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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K/A

☒ **Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the fiscal year ended December 31, 2004

or

o **Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the transition period from to

Commission File Number 000-31923

HARVARD BIOSCIENCE, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**04-3306140**
(State or other jurisdiction of Incorporation or organization)	(I.R.S. Employer Identification No.)

84 October Hill Road, Holliston, Massachusetts 01746
(Address of Principal Executive Offices, including zip code)

(508) 893-8999
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act:
Common Stock, $.01 par value per share
(Title of Class)

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

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

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2). ☒ YES NO o

The aggregate market value of 23,307,651 shares of voting stock held by non-affiliates of the registrant as of June 30, 2004 was approximately $104,418,276 based on the last sale price of such stock on such date.

At March 1, 2005, there were 30,408,166 shares of the Registrant's Common Stock, par value $0.01 per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE.

Portions of the Company's definitive Proxy Statement in connection with the 2005 Annual Meeting of Stockholders to be held on May 19, 2005 are incorporated by reference into Part III of this Form 10-K/A.

EXPLANATORY NOTE

Harvard Bioscience, Inc. is filing this amendment to Form 10-K for the year ended December 31, 2004, filed with the Securities and Exchange Commission on March 16, 2005 ("Original Filing") in accordance with the Commission's Exemptive Order # 3450754, to:

- include a Report of Independent Registered Public Accounting Firm relating to our internal control over financial reporting,
- amend and restate Item 9A to include Management's Annual Report on Internal Control Over Financial Reporting, and
- include a Consent of Independent Registered Public Accounting Firm required as a result of the revisions discussed above.

As a result of these amendments, the certifications pursuant to Section 302 and Section 906 of the Sarbanes-Oxley Act of 2002, filed as exhibits to the Original Filing, have been re-executed and re-filed as of the date of this Form 10-K/A.

HARVARD BIOSCIENCE, INC.

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2004 ANNUAL REPORT ON FORM 10-K/A
FOR THE YEAR ENDED DECEMBER 31, 2004

PART I

This Annual Report on Form 10-K/A contains statements that are not statements of historical fact and are 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. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could, "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "intends," "potential" and similar expressions intended to identify forward-looking statements. The forward-looking statements are principally, but not exclusively, contained in "Item 1: Business" and "Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations." Forward-looking statements include, but are not limited to, statements about our expected research and development spending, the impact of acquisitions on future earnings, the effect of our technology on the drug development process, our intention to strengthen our market position, management's confidence or expectations, our business strategy, our positioning for revenue and other growth, our ability to reduce the risk of being dependent on a single technology, our ability to avoid competition with major instrument companies, our acquisition strategy (including our ability to accelerate the growth of acquired products through our established brands and distribution channels, our ability to raise capital or borrow funds to consummate acquisitions and the availability of attractive acquisition candidates), our plans and intentions regarding the distribution of our catalog and supplements to our catalog, our expectations regarding future costs of product revenues, the market demand and opportunity for our products, our beliefs regarding our position in comparison to our competitors, our estimates regarding our capital requirements, the timing of future product introductions, or the ability of our patent strategy to protect our current and future products, and our plans, objectives, expectations and intentions that are not historical facts. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Factors that may cause our actual results to differ materially from those in the forward-looking statements include those factors described under the heading "Important Factors That May Affect Future Operating Results" beginning on page 31 of this Annual Report on Form 10-K/A. You should carefully review all of these factors, as well as other risks described in our public filings, and you should be aware that there may be other factors, including factors of which we are not currently aware, that could cause these differences. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this report. We may not update these forward-looking statements, even though our situation may change in the future, unless we have obligations under the federal securities laws to update and disclose material developments related to previously disclosed information.

Item 1. ***Business.***

Overview

Harvard Bioscience, a Delaware corporation, is a global developer, manufacturer and marketer of a broad range of specialized products, primarily scientific instruments and apparatus, used to accelerate drug discovery research at pharmaceutical and biotechnology companies, universities and government laboratories worldwide. We sell our products to thousands of researchers in over 100 countries through our direct sales force, our 1,100 page catalog (and various other specialty catalogs), and through distributors, including GE Healthcare (formerly known as Amersham Biosciences), PerkinElmer, Fisher Scientific and VWR. We have sales and manufacturing operations in the United States, the United Kingdom, Germany, Austria and Belgium with sales facilities in France and Canada.

Our History

Our business began in 1901 under the name Harvard Apparatus and has grown over the intervening years with the development and evolution of modern drug discovery tools. Our early

inventions include the mechanical syringe pump in the 1950s for drug infusion and the microprocessor controlled syringe pump in the 1980s.

In March 1996, a group of investors led by our CEO and President acquired a majority of the then existing business of our predecessor, Harvard Apparatus. Following this acquisition, we redirected the focus of the Company to participate in the higher growth areas, or bottlenecks, within drug discovery by acquiring and licensing innovative technologies while continuing to grow the existing business through internal product development and marketing, partnerships and acquisitions. Since March 1996, we have completed 21 business acquisitions and internally developed many new product lines including: new generation Harvard Apparatus syringe pumps, advanced Inspira ventilators, GeneQuant DNA/RNA/protein calculators, Ultrospec spectrophotometers, UVM plate readers, the BTX-MOS 96 well electroporation system, the Cartesian Hummingbird nanolitre liquid dispensing system, ProPic next generation proteomics automation systems, MIAS microscope image automation system for high-content screening and improved versions of our COPAS™ model organism screening platform.

Our Strategy

Our mission is to profitably accelerate drug discovery.

Our goal is to become a leading provider in the tools for the drug discovery industry.

Our strategy is to have a broad range of specialized products (currently over 20,000) which hold strong positions in niche markets focused on the bottlenecks in drug discovery research:

- By having a broad product line, we believe we reduce the risk of being dependent on a single technology in an industry characterized by very rapid technological change;
- By having specialized products in niche markets, we seek to reduce head-to-head competition with the major instrument companies; and
- By focusing on the bottlenecks, we believe we position ourselves to achieve above-average revenue growth and above-average margins.

We seek to grow this range of products through internal development of new products, acquisitions and strategic partnerships. Our strategic partners include both pharmaceutical companies for new product development and other major life science companies for expanded distribution. We use acquisitions to expand our product line because we believe we can use our well-established brands and distribution channels to accelerate the growth of these acquired products. We also believe that our expertise in operational management frequently allows us to improve profitability at acquired companies.

Our Products

Today, our broad product range is generally targeted towards four major application areas: ADMET screening; molecular biology; automation of genomics and proteomics experiments; and high-throughput/high-content screening of potential drugs.

ADMET Screening.

The goal of ADMET screening is to identify compounds that have toxic side effects or undesirable pharmacological properties. These pharmacological properties consist of absorption, distribution, metabolism and elimination, which together with toxicology, form the acronym ADMET. We have a wide range of products that our customers use to help their researchers conduct better experiments on cells, tissues, organs and animals.

