, judgment, fine, penalty, claim, demand, settlement, cost or expense (including without limitation, the reasonable fees and expenses of legal counsel), incurred without gross negligence, bad faith or willful misconduct on the part of the Rights Agent (which gross negligence, bad faith, or willful misconduct must be determined by a final, non-appealable order, judgment, decree or ruling of a court of competent jurisdiction), for any action taken, suffered or omitted by the Rights Agent in connection with the acceptance, administration, exercise and performance of its duties under this Agreement, including the costs and expenses of defending against any claim of liability in the premises. The provisions of this Section 18 and Section 20 below shall survive the termination of this Agreement, the exercise or expiration of the Rights and the resignation or removal of the

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Rights Agent. The costs and expenses reasonably incurred in enforcing this right of indemnification shall be paid by the Company.

(b) The Rights Agent shall be authorized and protected and shall incur no liability for or in respect of any action taken, suffered or omitted by it in connection with its acceptance and administration of this Agreement in reliance upon any Rights Certificate or certificate for Common Stock or for other securities of the Company, instrument of assignment or transfer, power of attorney, endorsement, affidavit, letter, notice, direction, consent, certificate, statement, or other paper or document believed by it to be genuine and to be signed, executed and, where necessary, verified or acknowledged, by the proper Person or Persons, or otherwise upon the advice of counsel as set forth in Section 20 hereof. The Rights Agent shall not be deemed to have knowledge of any event of which it was supposed to receive notice thereof hereunder, and the Rights Agent shall be fully protected and shall incur no liability for failing to take any action in connection therewith unless and until it has received such notice in writing.

Section 19. Merger or Consolidation or Change of Name of Rights Agent.

(a) Any Person into which the Rights Agent or any successor Rights Agent may be merged or with which it may be consolidated, or any Person resulting from any merger or consolidation to which the Rights Agent or any successor Rights Agent shall be a party, or any Person succeeding to the business of the Rights Agent or any successor Rights Agent, shall be the successor to the Rights Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto; provided, however, that such Person would be eligible for appointment as a successor Rights Agent under the provisions of Section 21 hereof. In case at the time such successor Rights Agent shall succeed to the agency created by this Agreement, any of the Rights

Certificates shall have been countersigned but not delivered, any such successor Rights Agent may adopt the countersignature of a predecessor Rights Agent and deliver such Rights Certificates so countersigned; and in case at that time any of the Rights Certificates shall not have been countersigned, any successor Rights Agent may countersign such Rights Certificates either in the name of the predecessor or in the name of the successor Rights Agent; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

(b) In case at any time the name of the Rights Agent shall be changed and at such time any of the Rights Certificates shall have been countersigned but not delivered, the Rights Agent may adopt the countersignature under its prior name and deliver Rights Certificates so countersigned; and in case at that time any of the Rights Certificates shall not have been countersigned, the Rights Agent may countersign such Rights Certificates either in its prior name or in its changed name; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

Section 20. Duties of Rights Agent. The Rights Agent undertakes only the duties and obligations expressly imposed by this Agreement (and no implied duties or obligations) upon the following terms and conditions, by all of which the Company and the holders of Rights Certificates, by their acceptance thereof, shall be bound:

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(a) The Rights Agent may consult with legal counsel (who may be legal counsel for the Company), and the written advice or opinion of such counsel shall be full and complete authorization and protection to the Rights Agent and the Rights Agent shall incur no liability for or in respect of any action taken, suffered or omitted by it in accordance with such written advice or opinion.

(b) Whenever in the performance of its duties under this Agreement the Rights Agent shall deem it necessary or desirable that any fact or matter (including, without limitation, the identity of any Acquiring Person and the determination of "current market price") be proved or established by the Company prior to taking, suffering or omitting to take any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a certificate signed by the Chief Executive Officer, the President, any Vice President, the Treasurer, any Assistant Treasurer, the Secretary or any Assistant Secretary of the Company and delivered to the Rights Agent; and such certificate shall be full authorization and protection to the Rights Agent for any action taken or suffered by it under the provisions of this Agreement in reliance upon such certificate.

(c) The Rights Agent shall be liable hereunder only for its own gross negligence, bad faith or willful misconduct (which gross negligence, bad faith or willful misconduct must be determined by a final, non-appealable order, judgment, decree or ruling of a court of competent jurisdiction). Anything to the contrary notwithstanding, in no event shall the Rights Agent be liable for special, punitive, indirect, consequential or incidental loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Rights Agent has been advised of the likelihood of such loss or damage. Any liability of the Rights Agent under this Agreement will be limited to the amount of fees paid by the Company to the Rights Agent.

(d) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Rights Certificates or be required to verify the same (except as to its countersignature on such Rights Certificates), but all such statements and recitals are and shall be deemed to have been made by the Company only.

(e) The Rights Agent shall not be under any responsibility or have any liability in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution hereof by the Rights Agent) or in respect of the validity or execution of any Rights Certificate (except its countersignature thereof); nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in any Rights Certificate; nor shall it be responsible for any adjustment required under the provisions of Section 11, Section 13 or Section 24 hereof or responsible for the manner, method or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment (except with respect to the exercise of Rights evidenced by Rights Certificates

after receipt of a certificate describing any such adjustment, delivered pursuant to Section 12); nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock or Preferred Stock to be issued pursuant to this Agreement or any Rights Certificate or as to whether any shares of Common Stock or Preferred Stock will, when so issued, be validly authorized and issued, fully paid and nonassessable.

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(f) The Company agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of the provisions of this Agreement.

(g) The Rights Agent is hereby authorized and directed to accept instructions with respect to the performance of its duties hereunder from the Chief Executive Officer, the President, any Vice President, the Secretary, any Assistant Secretary, the Treasurer or any Assistant Treasurer of the Company, and to apply to such officers for advice or instructions in connection with its duties, and such instructions shall be full authorization and protection to the Rights Agent, and the Rights Agent shall not be liable for any action taken, suffered or omitted to be taken by it in accordance with instructions of any such officer. Any application by the Rights Agent for written instructions from the Company may, at the option of the Rights Agent, set forth in writing any action proposed to be taken, suffered or omitted by the Rights Agent with respect to its duties or obligations under this Rights Agreement and the date on and/or after which such action shall be taken, suffered or such omission shall be effective. The Rights Agent shall not be liable for any action taken or omitted in accordance with a proposal included in any such application on or after the date specified therein (which date shall not be less than five Business Days after the date any such officer actually receives such application, unless any such officer shall have consented in writing to an earlier date) unless, prior to taking or omitting any such action, the Rights Agent has received written instructions in response to such application specifying the action to be taken, suffered or omitted.

(h) The Rights Agent and any stockholder, affiliate, director, officer or employee of the Rights Agent may buy, sell or deal in any of the Rights or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent or any such stockholder, affiliate, director, officer or employee from acting in any other capacity for the Company or for any other Person.

(i) The Rights Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its directors, officers, employees, attorneys or agents, and the Rights Agent shall not be answerable or accountable for any act, default, neglect or misconduct of any such attorneys or agents or for any loss to the Company resulting from any such act, default, neglect or misconduct, absent gross negligence, bad faith or willful misconduct (which gross negligence, bad faith or willful misconduct must be determined by a final, non-appealable order, judgment, decree or ruling of a court of competent jurisdiction) in the selection and continued employment of such directors, officers, employees, attorneys or agents thereof.

(j) No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of its rights if it believes that repayment of such funds or adequate indemnification against such risk or liability is not reasonably assured to it.

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(k) If, with respect to any Rights Certificate surrendered to the Rights Agent for exercise or transfer, the certificate attached to the form of assignment or form of election to purchase, as the case may be, has not been completed, the Company and the Rights Agent will deem the beneficial owner of the rights evidenced by such Rights Certificate to be an Acquiring Person or an Affiliate or Associate thereof and such assignment or election to purchase will

not be honored.

Section 21. Change of Rights Agent. The Rights Agent or any successor Rights Agent may resign and be discharged from its duties under this Agreement upon thirty (30) days' notice in writing mailed to the Company, and to each transfer agent of the Common Stock and Preferred Stock, by registered or certified mail, and to the holders of the Rights Certificates by first-class mail. The Company may remove the Rights Agent or any successor Rights Agent upon thirty (30) days' notice in writing, mailed to the Rights Agent or successor Rights Agent, as the case may be, and to each transfer agent of the Common Stock and Preferred Stock, by registered or certified mail, and to the holders of the Rights Certificates by first-class mail. If the Rights Agent shall resign or be removed or shall otherwise become incapable of acting, the Company shall appoint a successor to the Rights Agent. If the Company shall fail to make such appointment within a period of thirty (30) days after giving notice of such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Rights Agent or by the holder of a Rights Certificate (who shall, with such notice, submit his Rights Certificate for inspection by the Company), then any registered holder of any Rights Certificate may apply to any court of competent jurisdiction for the appointment of a new Rights Agent. Any successor Rights Agent, whether appointed by the Company or by such a court, shall be (a) a Person organized and doing business under the laws of the United States (or of any state of the United States) in good standing, which is subject to supervision or examination by federal or state authority and which has at the time of its appointment as Rights Agent a combined capital and surplus of at least \$50,000,000 or (b) an affiliate of a Person described in clause (a) of this sentence. After appointment, the successor Rights Agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named as Rights Agent without further act or deed; but the predecessor Rights Agent shall deliver and transfer to the successor Rights Agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act or deed necessary for the purpose. Not later than the effective date of any such appointment, the Company shall file notice thereof in writing with the predecessor Rights Agent and each transfer agent of the Common Stock and the Preferred Stock, and mail a notice thereof in writing to the registered holders of the Rights Certificates. Failure to give any notice provided for in this Section 21, however, or any defect therein, shall not affect the legality or validity of the resignation or removal of the Rights Agent or the appointment of the successor Rights Agent, as the case may be.

Section 22. Issuance of New Rights Certificates. Notwithstanding any of the provisions of this Agreement or of the Rights to the contrary, the Company may, at its option, issue new Rights Certificates evidencing Rights in such form as may be approved by the Board to reflect any adjustment or change in the Purchase Price and the number or kind or class of shares or other securities or property purchasable under the Rights Certificates made in accordance with the provisions of this Agreement.

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Section 23. Redemption.

(a) The Board may, at its option, at any time prior to the earlier of (i) the close of business on the tenth Business Day (or such later date as may be determined by the Board pursuant to clause (i) of the first sentence of Section 3(a) with respect to the Distribution Date) following the Stock Acquisition Date (or, if the Stock Acquisition Date shall have occurred prior to the Record Date, the close of business on the tenth Business Day following the Record Date) and (ii) the Final Expiration Date, redeem all but not less than all the then outstanding Rights at a redemption price of \$0.001 per Right, as such amount may be appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the date hereof (such redemption price being hereinafter referred to as the "Redemption Price"). The redemption of the Rights by the Board may be made effective at such time, on such basis and with such conditions as the Board in its sole discretion may establish. The Company may, at its option, pay the Redemption Price in cash, shares of Common Stock (based on the "current market price," as defined in Section 11(d)(i) hereof, of the Common Stock at the time of redemption) or any other form of consideration, or any combination of any of the foregoing, deemed appropriate by the Board. Notwithstanding anything contained in this Agreement to the contrary, the Rights shall not be exercisable after the first occurrence of a Section 11(a)(ii) Event until such time as the Company's right of redemption hereunder has expired.

(b) Immediately upon the action of the Board ordering the redemption of the Rights, evidence of which shall have been filed with the Rights Agent and without any further action and without any notice, the right to exercise the Rights shall terminate and the only right thereafter of the holders of Rights shall be to receive the Redemption Price for each Right so held. Promptly after the action of the Board ordering the redemption of the Rights, the Company shall give notice of such redemption to the Rights Agent and the holders of the then outstanding Rights by mailing such notice to all such holders at each holder's last address as it appears upon the registry books of the Rights Agent or, prior to the Distribution Date, on the registry books of the Transfer Agent for the Common Stock. Any notice which is mailed in the manner herein provided shall be deemed given, whether or not the holder receives the notice. Each such notice of redemption will state the method by which the payment of the Redemption Price will be made.

(c) In the event of a redemption of the Rights in accordance with this Agreement, the Company may, at its option, discharge all of its obligations with respect to the Rights by (i) issuing a press release announcing the manner of redemption of the Rights in accordance with this Agreement and (ii) mailing payment of the Redemption Price to the registered holders of the Rights at their last addresses as they appear on the registry books of the Rights Agent or, prior to the Distribution Date, on the registry books of the Transfer Agent of the Common Stock, and upon such action, all outstanding Rights and Right Certificates shall be null and void without any further action by the Company.

Section 24. Exchange.

(a) The Board may, at its option, at any time after a Section 11(a)(ii) Event, exchange all or part of the then outstanding and exercisable Rights (which (i) shall not include Rights that

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have become void pursuant to the provisions of Section 7(e) hereof, and (ii) shall include, without limitation, any Rights issued after the Distribution Date) for shares of Common Stock at an exchange ratio of one share of Common Stock per Right, appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the date hereof (such exchange ratio being hereinafter referred to as the "Exchange Ratio"). Notwithstanding the foregoing, the Board shall not be empowered to effect such exchange at any time after any Person (other than the Company, any Subsidiary of the Company, any employee benefit plan of the Company or any such Subsidiary, or any entity holding Common Stock for or pursuant to the terms of any such plan), together with all Affiliates and Associates of such Person, becomes the Beneficial Owner of 50% or more of the shares of Common Stock then outstanding.

(b) Immediately upon the action of the Board ordering the exchange of any Rights pursuant to subsection (a) of this Section 24, evidence of which shall have been filed with the Rights Agent, and without any further action and without any notice, the right to exercise such Rights shall terminate and the only right thereafter of a holder of such Rights shall be to receive that number of shares of Common Stock equal to the number of such Rights held by such holder multiplied by the Exchange Ratio. The Company shall promptly give public notice of any such exchange (with prompt written notice thereof to the Rights Agent); provided, however, that the failure to give, or any defect in, such notice shall not affect the validity of such exchange. The Company promptly shall mail a notice of any such exchange to all of the holders of such Rights at their last addresses as they appear upon the registry books of the Rights Agent. Any notice which is mailed in the manner herein provided shall be deemed given, whether or not the holder receives the notice. Each such notice of exchange shall state the method by which the exchange of shares of Common Stock for Rights will be effected and, in the event of any partial exchange, the number of Rights which will be exchanged. Any partial exchange shall be effected pro rata based on the number of Rights (other than Rights which have become void pursuant to the provisions of Section 7(e) hereof) held by each holder of Rights.

(c) In any exchange pursuant to this Section 24, the Company, at its option, may substitute Preferred Stock (or equivalent preferred stock, as such term is defined in Section 11(b) hereof) for shares of Common Stock exchangeable for Rights, at the initial rate of one one-thousandth of a share of Preferred Stock (or equivalent preferred stock) for each share of Common Stock, as appropriately adjusted to reflect adjustments in the voting rights of the Preferred Stock pursuant to Section 3(A) of the Certificate of Designations attached hereto as Exhibit A, so that the fraction of a share of Preferred Stock (or equivalent preferred stock) delivered in lieu of each share of Common Stock

shall have the same voting rights as one share of Common Stock.

(d) In the event that there shall not be sufficient shares of Common Stock or Preferred Stock issued but not outstanding or authorized but unissued to permit any exchange of Rights as contemplated in accordance with this Section 24, the Company shall take all such action as may be necessary to authorize additional shares of Common Stock or Preferred Stock for issuance upon exchange of the Rights.

(e) The Company shall not be required to issue fractions of shares of Common Stock or to distribute certificates which evidence fractional shares of Common Stock. In lieu of such

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fractional shares of Common Stock, there shall be paid to the registered holders of the Right Certificates with regard to which such fractional shares of Common Stock would otherwise be issuable, an amount in cash equal to the same fraction of the current market value of a whole share of Common Stock. For the purposes of this subsection (e), the current market value of a whole share of Common Stock shall be the closing price per share of Common Stock (as determined pursuant to the second sentence of Section 11(d)(i) hereof) for the Trading Day immediately prior to the date of exchange pursuant to this Section 24.

Section 25. Notice of Certain Events.