These products are primarily sold under the Harvard Apparatus, BTX, KD Scientific, Medical Systems, Clark Electromedical, NaviCyte, Hugo Sachs Elektronik, Amika and Warner Instruments brand names. The individual sales prices of these products are often under $5,000 but when combined into systems such as the Hugo Sachs isolated organ system the total sales price can be over $25,000. Our ADMET products are typically sold through our catalogs and website with support from technical specialists, although BTX and KD Scientific products are primarily sold through distributors. Some of these products are described below:

Absorption—NaviCyte Diffusion Chambers

A diffusion chamber is a small plastic chamber with a membrane separating the two halves of the chamber used to measure the absorption of a drug into the bloodstream. The membrane can either be tissue such as intestinal tissue or a cultured layer of cells such as human colon cells. This creates a miniaturized model of intestinal absorption. We entered this market with our 1999 acquisition of the assets of NaviCyte Inc., a wholly-owned subsidiary of Trega Biosciences (now Lion Bioscience) and today we make and sell a wide range of tissue handling products under the Warner Instruments brand name.

Distribution—96 Well Equilibrium Dialysis Plate for Serum Protein Binding Assays

Our 96 well equilibrium dialysis plate contains 96 pairs of chambers with each pair separated by a membrane. The protein target is placed on one side of the membrane and the drug on the other. The small molecule drug diffuses through the membrane. If it binds to the target, it cannot diffuse back again. If it does not bind, it will diffuse back and forth until equilibrium is established. Once equilibrium is established, the concentration of the drug can be measured thereby indicating the strength of the binding. This product is principally used for ADMET screening to determine if a drug binds to blood proteins. A certain level of reversible binding is advantageous in order to promote good distribution of a drug through the human body. However, if the binding is too strong, it may impair normal protein function and cause toxic effects. These products are part of our Amika product line.

Metabolism and Elimination—Organ Testing Systems

Organ testing systems use glass or plastic chambers together with stimulators and recording electrodes to study organ function. Organ testing systems enable either whole organs or strips of tissue from organs such as hearts, livers and lungs to be kept functioning outside the body while researchers perform experiments with them. This typically allows for multiple studies on a single donor animal. Studies on isolated livers are useful in determining metabolism and studies on kidneys are useful in determining elimination. We have sold basic versions of these systems for many years, but significantly expanded our product offerings through our 1999 acquisition of Hugo Sachs Elektronik.

Toxicology—Precision Infusion Pumps

Infusion pumps, typically syringe pumps, are used to accurately infuse very small quantities of liquid, commonly drugs. Infusion pumps are generally used for long-term toxicology testing of drugs by infusion into animals, usually laboratory rats. We sell a wide range of different types of syringe pumps and many other products for infusing samples into and collecting samples from tissues, organs and animals. We expanded our range of infusion pumps with the acquisition of KD Scientific in 2004.

Cell Injection Systems

Cell injection systems use extremely fine bore glass capillaries to penetrate and inject drugs into or around individual cells. Cell injection systems are used to study the effects of drugs on single cells. Injection is accomplished either with air pressure or, if the drug molecule is electrically charged, by

applying an electric current. We entered this market with our 1998 acquisition of the research products of Medical Systems Corporation and considerably expanded our presence in this market with our acquisitions of Clark Electromedical Instruments in 1999 and Warner Instruments in 2001.

Ventilators

Ventilators use a piston driven air pump to inflate the lungs of an anesthestized animal. Ventilators are typically used in surgical procedures common in drug discovery and are part of our Harvard Apparatus product line. In the late 1990's we launched our advanced Inspira ventilators, which have significant safety and ease of use features, such as default safety settings. We further expanded our ventilator product line with the MiniVent acquired as part of our acquisition of Hugo Sachs Elektronik in 1999 and expanded our presence in anesthesia with our acquisition of IMS in 2001.

Electroporation Products

Acquired with our purchase of the BTX division of Genetronics Biomedical Corporation in January 2003, our electroporation products include systems and generators, electrodes and accessories for research applications including in vivo, in ovo and in vitro gene delivery, electrocell fusion and nuclear transfer cloning. Through the application of precise pulsed electrical signals, electroporation systems open small "pores" in cell membranes allowing genes and/or drugs to pass through the cell membranes. The principal advantages of electroporation over other transfection techniques are speed, and the fact that electroporation does not require harsh chemicals that can interfere or change cell function. In 2004 we launched our BTX MOS 96 well electroporation system which can greatly increase the throughput of this otherwise essentially manual technique.

In addition to our proprietary manufactured products, we buy and resell, through our catalog, products that are made by other manufacturers. We have negotiated supply agreements with the majority of the companies that provide our distributed products. These supply agreements specify pricing only and contain no minimum purchase commitments. Each of these agreements represented less than one percent of our revenues for the year ended December 31, 2004. Distributed products accounted for approximately 8% of our revenues for the year ended December 31, 2004. These distributed products enable us to provide our customers with a single source for their experimental needs. These complementary products consist of a large variety of devices, instruments and consumable items used in experiments involving cells, tissues, organs and animals in the fields of proteomics, physiology, pharmacology, neuroscience, cell biology, molecular biology and toxicology. We believe that our proprietary manufactured products are often leaders in their fields; however, researchers often need complementary products in order to conduct particular experiments. Most of these complementary products come from small companies that do not have our extensive distribution and marketing capabilities to these researchers.

Molecular Biology.

These products are primarily sold under brand names of our distributors including GE Healthcare (formerly known as Amersham Biosciences). They are mainly scientific instruments such as spectrophotometers and plate readers that analyze light to detect and quantify a wide range of molecular and cellular processes or apparatus such as gel electrophoresis units. These instrumentation products are typically sold for a price ranging from $5,000 to $10,000. The apparatus products typically sell for less than $5,000. Both of these products are typically sold through distributors.

Molecular Biology Spectrophotometers

A spectrophotometer is an instrument widely used in molecular biology and cell biology to quantify the amount of a compound in a sample by shining a beam of white light through a prism or grating to

divide it into component wavelengths. Each wavelength in turn is shone through a liquid sample and the spectrophotometer measures the amount of light absorbed at each wavelength. This enables the quantification of the amount of a compound in a sample. We sell a wide range of spectrophotometers under the names UltroSpec, NovaSpec Libra and Biowave. These products are manufactured by our Biochrom subsidiary and sold primarily through our distribution arrangement with GE Healthcare and other distributors.

DNA/RNA/Protein Calculators

A DNA/RNA/protein calculator is a bench top instrument dedicated to quantifying the amount of DNA, RNA or protein in a sample. It uses a process similar to that of a molecular biology spectrophotometer. These are sold under the names GeneQuant and GeneQuant Pro. Launched in 1993, we believe that it was the first such instrument sold. These products are manufactured by our Biochrom subsidiary and sold primarily through GE Healthcare.

Multi-Well Plate Readers

Multi-well plate readers are widely used for high throughput screening assays in the drug discovery process. The most common format is 96 wells per plate. Plate readers use light to detect chemical interactions. We introduced a range of these products in 2001 beginning with absorbance readers and followed by luminescence readers. These products are made by our Asys Hitech subsidiary and are primarily sold through GE Healthcare and other distributors. We acquired Asys Hitech in December 2001 through our Biochrom subsidiary.

Amino Acid Analysis Systems

An amino acid analysis system uses chromatography to separate the amino acids in a sample and then uses a chemical reaction to detect each one in turn as they flow out of the chromatography column. Amino acids are the building blocks of proteins. In June 2000, we acquired substantially all of the amino acid analysis systems business of the Biotronik subsidiary of Eppendorf-Netheler-Hinz GmbH and integrated it with the existing amino acid analysis systems business in our Biochrom subsidiary. These systems are sold through our Biochrom direct sales force and through distributors including GE Healthcare.