(a) In case the Company shall propose, at any time after the Distribution Date, (i) to pay any dividend payable in stock of any class to the holders of Preferred Stock or to make any other distribution to the holders of Preferred Stock (other than a regular quarterly cash dividend out of earnings or retained earnings of the Company), or (ii) to offer to the holders of Preferred Stock rights or warrants to subscribe for or to purchase any additional shares of Preferred Stock or shares of stock of any class or any other securities, rights or options, or (iii) to effect any reclassification of its Preferred Stock (other than a reclassification involving only the subdivision of outstanding shares of Preferred Stock), or (iv) to effect any consolidation or merger into or with any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), or to effect any sale or other transfer (or to permit one or more of its Subsidiaries to effect any sale or other transfer), in one transaction or a series of related transactions, of more than 50% of the assets or earning power of the Company and its Subsidiaries (taken as a whole) to any other Person or Persons (other than the Company and/or any of its Subsidiaries in one or more transactions each of which complies with Section 11(o) hereof), or (v) to effect the liquidation, dissolution or winding up of the Company, then, in each such case, the Company shall give to each holder of a Rights Certificate, to the extent feasible and in accordance with Section 26 hereof, a notice of such proposed action, which shall specify the record date for the purposes of such stock dividend, distribution of rights or warrants, or the date on which such reclassification, consolidation, merger, sale, transfer, liquidation, dissolution, or winding up is to take place and the date of participation therein by the holders of the shares of Preferred Stock, if any such date is to be fixed, and such notice shall be so given in the case of any action covered by clause (i) or (ii) above at least twenty (20) days prior to the record date for determining holders of the shares of Preferred Stock for purposes of such action, and in the case of any such other action, at least twenty (20) days prior to the date of the taking of such proposed action or the date of participation therein by the holders of the shares of Preferred Stock, whichever shall be the earlier.

(b) In case a Section 11(a)(ii) Event shall occur, then, in any such case, (i) the Company shall as soon as practicable thereafter give to the Rights Agent and each holder of a Rights Certificate, to the extent feasible and in accordance with Section 26 hereof, a notice of the occurrence of such event, which shall specify the event and the consequences of the event to holders of Rights under Section 11(a)(ii) hereof, and (ii) all references in the preceding paragraph to Preferred Stock shall be deemed thereafter to refer also to Common Stock and/or, if appropriate, other securities; provided that the failure to give such notice shall not affect the validity of such consent.

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Section 26. Notices. Notices or demands authorized by this Agreement to be given or made by the Rights Agent or by the holder of any Rights Certificate to or on the Company shall be sufficiently given or made if sent by first-class

mail, postage prepaid, addressed (until another address is filed in writing with the Rights Agent) or by facsimile transmission as follows:

Hybridon, Inc.
345 Vassar Street
Cambridge, MA 02139
Attention: Chief Executive Officer
Facsimile No.: (617) 679-5592

with a copy to:

Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attention: David E. Redlick, Esq.
Facsimile No.: (617) 526-5000

Subject to the provisions of Section 21, any notice or demand authorized by this Agreement to be given or made by the Company or by the holder of any Rights Certificate to or on the Rights Agent shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed (until another address is filed in writing with the Company) or by facsimile transmission as follows as follows:

Mellon Investor Services LLC
111 Founder's Plaza 11th Floor
East Hartford, CT 06108
Attention: Relationship Manager
Facsimile No.: (860) 528-6472

with a copy to:

Mellon Investor Services LLC
85 Challenger Road
Ridgefield, NJ 07660-2108
Attention: General Counsel
Facsimile No.: (201) 296-4004

Notices or demands authorized by this Agreement to be given or made by the Company or the Rights Agent to the holder of any Rights Certificate (or, if prior to the Distribution Date, to the holder of certificates representing shares of Common Stock) shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed to such holder at the address of such holder as shown on the registry books of the Company.

Section 27. Supplements and Amendments. Except as provided in the penultimate sentence of this Section 27, for so long as the Rights are then redeemable, the Company may, in

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its sole and absolute discretion, and the Rights Agent shall, if the Company so directs but subject to the other provisions of this Section, supplement or amend any provision of this Agreement in any respect without the approval of any holders of the Rights. At any time when the Rights are no longer redeemable, except as provided in the penultimate sentence of this Section 27, the Company may, by approval of at least 75% of the members of the Board, and the Rights Agent shall, if the Company so directs, supplement or amend this Agreement without the approval of any holders of Rights in order (i) to cure any ambiguity or (ii) to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, provided that no such supplement or amendment shall adversely affect the interests of the holders of Rights as such (other than an Acquiring Person or an Affiliate or Associate of an Acquiring Person). Upon the delivery of a certificate from an appropriate officer of the Company which states that the proposed supplement or amendment is in compliance with the terms of this Section 27, and provided, such supplement or amendment does not change or increase the Rights Agent's rights, duties, liabilities or obligations, the Rights Agent shall execute such supplement or amendment. Notwithstanding anything contained in this Agreement to the contrary, no supplement or amendment shall be made which changes the Redemption Price. Prior to the Distribution Date, the interests of the holders of Rights shall be deemed coincident with the interests of the holders of Common Stock.

Section 28. Successors. All the covenants and provisions of this Agreement by or for the benefit of the Company or the Rights Agent shall bind and inure to the benefit of their respective successors and assigns hereunder.

Section 29. Actions by the Board, etc. The Board shall have the exclusive power and authority to administer this Agreement and to exercise all rights and powers specifically granted to the Board or to the Company, or as may be necessary or advisable in the administration of this Agreement, including, without limitation, the right and power to (i) interpret the provisions of this Agreement, and (ii) make all determinations deemed necessary or advisable for the administration of this Agreement (including a determination to redeem or not redeem the Rights or to amend this Agreement). All such actions, calculations, interpretations and determinations (including, for purposes of clause (y) below, all omissions with respect to the foregoing) which are done or made by the Board in good faith, shall (x) be final, conclusive and binding on the Company, the Rights Agent, the holders of the Rights and all other parties, and (y) not subject the Board to any liability to the holders of the Rights. The Rights Agent shall always be entitled to assume that the Company's Board of Directors acted in good faith and shall be fully protected and incur no liability in reliance thereon.

Section 30. Benefits of this Agreement. Nothing in this Agreement shall be construed to give to any Person other than the Company, the Rights Agent and the registered holders of the Rights Certificates (and, prior to the Distribution Date, registered holders of the Common Stock) any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Rights Agent and the registered holders of the Rights Certificates (and, prior to the Distribution Date, registered holders of the Common Stock).

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Section 31. Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated; provided, however, that notwithstanding anything in this Agreement to the contrary, if any such term, provision, covenant or restriction is held by such court or authority to be invalid, void or unenforceable and the Board determines in its good faith judgment that severing the invalid, void or unenforceable language from this Agreement would adversely affect the purpose or effect of this Agreement, the right of redemption set forth in Section 23 hereof shall be reinstated (with prompt written notice to the Rights Agent) and shall not expire until the close of business on the tenth day following the date of such determination by the Board.

Section 32. Governing Law. This Agreement, each Right and each Rights Certificate issued hereunder shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be governed by and construed in accordance with the laws of Delaware applicable to contracts made and to be performed entirely within Delaware; provided, however, that all provisions regarding the rights, duties and obligations of the Rights Agent shall be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed entirely within such state.

Section 33. Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

Section 34. Descriptive Headings. Descriptive headings of the several Sections of this Agreement are inserted for convenience only and shall not control or affect the meaning or construction of any of the provisions hereof.

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and their respective corporate seals to be hereunto affixed and

attested, all as of the day and year first above written.

Attest: HYBRIDON, INC.

By: /s/ Adrienne Drago By: /s/ Stephen R. Seiler
Name: Adrienne Drago Name: Stephen R. Seiler
Title: Executive Assistant Title: Chief Executive Officer

Attest: MELLON INVESTOR SERVICES LLC,
 as Rights Agent

By: /s/ Lee Tinto By: /s/ Lynore A. LeConche
Name: Lee Tinto Name: Lynore A. LeConche
Title: Vice President Title: Vice President

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FORM OF
CERTIFICATE OF DESIGNATIONS
OF
SERIES C JUNIOR PARTICIPATING PREFERRED STOCK
OF
HYBRIDON, INC.

Hybridon, Inc., a corporation organized and existing under the laws of the State of Delaware (hereinafter called the "Corporation"), hereby certifies that the following resolution was adopted by the Board of Directors of the Corporation at a meeting duly called and held on December 10, 2001:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation (hereinafter called the "Board") in accordance with the provisions of the Certificate of Incorporation, as amended, the Board hereby creates a series of Preferred Stock, \$.01 par value per share (the "Preferred Stock"), of the Corporation and hereby states the designation and number of shares, and fixes the relative rights, preferences and limitations thereof as follows:

SERIES C JUNIOR PARTICIPATING PREFERRED STOCK:

Section 1. Designation and Amount. The shares of such series shall be designated as "Series C Junior Participating Preferred Stock" (the "Series C Preferred Stock") and the number of shares constituting the Series C Preferred Stock shall be one hundred thousand (100,000). Such number of shares may be increased or decreased by resolution of the Board prior to issuance; provided, that no decrease shall reduce the number of shares of Series C Preferred Stock to a number less than the number of shares then outstanding plus the number of shares reserved for issuance upon the exercise of outstanding options, rights or warrants or upon the conversion of any outstanding securities issued by the Corporation convertible into Series C Preferred Stock.

Section 2. Dividends and Distributions.

(A) Subject to the rights of the holders of any shares of any series of Preferred Stock (or any similar stock) ranking prior and superior to the Series C Preferred Stock with respect to dividends, the holders of shares of Series C Preferred Stock, in preference to the holders of Common Stock, par value \$.001 per share (the "Common Stock"), of the Corporation, and of any other junior stock, shall be entitled to receive, when, as and if declared by the Board out of funds

of the Corporation legally available for the payment of dividends, quarterly dividends payable in cash on the last day of each fiscal quarter of the Corporation in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series C Preferred Stock, in an amount per share (rounded to the nearest cent) equal to the greater of (a) \$10 or (b) subject to the provision for adjustment hereinafter set forth, 1,000 times the aggregate per share amount of all cash dividends, and 1,000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, other than a dividend payable in shares of Common Stock or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock since the immediately preceding Quarterly Dividend Payment Date or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series C Preferred Stock. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under clause (b) of the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series C Preferred Stock payable in shares of Series C Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series C Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series C Preferred Stock) into a greater or lesser number of shares of Series C Preferred Stock, then in each such case the amount to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under clause (b) of the first sentence of this Section 2(A) shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series C Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series C Preferred Stock outstanding immediately after such event.

(B) The Corporation shall declare a dividend or distribution on the Series C Preferred Stock as provided in paragraph (A) of this Section immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock) and the Corporation shall pay such dividend or distribution on the Series C Preferred Stock before the dividend or distribution declared on the Common Stock is paid or set apart; provided that, in the event no dividend or distribution shall have been declared on the Common Stock during the period between any Quarterly Dividend Payment Date and the next subsequent Quarterly Dividend Payment Date, a dividend of \$10 per share on the Series C Preferred Stock shall nevertheless be payable on such subsequent Quarterly Dividend Payment Date.

(C) Dividends shall begin to accrue and be cumulative on outstanding shares of Series C Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares, unless the date of issue of such shares is prior to the record date for the first

Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series C Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series C Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board may fix a record date for the determination of holders of shares of Series C Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be not more than 60 days prior to the date fixed for the payment thereof.

Section 3. Voting Rights. The holders of shares of Series C Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Series C Preferred Stock shall entitle the holder thereof to 1,000 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each case the number of votes per share to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series C Preferred Stock payable in shares of Series C Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series C Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series C Preferred Stock) into a greater or lesser number of shares of Series C Preferred Stock, then in each such case the number of votes per share to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series C Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series C Preferred Stock outstanding immediately after such event.

(B) Except as otherwise provided herein, in the Certificate of Incorporation or by law, the holders of shares of Series C Preferred Stock and the holders of shares of Common Stock and any other capital stock of the Corporation having general voting rights shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(C) (i) If at any time dividends on any Series C Preferred Stock shall be in arrears in an amount equal to six quarterly dividends thereon, the holders of the Series C Preferred Stock, voting as a separate series from all other series of Preferred Stock and classes of

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capital stock, shall be entitled to elect two members of the Board in addition to any Directors elected by any other series, class or classes of securities and the authorized number of Directors will automatically be increased by two. Promptly thereafter, the Board of the Corporation shall, as soon as may be practicable, call a special meeting of holders of Series C Preferred Stock for the purpose of electing such members of the Board. Such special meeting shall in any event be held within 45 days of the occurrence of such arrearage.

(ii) During any period when the holders of Series C Preferred Stock, voting as a separate series, shall be entitled and shall have exercised their right to elect two Directors, then, and during such time as such right continues, (a) the then authorized number of Directors shall be increased by two, and the holders of Series C Preferred Stock, voting as a separate series, shall be entitled to elect the additional Directors so provided for, and (b) each such additional Director shall not be a member of any existing class of the Board, but shall serve until the next annual meeting of stockholders for the election of Directors, or until his successor shall be elected and shall qualify, or until his right to hold such office terminates pursuant to the provisions of this Section 3(C).

(iii) A Director elected pursuant to the terms hereof may be removed with or without cause by the holders of Series C Preferred Stock entitled to vote in an election of such Director.

(iv) If, during any interval between annual meetings of stockholders for the election of Directors and while the holders of Series C Preferred Stock shall be entitled to elect two Directors, there is no such Director in office by reason of resignation, death or removal, then, promptly thereafter, the Board shall call a special meeting of the holders of Series C Preferred Stock for the purpose of filling such vacancy and such vacancy shall be filled at such special meeting. Such special meeting shall in any event be

held within 45 days of the occurrence of such vacancy.

(v) At such time as the arrearage is fully cured, and all dividends accumulated and unpaid on any shares of Series C Preferred Stock outstanding are paid, and, in addition thereto, at least one regular dividend has been paid subsequent to curing such arrearage, the term of office of any Director elected pursuant to this Section 3(C), or his successor, shall automatically terminate, and the authorized number of Directors shall automatically decrease by two, the rights of the holders of the shares of the Series C Preferred Stock to vote as provided in this Section 3(C) shall cease, subject to renewal from time to time upon the same terms and conditions, and the holders of shares of the Series C Preferred Stock shall have only the limited voting rights elsewhere herein set forth.

(D) Except as set forth herein, or as otherwise provided by law, holders of Series C Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

Section 4. Certain Restrictions.

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(A) Whenever quarterly dividends or other dividends or distributions payable on the Series C Preferred Stock as provided in Section 2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Series C Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends, or make any other distributions, on any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series C Preferred Stock;

(ii) declare or pay dividends, or make any other distributions, on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series C Preferred Stock, except dividends paid ratably on the Series C Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series C Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such junior stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series C Preferred Stock; or

(iv) redeem or purchase or otherwise acquire for consideration any shares of Series C Preferred Stock, or any shares of stock ranking on a parity with the Series C Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board) to all holders of such shares upon such terms as the Board, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(B) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (A) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Recquired Shares. Any shares of Series C Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and cancelled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock subject to the conditions and restrictions on issuance set forth herein, in the

Certificate of Incorporation, or in any other Certificate of Designations creating a series of Preferred Stock or any similar stock or as otherwise required by law.

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Section 6. Liquidation, Dissolution or Winding Up.

(A) Upon any liquidation, dissolution or winding up of the Corporation, no distribution shall be made (1) to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series C Preferred Stock unless, prior thereto, the holders of shares of Series C Preferred Stock shall have received \$1,000 per share, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment, provided that the holders of shares of Series C Preferred Stock shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1,000 times the aggregate amount to be distributed per share to holders of shares of Common Stock, or (2) to the holders of shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series C Preferred Stock, except distributions made ratably on the Series C Preferred Stock and all such parity stock in proportion to the total amounts to which the holders of all such shares are entitled upon such liquidation, dissolution or winding up.

(B) Neither the consolidation, merger or other business combination of the Corporation with or into any other corporation nor the sale, lease, exchange or conveyance of all or any part of the property, assets or business of the Corporation shall be deemed to be a liquidation, dissolution or winding up of the Corporation for purposes of this Section 6.

(C) In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the aggregate amount to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of paragraph (A) of this Section 6 shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series C Preferred Stock payable in shares of Series C Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series C Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series C Preferred Stock) into a greater or lesser number of shares of Series C Preferred Stock, then in each such case the aggregate amount to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of paragraph (A) of this Section 6 shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series C Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series C Preferred Stock outstanding immediately after such event.

Section 7. Consolidation, Merger, etc. Notwithstanding anything to the contrary contained herein, in case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case each share of

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Series C Preferred Stock shall at the same time be similarly exchanged or changed into an amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1,000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount set forth in the preceding sentence with respect to the

exchange or change of shares of Series C Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series C Preferred Stock payable in shares of Series C Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series C Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series C Preferred Stock) into a greater or lesser number of shares of Series C Preferred Stock, then in each such case the amount set forth in the first sentence of this Section 7 with respect to the exchange or change of shares of Series C Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series C Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series C Preferred Stock outstanding immediately after such event.

Section 8. No Redemption. The shares of Series C Preferred Stock shall not be redeemable.

Section 9. Rank. The Series C Preferred Stock shall rank, with respect to the payment of dividends and the distribution of assets, junior to all series of any other class of the Preferred Stock issued either before or after the issuance of the Series C Preferred Stock (including, without limitation, the Series A Convertible Preferred Stock \$.01 par value, of the Company established pursuant to the Certificate of Designation for Series A Convertible preferred Stock dated May 5, 1998), unless the terms of any such series shall provide otherwise.