Low Volume, High-Throughput Liquid Dispensers

A liquid dispenser dispenses low volumes, typically microliters, of liquids into high density microtitre plates used in high throughput screening processes in drug discovery. Our unique technology enables dispensing to take place without the need for contact between the droplet and the liquid already present in the plate, thereby removing any risk of cross-contamination from the process. These products are primarily marketed by our Asys Hitech subsidiary and sold under distributor brand names as well as our own name. We acquired Asys Hitech in December 2001 through our Biochrom subsidiary. Asys Hitech develops, manufactures and markets both these liquid dispensers and a line of OEM plate readers (see above for a description of plate readers). For the dispensing of ultra low volumes, typically nanolitres, we sell the Cartesian Technologies systems discussed under "High-Throughput Screening".

Gel Electrophoresis Systems

Gel electrophoresis is a method for separating and purifying DNA, RNA and proteins. In gel electrophoresis an electric current is run through a thin slab of gel and the DNA, RNA or protein molecules separate out based on their charge and size. The gel is contained in a plastic tank with an associated power supply. We entered this market with the acquisition of Scie-Plas in November 2001

and greatly expanded our range of gel electrophoresis products with our November 2003 acquisition of Hoefer. The majority of Hoefer revenues are expected to come from a distribution partnership with GE Healthcare but we are also adding new distributors and establishing a catalog/web distribution channel under the Hoefer name.

Automating Genomics and Proteomics Experiments.

These products were mainly acquired with our purchase of Genomic Solutions Inc. in October 2002, our acquisition of GeneMachines in March 2003 and our acquisition of BioRobotics in September 2003. They are mainly large scientific instruments that rapidly process and analyze samples of DNA, RNA or proteins. These systems are typically over $25,000 each and are primarily sold by our field sales force and by distributors in select countries.

Genomics Products—Arrayers, Hybridization Workstations and Scanners

Genes contain the DNA code for making proteins. The human genome contains over three billion letters of DNA code that are organized into approximately 30,000 genes that can create approximately 100,000 proteins. Scientists have studied individual genes for decades but the modern discipline of genomics refers to studying many genes simultaneously. Genes are often studied using microarrays—1" by 3" glass slides covered in many spots, each spot containing a unique piece of known DNA. A sample (usually taken from blood cells or tissue) labeled with a fluorescent dye is then washed over the slide and the DNA in the sample that sticks to the DNA on the slide (by virtue of the complementary pairing of DNA bases) is identified. We make arraying instruments that can precisely spot down onto the slide tiny quantities of DNA and enable large numbers of slides to be automatically manufactured by the scientists. We have recently introduced plate arraying, where hundreds of spots are arrayed into each well of a 96 or 384 well plate. Our hybridization workstations carefully control the addition of reagents and the reaction conditions that enable the automated washing of the sample over the slide to create a robust attachment of the sample DNA to the test DNA. Our slide scanners use lasers to read the intensity of the fluorescent signals to accurately quantify the genes that are present in the sample. Finally, we developed the software to control the process and analyze the data. These products are mainly sold under our GeneMachines and BioRobotics brand names.

Proteomics Products—2 Dimensional Gels, Spot Picking Robots and Sample Preparation Robots

Proteins are a key component of all living cells. Each cell may contain thousands of different proteins. Scientists have studied individual proteins for decades but the modern discipline of proteomics refers to studying many proteins simultaneously. In order to study proteins they must first be purified. We manufacture two-dimensional electrophoresis gels and related apparatus for purifying proteins. Gel electrophoresis uses electric current to separate molecules by size and amount of electric charge they carry. These gels are then processed by automated workstations that use machine vision and robotics to remove individual protein spots from the gels. These spots are further purified using proprietary sample preparation pipette tips combined with robotics to automatically spot the pure proteins onto plates that can be analyzed by mass spectrometers. By automating these otherwise manual processes, our products make proteomics approaches practical. These products are mainly sold under our Investigator brand name and also under our SciePlas, Hoefer and Amika brand names.

High-Throughput/High-Content Screening.

High-Throughput Screening

High throughput screening is the process of testing large numbers (often hundreds of thousands) of potential drug molecules on proteins or cells that are thought to be involved in disease. We manufacture instruments such as our SynQuad technology, that aspirate and dispense very small quantities (as small as nanolitres or billionths of a liter) of chemical into each test well (usually either 96, 384 or 1536) on small plastic plates called microtitre plates. We make instruments such as our Hummingbird technology that can very rapidly, precisely and without cross-contamination add a different compound to each well of a microtitre plate. These products are mainly sold under our Cartesian Technologies and Asys Hitech brand names. In addition, specialized versions of our COPAS™ systems can be used for high-throughput screening of potential drug molecules as well as high-throughput/high-content screening of model organisms and small pieces of tissue.

High-Content Screening

COPAS Systems

These systems are large scientific instruments that use fluid flow and lasers to analyze small model organisms like nematode worms, fruit flies and fish very rapidly and in large numbers. Model organisms are so called because they are used to model human diseases. The COPAS | system uses large bore flow cytometry and a novel proprietary technique to rapidly analyze and sort the model organisms *C. elegans* (worm), *D. melanogaster* (fly), and *D. rerio* (Zebra fish). Automation of the handling of these organisms through the use of the COPAS system provides scientists a complete integrated solution to rapidly sort and evaluate model organisms. COPAS systems are typically over $100,000 in price and are sold by technically specialized salespeople. In May 2001, we acquired Union Biometrica, the inventor and developer of the COPAS technology. We have recently expanded the range of analyses that can be performed on COPAS to include the sorting and analysis of human pancreatic islet cells and tissues called embryoid bodies. The islet cells are the piece of the pancreas that produces insulin. Defects in the islets cause diabetes. We are working with researchers to develop better methods for purifying islets that, if successful, would increase the supply of islets for transplantation into diabetic patients. This transplantation procedure (called the Edmonton protocol) is a cure for Type 1 (juvenile) diabetes. Embryoid bodies are pieces of tissue (approximately 1mm in diameter) grown from stem cells. Of particular interest to researchers are embryoid bodies grown from cardiac stem cells as these can produce heartbeats. Heartbeats cannot be produced by single cells alone.

MIAS—Microscope Image Automation Systems

Our MIAS product is an automated microscope that uses a night-vision camera and advanced image processing algorithms to obtain useful biological information from images of cells, tissues or model organisms. It does this in a highly-automated way that enables both high-content and high-throughput assays for the effects of drugs on cells, tissues or organisms. High-content screening is a natural evolution from high-throughput screening and is still a relatively new concept. In high-content screening, photographs of the cells are taken and multiple data points such as cell size, shape, color, texture and the location and intensity of the expression of specific genes or proteins are all collected simultaneously. This is in contrast to traditional high-throughput screening where the only information obtained is whether or not a potential drug bound to (or chemically interacted with) its protein target. MIAS was developed by us under contracts with a major pharmaceutical company and a smaller biotechnology company. The first commercial instrument was delivered in the fourth quarter of 2003. MIAS is sold directly to researchers and also, in a lower featured version under an OEM contract with The Automation Partnership for inclusion in their Cello automated cell culture system.

Our Customers

Our end-user customers are primarily research scientists at pharmaceutical and biotechnology companies, universities and government laboratories, including the U.S. National Institutes of Health, or NIH. Our academic customers have included major colleges and universities such as Baylor College, Cambridge University, Harvard University, Johns Hopkins University, Massachusetts Institute of Technology, Yale University and the University of Texas – MD Anderson Center. Our pharmaceutical and biotechnological customers have included pharmaceutical companies and research laboratories such as Amgen, Barrier Therapeutics, Biogen, DevGen, Genentech, Johnson and Johnson and the Max Planck Institute.

We conduct direct sales in the United States, the United Kingdom, Germany, France, Belgium, Spain, the Netherlands and Canada. We also maintain distributors in other countries. Aggregate sales to our largest customer, GE Healthcare, a distributor with end-users similar to ours, accounted for approximately 18% of our revenues for the year ended December 31, 2004 compared to approximately 13% for the year ended December 31, 2003. This increase is primarily due to the acquisition of Hoefer. We have several thousand customers worldwide and no other customer accounted for more than two percent of our revenues for such period.

Sales and Marketing

For the year ended December 31, 2004, revenues from direct sales to end-users through our Harvard Apparatus catalog represented approximately 22% of our revenues; revenues from direct sales to end-users through our direct sales force represented approximately 25% of our total revenues; and revenues of our products through distributors represented approximately 53% of our revenues.

Direct Sales

We periodically produce and mail a Harvard Apparatus full line catalog which contains approximately 11,000 products on 1,100 pages and is printed in varying quantities ranging from 50,000 to 100,000 copies. The catalog, which is accessible on our website, serves as the primary sales tool for the Harvard Apparatus product line which includes both proprietary manufactured products and complementary products from various suppliers. Our leadership position in many of our manufactured products creates traffic to the catalog and website and enables cross-selling and facilitates the introduction of new products. In addition to the comprehensive catalog, we create and mail abridged catalogs that focus on specific product areas along with direct mailers and targeted e-mailers, which introduce or promote new products. We distribute the majority of our products ordered from our catalog, through our worldwide subsidiaries. In those regions where we do not have a subsidiary, or for products which we have acquired, that had distributors in place at the time of our acquisition as the distribution channel, we use distributors.

As a result of our acquisition of Union Biometrica in 2001, the increased direct sales in the U.S. of our Biochrom Amino Acid Analyzer, our acquisition of Genomic Solutions in 2002, and our acquisitions of GeneMachines and BioRobotics in 2003, a significant portion of our revenues is now attributable to a direct sales force and support organization rather than to catalog or distributor sales. Our direct sales force is complemented in the field by our technical support and field service organizations, and together they effectively sell and service our capital equipment product lines such as the COPAS™ product line, the Biochrom Amino Acid Analyzer, the Genomic Solutions' genomics and proteomics systems, and the Cartesian high-throughput screening product lines. The MIAS product is still in a start up phase and we expect the sales to be both direct to scientists and through OEMs.

Distributors

In August 2001, we entered into a new agreement with GE Healthcare. Under the terms of the agreement GE Healthcare serves as the exclusive distributor, marketer and seller of a majority of our spectrophotometer and DNA/RNA calculator product lines of our Biochrom subsidiary. This agreement has a five year finite life and may be terminated by either party upon 18 months prior written notice. Additionally, upon breach of certain terms of the agreement, such as pricing, exclusivity and delivery, by either party, the agreement may be terminated with a 30 day notice period.

In November 2003, in connection with the acquisition of Hoefer from GE Healthcare, we entered into a separate distribution agreement with GE Healthcare for the distribution of the Hoefer products. This contract has a ten year term, provides for minimum purchases for the first three years, allows us to use the Hoefer name (which we acquired in the transaction) on direct sales by us to end users or through other distributors, and may be terminated after five years with a one year advance notice. Additionally, upon breach of certain terms of the agreement, such as pricing, exclusivity, and delivery, by either party, the agreement may be terminated with a 30 day notice period.

In addition to engaging GE Healthcare as the primary distributor for our Biochrom and Hoefer products, we also engage distributors for the sales of Harvard Apparatus, BTX, KD Scientific, Union Biometrica, Asys Hitech, SciePlas and Genomic Solutions branded products in certain areas of the world and for certain product lines. In those regions where we do not have a subsidiary, and for products which we have acquired that had distributors in place as the distribution channel at the time of our acquisition, we use distributors.

Research and Development

Our principal research and development mission is to develop products which address bottlenecks within the drug discovery process, particularly for application in the areas of ADMET screening, molecular biology, genomics, proteomics and high-throughput/high-content screening.

Our research and development expenditures were $7.2 million, $6.3 million and $4.2 million (excluding in-process research and development charges of $1.6 million in 2002) in 2004, 2003 and 2002, respectively. We anticipate that we will continue to make significant development expenditures as we deem appropriate given the circumstances at such time. We plan to continue to pursue a balanced development portfolio strategy of originating new products from internal research and development programs and acquiring products through business and technology acquisitions. The development of the new human pancreatic islet cell and embryoid body applications for COPAS™, the second generation of MIAS, the next generation proteomics systems, the multi-well plate for the BTX electroporation products, the miniaturized sample preparation products and new generations of spectrophotometers and plate readers were our significant development projects in 2004.

We maintain development staff in most of our manufacturing facilities to design and develop new products and also to re-engineer existing products to bring them to the next generation level. In-house development is focused on our current technologies. Our European research laboratory in Geel, Belgium is focusing on extending the use of and developing new applications for high-throughput automated microscope imaging. For major new technologies, our strategy has been to partner with universities, government labs or pharmaceutical companies to develop technology into commercially viable products. COPAS, MIAS and Hummingbird, for instance, were all developed in conjunction with major pharmaceutical companies.

Manufacturing

We manufacture and test the majority of our products in our principal manufacturing facilities located in the United States, the United Kingdom, Austria, Belgium and Germany. We have considerable manufacturing flexibility at our various facilities, and each facility can manufacture multiple products at the same time. We maintain in-house key manufacturing know-how, technologies and resources. We seek to maintain multiple suppliers for key components that are not manufactured in-house, and while some of our products are dependent on sole-source suppliers, we do not believe our dependence upon these suppliers creates any significant risks. During 2003, we relocated the manufacturing and engineering of our GeneMachines products from San Carlos, California to Huntingdon, UK and during 2005 we will be relocating the manufacturing and engineering of our Cartesian products from Irvine, California to Holliston, Massachusetts.

Our manufacturing operations are primarily to assemble and test. Our manufacturing of syringe pumps, ventilators, cell injectors, miniaturized sample preparation products and electroporation products takes place in Holliston, Massachusetts. The manufacture of our cell biology and electrophysiology products takes place in both our Holliston, Massachusetts facility and our Hamden, Connecticut facility. COPAS™ instruments are manufactured in our Somerville, Massachusetts facility. Our genomics and proteomics products are manufactured in Huntingdon, England. Our Cartesian high throughput screening instruments will be manufactured in our Holliston facility beginning in the second quarter of 2005. Our manufacturing of spectrophotometers and amino acid analysis systems takes place in our Cambridge, England facility. Our manufacturing of surgery and anesthesia related products and physiology teaching products takes place in Edenbridge, England. Our manufacturing of complete organ testing systems takes place in March-Hugstetten, Germany. Our electrophoresis products are manufactured at our Warwickshire, England facility and our San Francisco, California facility. Our low-volume, high-throughput liquid dispensers and our plate readers are manufactured in our facility in Eugendorf, Austria. Our MIAS products are manufactured at our facility in Geel, Belgium.