Section 10. Amendment. At such time as any shares of Series C Preferred Stock are outstanding, the Certificate of Incorporation, as amended, of the Corporation shall not be amended in any manner which would materially alter or change the powers, preferences or special rights of the Series C Preferred Stock so as to affect them adversely without the affirmative vote of the holders of at least two-thirds of the outstanding shares of Series C Preferred Stock, voting together as a single class.

Section 11. Fractional Shares. Series C Preferred Stock may be issued in fractions of a share which shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions and have the benefit of all other rights of holders of Series C Preferred Stock.

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IN WITNESS WHEREOF, this Certificate of Designations is executed on behalf of the Corporation by its Chief Executive Officer this 10th day of December, 2001.

HYBRIDON, INC.

By: _____
Name: _____
Title: _____

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[Form of Rights Certificate]

Certificate No. R- _____ Rights

NOT EXERCISABLE AFTER DECEMBER 10, 2011 OR EARLIER IF REDEEMED OR EXCHANGED BY THE COMPANY. THE RIGHTS ARE SUBJECT TO REDEMPTION AT \$.001 PER RIGHT AND TO EXCHANGE ON THE TERMS SET FORTH IN THE RIGHTS AGREEMENT. UNDER CERTAIN CIRCUMSTANCES, RIGHTS BENEFICIALLY OWNED BY AN ACQUIRING PERSON (AS SUCH TERM IS DEFINED IN THE RIGHTS AGREEMENT) AND ANY SUBSEQUENT HOLDER OF SUCH RIGHTS MAY BECOME NULL AND VOID. [THE RIGHTS REPRESENTED BY THIS RIGHTS CERTIFICATE ARE OR WERE BENEFICIALLY OWNED BY A PERSON WHO WAS OR BECAME AN ACQUIRING PERSON OR AN AFFILIATE OR ASSOCIATE OF AN ACQUIRING PERSON (AS SUCH TERMS ARE DEFINED IN THE

RIGHTS AGREEMENT). ACCORDINGLY, THIS RIGHTS CERTIFICATE AND THE RIGHTS REPRESENTED HEREBY MAY BECOME NULL AND VOID IN THE CIRCUMSTANCES SPECIFIED IN SECTION 7(e) OF SUCH AGREEMENT.]*

HYBRIDON, INC.

Rights Certificate

This certifies that _____, or registered assigns, is the registered owner of the number of Rights set forth above, each of which entitles the owner thereof, subject to the terms, provisions and conditions of the Rights Agreement, dated December 10, 2001 (the "Rights Agreement"), between Hybridon, Inc., a Delaware corporation (the "Company"), and Mellon Investor Services LLC (the "Rights Agent"), to purchase from the Company after the Distribution Date (as such term is defined in the Rights Agreement) and at any time prior to 5:00 p.m. (New York time) on December 10, 2011 at the office of the Rights Agent designated for such purpose, or its successors as Rights Agent, one one-thousandth of a fully paid, non-assessable share of Series C Junior Participating Preferred Stock (the "Preferred Stock") of the Company, \$.01 par value per share, at a purchase price of \$13.00 in cash per one one-thousandth of a share (the "Purchase Price"), upon presentation and surrender of this Rights Certificate with the Form of Election to Purchase and related Certificate duly executed. The number of Rights evidenced by this Rights Certificate (and the number of one one-thousandth of a share of Preferred Stock which may be purchased upon exercise hereof) set forth above, and the Purchase Price set forth above, are the number and Purchase Price as of the close of business on December 10, 2001, based on the Preferred Stock as constituted at such date. Capitalized terms used herein and not otherwise defined herein shall have the meanings ascribed to such terms in the Rights Agreement.

Upon the occurrence of a Section 11(a)(ii) Event, if the Rights evidenced by this Rights Certificate are beneficially owned by (i) an Acquiring Person or an Affiliate or Associate of any

* The portion of the legend in brackets shall be inserted only if applicable and shall replace the preceding sentence.

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such Acquiring Person (as such terms are defined in the Rights Agreement), (ii) a transferee of any such Acquiring Person, Associate or Affiliate who becomes a transferee after the Acquiring Person becomes an Acquiring Person, or (iii) under certain circumstances specified in the Rights Agreement, a transferee of a person who, concurrently with or after such transfer, became an Acquiring Person, or an Affiliate or Associate of an Acquiring Person, such Rights shall become null and void and no holder hereof shall have any right with respect to such Rights from and after the occurrence of such Section 11(a)(ii) Event.

As provided in the Rights Agreement, the Purchase Price and the number and kind of shares of Preferred Stock or other securities which may be purchased upon the exercise of the Rights evidenced by this Rights Certificate are subject to modification and adjustment upon the happening of certain events, including Section 11(a)(ii) Events.

This Rights Certificate is subject to all of the terms, provisions and conditions of the Rights Agreement, which terms, provisions and conditions are hereby incorporated herein by reference and made a part hereof and to which Rights Agreement reference is hereby made for a full description of the rights, limitations of rights, obligations, duties and immunities hereunder of the Rights Agent, the Company and the holders of the Rights Certificates, which limitations of rights include the temporary suspension of the exercisability of such Rights under the specific circumstances set forth in the Rights Agreement. Copies of the Rights Agreement are on file at the principal offices of the Company and are available upon written request to the Company.

This Rights Certificate, with or without other Rights Certificates, upon surrender at the office of the Rights Agent designated for such purpose, with the Form of Election and Certificate set forth on the reverse side duly executed, may be exchanged for another Rights Certificate or Rights Certificates of like tenor and date evidencing Rights entitling the holder to purchase a like aggregate number of one one-thousandths of a share of Preferred Stock as the

Rights evidenced by the Rights Certificate or Rights Certificates surrendered shall have entitled such holder to purchase. If this Rights Certificate shall be exercised in part, the holder shall be entitled to receive upon surrender hereof another Rights Certificate or Rights Certificates for the number of whole Rights not exercised.

Subject to the provisions of the Rights Agreement, the Rights evidenced by this Certificate may be redeemed by the Company at its option at a redemption price of \$.001 per Right at any time prior to the earlier of (i) the close of business on the tenth Business Day (or such later date as may be determined by the Board pursuant to clause (i) of the first sentence of Section 3(a) with respect to the Distribution Date) following the Stock Acquisition Date (or, if the Stock Acquisition Date shall have occurred prior to the Record Date, the close of business on the tenth Business Day following the Record Date) and (ii) the Final Expiration Date.

Subject to the provisions of the Rights Agreement, the Company may, at its option, at any time after a Section 11(a)(ii) Event, exchange all or part of the Rights evidenced by this Certificate for shares of the Company's Common Stock or for Preferred Stock (or shares of a class or series of the Company's preferred stock having the same rights, privileges and preferences as the Preferred Stock).

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No fractional shares of Preferred Stock will be issued upon the exercise of any Right or Rights evidenced hereby (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock, which may, at the election of the Company, be evidenced by depositary receipts), but in lieu thereof a cash payment will be made, as provided in the Rights Agreement.

No holder of this Rights Certificate, as such, shall be entitled to vote or receive dividends or be deemed for any purpose the holder of shares of Preferred Stock or of any other securities of the Company which may at any time be issuable on the exercise hereof, nor shall anything contained in the Rights Agreement or herein be construed to confer upon the holder hereof, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting stockholders (except as provided in the Rights Agreement), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by this Rights Certificate shall have been exercised as provided in the Rights Agreement.

This Rights Certificate shall not be valid or obligatory for any purpose until it shall have been countersigned by the Rights Agent.

WITNESS the facsimile signature of the proper officers of the Company and its corporate seal.

Dated as of _____

ATTEST: HYBRIDON, INC.

Secretary

By: _____
Title: _____

COUNTERSIGNED:

MELLON INVESTOR SERVICES LLC,
as Rights Agent

By: _____

Authorized Signature

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[Form of Reverse Side of Rights Certificate]

FORM OF ASSIGNMENT

(To be executed by the registered holder if such holder desires to transfer the Rights Certificate.)

FOR VALUE RECEIVED _____ hereby
sells, assigns and transfers unto _____

(Please print name and address of transferee)

_____ this Rights Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint _____ Attorney, to transfer the within Rights Certificate on the books of the within-named Company, with full power of substitution.

Dated: _____

Signature

Signature Guaranteed:

Certificate

The undersigned hereby certifies that the Rights evidenced by this Rights Certificate are not beneficially owned by, or being assigned to, an Acquiring Person or an Affiliate or Associate thereof (as such terms are defined pursuant to the Rights Agreement).

Dated: _____

Signature

Signature Guaranteed:

NOTICE

The signature to the foregoing Assignment and Certificate must correspond to the name as written upon the face of this Rights Certificate in every particular, without alteration or enlargement or any change whatsoever.

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FORM OF ELECTION TO PURCHASE

(To be executed if holder desires to exercise Rights represented by the Rights Certificate.)

To: HYBRIDON, INC.

The undersigned hereby irrevocably elects to exercise _____ Rights represented by this Rights Certificate to purchase the shares of Preferred Stock issuable upon the exercise of the Rights (or such other securities of the Company or of any other person which may be issuable upon the exercise of the Rights) and requests that certificates for such shares be issued in the name of and delivered to:

Please insert social security
or other identifying number _____

(Please print name and address)

If such number of Rights shall not be all the Rights evidenced by this Rights Certificate, a new Rights Certificate for the balance of such Rights shall be registered in the name of and delivered to:

Please insert social security or other identifying number

(Please print name and address)

Dated:

Signature

Signature Guaranteed:

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Certificate

The undersigned hereby certifies by checking the appropriate boxes that:

(1) the Rights evidenced by this Rights Certificate [] are [] are not being exercised by or on behalf of a Person who is or was an Acquiring Person or an Affiliate or Associate thereof (as such terms are defined pursuant to the Rights Agreement);

(2) after due inquiry and to the best knowledge of the undersigned, the undersigned [] did [] did not acquire the Rights evidenced by this Rights Certificate from any Person who is, was or became an Acquiring Person or an Affiliate or Associate thereof.

Dated:

Signature

Signature Guaranteed:

NOTICE

The signature to the foregoing Election to Purchase and Certificate must correspond to the name as written upon the face of this Rights Certificate in every particular, without alteration or enlargement or any change whatsoever.

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SUMMARY OF RIGHTS TO PURCHASE PREFERRED STOCK

On December 10, 2001, the Board of Directors of Hybridon, Inc. (the "Company"), declared a dividend of one Right for each outstanding share of the Company's Common Stock to stockholders of record at the close of business on January 7, 2002 (the "Record Date"). Each Right entitles the registered holder to purchase from the Company one one-thousandth of a share of Series C Junior Participating Preferred Stock, \$.01 par value per share (the "Preferred Stock"), at a Purchase Price of \$13.00 in cash, subject to adjustment. The description and terms of the Rights are set forth in a Rights Agreement dated December 10, 2001 (the "Rights Agreement") between the Company and Mellon Investor Services LLC, as Rights Agent.

Initially, the Rights are not exercisable and will be attached to all certificates representing outstanding shares of Common Stock, and no separate Rights Certificates will be distributed. The Rights will separate from the Common Stock, and the Distribution Date will occur, upon the earlier of (i) 10 business days following the first date of a public announcement that a person or group of affiliated or associated persons (an "Acquiring Person") has acquired,

or obtained the right to acquire, beneficial ownership of 15% or more of the outstanding shares of Common Stock or (ii) 10 business days following the commencement of a tender offer or exchange offer that would result in a person or group beneficially owning 15% or more of the outstanding shares of Common Stock. The Distribution Date may be deferred in circumstances determined by the Board of Directors. In addition, certain inadvertent acquisitions and certain acquisitions of additional shares of Series A Preferred Stock as payment-in-kind dividends will not trigger the occurrence of the Distribution Date. Until the Distribution Date (or earlier redemption or expiration of the Rights), (i) the Rights will be evidenced by the Common Stock certificates outstanding on the Record Date, together with this Summary of Rights, or by new Common Stock certificates issued after the Record Date which contain a notation incorporating the Rights Agreement by reference, (ii) the Rights will be transferred with and only with such Common Stock certificates; and (iii) the surrender for transfer of any certificates for Common Stock outstanding (with or without a copy of this Summary of Rights or such notation) will also constitute the transfer of the Rights associated with the Common Stock represented by such certificate.

The Rights are not exercisable until the Distribution Date and will expire upon the close of business on December 10, 2011 (the "Final Expiration Date") unless earlier redeemed or exchanged as described below. As soon as practicable after the Distribution Date, separate Rights Certificates will be mailed to holders of record of the Common Stock as of the close of business on the Distribution Date and, thereafter, the separate Rights Certificates alone will represent the Rights. Except as otherwise determined by the Board of Directors, and except for shares of Common Stock issued upon exercise, conversion or exchange of then outstanding options, convertible or exchangeable securities or other contingent obligations to issue shares or pursuant to any employee benefit plan or arrangement, only shares of Common Stock issued prior to the Distribution Date will be issued with Rights.

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In the event that any Person becomes an Acquiring Person, unless the event causing the 15% threshold to be crossed is a Permitted Offer (as defined in the Rights Agreement), then, promptly following the first occurrence of such event, each holder of a Right (except as provided below and in Section 7(e) of the Rights Agreement) shall thereafter have the right to receive, upon exercise, that number of shares of Common Stock of the Company (or, in certain circumstances, cash, property or other securities of the Company) which equals the exercise price of the Right divided by 50% of the current market price (as defined in the Rights Agreement) per share of Common Stock at the date of the occurrence of such event. However, Rights are not exercisable following such event until such time as the Rights are no longer redeemable by the Company as described below. Notwithstanding any of the foregoing, following the occurrence of such event, all Rights that are, or (under certain circumstances specified in the Rights Agreement) were, beneficially owned by any Acquiring Person will be null and void. The event summarized in this paragraph is referred to as a "Section 11(a)(ii) Event."

For example, at an exercise price of \$13.00 per Right, each Right not owned by an Acquiring Person (or by certain related parties) following a Section 11(a)(ii) Event would entitle its holder to purchase for \$13.00 such number of shares of Common Stock (or other consideration, as noted above) as equals \$13.00 divided by one-half of the current market price (as defined in the Rights Agreement) of the Common Stock. Assuming that the Common Stock had a market price of \$6.50 per share at such time, the holder of each valid Right would be entitled to purchase four shares of Common Stock, having a market value of 4 x \$6.50, or \$26.00, for \$13.00.

In the event that, at any time after any Person becomes an Acquiring Person, (i) the Company is consolidated with, or merged with and into, another entity and the Company is not the surviving entity of such consolidation or merger (other than a consolidation or merger which follows a Permitted Offer) or if the Company is the surviving entity, but shares of its outstanding Common Stock are changed or exchanged for stock or securities (of any other person) or cash or any other property, or (ii) more than 50% of the Company's assets or earning power is sold or transferred, each holder of a Right (except Rights which previously have been voided as set forth above) shall thereafter have the right to receive, upon exercise, that number of shares of common stock of the acquiring company which equals the exercise price of the Right divided by 50% of the current market price (as defined in the Rights Agreement) of such common stock at the date of the occurrence of the event. The events summarized in this paragraph are referred to as "Section 13 Events." A Section 11(a)(ii) Event and

Section 13 Events are collectively referred to as "Triggering Events."

For example, at an exercise price of \$13.00 per Right, each valid Right following a Section 13 Event would entitle its holder to purchase for \$13.00 such number of shares of common stock of the acquiring company as equals \$13.00 divided by one-half of the current market price (as defined in the Rights Agreement) of such common stock. Assuming that such common stock had a market price of \$6.50 per share at such time, the holder of each valid Right would be entitled to purchase four shares of common stock of the acquiring company, having a market value of $4 \times \$6.50$, or \$26.00, for \$13.00.

At any time after the occurrence of a Section 11(a)(ii) Event, when no person owns a majority of the Common Stock, the Board of Directors of the Company may exchange the Rights (other than

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Rights owned by such Acquiring Person which have become void), in whole or in part, at an exchange ratio of one share of Common Stock, or one one-thousandth of a share of Preferred Stock (or of a share of a class or series of the Company's preferred stock having equivalent rights, preferences and privileges), per Right (subject to adjustment).

The Purchase Price payable, and the number of units of Preferred Stock or other securities or property issuable, upon exercise of the Rights are subject to adjustment from time to time to prevent dilution (i) in the event of a stock dividend on, or a subdivision, combination or reclassification of, the Preferred Stock, (ii) if holders of the Preferred Stock are granted certain rights or warrants to subscribe for Preferred Stock or convertible securities at less than the then-current market price (as defined in the Rights Agreement) of the Preferred Stock, or (iii) upon the distribution to holders of the Preferred Stock of evidences of indebtedness or assets (excluding regular periodic cash dividends paid out of earnings or retained earnings) or of subscription rights or warrants (other than those referred to above). The number of Rights associated with each share of Common Stock is also subject to adjustment in the event of a stock split of the Common Stock or a stock dividend on the Common Stock payable in Common Stock or subdivisions, consolidations or combinations of the Common Stock occurring, in any such case, prior to the Distribution Date.