Competition

The markets into which we sell our products are highly competitive, and we expect the intensity of competition to continue or increase. We compete with many companies engaged in developing and selling tools for drug discovery. Many of our competitors have greater financial, operational, sales and marketing resources, and more experience in research and development and commercialization than we have. Moreover, our competitors may have greater name recognition than we do, and many offer discounts as a competitive tactic. These competitors and other companies may have developed or could in the future develop new technologies that compete with our products which could render our products obsolete. We cannot assure you that we will be able to make the enhancements to our technologies necessary to compete successfully with newly emerging technologies. We are not aware of any significant products sold by us which are currently obsolete.

We believe that we offer one of the broadest selections of products to companies engaged in drug discovery. We are not aware of any competitor that offers a product line of comparable breadth across our target markets. We have numerous competitors on a product line basis. We believe that we compete favorably with our competitors on the basis of product performance, including quality, reliability and speed, technical support, price and delivery time. We compete with several companies that provide instruments for ADMET screening, molecular biology, genomics, proteomics, high throughput screening, and high-content screening. In the ADMET screening area, we compete with, among others, Razel Scientific Instruments, Inc., Kent Scientific Corporation, General Valve Corp., Eppendorf-Netheler-Hinz GmbH, Ugo Basile and Becton, Dickinson and Company. In the molecular biology products, we compete with, among others, Bio-Rad Laboratories, Inc., PerkinElmer, Inc., Invitrogen Corporation, Beckman Coulter, Inc., Thermo Electron Corporation, Eppendorf and Molecular Devices Corporation. In the genomics and proteomics area, we compete with, among others,

Genetix, Ltd., General Electic Corp, Molecular Devices Corporation., Bio-Rad Laboratories, Inc., Agilent Technologies, Inc., Bruker BioSciences Corporation, Tecan Group, PerkinElmer, Inc. and Affymetrix, Inc. In the high-throughput/high-content screening area we compete with, among others, General Electric Corp., Cellomics, Inc., PerkinElmer, Inc., Caliper Life Sciences Corporation, Tecan Group, Beckman Coulter, Inc., Becton, Dickinson and Company, Fisher Scientific, Inc., Agilent Technologies, Inc., and Innovadyne Technologies, Inc. For our COPAS™ product line, we compete primarily against manual techniques rather than a specific tools provider.

Intellectual Property

To establish and protect our proprietary technologies and products, we rely on a combination of patent, copyright, trademark and trade-secret laws, as well as confidentiality provisions in our contracts. Many of our new technologies are covered by patents or patent applications. Most of our more mature product lines are protected by trade names and trade secrets only.

We have implemented a patent strategy designed to provide us with freedom to operate and facilitate commercialization of our current and future products. We currently own 42 issued U.S. patents and have 18 pending applications.

Generally, U.S. patents have a term of 17 years from the date of issue for patents issued from applications filed with the U.S. Patent Office prior to June 8, 1995, and 20 years from the application filing date or earlier claimed priority date in the case of patents issued from applications filed on or after June 8, 1995. Our issued US patents will expire between 2011 and 2020. Our success depends to a significant degree upon our ability to develop proprietary products and technologies. We intend to continue to file patent applications as we develop new products and technologies.

Patents provide some degree of protection for our intellectual property. However, the assertion of patent protection involves complex legal and factual determinations and is therefore uncertain. The scope of any of our issued patents may not be sufficiently broad to offer meaningful protection. In addition, our issued patents or patents licensed to us may be successfully challenged, invalidated, circumvented or unenforceable so that our patent rights would not create an effective competitive barrier. Moreover, the laws of some foreign countries may protect our proprietary rights to a greater or lesser extent as do the laws of the United States. In addition, the laws governing patentability and the scope of patent coverage continue to evolve, particularly in areas of interest to us. As a result, there can be no assurance that patents will issue from any of our patent applications or from applications licensed to us. In view of these factors, our intellectual property positions bear some degree of uncertainty.

We also rely in part on trade-secret protection of our intellectual property. We attempt to protect our trade secrets by entering into confidentiality agreements with third parties, employees and consultants. Our employees and consultants also sign agreements requiring that they assign to us their interests in patents and copyrights arising from their work for us. Although many of our U.S. employees have signed agreements not to compete unfairly with us during their employment and after termination of their employment, through the misuse of confidential information, soliciting employees, soliciting customers and the like, these types of agreements cannot be legally entered into in Europe or in California. In addition, it is possible that these agreements may be breached or invalidated and if so, there may not be an adequate corrective remedy available. Despite the measures we have taken to protect our intellectual property, we cannot assure you that third parties will not independently discover or invent competing technologies, or reverse engineer our trade secrets or other technologies. Therefore, the measures we are taking to protect our proprietary rights may not be adequate.

We do not believe that our products infringe on the intellectual property rights of any third party. We cannot assure you, however, that third parties will not claim such infringement by us or our licensors with respect to current or future products and third parties have made such claims. We expect

that product developers in our market will increasingly be subject to such claims as the number of products and competitors in our market segment grows and the product functionality in different market segments overlaps. In addition, patents on production and business methods are becoming more common and we expect that more patents will be issued in our technical field. Any such claims, with or without merit, could be time-consuming, result in costly litigation and diversion of management's attention and resources, cause product shipment delays or require us to enter into royalty or licensing agreements. Moreover, such royalty or licensing agreements, if required, may not be on terms acceptable to us, or at all, which could seriously harm our business or financial condition.

"Harvard" is a registered trademark of Harvard University. The marks "Harvard Apparatus" and "Harvard Bioscience" are being used pursuant to a license agreement entered into in December 2002 between Harvard University and Harvard Bioscience, Inc.

Government Regulation

We are not subject to direct governmental regulation other than the laws and regulations generally applicable to businesses in the domestic and foreign jurisdictions in which we operate. In particular, our products are not subject to pre-market approval by the United States Food and Drug Administration for use on human clinical patients. In addition, we believe we are in compliance with all relevant environmental laws.

Employees

As of December 31, 2004, we had 398 full-time employees and 34 part-time employees, 208 of whom resided in the United States, 172 of whom resided in the United Kingdom, 17 of whom resided in Austria, 15 of whom resided in Germany, 11 of whom resided in Belgium, four of whom resided in Canada, three of whom resided in France, one of whom resided in the Netherlands and one of whom resided in Spain. None of our employees is subject to any collective bargaining agreement. We believe that our relationship with our employees is good.

Geographic Area

Financial information regarding geographic areas in which we operate is provided in Note 15 of the "Notes to Consolidated Financial Statements," which are included elsewhere in this report.

Website

Our website is www.harvardbioscience.com. Our annual report on Form 10-K/A, quarterly reports on Form 10-Q, current reports on Form 8-K, and exhibits and amendments to those reports filed or furnished with the Securities and Exchange Commission pursuant to Section 13(a) of the Exchange Act are available for review on our website. Any such materials that we file with, or furnish to, the Securities and Exchange Commission in the future will be available on our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission. The information on our website is not incorporated by reference into this Annual Report on Form 10-K/A.

Item 2. ***Properties.***

Our 12 principal facilities incorporate manufacturing, development, sales and marketing, and administration functions. Our facilities consist of:

- a leased 28,250 square foot facility in Holliston, Massachusetts, which is our corporate headquarters,
- a leased 28,000 square foot facility in Cambridge, England,
- a leased 12,200 square foot facility in Ann Arbor, Michigan,
- a leased 24,000 square foot facility in Huntingdon, England,
- a leased 22,600 square foot facility in San Francisco, California,
- a leased 18,000 square foot facility in Warwickshire, England,
- an owned 15,500 square foot facility in Edenbridge, England,
- a leased 15,400 square foot facility in Irvine, California,
- a leased 9,000 square foot facility in March-Hugstetten, Germany,
- a leased 7,800 square foot facility in Somerville, Massachusetts,
- a leased 7,500 square foot facility in Hamden, Connecticut, and
- a leased 4,700 square foot facility in Eugendorf, Austria.

We also lease additional facilities for manufacturing, development, sales and administrative support in Les Ulix, France; Montreal, Canada; and Geel, Belgium. We lease a facility in San Diego, California which is currently being sub-leased.

Item 3. ***Legal Proceedings.***

On February 4, 2002, Paul D. Grindle, the former owner of Harvard Apparatus, Inc., initiated an arbitration proceeding against us and certain directors before JAMS in Boston, Massachusetts. Mr. Grindle's claims arise out of post-closing purchase price adjustments related to our purchase of the assets and business of Harvard Apparatus by virtue of an Asset Purchase Agreement dated March 15, 1996 and certain related agreements. In the arbitration demand, Mr. Grindle sought the return of 1,563,851 shares of common stock in Harvard Bioscience, or the disgorgement of the profits of our sale of the stock, as well as compensatory damages and multiple damages and attorney's fees under Mass. Gen. Laws, chapter 93A. In a demand letter that was attached to the arbitration demand, Mr. Grindle asserted losses in the amount of $15 million, representing the value of the 1,563,851 shares of Harvard Bioscience's common stock as of January 2, 2002. On October 30, 2002, we received a decision from the arbitrator that we have prevailed on all claims asserted against us and certain of our directors in the arbitration action. Specifically, we received a written decision from the arbitrator granting our motion for summary disposition with respect to all claims brought against all parties in the action. The Company filed a complaint in the Massachusetts Superior Court seeking to confirm the arbitrator's decision. Mr. Grindle filed a complaint in the Massachusetts Superior Court seeking to vacate the arbitrator's decision. These two matters were consolidated. On or about July 30, 2003, the Massachusetts Superior Court granted our motion to confirm the arbitrator's decision and to deny Mr. Grindle's motion to vacate. Mr. Grindle filed a notice of appeal with the Massachusetts Appeals Court. Mr. Grindle also filed an application for direct appellate review with the Massachusetts Supreme Judicial Court, which was denied. On January 6, 2005, the Massachusetts Appeals Court affirmed the judgment of the Massachusetts Superior Court confirming the arbitrator's decision. Mr. Grindle did not

move for reconsideration of the Appeals Courts decision and did not appeal the Appeals Court's decision to the Massachusetts Supreme Judicial Court, and his time to so move or appeal has expired.

In addition, from time to time, we may be involved in various claims and legal proceedings arising in the ordinary course of business. Except as disclosed above, we are not currently a party to any such claims or proceedings, which, if decided adversely to us, would either individually or in the aggregate have a material adverse effect on our business, financial condition or results of operations.

Item 4. ***Submission of Matters to a Vote of Security Holders.***

None.

Item 4.A. ***Executive Officers of the Registrant.***

The following table shows information about our executive officers as of December 31, 2004.

Name	Age	Position
Chane Graziano	66	Chief Executive Officer and Director
David Green	40	President and Director
Bryce Chicoyne	35	Chief Financial Officer
Susan Luscinski	48	Chief Operating Officer
Paul Bailey	47	Vice President of Finance and Administration
David Strack	58	President of Genomic Solutions, Inc. and Union Biometrica, Inc.
Mark Norige	50	Chief Operating Officer of the Harvard Apparatus Business Unit

Chane Graziano has served as our Chief Executive Officer and as a member of our board of directors since March 1996. Prior to joining Harvard Bioscience, Mr. Graziano served as the President of Analytical Technology Inc., an analytical electrochemistry instruments company, from 1993 to 1996 and as the President and Chief Executive Officer of its predecessor, Analytical Technology Inc.-Orion, an electrochemistry instruments and laboratory products company, from 1990 until 1993. Mr. Graziano served as the President of Waters Corporation, an analytical instrument manufacturer, from 1985 until 1989. Mr. Graziano has over 41 years experience in the laboratory products and analytical instruments industry.

David Green has served as our President and as a member of our board of directors since March 1996. Prior to joining Harvard Bioscience, Mr. Green was a strategy consultant with Monitor Company, a strategy consulting company, in Cambridge, Massachusetts and Johannesburg, South Africa from June 1991 until September 1995 and a brand manager for household products with Unilever PLC, a packaged consumer goods company, in London from September 1985 to February 1989. Mr. Green graduated from Oxford University with a B.A. Honors degree in physics and holds a M.B.A. degree with distinction from Harvard Business School.

Bryce Chicoyne has served as our Chief Financial Officer since August 2004. Prior to joining Harvard Bioscience, Mr. Chicoyne served from December 2002 to August 2004 as Director of Financial Reporting with Apogent Technologies Inc. (now a subsidiary of Fisher Scientific Inc.), a developer and manufacturer of products for the clinical and research industries. From May 2000 to December 2002, Mr. Chicoyne served as the Manager of Financial Reporting of Sonus Networks, Inc., a provider of voice over IP infrastructure solutions for wireline and wireless service providers. From December 1999 to May 2000, he served as Director of Investment Accounting at CGU Insurance (now One Beacon

Insurance). From November 1995 to December 1999, he served in various finance roles with Sun Life of Canada. Mr. Chicoyne holds a B.S. in accounting from the University of Southern New Hampshire (formerly New Hampshire College) and a M.B.A. from the F.W. Olin School of Business at Babson College. Mr. Chicoyne is a certified public accountant.

Susan Luscinski has served as our Chief Operating Officer since August 2004. Ms. Luscinski served as our Chief Financial Officer from August 2001 until August 2004 and Vice President of Finance and Administration from May 1999 until August 2001. Ms. Luscinski served as our Corporate Controller from May 1988 until May 1999 and has served in various other positions at our company and its predecessor since January 1985.

Paul Bailey has served as our Vice President of Finance and Administration since October 2003. From 1998 to 2002, Mr. Bailey worked for Thermo Electron Corporation as the Controller of its analytical instruments business, formerly known as Thermo Instrument Systems, Inc. Mr. Bailey also served as the Vice President and Controller of CML Group, Inc., a specialty retailer and recreational product manufacturer, and held various other positions with that company from 1985 to 1998. Mr. Bailey has a M.B.A. degree from Wharton and a B.A. degree from Carleton College.