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments amount to at least 1% of the Purchase Price. No fractional shares of Preferred Stock (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock) will be issued and, in lieu thereof, an adjustment in cash will be made based on the market price of the Preferred Stock on the last trading date prior to the date of exercise.

Preferred Stock purchasable upon exercise of the Rights will not be redeemable. Each share of Preferred Stock will be entitled to receive, when, as and if declared by the Board of Directors, a minimum preferential quarterly dividend payment of \$10 per share or, if greater, an aggregate dividend of 1,000 times the dividend declared per share of Common Stock. In the event of liquidation, the holders of the Preferred Stock will be entitled to a minimum preferential liquidation payment of \$1,000 per share, plus an amount equal to accrued and unpaid dividends, and will be entitled to an aggregate payment of 1,000 times the payment made per share of Common Stock. Each share of Preferred Stock will have 1,000 votes, voting together with the Common Stock. In the event of any merger, consolidation or other transaction in which Common Stock is changed or exchanged, each share of Preferred Stock will be entitled to receive 1,000 times the amount received per share of Common Stock. These rights are protected by customary antidilution provisions. Because of the nature of the Preferred Stock's dividend, liquidation and voting rights, the value of one one-thousandth of a share of Preferred Stock purchasable upon exercise of each Right should approximate the value of one share of Common Stock.

At any time prior to the earlier of the tenth Business Day (or such later date as may be determined by the Board of Directors of the Company) after the Stock Acquisition Date, the Company may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (the "Redemption Price"), payable in cash or stock. Immediately upon the redemption of the Rights or such earlier time as established by the Board in the resolution ordering the redemption of the

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Rights, the Rights will terminate and the only right of the holders of Rights

will be to receive the Redemption Price. The Rights may also be redeemable following certain other circumstances specified in the Rights Agreement.

Until a Right is exercised, the holder thereof, as such, will have no rights as a stockholder of the Company, including, without limitation, the right to vote or to receive dividends. Although the distribution of the Rights should not be taxable to stockholders or to the Company, stockholders may, depending upon the circumstances, recognize taxable income in the event that the Rights become exercisable for Common Stock (or other consideration) of the Company or for common stock of the acquiring company as set forth above.

Any provision of the Rights Agreement, other than the redemption price, may be amended by the Board prior to such time as the Rights are no longer redeemable. Once the Rights are no longer redeemable, the Board's authority to amend the Rights is limited to correcting ambiguities or defective or inconsistent provisions in a manner that does not adversely affect the interest of holders of Rights.

The Rights are intended to protect the stockholders of the Company in the event of an unfair or coercive offer to acquire the Company and to provide the Board with adequate time to evaluate unsolicited offers. The Rights may have anti-takeover effects. The Rights will cause substantial dilution to a person or group that attempts to acquire the Company without conditioning the offer on a substantial number of Rights being acquired. The Rights, however, should not affect any prospective offeror willing to make an offer at a fair price and otherwise in the best interests of the Company and its stockholders, as determined by a majority of the Board. The Rights should not interfere with any merger or other business combination approved by the Board.

A copy of the Rights Agreement has been filed with the Securities and Exchange Commission as an Exhibit to the Company's Current Report on Form 8-K. A copy of the Rights Agreement is available free of charge from the Company. This summary description of the Rights does not purport to be complete and is qualified in its entirety by reference to the Rights Agreement, which is incorporated herein by reference.

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Exhibit 4.3

AMENDMENT NO. 1
TO
RIGHTS AGREEMENT

This AMENDMENT NO. 1 TO RIGHTS AGREEMENT (the "Amendment") is entered into as of August 27, 2003, between Hybridon, Inc., a Delaware corporation (the "Company"), and Mellon Investor Services LLC, a New Jersey limited liability company, as Rights Agent (the "Rights Agent"). Capitalized terms not otherwise defined herein shall have the meanings given them in the Rights Agreement dated as of December 10, 2001, between the parties hereto.

RECITALS

WHEREAS, the Board has determined that it is in the best interest of the Company to amend the Rights Agreement to modify the definition of Acquiring Person to exclude a certain stockholder of the Company from such definition in specified circumstances; and

WHEREAS, the Company has determined that the Rights Agreement be amended in accordance with Section 27 of the Rights Agreement, as set forth herein, and the Rights Agent is hereby directed to join in the amendment to the Rights Agreement as set forth herein.

AGREEMENT

NOW THEREFORE, the parties hereto, intending to be legally bound, hereby agree as follows:

1. Section 1(a) of the Rights Agreement is hereby amended to read in its entirety as follows:

"(a) "Acquiring Person" shall mean any Person who or which, together with all Affiliates and Associates of such Person, shall be the Beneficial Owner of 15% or more of the shares of Common Stock then outstanding, but shall not include (i) the Company, (ii) any Subsidiary

of the Company, (iii) any employee benefit plan of the Company or of any Subsidiary of the Company, (iv) any Person organized, appointed or established by the Company for or pursuant to the terms of any such plan, or (v) an Exempted Person. Notwithstanding the foregoing, (x) no Person shall become an "Acquiring Person" as the result of an acquisition of Common Stock by the Company which, by reducing the number of shares outstanding, increases the proportionate number of shares beneficially owned by such Person to 15% or more of the shares of Common Stock of the Company then outstanding; provided, however that if a Person shall become the Beneficial Owner of 15% or more of the shares of Common Stock of the Company then outstanding as the result of an acquisition of Common Stock by the Company and shall, following written notice from, or public disclosure by the Company of such share purchases by the Company become the Beneficial Owner of any additional Common Stock of the Company and shall then beneficially own 15% or more of the shares of Common Stock then outstanding, then such Person shall be deemed to be an "Acquiring Person" and (y) no Person who was a holder of Series A Preferred Stock on the date of this Agreement shall become an "Acquiring Person" solely as the result of such holder's receipt after the date of this Agreement of additional shares of Series A Preferred Stock as a payment-in-kind dividend (or as a result of the conversion into Common Stock of any such additional shares of Series A Preferred Stock), unless and until such Person becomes the Beneficial

Owner of 15% or more of the shares of Common Stock of the Company then outstanding (disregarding for purposes of this calculation (but not for purposes of any other calculation under this Agreement) (1) any Series A Preferred Stock received by such Person after the date of this Agreement as a payment-in-kind dividend and (2) any shares of Common Stock received by such Person as a result of the conversion into Common Stock of any shares of Series A Preferred Stock referred to in the foregoing clause (1)) and (z) if the Board determines in good faith that a Person who would otherwise be an "Acquiring Person," as defined pursuant to the foregoing provisions of this paragraph (a), has become such inadvertently, and such Person divests as promptly as practicable (as determined in good faith by the Board), but in any event within 15 Business Days, following receipt of written notice from the Company of such event, of Beneficial Ownership of a sufficient number of shares of Common Stock so that such Person would no longer be an "Acquiring Person," as defined pursuant to the foregoing provisions of this paragraph (a), then such Person shall not be deemed to be an "Acquiring Person," for any purposes of this Agreement unless and until such Person shall again become an "Acquiring Person." "

2. Section 1 of the Rights Agreement is hereby amended by adding the following section:

"(oo)"Exempted Person" shall mean Pillar Investment Limited, together with all of its Affiliates and Associates ("Pillar"), unless and until the earlier of such time as Pillar, directly or indirectly, becomes the Beneficial Owner of (x) more than 11,000,000 shares of Common Stock (subject to appropriate adjustment for stock splits, stock dividends, recapitalizations, reclassifications and other similar events affecting the Common Stock) or (y) less than 14% of the Common Stock then outstanding, in either of which event, Pillar immediately shall cease to be an Exempted Person."

3. Section 3(a) of the Rights Agreement is hereby amended by deleting the first sentence of Section 3(a) in its entirety and inserting in lieu thereof the following sentence:

"Section 3. Issuance of Rights.

(a) Until the earlier of (i) the Close of Business on the tenth Business Day (or such later date as may be determined by the Board) after the Stock Acquisition Date (or, if the tenth Business Day after the Stock Acquisition Date occurs before the Record Date, the close of business on the Record Date), or (ii) the Close of Business on the tenth Business Day (or such later date as may be determined by action of the Board) after the date that a tender or exchange offer (other than a Permitted Offer) by any Person (other than the Company, any Subsidiary of the Company, any employee benefit plan of the Company or of any Subsidiary of the Company, or any Person organized, appointed or established by the Company for or pursuant to the terms of any such

plan) is first published or sent or given within the meaning of Rule 14d-2 of the General Rules and Regulations under the Exchange Act, if upon consummation thereof, such Person would be the Beneficial Owner of 15% or more of the shares of Common Stock then outstanding, or in the case of an Exempted Person, more than 11,000,000 shares of Common Stock (subject to appropriate adjustment for stock splits, stock dividends, recapitalizations, reclassifications and other similar events affecting the Common Stock)

(the earlier of (i) and (ii) being herein referred to as the "Distribution Date"), (x) the Rights will be evidenced by the certificates for the Common Stock registered in the names of the holders of the Common Stock (which certificates for Common Stock shall be deemed also to be certificates for Rights) and not by separate certificates, and (y) the Rights will be transferable only in connection with the transfer of the underlying shares of Common Stock (including a transfer to the Company)."

4. Except as amended hereby, the Rights Agreement shall remain unchanged and shall remain in full force and effect.

5. This Amendment may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

6. This Amendment shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be governed by and construed in accordance with the laws of Delaware applicable to contracts made and to be performed entirely within Delaware; provided, however, that all rights, duties and obligations of the Rights Agent shall be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed entirely within such state.

[remainder of page intentionally left blank]

IN WITNESS WHEREOF, the parties have caused this Amendment to be executed by their respective duly authorized representatives as of the date first above written.

HYBRIDON, INC.

By: /s/ Stephen R. Seiler
Name: Stephen R. Seiler
Title: Chief Executive Officer

MELLON INVESTORS SERVICES LLC,
as Rights Agent

By: /s/ Lynore LeConche
Name: Lynore LeConche
Title: Vice President

HALE AND DORR LLP
COUNSELORS AT LAW

haledorr.com
60 STATE STREET * BOSTON, MA 02109
617-526-6000 * FAX 617-526-5000

Exhibit 5.1

October 10, 2003

Hybridon, Inc.
345 Vassar Street
Cambridge, MA 02139-4818

Re: Registration Statement on Form S-2

Ladies and Gentlemen:

This opinion is furnished to you in connection with a Registration Statement on Form S-2 (the "Registration Statement") to be filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of an aggregate of 29,852,703 shares (the "Shares") of Common Stock, \$0.001 par value per share (the "Common Stock"), of Hybridon, Inc., a Delaware corporation (the "Company"). All of the Shares are being registered on behalf of certain stockholders of the Company (the "Selling Stockholders"). The Shares include 20,053,022 shares of Common Stock (the "Issued Shares") that are held by the Selling Stockholders and 9,799,681 shares of Common Stock (the "Warrant Shares") issuable upon the exercise of warrants held by the Selling Stockholders.

We are acting as counsel for the Company in connection with the registration for resale of the Shares. We have examined signed copies of the Registration Statement to be filed with the Commission. We have also examined and relied upon minutes of meetings of the stockholders and the Board of Directors of the Company as provided to us by the Company, stock record books of the Company as provided to us by the Company, the Certificate of Incorporation and By-Laws of the Company, each as restated and/or amended to date, and such other documents as we have deemed necessary for purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents and the legal competence of all signatories to such documents.

Our opinion below, insofar as it relates to the Issued Shares being fully paid, is based solely on a certificate of the Chief Financial Officer of the Company confirming the Company's receipt of the consideration called for by the applicable resolutions authorizing the issuance of such Issued Shares.

Hybridon, Inc.
October 10, 2003
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We assume that the appropriate action will be taken, prior to the offer and sale of the Shares by the Selling Stockholders, to register and qualify the Shares for sale under all applicable state securities or "blue sky" laws.

We express no opinion herein as to the laws of any state or jurisdiction other than the state laws of the Commonwealth of Massachusetts, the General Corporation Law of the State of Delaware and the federal laws of the United States of America.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized, that the Issued Shares are validly issued,

fully paid and nonassessable and that the Warrant Shares, when issued, sold and delivered in accordance with the provisions of the warrants, will be validly issued, fully paid and nonassessable.

It is understood that this opinion is to be used only in connection with the offer and sale of the Shares while the Registration Statement is in effect.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act and to the use of our name therein and in the related prospectus under the caption "Legal Matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ Hale and Dorr LLP

HALE AND DORR LLP

(HYBRIDON LETTERHEAD)

April 18, 2003

PrimeCorp Finance S.A.
17, avenue George V
75008 Paris-France
Attn: Robert Sursock

Pillar Investment Limited
4, rue de Cerisoles
75008 Paris-France
Attn: Youssef El Zein

Gentlemen:

This letter sets forth the terms and conditions of the engagement of PrimeCorp Finance S.A. ("PrimeCorp") and Pillar Investment Limited ("Pillar" and together with PrimeCorp, the "Advisors") as non-exclusive financial advisors to Hybridon, Inc. (the "Company") in connection with the arrangement and negotiation of a private placement of the Company's securities outside of the United States (the "Transaction"). The Advisors, in their capacity as financial advisors for the Company, will identify potential non-U.S. investors and, subject to the Company's prior written approval, contact such potential investors on behalf of the Company and provide such other services in connection with the Transaction as the Company may from time to time reasonably request.

Neither of the Advisors shall contact or initiate any discussions with any party or prospective investor without first identifying such party or prospective investor to the Company and obtaining the Company's prior written approval to make such contact or initiate such discussions (such parties and prospective investors that are approved by the Company, as well as those listed on Exhibit A hereto which shall be deemed to have been approved by the Company, are referred to herein as the "Approved Investors"). Neither Advisor shall have authority under this letter to bind the Company in any way to any party, and nothing contained in this letter shall require the Company to accept the terms of any proposal or undertake any other action that would result in the receipt by the Advisors of a fee hereunder.

Each of the Advisors represents, warrants and covenants to the Company that:

(a) It shall not offer, offer to sell or sell any securities of the Company on the basis of any written communications or documents relating to the Company or its business other than written materials furnished by the Company or previously approved by the Company in writing, including without limitation the Company's filings under the Securities Exchange Act of 1934, as amended (the "Offering Materials"). No communications (whether oral or written) or documents relating to the Company or its business made or delivered by such Advisor shall be inconsistent with the Offering Materials.

(b) It shall not offer, offer to sell or sell any securities of the Company to any investor in the United States or to any United States person outside the United States.

(c) It shall not engage in any form of general solicitation or general advertising which is prohibited by Regulation D ("Regulation D") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), in connection with the Transaction or any directed selling efforts in the United States (as such term is defined in Regulation S ("Regulation S") promulgated under the Securities Act). In addition, such Advisor shall not take any action that might reasonably be expected to jeopardize the availability for the Transaction of the exemption from registration provided by Regulation S or the qualification of securities of the Company for offer and sale under any applicable foreign securities laws.

(d) It shall make reasonable inquiry to determine that

each investor is acquiring the securities of the Company for his or its own account for investment.

(e) In the performance of its services hereunder, it shall comply with the U.S. securities laws and the securities laws in effect in any jurisdiction in which securities of the Company are offered by it and the rules, regulations and orders of any securities administrator existing or adopted thereunder.

(f) It shall not receive, directly or indirectly, any remuneration in respect of any issuance and sale by the Company of its securities in the United States or to any U.S. person.

In the event a Transaction with Approved Investors is completed during the term of this letter, or during the period commencing on the termination or expiration of this letter and ending on March 31, 2004, the Company will (i) pay the Advisors, in the aggregate, a fee in an amount equal to 7% of the Aggregate Value (as defined below) of the Transaction received from Approved Investors and (ii) issue to the Advisors a warrant or warrants (substantially in the form issued to Approved Investors in the Transaction, if applicable, and in any event including antidilution protection for stock splits and other similar events and other customary provisions as agreed by the Company and the Advisors; provided that the term of the warrant or warrants shall not exceed five years) to purchase, in the aggregate, such number of shares of common stock of

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the Company as is equal to 10% of the Issued Shares (as defined below) at an exercise price per share equal to the greater of (a) the exercise price of the warrants issued to Approved Investors in the Transaction, if applicable, and (b) the result obtained by dividing the Aggregate Value by the Issued Shares. The aggregate fee and warrants to be paid to the Advisors hereunder shall be allocated between the Advisors, and delivered by the Company, in accordance with written instructions executed by each of the Advisors and delivered to the Company not later than three business days prior to the closing of the Transaction. The Company shall have no liability or obligation whatsoever under this letter with respect to any investor or other purchaser of the Company's securities other than an Approved Investor.

For the purposes of this letter, (i) the term "Aggregate Value" shall mean the total amount of cash and the fair market value of all other property paid by Approved Investors to the Company in consideration for the securities of the Company to be issued in the Transaction (excluding, however, any payment made in connection with the exercise of any warrants issued to the investors in the Transaction), and (ii) the term "Issued Shares" shall mean the total number of shares of common stock of the Company issued to the Approved Investors in the Transaction (assuming conversion of all securities (excluding warrants and other similar rights) issued to the Investors that are convertible into common stock).