David Strack has served as the President of our Union Biometrica subsidiary since 2001 and President of our Genomic Solutions subsidiary since March, 2004. Prior to joining Harvard Bioscience, Dr. Strack served from 2000 to 2001 as President and Chief Operating Officer of Folia Inc., a biodegradable specialty polymers company. From 1996 to 1999 Dr. Strack served as President and Chief Operating Officer of Synthon Corporation, a chemicals company producing specialized chemicals for pharmaceutical companies. Dr. Strack has over 25 years experience in sales, marketing and general management, primarily in the laboratory instruments arena, including six years as President of the N.A. Instruments Division of ATI, and 13 years at Waters Corporation, progressing through market and product management, field sales management, VP for Pacific (Tokyo) and President of the consumables business unit. Dr. Strack holds a B.S. degree in chemistry from Rochester Institute of Technology, a Ph.D. degree in chemistry from Syracuse University, and a M.B.A. degree in marketing from Fairleigh Dickinson University.

Mark Norige has served as our Chief Operating Officer of the Harvard Apparatus business unit since January 2000 and in various other positions with us since September 1996. Prior to joining Harvard Bioscience, Mr. Norige served as a Business Unit Manager at QuadTech, Inc., an impedance measuring instrument manufacturer, from May 1995 until September 1996. Mr. Norige worked at Waters Corporation from 1977 until May 1995. Mr. Norige holds a B.S. degree from Lowell Technological Institute and a M.B.A. from Babson College.

PART II

Item 5. ***Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.***

Price Range of Common Stock.

Our common stock has been quoted on the Nasdaq National Market since our initial public offering on December 7, 2000, and currently trades under the symbol "HBIO." The following table sets forth the range of the high and low sales prices per share of our common stock as reported on the Nasdaq National Market for the quarterly periods indicated.

Year Ended December 31, 2004	High	Low
First Quarter	$ 11.10	$ 7.76
Second Quarter	$ 10.61	$ 4.00
Third Quarter	$ 4.98	$ 3.51
Fourth Quarter	$ 4.67	$ 3.57

Year Ended December 31, 2003	High	Low
First Quarter	$ 4.03	$ 2.63
Second Quarter	$ 4.88	$ 2.96
Third Quarter	$ 8.50	$ 3.81
Fourth Quarter	$ 10.59	$ 6.57

On March 1, 2005 the closing sale price of our common stock on the Nasdaq National Market was $4.22 per share. The number of record holders of our common stock as of March 1, 2005 was 208. We believe that the number of beneficial owners of our common stock at that date was substantially greater.

Dividend Policy.

We have never declared or paid dividends on our common stock in the past and do not intend to pay dividends in the foreseeable future. Any future determination to pay dividends will be at the discretion of our board of directors and will depend on our financial condition, results of operations, capital requirements and other factors the board of directors deems relevant.

Item 6. ***Selected Financial Data.***

	For The Years Ended December 31,				
	2004	2003	2002	2001	2000
	(in thousands, except per share data)				
Statement of Operations Data:					
Revenues	$ 92,597	$ 87,141	$ 57,380	$ 40,868	$ 30,575
Costs and Expenses:					
Cost of product revenues	46,523	43,811	28,993	20,494	16,097
Operating expenses	41,694	35,665	26,746	25,034	24,916
Operating income (loss)	4,380	7,665	1,641	(4,660)	(10,438)
Other income (expense), net	(584)	(428)	707	1,242	(38,073)
Income (loss) before income taxes	3,796	7,237	2,348	(3,418)	(48,511)
Income tax expense (benefit)	1,467	2,977	1,611	(1,790)	(1,359)
Net income (loss)	2,329	4,260	737	(5,208)	(49,870)
Preferred stock dividends	—	—	—	—	(136)
Net income (loss) available to common stockholders	$ 2,329	$ 4,260	$ 737	$ (5,208)	$ (50,006)
Income (loss) per share:					
Basic	$ 0.08	$ 0.14	$ 0.03	$ (0.20)	$ (6.25)
Diluted	$ 0.07	$ 0.14	$ 0.03	$ (0.20)	$ (6.25)
Weighted average common shares:					
Basic	30,269	29,924	27,090	25,785	8,005
Diluted	31,103	30,712	27,597	25,785	8,005

	As of December 31,				
	2004	2003	2002	2001	2000
	(in thousands)				
Balance Sheet Data:					
Cash and cash equivalents	$ 13,867	$ 8,223	$ 15,313	$ 29,385	$ 35,817
Working capital	45,245	40,182	31,816	32,597	40,552
Total assets	139,881	128,429	107,584	82,362	58,809
Long-term debt, net of current portion	16,520	12,787	400	637	1
Stockholders' equity (deficit)	104,357	98,878	88,381	66,812	52,335

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations.***

Forward-Looking Statements

The following section of this Annual Report on Form 10-K/A entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" contains statements that are not statements of historical fact and are forward-looking statements within the meaning of federal securities laws. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Factors that may cause our actual results to differ materially from those in the forward-looking statements include those factors described under the heading "Important Factors That May Affect Future Operating Results" beginning on page 31 of this Annual Report on Form 10-K/A. You should carefully review all of these factors, as well as the comprehensive discussion of forward-looking statements on page 1 of this Annual Report on Form 10-K/A.

Overview

From 1997 to 2004 our revenues grew at an annual compounded growth rate of approximately 30%. This was achieved by implementing our three-part growth strategy of new product development, strategic partnerships and acquisitions. Generally, this strategy has historically provided us with strong organic growth in good economic times, and in tough economic times, such as we experienced in 2002 and 2004, it has provided us with strong revenue growth through acquisitions. For 2004 our revenue growth is below our historic levels, which is primarily due to a decline of $8.4 million in sales at our Genomic Solutions subsidiary. Our revenue grew approximately 6% in 2004 over 2003. During 2003 and 2004, although we continued with new product development and strategic partnerships, which did contribute to revenues, our revenue growth was primarily attributable to acquisitions.

With the acquisitions of Union Biometrica in May 2001, Genomic Solutions in October 2002, GeneMachines in March 2003 and BioRobotics in September 2003, an increasing portion of our revenues is the result of sales of relatively high-priced products, considered to be capital equipment. For the years ended December 31, 2004 and 2003, approximately 32% and 40%, respectively, of our revenues were derived from capital equipment products. The capital equipment market has a tendency to be volatile and is much more seasonal compared to our traditional catalog business and as such, we believe we have experienced, and we believe we will continue to experience, substantial fluctuations in our quarterly revenues. Reduced demand, delays in purchase orders, receipt, manufacture or shipment of products or receivables collection of these relatively high-priced products have lead to substantial variability in our revenues, operating results and working capital requirements from quarter to quarter.

Additionally, the cyclical buying pattern of the capital equipment purchasing market could mask or exaggerate the economic trends underlying the market for our capital equipment product lines. Specifically, a decline in any quarter that is typically a quarter that we would expect to contribute less than one-fourth of the projected revenue for the year, could be misinterpreted if the decline is instead attributable to a negative trend in the market and/or in the demand for our products. Conversely, an increase in capital equipment purchasing in any quarter that is typically a quarter which we would expect to contribute less than one-quarter of projected revenue for the year, could be misinterpreted as a favorable trend in the market and/or in the demand for our products.