In addition to any fees payable to the Advisors under the terms of this letter, the Company agrees to reimburse the Advisors for their reasonable out-of-pocket expenses incurred in connection with the Advisors' activities under this letter, which shall not exceed \$20,000, in the aggregate, without the Company's prior approval.

The Company hereby acknowledges that, notwithstanding the representations, warranties and covenants set forth above, PrimeCorp has had discussions with certain U.S. entities listed on Exhibit B hereto (such U.S. entities or persons being referred to as the "Permitted U.S. Investors") regarding a private placement of the Company's securities. PrimeCorp hereby represents that it has fully complied with, and hereby covenants and agrees that it will continue to fully comply with, all applicable laws, including U.S. securities laws, with respect to a proposed investment in the Company's securities by the Permitted U.S. Investors, including without limitation Rule 15a-6 ("Rule 15a-6") under the Securities Exchange Act of 1934, as amended, to the extent applicable. PrimeCorp agrees that the Permitted U.S. Investors shall not be deemed "Approved Investors" hereunder and that the Company shall not have any liability or obligation to the Advisors in connection with any investment by the Permitted U.S. Investors in the Company's securities; provided, however, that notwithstanding the foregoing, non-U.S. affiliates of the Permitted U.S. Investors shall be deemed Approved Investors hereunder. The Company and PrimeCorp acknowledge that (i) the Company has engaged SCO Financial Group LLC ("SCO") as a non-exclusive financial advisor and placement agent in connection with the Transaction, (ii) it is contemplated that PrimeCorp will enter into an

arrangement with SCO with respect to the Permitted U.S. Investors pursuant to which SCO shall pay to PrimeCorp a portion of any fee SCO receives from the Company in connection with the sale of securities to the Permitted U.S. Investors, if any, and (iii) if the sales of securities contemplated by clause (ii) occur, such sales shall be facilitated by SCO and shall otherwise comply with all applicable U.S. securities laws, including without limitation Rule 15a-6. If the Company or PrimeCorp terminates its arrangements with SCO, the Company and/or PrimeCorp shall use reasonable

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efforts to identify a registered broker-dealer in the United States satisfactory to the Company which would be willing to participate in the Transaction with PrimeCorp in accordance with Rule 15a-6 and to engage such broker-dealer on terms comparable to the terms hereof which such broker-dealer would agree to allow PrimeCorp to participate in the Transaction in accordance with Rule 15a-6. PrimeCorp hereby agrees that it shall not, directly or indirectly, pay, or otherwise compensate Pillar or any of its affiliates in respect of any sale by the Company of its securities to the Permitted U.S. Investors.

The Company agrees to indemnify the Advisors and each of their respective affiliates and directors, officers, employees, agents and controlling persons (each such person being an "Indemnified Party") from and against any and all losses, claims, damages and liabilities, joint or several, to which such Indemnified Party may become subject under any applicable federal or state law, or otherwise, related to or arising out of the engagement of the Advisors pursuant to, and the performance by the Advisors of the services contemplated by, this letter and will, subject to the limitation set forth below, reimburse any Indemnified Party for all expenses (including reasonable counsel fees and expenses, whether incurred in connection with third party claims or direct claims against the Company) as they are incurred in connection with the investigation of, preparation for or defense of any pending or threatened claim or any action or proceeding arising therefrom, whether or not such Indemnified Party is a party. The Company will not be liable under the foregoing indemnification provision to the extent that any loss, claim, damage, liability or expense is found in a final judgment by a court of competent jurisdiction to have resulted from an Indemnified Party's breach of this letter, bad faith, willful misfeasance, gross negligence or reckless disregard of its obligations or duties. No Indemnified Party shall settle any claim for which indemnification may be sought by him or it hereunder without the prior written consent of the Company. The Company's obligations to indemnify pursuant hereto shall be limited to the Indemnified Party's actual liabilities, losses, damages or expenses incurred and shall not include any consequential damages or damages for loss of business or reputation.

The Company will have the right, at its option, to assume the defense of any litigation or proceeding in respect of which indemnity may be sought hereunder, including the employment of counsel reasonably satisfactory to each of the Advisors (the Advisors hereby agree that Hale and Dorr LLP is satisfactory to the Advisors) and the payment of the fees and expenses of such counsel, in which event, except as provided below, the Company shall not be liable for the fees and expenses of any other counsel retained by any Indemnified Person in connection with such litigation or proceeding. In any such litigation or proceeding the defense of which the Company shall have so assumed, any Indemnified Person shall have the right to participate in such litigation or proceeding and to retain its own counsel.

Upon receipt by an Indemnified Person of actual notice of a claim, action or proceeding against such Indemnified Person in respect of which indemnity may be sought hereunder, such Indemnified Person shall promptly notify the Company with respect thereto. In addition, an Indemnified Person shall promptly notify the Company after any action is commenced (by the way of service with a summons or other legal process giving information as to the nature and basis of the claim) against such Indemnified Person in respect of which indemnity may be sought hereunder. In any event, failure to notify the Company shall not relieve the Company from any

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liability which the Company may have on account of this indemnity or otherwise, except to the extent the Company shall have been prejudiced by such failure.

In the course of their services, each of the Advisors will have access

to Confidential Information (as defined below) concerning the Company. Each Advisor agrees that all Confidential Information will be treated by the Advisor as confidential in all respects. The term "Confidential Information" shall mean all information, whether written or oral, which is disclosed by the Company or its affiliates, agents or representatives to the Advisor in connection with its role as financial advisor to the Company which is not in the public domain, but shall not include: (i) information which, prior to disclosure to the Advisor, was already in the Advisor's possession and was not otherwise subject to an obligation of confidentiality; (ii) information which is publicly disclosed other than by the Advisor in violation of this letter; (iii) information which is obtained by the Advisor from a third party that (x) the Advisor does not know to have violated, or to have obtained such information in violation of, any obligation to the Company or its affiliates with respect to such information, and (y) does not require the Advisor to refrain from disclosing such information; and (iv) information which is required to be disclosed by the Advisor or its outside counsel under compulsion of law (whether by oral question, interrogatory, subpoena, civil investigative demand or otherwise) or by order of any court or governmental or regulatory body to whose supervisory authority the Advisor is subject; provided that, in such circumstance, the Advisor will give the Company prior written notice of such disclosure and cooperate with the Company to minimize the scope of any such disclosure. Each Advisor's obligation under this paragraph shall survive the expiration, termination or completion of this letter or the Advisor's engagement hereunder.

The Advisors' engagement hereunder and this letter shall terminate on the earlier of (i) June 30, 2003 or (ii) written notice of termination by the Company to the Advisors or by the Advisors to the Company, it being understood that the provisions relating to the payment of fees and expenses, confidentiality and indemnification will survive any such termination, provided that if (i) the Company terminates this letter as a result of a failure by the Advisor to perform the services reasonably requested by the Company pursuant to this letter in a professional and businesslike manner, (ii) the Company terminates this letter as a result of a material breach by an Advisor of its obligations pursuant to this letter or (iii) the Advisors terminate this letter other than as a result of a material breach of this letter by the Company, the provisions relating to the payment of fees after termination of this letter shall not survive any such termination and the Company shall not have any further liability or obligation thereunder.

This letter shall be construed and interpreted in accordance with the laws of the Commonwealth of Massachusetts. This letter constitutes the entire agreement of the parties with respect to the subject matter hereof.

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If the foregoing is in accordance with your understanding, please confirm acceptance by signing and returning to us the duplicate of this letter attached herewith.

Sincerely,

HYBRIDON, INC.

By: /s/ Stephen R. Seiler

Name: Stephen R. Seiler
Title: Chief Executive Officer

AGREED AND ACCEPTED AS OF
THE DATE SET FORTH ABOVE BY:

PRIMECORP FINANCE S.A.

By: /s/ Robert Sursock

Title: _____

PILLAR INVESTMENT LIMITED

By: /s/ Youssef El-Zein

Title: Director

EXHIBIT A

Approved Investors

Pillar Biotechnology S.A.

Non-US Affiliates of CIC Group, Inc.

EXHIBIT B

Permitted Investors

Anthem Venture Partners

CIC Group, Inc.

HYBRIDON, INC.

REGISTRATION RIGHTS AGREEMENT

dated as of August 28, 2003

HYBRIDON, INC.

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this "Agreement") is entered into as of August 28, 2003 by and among Hybridon, Inc., a Delaware corporation (the "Company"), the persons and entities listed on the Schedule of Purchasers attached hereto as Exhibit A (the "Purchasers") and the entities listed on the Schedule of Agents attached hereto as Exhibit B (the "Agents"). The Purchasers and the Agents shall become parties to this Agreement by the execution and delivery of counterpart signature pages hereto in a form reasonably satisfactory to the Company.

WHEREAS, the Company is conducting an offering of Units (the "Unit Offering"), with each Unit consisting of shares of the Company's common stock, \$.001 par value per share ("Common Stock"), and warrants to purchase shares of Common Stock (the "Purchaser Warrants"), as described in the Private Placement Memorandum dated July 22, 2003;

WHEREAS, in connection with the Unit Offering, the Company has engaged the Agents and has agreed to issue to the Agents warrants to purchase Common Stock (the "Agent Warrants"); and

WHEREAS, to induce the Purchasers to purchase Units in the Unit Offering and the Agents to assist the Company in the Unit Offering, the Company has agreed to provide certain registration rights under the Securities Act (as defined below) and applicable state securities laws;

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and each of the Purchasers and the Agents hereby agree as follows:

1. Certain Definitions. As used in this Agreement, the following terms shall have the following meanings:

(a) "Business Day" means any day other than Saturday, Sunday or any other day on which commercial banks in The City of New York are required by law to remain closed.

(b) "Commission" means the Securities and Exchange Commission, or any other federal agency at the time administering the Securities Act.

(c) "Exchange Act" means the Securities Exchange Act of 1934, as amended, or any successor federal statute, and the rules and regulations of the Commission issued under such Act, as they each may, from time to time, be in effect.

(d) "Indemnified Party" means a party entitled to indemnification pursuant to Section 7.

(e) "Indemnifying Party" means a party obligated to provide indemnification pursuant to Section 7.

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(f) "Person" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization or association and governmental or any department or agency thereof.

(g) "Registrable Securities" means (i) the shares of

Common Stock issued as part of the Units issued pursuant to the Unit Offering, (ii) the shares of Common Stock issued or issuable upon exercise of the Purchaser Warrants and the Agent Warrants and (iii) any other shares of Common Stock issued in respect of such shares (as a result of a stock split, stock dividend, reclassification, recapitalization or other similar transaction affecting the Common Stock); provided, however, that shares of Common Stock that are Registrable Securities shall cease to be Registrable Securities upon the earliest of (A) the date that such shares are eligible to be sold under Rule 144 of the Securities Act without restriction by the volume limitations of Rule 144(e) of the Securities Act, (B) the date that such shares are sold (I) pursuant to a registration statement, (II) to or through a broker, dealer or underwriter in a public securities transaction and/or (III) in a transaction exempt from the registration and prospectus delivery requirements of the Securities Act such that all transfer restrictions and restrictive legends with respect thereto, if any, are removed upon the consummation of such sale, or (C) any sale or transfer to any Person which by virtue of Section 9 of this Agreement is not entitled to the rights provided by this Agreement. Wherever reference is made in this Agreement to a request or consent of holders of a certain percentage of Registrable Securities, the determination of such percentage shall include shares of Common Stock issuable upon exercise of the Purchaser Warrants and the Agent Warrants even if such exercise has not been effected.

(h) "Registration Statement" means a registration statement of the Company filed under the Securities Act and covering the Registrable Securities.

(i) "Rightsholders" means the Purchasers, the Agents and any persons or entities to whom the rights granted under this Agreement are transferred by any Purchaser, Agent or his or its successors or assigns pursuant to Section 9 of this Agreement.

(j) "Securities Act" means the Securities Act of 1933, as amended, or any successor federal statute, and the rules and regulations of the Commission issued under such Act, as they each may, from time to time, be in effect.

2. Registration

(a) The Company shall use its best efforts to prepare and file with the Commission a Registration Statement covering the resale of all of the Registrable Securities and such other shares of Common Stock as the Company may be required to include pursuant to registration rights agreements with other Persons within 45 days of the date hereof. The Company shall use its best efforts to have the Registration Statement declared effective by the Commission within 90 days after the date the Registration Statement is filed.

(b) The Company shall use its best efforts to cause the Registration Statement to remain effective until the earlier of (i) the second anniversary of the date hereof and (ii) the date on which the Rightsholders do not hold any Registrable Securities.

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(c) The Company agrees that, in the event that the Company has not filed the Registration Statement with the Commission within 135 days after the date hereof (such event being referred to as a "Registration Default"), then, within five Business Days after the date 135 days after the date hereof and after the end of each 30-day period thereafter, to the extent the Registration Statement has not been filed as of the applicable date, the Company shall pay to each Purchaser an amount in cash equal to 1% of the aggregate purchase price paid by the Purchaser for its Units in the Unit Offering. If the Company breaches Section 2(a) of this Agreement and if the Company is judged to be liable to a Purchaser for damages as a result of such breach, the Company shall be entitled to offset the total amount paid to the Purchaser under this paragraph (c) against any payment of damages it is obligated to make to such Purchaser.

3. Registration Procedures.

(a) In connection with the effectiveness of the Registration Statement, the Company shall furnish to each Rightsholder such reasonable numbers of copies of the prospectus and such documents incident thereto, including any amendment of or supplement to the prospectus, as a

Rightsholder from time to time may reasonably request in order to facilitate the disposition of such Rightsholder's Registrable Securities under the Registration Statement in conformity with the requirements of the Securities Act.

(b) The Company shall use its best efforts to register or qualify the Registrable Securities covered by the Registration Statement under the securities laws of each state of the United States; provided, however, that the Company shall not be required in connection with this paragraph (b) to qualify as a foreign corporation or execute a general consent to service of process in any jurisdiction.

(c) If the Company has delivered preliminary or final prospectuses to the Rightsholders and if after having done so the Company determines that the prospectus and/or the Registration Statement needs to be amended or supplemented to comply with the requirements of the Securities Act, the Company shall promptly notify the Rightsholders and, if requested by the Company, the Rightsholders shall immediately cease making offers or sales of shares under the Registration Statement and shall return all prospectuses to the Company. The Company shall as promptly as reasonably practicable prepare and file with the Commission any required amendment or supplement and following such filing, and, if applicable, the effectiveness of such filing, shall provide the Rightsholders with revised or supplemented prospectuses. Following receipt of the revised or supplemented prospectuses, the Rightsholders shall be free to resume making offers and sales under the Registration Statement.

(d) The Company shall use its best efforts to cause all such Registrable Securities registered pursuant to this Agreement to be listed on each securities exchange on which similar securities issued by the Company are then listed.

4. Limitations on Registration Rights.

(a) The Company may, by written notice to the Rightsholders, suspend the Registration Statement after effectiveness and require that the Rightsholders immediately cease sales of shares pursuant to the Registration Statement, in the event that the Company is engaged

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in any activity or transaction or preparations or negotiations for any activity or transaction that the Company desires to keep confidential for business reasons, if the Company determines in good faith that the public disclosure requirements imposed on the Company under the Securities Act in connection with the Registration Statement would require disclosure of such activity, transaction, preparations or negotiations.

(b) If the Company requires the Rightsholders to cease sales of shares pursuant to paragraph (a) above, the Company shall, as promptly as practicable following the termination of the circumstance which entitled the Company to do so, take such actions as may be necessary to reinstate the effectiveness of the Registration Statement and/or give written notice to all Rightsholders authorizing them to resume sales pursuant to the Registration Statement. If as a result thereof the prospectus included in the Registration Statement has been amended to comply with the requirements of the Securities Act, the Company shall enclose such revised prospectus with the notice to Rightsholders given pursuant to this paragraph (b), and the Rightsholders shall make no offers or sales of shares pursuant to the Registration Statement other than by means of such revised prospectus.

(c) Notwithstanding the foregoing, the Company may not suspend the Registration Statement pursuant to paragraph (a) above on more than two occasions during any 12-month period or for more than 60 days per such occasion.

5. Obligations of the Rightsholders.

(a) The Company shall not be required to include any Registrable Securities in the Registration Statement unless such Rightsholder shall have furnished to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it as shall be reasonably required by the Company to effect the effectiveness of the Registration Statement and unless such Rightsholder shall have executed such documents in connection with the Registration Statement as the Company may reasonably request. Each Rightsholder

shall promptly notify the Company of any material change with respect to such information previously provided to the Company by such Rightsholder, including without limitation notice of the sale by the Rightsholder of any Registrable Securities.

(b) Each Rightsholder agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of the Registration Statement hereunder.

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6. Expenses of Registration. The Company shall pay the expenses incurred by it in complying with its obligations under this Agreement, including all registration and filing fees, exchange listing fees, fees and expenses of counsel for the Company, and fees and expenses of accountants for the Company, but excluding (i) any brokerage fees, selling commissions or underwriting discounts incurred by the Rightsholders in connection with sales under the Registration Statement and (ii) the fees and expenses of any counsel retained by Rightsholders.

7. Indemnification and Contribution.

(a) In the event of any registration of any of the Registrable Securities under the Securities Act pursuant to this Agreement, the Company will indemnify and hold harmless each Rightsholder, each of its officers, directors and partners, and each underwriter of such Registrable Securities, if any, and each other person, if any, who controls such Rightsholder or underwriter within the meaning of the Securities Act or the Exchange Act against any and all losses, claims, damages or liabilities, joint or several, to which such Rightsholder, underwriter or controlling person may become subject under the Securities Act, the Exchange Act, state securities or Blue Sky laws or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in the Registration Statement, any preliminary prospectus or final prospectus contained in the Registration Statement, or any amendment or supplement to such Registration Statement or (ii) the omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading; and the Company will reimburse such Rightsholder, underwriter and each such controlling person for any legal or any other expenses reasonably incurred by such Rightsholder, underwriter or controlling person in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of or is based upon any untrue statement or omission made in such Registration Statement, preliminary prospectus or prospectus, or any such amendment or supplement, in reliance upon and in conformity with information furnished to the Company by or on behalf of such Rightsholder, underwriter or controlling person and stated to be specifically for use in connection with the Registration Statement.

(b) Each Rightsholder, severally and not jointly, will indemnify and hold harmless the Company, each of its directors and officers and each underwriter (if any) and each person, if any, who controls the Company or any such underwriter within the meaning of the Securities Act or the Exchange Act, against any losses, claims, damages or liabilities, joint or several, to which the Company, such directors and officers, underwriter or controlling person may become subject under the Securities Act, Exchange Act, state securities or Blue Sky laws or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, any preliminary prospectus or final prospectus contained in the Registration Statement, or any amendment or supplement to the Registration Statement, or (ii) any omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, if and to the extent (and only to the extent) that the statement or omission was made in reliance upon and in conformity with written information relating to such Rightsholder furnished to the Company by such

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Rightsholder and stated to be specifically for use in connection with such

Registration Statement, prospectus, amendment or supplement; provided, however, that the obligations of a Rightsholder hereunder shall be limited to an amount equal to the net proceeds to such Rightsholder of Registrable Securities sold in connection with such registration.

(c) Each Indemnified Party shall give notice to the Indemnifying Party promptly after such Indemnified Party has actual knowledge of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party to assume the defense of any such claim or any litigation resulting therefrom; provided, that counsel for the Indemnifying Party, who shall conduct the defense of such claim or litigation, shall be approved by the Indemnified Party (whose approval shall not be unreasonably withheld, conditioned or delayed); and, provided, further, that the failure of any Indemnified Party to give notice as provided herein shall not relieve the Indemnifying Party of its obligations under this Section 7 except to the extent that the Indemnifying Party is adversely affected by such failure. The Indemnified Party may participate in such defense at such party's expense; provided, however, that the Indemnifying Party shall pay such expense if the Indemnified Party reasonably concludes based upon written advice of its counsel that representation of such Indemnified Party by the counsel retained by the Indemnifying Party would be inappropriate due to actual or potential differing interests between the Indemnified Party and any other party represented by such counsel in such proceeding; provided further that in no event shall the Indemnifying Party be required to pay the expenses of more than one law firm per jurisdiction as counsel for the Indemnified Party. The Indemnifying Party also shall be responsible for the expenses of such defense if the Indemnifying Party does not elect to assume such defense. No Indemnifying Party, in the defense of any such claim or litigation shall, except with the consent of each Indemnified Party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party of a release from all liability in respect of such claim or litigation, and no Indemnified Party shall consent to entry of any judgment or settle such claim or litigation without the prior written consent of the Indemnifying Party, which consent shall not be unreasonably withheld, conditioned or delayed.

(d) In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in this Section 7 is due in accordance with its terms but for any reason is held to be unavailable to an Indemnified Party in respect to any losses, claims, damages and liabilities referred to herein, then the Indemnifying Party shall, in lieu of indemnifying such Indemnified Party, contribute to the amount paid or payable by such Indemnified Party as a result of such losses, claims, damages or liabilities to which such party may be subject in such proportion as is appropriate to reflect the relative fault of the Company on the one hand and the Rightsholders on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative fault of the Company and the Rightsholders shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of material fact related to information supplied by the Company or the Rightsholders and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Rightsholders agree that it would not be just and equitable if contribution pursuant to this Section 7(d) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above. Notwithstanding the provisions of this Section 7(d), (i) in no case shall any

one Rightsholder be liable or responsible for any amount in excess of the gross proceeds received by such Rightsholder from the offering of Registrable Securities and (ii) the Company shall be liable and responsible for any amount in excess of such proceeds; provided, however, that no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. Any party entitled to contribution will, promptly after receipt of notice of commencement of any action, suit or proceeding against such party in respect of which a claim for contribution may be made against another party or parties under this Section 7(d), notify such party or parties from whom contribution may be sought, but the omission so to notify such party or parties from whom contribution may be sought shall not relieve such party from any other obligation it or they may have thereunder or otherwise under this Section 7(d) except to the extent that the party or parties

from whom contribution may be sought are adversely affected. No party shall be liable for contribution with respect to any action, suit, proceeding or claim settled without its prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed.

8. Reporting. With a view to making available to the Rightsholders the benefits of Rule 144 promulgated under the Securities Act or any other similar rule or regulation of the Commission that may at any time permit the Rightsholders to sell securities of the Company to the public without registration ("Rule 144"), for so long as Rightsholders continue to own Registrable Securities, the Company shall use its reasonable efforts to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144 and file with the Commission in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act; and

(b) furnish to each Rightsholder, for so long as such Rightsholder owns Registrable Securities, promptly upon request, (i) a written statement by the Company, if true, that it has complied with the applicable reporting requirements of Rule 144, the Securities Act and the Exchange Act, (ii) a copy of the most recent annual or quarterly report of the Company and (iii) such other information as may be reasonably requested to permit the Rightsholders to sell such securities pursuant to Rule 144 without registration.

9. Assignment of Registration Rights. The rights under this Agreement shall not be assigned by any Rightsholder except in connection with the transfer of Registrable Securities by such Rightsholder to an affiliate of such Rightsholder, provided that (i) the Rightsholder agrees in writing with the transferee or assignee to assign such rights, and a copy of such agreement is furnished to the Company; (ii) the Company is furnished with written notice of (a) the name and address of such transferee or assignee, and (b) the securities with respect to which such rights are being transferred or assigned; (iii) at or before the time the Company receives the written notice contemplated by clause (ii) of this sentence, the transferee or assignee agrees in writing with the Company to be bound by all of the obligations of an Rightsholder under this Agreement; and (iv) such transfer shall have been conducted in accordance with all applicable federal and state securities laws.

10. Amendment of Registration Rights.

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(a) Any provision of this Agreement may be amended and the observance of any provision of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and Rightsholders who then hold at least a majority of the Registrable Securities. Any amendment or waiver effected in accordance with this Section 10 shall be binding upon each Rightsholder and the Company. No such amendment shall be effective to the extent that it applies to less than all of the holders of the Registrable Securities. No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any of this Agreement unless the same consideration also is offered to all of the parties to this Agreement.

(b) In the event that the Company issues and sells Units as part of the Unit Offering after the date hereof, the Company shall have the right to amend this Agreement without the consent of the Rightsholders to include the purchasers of such Units in this Agreement as Purchasers and Rightsholders and any placement agent or selected dealer that receives warrants in connection with the sale of such Units as an Agent and Rightsholder and in connection therewith to modify the Schedule of Purchasers to include such Purchaser and the Schedule of Agents to include such Agent.

11. Miscellaneous.

(a) A Person is deemed to be a holder of Registrable Securities whenever such Person owns or is deemed to own of record such Registrable Securities. If the Company receives conflicting instructions, notices or elections from two or more Persons with respect to the same Registrable Securities, the Company shall act upon the basis of instructions, notice or election received from the record owner of such Registrable Securities.

(b) Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile; or (iii) two (2) Business Days after deposit with a reputable overnight delivery service, in each case properly addressed to the party to receive the same. The addresses and facsimile numbers for such communications shall be:

If to the Company:

Hybridon, Inc.
345 Vassar Street
Cambridge, MA 02139-4818
Telephone: 617-679-5500
Facsimile: 617-679-5592
Attention: Chief Executive Officer

with a copy to:

Hale and Dorr LLP
60 State Street

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Boston, MA 02109
Telephone: 617-526-6000
Facsimile: 617-526-5000
Attention: David E. Redlick, Esq.

If to a Rightsholder, to its address and facsimile number set forth on the Schedule of Purchasers or on the Schedule of Agents, as the case may be, or to such other address and/or facsimile number and/or to the attention of such other Person as the recipient party has specified by written notice given to each other party five (5) days prior to the effectiveness of such change.

Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine containing the time, date, recipient facsimile number and an image of the first page of such transmission, or (C) provided by a courier or overnight courier service shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a reputable overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(c) Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

(d) All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of Delaware, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Delaware or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Delaware.

(e) This Agreement and the documents referenced herein constitute the entire agreement among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement and the documents referenced herein supersede all prior agreements and understandings among the parties hereto with respect to the subject matter hereof.

(f) Subject to the requirements of Section 9 of this Agreement, this Agreement shall inure to the benefit of and be binding upon the permitted successors and assigns of each of the parties hereto.

(g) The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(h) This Agreement may be executed in identical counterparts, each of which shall be deemed an original but all of which shall constitute one and the same agreement. This Agreement, once executed by a party,

may be delivered to the other parties hereto by facsimile

transmission of a copy of this Agreement bearing the signature of the party so delivering this Agreement.

(i) Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(j) All consents and other determinations required to be made by the Rightsholders pursuant to this Agreement shall be made, unless otherwise specified in this Agreement, by Rightsholders holding at least a majority of the Registrable Securities.

(k) The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent and no rules of strict construction will be applied against any party.

(l) This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

IN WITNESS WHEREOF, the parties have caused this Registration Rights Agreement to be duly executed as of the day and year first above written.

COMPANY:

HYBRIDON, INC.

By: /s/ Stephen R. Seiler

Name: Stephen R. Seiler
Title: Chief Executive Officer

PURCHASERS:

Counterpart signature pages attached.

AGENTS:

Counterpart signature pages attached.

Exhibit A

Schedule of Purchasers

Name and Address

Registrable Securities

Exhibit B

Schedule of Agents

Name and Address

Registrable Securities

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUED UPON ITS EXERCISE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS AND UNTIL SUCH WARRANT AND THE SHARES OF COMMON STOCK ISSUED UPON ITS EXERCISE ARE REGISTERED UNDER SUCH ACT OR AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY IS OBTAINED TO THE EFFECT THAT SUCH REGISTRATION IS NOT REQUIRED.

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUED UPON ITS EXERCISE ARE SUBJECT TO THE RESTRICTIONS ON TRANSFER SET FORTH IN SECTION 5 OF THIS WARRANT

Warrant No. Number of Shares:
(subject to adjustment)
Date of Issuance: August 28, 2003

HYBRIDON, INC.

Common Stock Purchase Warrant

(Void after August 28, 2008)

Hybridon, Inc., a Delaware corporation (the "Company"), for value received, hereby certifies that _____, or his or its registered assigns (the "Registered Holder"), is entitled, subject to the terms and conditions set forth below, to purchase from the Company, at any time or from time to time on or after the date of issuance and on or before 5:00 p.m. (Boston time) on August 28, 2008, _____ shares of Common Stock, \$0.001 par value per share, of the Company ("Common Stock"), at a purchase price of \$1.00 per share. The shares purchasable upon exercise of this Warrant, and the purchase price per share, each as adjusted from time to time pursuant to the provisions of this Warrant, are hereinafter referred to as the "Warrant Shares" and the "Purchase Price," respectively.

1. Exercise.

(a) Exercise for Cash. The Registered Holder may, at its option, elect to exercise this Warrant, in whole or in part and at any time or from time to time, by surrendering this Warrant, with the purchase form appended hereto as Exhibit I duly executed by or on behalf of the Registered Holder, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full, in lawful money of the United States, of the Purchase Price payable in respect of the number of Warrant Shares purchased upon such exercise.

(b) Cashless Exercise.

(i) The Registered Holder may, at its option, elect to exercise this Warrant, in whole or in part and at any time or from time to time, on a cashless basis, by surrendering this Warrant, with the purchase form appended hereto as Exhibit I duly executed by

or on behalf of the Registered Holder, at the principal office of the Company, or at such other office or agency as the Company may designate, by canceling a portion of this Warrant in payment of the Purchase Price payable in respect of the number of Warrant Shares purchased upon such exercise. In the event of an exercise pursuant to this subsection 1(b), the number of Warrant Shares issued to the Registered Holder shall be determined according to the following formula:

$$X = \frac{Y(A-B)}{A}$$

Where: X = the number of Warrant Shares that shall be issued to the Registered Holder;

Y = the number of Warrant Shares for which this Warrant is being exercised (which shall include both the number of Warrant Shares issued to the Registered Holder and the number of Warrant Shares subject to the portion of the Warrant being cancelled in payment of the Purchase Price);

A = the Fair Market Value (as defined below) of one share of Common Stock; and

B = the Purchase Price then in effect.

(ii) The "Fair Market Value" per share of Common Stock shall be determined as follows:

(1) If the Common Stock is listed on a national securities exchange, the Nasdaq National Market, the Nasdaq SmallCap Market, the OTC Bulletin Board or another nationally recognized trading system as of the Exercise Date, the Fair Market Value per share of Common Stock shall be deemed to be the average of the high and low reported sale prices per share of Common Stock thereon for the five consecutive trading day period immediately preceding the Exercise Date (as defined below); provided that if the Common Stock is not so listed during such period, the Fair Market Value per share of Common Stock shall be determined pursuant to clause (2).

(2) If the Common Stock is not listed on a national securities exchange, the Nasdaq National Market, the Nasdaq SmallCap Market, the OTC Bulletin Board or another nationally recognized trading system as of the Exercise Date, the Fair Market Value per share of Common Stock shall be deemed to be the amount most recently determined by the Board of Directors of the Company or an authorized committee of the Board of Directors of the Company (the "Board") to represent the fair market value per share of the Common Stock (including without limitation a determination for purposes of granting Common Stock options or issuing Common Stock under any plan, agreement or arrangement with employees of the Company); and, upon request of the Registered Holder, the Board (or a representative thereof) shall, as promptly as reasonably practicable but in any event not later than 15 days after such request, notify the Registered Holder of the Fair Market Value per share of Common Stock. Notwithstanding the foregoing, if the Board has not made such a determination within the three-

-2-

month period prior to the Exercise Date, then (A) the Board shall make, and shall provide or cause to be provided to the Registered Holder notice of, a determination of the Fair Market Value per share of the Common Stock within 15 days of a request by the Registered Holder that it do so, and (B) the exercise of this Warrant pursuant to this subsection 1(b) shall be delayed until such determination is made and notice thereof is provided to the Registered Holder.

(c) Exercise Date. Each exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in subsection 1(a) or 1(b) above (the "Exercise Date"). At such time, the person or persons in whose name or names any certificates for Warrant Shares shall be issuable upon such exercise as provided in subsection 1(d) below shall be deemed to have become the holder or holders of record of the Warrant Shares represented by such certificates.

(d) Issuance of Certificates. As soon as practicable after the exercise of this Warrant in whole or in part, and in any event within 10 days thereafter, the Company, at its expense, will cause to be issued in the name of, and delivered to, the Registered Holder, or as the Registered Holder (upon payment by the Registered Holder of any applicable transfer taxes) may direct:

(i) a certificate or certificates for the number of full Warrant Shares to which the Registered Holder shall be entitled upon such exercise plus, in lieu of any fractional share to which the Registered Holder would otherwise be entitled, cash in an amount determined pursuant to Section 3 hereof; and

(ii) in case such exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the face or faces thereof for the number of Warrant Shares equal (without giving effect to any adjustment therein) to the number of such shares called for on the face of this Warrant minus the number of Warrant Shares for which this Warrant was so exercised (which, in the case of an exercise pursuant to subsection 1(b), shall include both the number of Warrant Shares issued to the Registered Holder pursuant to such partial exercise and the number of Warrant Shares subject to the portion of the Warrant being cancelled in payment of the Purchase Price).

(e) Exercise by Non-U.S. Person. It shall be a condition to the exercise of this Warrant by a Registered Holder that is not a U.S. Person (as defined under the Securities Act of 1933, as amended (the "Act")) that such Registered Holder certify in writing to the Company that it is not a U.S. Person and that this Warrant is not being exercised on behalf of a U.S. Person.

2. Adjustments.

(a) Adjustment for Stock Splits and Combinations. If the Company shall at any time, or from time to time after the date on which this Warrant was first issued (or, if this Warrant was issued upon partial exercise of, or in replacement of, another warrant of like tenor, then the date on which such original warrant was first issued) (either such date being referred to as the "Original Issue Date") effect a subdivision of the outstanding Common Stock, the

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Purchase Price then in effect immediately before that subdivision shall be proportionately decreased. If the Company shall at any time, or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the Purchase Price then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision or combination becomes effective.

(b) Adjustment for Certain Dividends and Distributions. In the event the Company at any time, or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Purchase Price then in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Purchase Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

provided, however, that if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Purchase Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Purchase Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends or distributions.

(c) Adjustment in Number of Warrant Shares. When any adjustment is required to be made in the Purchase Price pursuant to subsections 2(a) or 2(b) above, the number of Warrant Shares purchasable upon the exercise of this Warrant shall be changed to the number determined by dividing (i) an amount equal to the number of shares issuable upon the exercise of this Warrant immediately prior to such adjustment, multiplied by the Purchase Price in effect immediately prior to such adjustment, by (ii) the Purchase Price in effect immediately after such adjustment.

(d) Adjustments for Other Dividends and Distributions. In the event the Company at any time, or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Company (other than shares of Common Stock) or in cash or other property (other than regular cash dividends paid out of earnings or earned surplus, determined in accordance with generally accepted accounting principles), then and in each such event provision shall be made so that the Registered Holder shall receive upon exercise hereof, in addition to the number of shares of Common Stock

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issuable hereunder, the kind and amount of securities of the Company, cash or other property which the Registered Holder would have been entitled to receive had this Warrant been exercised on the date of such event and had the Registered Holder thereafter, during the period from the date of such event to and including the Exercise Date, retained any such securities receivable during such period, giving application to all adjustments called for during such period under this Section 2 with respect to the rights of the Registered Holder.

(e) Adjustment for Reorganization. If there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Company in which the Common Stock is converted into or exchanged for securities, cash or other property (other than a transaction covered by subsections 2(a), 2(b) or 2(d)) (collectively, a "Reorganization"), then, following such Reorganization, the Registered Holder shall receive upon exercise hereof the kind and amount of securities, cash or other property which the Registered Holder would have been entitled to receive pursuant to such Reorganization if such exercise had taken place immediately prior to such Reorganization. In any such case, appropriate adjustment (as determined in good faith by the Board) shall be made in the application of the provisions set forth herein with respect to the rights and interests thereafter of the Registered Holder, to the end that the provisions set forth in this Section 2 (including provisions with respect to changes in and other adjustments of the Purchase Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities, cash or other property thereafter deliverable upon the exercise of this Warrant.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Purchase Price pursuant to this Section 2, the Company at its expense shall, as promptly as reasonably practicable but in any event not later than 30 days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to the Registered Holder a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property for which this Warrant shall be exercisable and the Purchase Price) and showing in detail the facts upon which such adjustment or readjustment is based. The Company shall, as promptly as reasonably practicable after the written request at any time of the Registered Holder (but in any event not later than 30 days thereafter), furnish or cause to be furnished to the Registered Holder a certificate setting forth (i) the Purchase Price then in effect and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the exercise of this Warrant.

3. Fractional Shares. The Company shall not be required upon the exercise of this Warrant to issue any fractional shares, but shall pay the value thereof to the Registered Holder in cash on the basis of the Fair Market Value per share of Common Stock, as determined pursuant to subsection 1(b)(ii) above.

4. Redemption of Warrants.

(a) Subject to the terms of this Section 4, the Company shall have the right, to redeem this Warrant for a redemption price (the "Redemption Price") equal to the result obtained by multiplying (i) \$0.05 by (ii) the number of Warrant Shares that the Registered Holder is entitled to purchase upon exercise of this Warrant immediately prior to the termination of this Warrant under Section 4(d) below (such Redemption Price being subject to adjustment for stock

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splits, stock dividends, combinations, recapitalizations, reclassifications, and similar transactions affecting the Common Stock).

(b) The Company shall exercise this redemption right by providing at least 30 days' prior written notice to the Registered Holder of such redemption (the "Redemption Notice"). Such Redemption Notice shall be provided to the Registered Holder in accordance with Section 10 of this Warrant. The Redemption Notice shall specify the time, manner and place of redemption, including without limitation the date on which this Warrant shall be redeemed (the "Redemption Date") and the Redemption Price payable to the Registered Holder (assuming that this Warrant is not exercised on or prior to the Redemption Date).

(c) Notwithstanding the foregoing, the Company may not redeem this Warrant or provide the Redemption Notice to the Registered Holder unless (i) the average of the closing bid prices of the Common Stock over a ten consecutive

trading day period ending within 30 days prior to the date the Company provides the Redemption Notice to the Registered Holder is greater than or equal to 200% of the Purchase Price and (ii) the resale of the Warrant Shares was registered under the Act, as provided under the Registration Rights Agreement dated as of August 28, 2003 by and among the Company and the Rightsholders (as defined therein).

(d) The Registered Holder shall have the right to exercise this Warrant at any time on or before 5:00 p.m. (Boston time) on the Redemption Date; provided, however, that, effective at 5:00 p.m. (Boston time) on the Redemption Date, this Warrant shall cease to be exercisable and shall be terminated and of no further force or effect. If the Registered Holder does not exercise this Warrant on or prior to the Redemption Date, the Registered Holder shall surrender this Warrant to the Company on the Redemption Date for cancellation. From and after such time, the Registered Holder's sole right hereunder shall be to receive the Redemption Price, without interest, upon presentation and surrender of this Warrant for cancellation.

5. Transfers, etc.

(a) Neither this Warrant nor the Warrant Shares shall be sold or transferred unless either (i) they first shall have been registered under the Act, or (ii) the Company first shall have been furnished with an opinion of legal counsel, reasonably satisfactory to the Company, to the effect that such sale or transfer is exempt from the registration requirements of the Act. Notwithstanding the foregoing, no registration or opinion of counsel shall be required for a transfer made in accordance with Rule 144 under the Act.

(b) Each certificate representing Warrant Shares shall bear a legend substantially in the following form:

"The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended, and may not be offered, sold or otherwise transferred, pledged or hypothecated unless and until such securities are registered under such Act or an opinion of counsel satisfactory to the Company is obtained to the effect that such registration is not required."

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The foregoing legend shall be removed from the certificates representing any Warrant Shares, at the request of the holder thereof, at such time as they become eligible for resale pursuant to Rule 144(k) under the Act.

(c) In the case of a Registered Holder that is a non-U.S. Person:

(i) THIS WARRANT AND THE WARRANT SHARES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND THIS WARRANT MAY NOT BE EXERCISED BY OR ON BEHALF OF A U.S. PERSON UNLESS REGISTERED UNDER THE SECURITIES ACT OF 1933 OR AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

(ii) This Warrant and the Warrant Shares shall not be sold or transferred except (A) in accordance with the provisions of Regulation S under the Act, (B) pursuant to registration under the Act or (C) pursuant to an available exemption from registration under the Act. Hedging transactions involving this Warrant and the Warrant Shares may not be conducted unless in compliance with the Securities Act.

(iii) Notwithstanding Section 5(b) to the contrary, each certificate representing Warrant Shares issued to a Registered Holder that is a non-U.S. Person shall bear a legend substantially in the following form:

"These shares have not been registered under the Securities Act of 1933. They may not be offered or transferred by sale, assignment, pledge or otherwise unless (i) a registration statement for the shares under the Securities Act of 1933 is in effect or (ii) the corporation has received an opinion of counsel, which opinion is satisfactory to the corporation, to the effect that such registration is not required under the Securities Act of 1933 or (iii) such offer or transfer is made in accordance with the provisions of Regulation S under the Securities Act of 1933. Hedging transactions involving these shares may not be conducted unless in compliance with the Securities Act of 1933."

(d) The Company will maintain a register containing the name and address of the Registered Holder of this Warrant. The Registered Holder may change its address as shown on the warrant register by written notice to the Company requesting such change.

(e) Subject to the provisions of Section 5 hereof, this Warrant and all rights hereunder are transferable, in whole or in part, upon surrender of this Warrant with a properly executed assignment (in the form of Exhibit II hereto) at the principal office of the Company (or, if another office or agency has been designated by the Company for such purpose, then at such other office or agency).

6. No Impairment. The Company will not, by amendment of its charter or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Registered Holder against impairment.

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7. Notices of Record Date, etc. In the event:

(a) the Company shall take a record of the holders of its Common Stock (or other stock or securities at the time deliverable upon the exercise of this Warrant) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of stock of any class or any other securities, or to receive any other right; or

(b) of any capital reorganization of the Company, any reclassification of the Common Stock of the Company, any consolidation or merger of the Company with or into another corporation (other than a consolidation or merger in which the Company is the surviving entity and its Common Stock is not converted into or exchanged for any other securities or property), or any transfer of all or substantially all of the assets of the Company; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company,

then, and in each such case, the Company will send or cause to be sent to the Registered Holder a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other stock or securities at the time deliverable upon the exercise of this Warrant) shall be entitled to exchange their shares of Common Stock (or such other stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up. Such notice shall be sent at least 10 days prior to the record date or effective date for the event specified in such notice.

8. Reservation of Stock. The Company will at all times reserve and keep available, solely for issuance and delivery upon the exercise of this Warrant, such number of Warrant Shares and other securities, cash and/or property, as from time to time shall be issuable upon the exercise of this Warrant.

9. Exchange or Replacement of Warrants.

(a) Upon the surrender by the Registered Holder, properly endorsed, to the Company at the principal office of the Company, the Company will, subject to the provisions of Section 4 hereof, issue and deliver to or upon the order of the Registered Holder, at the Company's expense, a new Warrant or Warrants of like tenor, in the name of the Registered Holder or as the Registered Holder (upon payment by the Registered Holder of any applicable transfer taxes) may direct, calling in the aggregate on the face or faces thereof for the number of shares of Common Stock (or other securities, cash and/or property) then issuable upon exercise of this Warrant.

(b) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and (in the case

of loss, theft or destruction) upon delivery of an indemnity agreement (with surety if reasonably required) in an amount

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reasonably satisfactory to the Company, or (in the case of mutilation) upon surrender and cancellation of this Warrant, the Company will issue, in lieu thereof, a new Warrant of like tenor.

10. Notices. All notices and other communications from the Company to the Registered Holder in connection herewith shall be mailed by certified or registered mail, postage prepaid, or sent via a reputable overnight courier service to the address last furnished to the Company in writing by the Registered Holder. All notices and other communications from the Registered Holder to the Company in connection herewith shall be mailed by certified or registered mail, postage prepaid, or sent via a reputable overnight courier service to the Company at its principal office set forth below. If the Company should at any time change the location of its principal office to a place other than as set forth below, it shall give prompt written notice to the Registered Holder and thereafter all references in this Warrant to the location of its principal office at the particular time shall be as so specified in such notice. All such notices and communications shall be deemed delivered (i) two business days after being sent by certified or registered mail, return receipt requested, postage prepaid, or (ii) two business days after being sent via a reputable overnight courier service.

11. No Rights as Stockholder. Until the exercise of this Warrant, the Registered Holder shall not have or exercise any rights by virtue hereof as a stockholder of the Company. Notwithstanding the foregoing, in the event (i) the Company effects a split of the Common Stock by means of a stock dividend and the Purchase Price of and the number of Warrant Shares are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), and (ii) the Registered Holder exercises this Warrant between the record date and the distribution date for such stock dividend, the Registered Holder shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

12. Amendment or Waiver. Any term of this Warrant may be amended or waived only by an instrument in writing signed by the party against which enforcement of the change or waiver is sought. No waivers of any term, condition or provision of this Warrant, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision.

13. Section Headings. The section headings in this Warrant are for the convenience of the parties and in no way alter, modify, amend, limit or restrict the contractual obligations of the parties.

14. Governing Law. This Warrant will be governed by and construed in accordance with the internal laws of the State of Delaware (without reference to the conflicts of law provisions thereof).

15. Facsimile Signatures. This Warrant may be executed by facsimile signature.

16. Acceptance by Registered Holder. By acquiring and accepting this Warrant, the Registered Holder shall be deemed to have agreed and accepted the terms and conditions of this Warrant.

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EXECUTED as of the Date of Issuance indicated above.

HYBRIDON, INC.

By: _____

Title: _____

PURCHASE FORM

To: _____

Dated: _____

The undersigned, pursuant to the provisions set forth in the attached Warrant (No. ____), hereby elects to purchase (check applicable box):

() ____ shares of the Common Stock of Hybridon, Inc. covered by such Warrant; or

() the maximum number of shares of Common Stock covered by such Warrant pursuant to the cashless exercise procedure set forth in subsection 1(b).

The undersigned herewith makes payment of the full purchase price for such shares at the price per share provided for in such Warrant. Such payment takes the form of (check applicable box or boxes):

() \$_____ in lawful money of the United States; and/or

() the cancellation of such portion of the attached Warrant as is exercisable for a total of _____ Warrant Shares (using a Fair Market Value of \$_____ per share for purposes of this calculation); and/or

() the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 1(b), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 1(b).

Signature: _____

Address: _____

ASSIGNMENT FORM

FOR VALUE RECEIVED, _____ hereby sells, assigns and transfers all of the rights of the undersigned under the attached Warrant (No. ____) with respect to the number of shares of Common Stock of Hybridon, Inc. covered thereby set forth below, unto:

Name of Assignee	Address	No. of Shares
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Dated: _____ Signature: _____

Signature Guaranteed:

By: _____

The signature should be guaranteed by an eligible guarantor institution (banks, stockbrokers, savings and loan associations and credit unions with membership in an approved signature guarantee medallion program) pursuant to Rule 17Ad-15 under the Securities Exchange Act of 1934.

THIS WARRANT AND THE WARRANT SHARES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND THIS WARRANT MAY NOT BE EXERCISED BY OR ON BEHALF OF A U.S. PERSON UNLESS REGISTERED UNDER THE SECURITIES ACT OF 1933 OR AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUED UPON ITS EXERCISE ARE SUBJECT TO THE RESTRICTIONS ON TRANSFER SET FORTH IN SECTION 5 OF THIS WARRANT

Warrant No. _____ Number of Shares: _____
(subject to adjustment)

Date of Issuance: August 28, 2003

HYBRIDON, INC.

Common Stock Purchase Warrant

(Void after August 28, 2008)

Hybridon, Inc., a Delaware corporation (the "Company"), for value received, hereby certifies that _____, or his or its registered assigns (the "Registered Holder"), is entitled, subject to the terms and conditions set forth below, to purchase from the Company, at any time or from time to time on or after the date of issuance and on or before 5:00 p.m. (Boston time) on August 28, 2008, _____ shares of Common Stock, \$0.001 par value per share, of the Company ("Common Stock"), at a purchase price of [\$0.73/\$1.00] per share. The shares purchasable upon exercise of this Warrant, and the purchase price per share, each as adjusted from time to time pursuant to the provisions of this Warrant, are hereinafter referred to as the "Warrant Shares" and the "Purchase Price," respectively.

1. Exercise.

(a) Exercise for Cash. The Registered Holder may, at its option, elect to exercise this Warrant, in whole or in part and at any time or from time to time, by surrendering this Warrant, with the purchase form appended hereto as Exhibit I duly executed by or on behalf of the Registered Holder, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full, in lawful money of the United States, of the Purchase Price payable in respect of the number of Warrant Shares purchased upon such exercise.

(b) Cashless Exercise.

(i) The Registered Holder may, at its option, elect to exercise this Warrant, in whole or in part and at any time or from time to time, on a cashless basis, by surrendering this Warrant, with the purchase form appended hereto as Exhibit I duly executed by or on behalf of the Registered Holder, at the principal office of the Company, or at such other office or agency as the Company may designate, by canceling a portion of this Warrant in payment of the Purchase Price payable in respect of the number of Warrant Shares purchased upon such exercise. In the event of an exercise pursuant to this subsection 1(b), the number of Warrant Shares issued to the Registered Holder shall be determined according to the following formula:

$$X = \frac{Y(A-B)}{A}$$

Where: X = the number of Warrant Shares that shall be issued to the Registered Holder;

Y = the number of Warrant Shares for which this Warrant is being exercised (which shall include both the number of Warrant Shares issued to the Registered Holder and the number of Warrant Shares subject to the portion of the Warrant being cancelled in payment of the Purchase Price);

A = the Fair Market Value (as defined below) of one share of Common Stock; and

B = the Purchase Price then in effect.

(ii) The "Fair Market Value" per share of Common Stock shall be determined as follows:

(1) If the Common Stock is listed on a national securities exchange, the Nasdaq National Market, the Nasdaq SmallCap Market, the OTC Bulletin Board or another nationally recognized trading system as of the Exercise Date, the Fair Market Value per share of Common Stock shall be deemed to be the average of the high and low reported sale prices per share of Common Stock thereon for the five consecutive trading day period immediately preceding the Exercise Date (as defined below); provided that if the Common Stock is not so listed during such period, the Fair Market Value per share of Common Stock shall be determined pursuant to clause (2).

(2) If the Common Stock is not listed on a national securities exchange, the Nasdaq National Market, the Nasdaq SmallCap Market, the OTC Bulletin Board or another nationally recognized trading system as of the Exercise Date, the Fair Market Value per share of Common Stock shall be deemed to be the amount most recently determined by the Board of Directors of the Company or an authorized committee of the Board of Directors of the Company (the "Board") to represent the fair market value per share of the Common Stock (including without limitation a determination for purposes of granting Common Stock options or

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issuing Common Stock under any plan, agreement or arrangement with employees of the Company); and, upon request of the Registered Holder, the Board (or a representative thereof) shall, as promptly as reasonably practicable but in any event not later than 15 days after such request, notify the Registered Holder of the Fair Market Value per share of Common Stock. Notwithstanding the foregoing, if the Board has not made such a determination within the three-month period prior to the Exercise Date, then (A) the Board shall make, and shall provide or cause to be provided to the Registered Holder notice of, a determination of the Fair Market Value per share of the Common Stock within 15 days of a request by the Registered Holder that it do so, and (B) the exercise of this Warrant pursuant to this subsection 1(b) shall be delayed until such determination is made and notice thereof is provided to the Registered Holder.

(c) Exercise Date. Each exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in subsection 1(a) or 1(b) above (the "Exercise Date"). At such time, the person or persons in whose name or names any certificates for Warrant Shares shall be issuable upon such exercise as provided in subsection 1(d) below shall be deemed to have become the holder or holders of record of the Warrant Shares represented by such certificates.

(d) Issuance of Certificates. As soon as practicable after the exercise of this Warrant in whole or in part, and in any event within 10 days thereafter, the Company, at its expense, will cause to be issued in the name of, and delivered to, the Registered Holder, or as the Registered Holder (upon payment by the Registered Holder of any applicable transfer taxes) may direct:

(i) a certificate or certificates for the number of full Warrant Shares to which the Registered Holder shall be entitled upon such exercise plus, in lieu of any fractional share to which the Registered Holder would otherwise be entitled, cash in an amount determined pursuant to Section 3 hereof; and

(ii) in case such exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the face or faces thereof for the number of Warrant Shares equal (without giving effect to any adjustment therein) to the number of such shares called for on the face of this Warrant minus the number of Warrant Shares for which this Warrant was so exercised (which, in the case of an exercise pursuant to subsection 1(b), shall include both the number of Warrant Shares issued to the Registered Holder pursuant to such partial exercise and the number of Warrant Shares subject to the portion of the Warrant being cancelled in payment of the Purchase Price).

(e) Exercise by Non-U.S. Person. It shall be a condition to the

exercise of this Warrant by a Registered Holder that is not a U.S. Person (as defined under the Securities Act of 1933, as amended (the "Act")) that such Registered Holder certify in writing to the Company that it is not a U.S. Person and that this Warrant is not being exercised on behalf of a U.S. Person.

2. Adjustments.

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(a) Adjustment for Stock Splits and Combinations. If the Company shall at any time, or from time to time after the date on which this Warrant was first issued (or, if this Warrant was issued upon partial exercise of, or in replacement of, another warrant of like tenor, then the date on which such original warrant was first issued) (either such date being referred to as the "Original Issue Date") effect a subdivision of the outstanding Common Stock, the Purchase Price then in effect immediately before that subdivision shall be proportionately decreased. If the Company shall at any time, or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the Purchase Price then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision or combination becomes effective.

(b) Adjustment for Certain Dividends and Distributions. In the event the Company at any time, or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Purchase Price then in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Purchase Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

provided, however, that if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Purchase Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Purchase Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends or distributions.

(c) Adjustment in Number of Warrant Shares. When any adjustment is required to be made in the Purchase Price pursuant to subsections 2(a) or 2(b) above, the number of Warrant Shares purchasable upon the exercise of this Warrant shall be changed to the number determined by dividing (i) an amount equal to the number of shares issuable upon the exercise of this Warrant immediately prior to such adjustment, multiplied by the Purchase Price in effect immediately prior to such adjustment, by (ii) the Purchase Price in effect immediately after such adjustment.

(d) Adjustments for Other Dividends and Distributions. In the event the Company at any time, or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a

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dividend or other distribution payable in securities of the Company (other than shares of Common Stock) or in cash or other property (other than regular cash dividends paid out of earnings or earned surplus, determined in accordance with generally accepted accounting principles), then and in each such event provision shall be made so that the Registered Holder shall receive upon exercise hereof,

in addition to the number of shares of Common Stock issuable hereunder, the kind and amount of securities of the Company, cash or other property which the Registered Holder would have been entitled to receive had this Warrant been exercised on the date of such event and had the Registered Holder thereafter, during the period from the date of such event to and including the Exercise Date, retained any such securities receivable during such period, giving application to all adjustments called for during such period under this Section 2 with respect to the rights of the Registered Holder.

(e) Adjustment for Reorganization. If there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Company in which the Common Stock is converted into or exchanged for securities, cash or other property (other than a transaction covered by subsections 2(a), 2(b) or 2(d)) (collectively, a "Reorganization"), then, following such Reorganization, the Registered Holder shall receive upon exercise hereof the kind and amount of securities, cash or other property which the Registered Holder would have been entitled to receive pursuant to such Reorganization if such exercise had taken place immediately prior to such Reorganization. In any such case, appropriate adjustment (as determined in good faith by the Board) shall be made in the application of the provisions set forth herein with respect to the rights and interests thereafter of the Registered Holder, to the end that the provisions set forth in this Section 2 (including provisions with respect to changes in and other adjustments of the Purchase Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities, cash or other property thereafter deliverable upon the exercise of this Warrant.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Purchase Price pursuant to this Section 2, the Company at its expense shall, as promptly as reasonably practicable but in any event not later than 30 days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to the Registered Holder a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property for which this Warrant shall be exercisable and the Purchase Price) and showing in detail the facts upon which such adjustment or readjustment is based. The Company shall, as promptly as reasonably practicable after the written request at any time of the Registered Holder (but in any event not later than 30 days thereafter), furnish or cause to be furnished to the Registered Holder a certificate setting forth (i) the Purchase Price then in effect and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the exercise of this Warrant.

3. Fractional Shares. The Company shall not be required upon the exercise of this Warrant to issue any fractional shares, but shall pay the value thereof to the Registered Holder in cash on the basis of the Fair Market Value per share of Common Stock, as determined pursuant to subsection 1(b)(ii) above.

4. Redemption of Warrants.

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(a) Subject to the terms of this Section 4, the Company shall have the right, to redeem this Warrant for a redemption price (the "Redemption Price") equal to the result obtained by multiplying (i) \$0.05 by (ii) the number of Warrant Shares that the Registered Holder is entitled to purchase upon exercise of this Warrant immediately prior to the termination of this Warrant under Section 4(d) below (such Redemption Price being subject to adjustment for stock splits, stock dividends, combinations, recapitalizations, reclassifications, and similar transactions affecting the Common Stock).

(b) The Company shall exercise this redemption right by providing at least 30 days' prior written notice to the Registered Holder of such redemption (the "Redemption Notice"). Such Redemption Notice shall be provided to the Registered Holder in accordance with Section 10 of this Warrant. The Redemption Notice shall specify the time, manner and place of redemption, including without limitation the date on which this Warrant shall be redeemed (the "Redemption Date") and the Redemption Price payable to the Registered Holder (assuming that this Warrant is not exercised on or prior to the Redemption Date).

(c) Notwithstanding the foregoing, the Company may not redeem this Warrant or provide the Redemption Notice to the Registered Holder unless (i) the average of the closing bid prices of the Common Stock over a ten consecutive

trading day period ending within 30 days prior to the date the Company provides the Redemption Notice to the Registered Holder is greater than or equal to 200% of the Purchase Price and (ii) the resale of the Warrant Shares was registered under the Act, as provided under the Registration Rights Agreement dated as of August 28, 2003 by and among the Company and the Rightsholders (as defined therein).

(d) The Registered Holder shall have the right to exercise this Warrant at any time on or before 5:00 p.m. (Boston time) on the Redemption Date; provided, however, that, effective at 5:00 p.m. (Boston time) on the Redemption Date, this Warrant shall cease to be exercisable and shall be terminated and of no further force or effect. If the Registered Holder does not exercise this Warrant on or prior to the Redemption Date, the Registered Holder shall surrender this Warrant to the Company on the Redemption Date for cancellation. From and after such time, the Registered Holder's sole right hereunder shall be to receive the Redemption Price, without interest, upon presentation and surrender of this Warrant for cancellation.

5. Transfers, etc.

(a) Neither this Warrant nor the Warrant Shares shall be sold or transferred unless either (i) they first shall have been registered under the Act, or (ii) the Company first shall have been furnished with an opinion of legal counsel, reasonably satisfactory to the Company, to the effect that such sale or transfer is exempt from the registration requirements of the Act. Notwithstanding the foregoing, no registration or opinion of counsel shall be required for a transfer made in accordance with Rule 144 under the Act.

(b) Each certificate representing Warrant Shares shall bear a legend substantially in the following form:

"The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended, and may not be offered,

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sold or otherwise transferred, pledged or hypothecated unless and until such securities are registered under such Act or an opinion of counsel satisfactory to the Company is obtained to the effect that such registration is not required."

The foregoing legend shall be removed from the certificates representing any Warrant Shares, at the request of the holder thereof, at such time as they become eligible for resale pursuant to Rule 144(k) under the Act.

(c) In the case of a Registered Holder that is a non-U.S. Person:

(i) THIS WARRANT AND THE WARRANT SHARES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND THIS WARRANT MAY NOT BE EXERCISED BY OR ON BEHALF OF A U.S. PERSON UNLESS REGISTERED UNDER THE SECURITIES ACT OF 1933 OR AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

(ii) This Warrant and the Warrant Shares shall not be sold or transferred except (A) in accordance with the provisions of Regulation S under the Act, (B) pursuant to registration under the Act or (C) pursuant to an available exemption from registration under the Act. Hedging transactions involving this Warrant and the Warrant Shares may not be conducted unless in compliance with the Securities Act.

(iii) Notwithstanding Section 5(b) to the contrary, each certificate representing Warrant Shares issued to a Registered Holder that is a non-U.S. Person shall bear a legend substantially in the following form:

"These shares have not been registered under the Securities Act of 1933. They may not be offered or transferred by sale, assignment, pledge or otherwise unless (i) a registration statement for the shares under the Securities Act of 1933 is in effect or (ii) the corporation has received an opinion of counsel, which opinion is satisfactory to the corporation, to the effect that such registration is not required under the Securities Act of 1933 or (iii) such offer or transfer is made in accordance with the provisions of Regulation S under the Securities Act of 1933. Hedging transactions involving these shares may not be conducted unless in

compliance with the Securities Act of 1933."

(d) The Company will maintain a register containing the name and address of the Registered Holder of this Warrant. The Registered Holder may change its address as shown on the warrant register by written notice to the Company requesting such change.

(e) Subject to the provisions of Section 5 hereof, this Warrant and all rights hereunder are transferable, in whole or in part, upon surrender of this Warrant with a properly executed assignment (in the form of Exhibit II hereto) at the principal office of the Company (or, if another office or agency has been designated by the Company for such purpose, then at such other office or agency).

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6. No Impairment. The Company will not, by amendment of its charter or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Registered Holder against impairment.

7. Notices of Record Date, etc. In the event:

(a) the Company shall take a record of the holders of its Common Stock (or other stock or securities at the time deliverable upon the exercise of this Warrant) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of stock of any class or any other securities, or to receive any other right; or

(b) of any capital reorganization of the Company, any reclassification of the Common Stock of the Company, any consolidation or merger of the Company with or into another corporation (other than a consolidation or merger in which the Company is the surviving entity and its Common Stock is not converted into or exchanged for any other securities or property), or any transfer of all or substantially all of the assets of the Company; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company,

then, and in each such case, the Company will send or cause to be sent to the Registered Holder a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other stock or securities at the time deliverable upon the exercise of this Warrant) shall be entitled to exchange their shares of Common Stock (or such other stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up. Such notice shall be sent at least 10 days prior to the record date or effective date for the event specified in such notice.

8. Reservation of Stock. The Company will at all times reserve and keep available, solely for issuance and delivery upon the exercise of this Warrant, such number of Warrant Shares and other securities, cash and/or property, as from time to time shall be issuable upon the exercise of this Warrant.

9. Exchange or Replacement of Warrants.

(a) Upon the surrender by the Registered Holder, properly endorsed, to the Company at the principal office of the Company, the Company will, subject to the provisions of Section 4 hereof, issue and deliver to or upon the order of the Registered Holder, at the Company's expense, a new Warrant or Warrants of like tenor, in the name of the Registered Holder or as the Registered Holder (upon payment by the Registered Holder of any applicable

transfer taxes) may direct, calling in the aggregate on the face or faces thereof for the number of shares of Common Stock (or other securities, cash and/or property) then issuable upon exercise of this Warrant.

(b) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and (in the case of loss, theft or destruction) upon delivery of an indemnity agreement (with surety if reasonably required) in an amount reasonably satisfactory to the Company, or (in the case of mutilation) upon surrender and cancellation of this Warrant, the Company will issue, in lieu thereof, a new Warrant of like tenor.

10. Notices. All notices and other communications from the Company to the Registered Holder in connection herewith shall be mailed by certified or registered mail, postage prepaid, or sent via a reputable overnight courier service to the address last furnished to the Company in writing by the Registered Holder. All notices and other communications from the Registered Holder to the Company in connection herewith shall be mailed by certified or registered mail, postage prepaid, or sent via a reputable overnight courier service to the Company at its principal office set forth below. If the Company should at any time change the location of its principal office to a place other than as set forth below, it shall give prompt written notice to the Registered Holder and thereafter all references in this Warrant to the location of its principal office at the particular time shall be as so specified in such notice. All such notices and communications shall be deemed delivered (i) two business days after being sent by certified or registered mail, return receipt requested, postage prepaid, or (ii) two business days after being sent via a reputable overnight courier service.

11. No Rights as Stockholder. Until the exercise of this Warrant, the Registered Holder shall not have or exercise any rights by virtue hereof as a stockholder of the Company. Notwithstanding the foregoing, in the event (i) the Company effects a split of the Common Stock by means of a stock dividend and the Purchase Price of and the number of Warrant Shares are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), and (ii) the Registered Holder exercises this Warrant between the record date and the distribution date for such stock dividend, the Registered Holder shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

12. Amendment or Waiver. Any term of this Warrant may be amended or waived only by an instrument in writing signed by the party against which enforcement of the change or waiver is sought. No waivers of any term, condition or provision of this Warrant, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision.

13. Section Headings. The section headings in this Warrant are for the convenience of the parties and in no way alter, modify, amend, limit or restrict the contractual obligations of the parties.

14. Governing Law. This Warrant will be governed by and construed in accordance with the internal laws of the State of Delaware (without reference to the conflicts of law provisions thereof).

15. Facsimile Signatures. This Warrant may be executed by facsimile signature.

16. Acceptance by Registered Holder. By acquiring and accepting this Warrant, the Registered Holder shall be deemed to have agreed and accepted the terms and conditions of this Warrant.

EXECUTED as of the Date of Issuance indicated above.

HYBRIDON, INC.

By: _____

Title: _____

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EXHIBIT I

PURCHASE FORM

To: _____

Dated: _____

The undersigned, pursuant to the provisions set forth in the attached Warrant (No. ____), hereby elects to purchase (check applicable box):

____ shares of the Common Stock of Hybridon, Inc. covered by such Warrant; or

the maximum number of shares of Common Stock covered by such Warrant pursuant to the cashless exercise procedure set forth in subsection 1(b).

The undersigned herewith makes payment of the full purchase price for such shares at the price per share provided for in such Warrant. Such payment takes the form of (check applicable box or boxes):

\$_____ in lawful money of the United States; and/or

the cancellation of such portion of the attached Warrant as is exercisable for a total of _____ Warrant Shares (using a Fair Market Value of \$_____ per share for purposes of this calculation); and/or

the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 1(b), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 1(b).

Signature: _____

Address: _____

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EXHIBIT II

ASSIGNMENT FORM

FOR VALUE RECEIVED, _____ hereby sells, assigns and transfers all of the rights of the undersigned under the attached Warrant (No. ____) with respect to the number of shares of Common Stock of Hybridon, Inc. covered thereby set forth below, unto:

Name of Assignee	Address	No. of Shares
_____	_____	_____

Dated: _____

Signature: _____

Signature Guaranteed:

By: _____

The signature should be guaranteed by an eligible guarantor institution (banks, stockbrokers, savings and loan associations and credit unions with membership in an approved signature guarantee medallion program) pursuant to Rule 17Ad-15 under the Securities Exchange Act of 1934.

CONSENT OF INDEPENDENT AUDITORS

We consent to the reference to our firm under the caption "Experts" in the Registration Statement (Form S-2) and related Prospectus of Hybridon, Inc. for the registration of 29,852,703 shares of its common stock and to the incorporation by reference therein of our report dated January 23, 2003 (except for Note 18, as to which the date is February 14, 2003) with respect to the financial statements of Hybridon, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2002, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts

October 8, 2003