In general, we believe that we have seen, particularly in the last half of 2003 and in 2004, a strengthening in the economy. However, we do believe that the economy is still uncertain, with the outlook for the genomics and proteomics markets looking particularly uncertain. While we are optimistic that we can return to solid organic growth in addition to growth from acquisitions, we are unable to determine if the growth in the areas we have seen is a trend that is likely to continue, or are

even a trend. Additionally, the 2004 revenues we achieved in the genomics, proteomics and high-throughput screening product lines were lower than that achieved in 2003, not just due to an uncertain economy, but also we believe due to the lack of focus devoted to these product lines in 2003 and in the first half of 2004. We are continuing to monitor both the market, as well as our internal resources, as we pursue our goal of maintaining and/or improving the operating metrics of the Company, and accordingly during the second quarter of 2004, we implemented an action plan, including a restructuring plan at our Genomic Solutions subsidiary, which we believe will enable us to bring our genomics, proteomics and high-throughput screening product lines back in line with our goal of solid operating metrics and profitability across all product lines and operations. The costs associated with this action plan had an adverse impact on the 2004 earnings results.

Generally, management evaluates the financial performance of its operations before the effects of stock compensation expense and before the effects of purchase accounting and amortization of intangible assets related to our acquisitions. Our goal is to develop and sell products that profitably accelerate drug discovery and as such we monitor the operating metrics of the Company and when appropriate effect organizational changes to leverage infrastructure and distribution channels. These changes may be effected as a result of various events, including acquisitions, weakened economy, soft market conditions and personnel changes.

During 2003 we entered into a $20 million revolving credit facility with Brown Brothers Harriman & Co., under which we have drawn down approximately $16.5 million as of December 31, 2004. We believe that the financial covenants contained in the credit facility involving income, debt coverage and cash flow, as well as minimum working capital requirements are covenants that we will continue to be in compliance with under current operating plans. The credit facility also contains limitations on our ability to incur additional indebtedness. Additionally, the facility requires creditor approval for acquisitions funded with cash in excess of $6 million and for those which may be funded with equity in excess of $10 million. We do not believe that these requirements will be a significant constraint on our operations or on the acquisition portion of our growth strategy. As of December 31, 2004, we had available borrowing capacity under our revolving credit facility of $3.5 million.

Historically, we have funded acquisitions with debt, capital raised by issuing equity and cash flow from operations. In order to continue the acquisition portion of our three part growth strategy beyond what our current cash balances and cash flow from operations can support we will need to raise more capital, either by incurring additional debt, issuing equity or a combination. Currently, we are prohibited from accessing the public debt or equity markets until we are able to provide historical audited financial statements for a previous acquisition or until such financial statements are no longer required to be provided by SEC regulations. We are in the process of seeking to complete these audited financial statements and, once we complete these audited financial statements, we will be able to register our debt or equity securities using Form S-3 or other appropriate form of registration statement. However, until this matter is resolved, our ability to raise capital may be limited to private equity transactions and/or additional borrowing and may result in entering into an agreement on less than favorable terms.

In the table below, we provide an overview of the selected operating metrics.

Selected Operating Metrics
(in thousands)

	2004	% of Revenue	2003	% of Revenue	2002	% of Revenue
Total Revenues	$ 92,597		$ 87,141		$ 57,380	
Cost of Product Revenues	46,523	50.2%	43,811	50.3%	28,993	50.5%
Sales and Marketing Expense	16,817	18.2%	15,398	17.7%	8,478	14.8%
Research and Development Expense	7,193	7.8%	6,262	7.2%	4,151	7.2%
General & Administrative Expense	14,238	15.4%	11,303	13.0%	11,023	19.2%

Revenues. We generate revenues by selling instruments, devices and consumables through our catalog, our direct sales force, our distributors and our website.

For products primarily priced under $10,000, every one to three years, we intend to distribute a new, comprehensive catalog initially in a series of bulk mailings, first to our existing customers, followed by mailings to targeted markets of potential customers. Over the life of the catalog, distribution will also be made periodically to potential and existing customers through direct mail and trade shows and in response to e-mail and telephone inquiries. From time to time, we also intend to distribute catalog supplements that promote selected areas of our catalog or new products to targeted subsets of our customer base. Future distributions of our comprehensive catalog and our catalog supplements will be determined primarily by the incidence of new product introductions, which cannot be predicted. Our end user customers are research scientists at pharmaceutical and biotechnology companies, universities and government laboratories. Revenue from catalog sales in any period is a function of time elapsed since the last mailing of the catalog, the number of catalogs mailed and the number of new items included in the catalog. We launched our latest comprehensive catalog in March 2004, with approximately 1,100 pages and approximately 70,000 copies printed. Revenues direct to end users, derived through our catalog and the electronic version of our catalog on our website, represented approximately 22% and 25% of our revenues for the years ended December 31, 2004 and 2003, respectively. We do not currently have the capability to accept purchase orders through our website.

Products sold under brand names of distributors including GE Healthcare (formerly Amersham Biosciences), are typically priced in the range of $5,000 -$15,000. They are mainly scientific instruments like spectrophotometers and plate readers that analyze light to detect and quantify a very wide range of molecular and cellular processes or apparatus like gel electrophoresis units. We also use distributors for both our catalog products and our higher priced products, for sales in locations where we do not have subsidiaries or where we have distributors in place for acquired businesses. For the years ended December 31, 2004 and 2003, approximately 53% and 45%, respectively, of our revenues were derived from sales to distributors.

For our higher priced products, which are typically priced over $25,000 and deemed capital equipment, we have direct sales organizations which consist of sales and marketing personnel, customer support, technical support and field application service support. These organizations have been structured to attend to the specific needs associated with the promotion and support of higher priced capital equipment customers. The combined expertise of both our sales and technical support staff provide a balanced skill set when promoting the relevant products at seminars, on-site demonstrations and exhibitions which are done routinely. The expertise of our field service personnel provides complete post-sale customer support for instrument specific service, repair and maintenance, and applications support. For the years ended December 31, 2004 and 2003, approximately 25% and 30%, respectively, of our revenues were derived from sales by our direct sales force.

For the years ended December 31, 2004 and 2003, approximately 92% and 91%, respectively, of our revenues were derived from products we manufacture or from collaboration and research grant projects. The remaining 8% and 9%, respectively, of our revenues for the years ended December 31, 2004 and 2003, were derived from complementary products we distribute in order to provide the researcher with a single source for all equipment needed to conduct a particular experiment. For the years ended December 31, 2004 and 2003, approximately 46% and 50%, respectively, of our revenues were derived from sales made by our non-U.S. operations. A large portion of our international sales during this period consisted of sales to GE Healthcare (formerly Amersham Biosciences), the distributor for our spectrophotometers and plate readers. GE Healthcare distributes these products to customers around the world, including to many customers in the United States, from its distribution center in Upsalla, Sweden. As a result, we believe our international sales would have been a lower percentage of our revenues if we had shipped our products directly to our end-users. Changes in the

relative proportion of our revenue sources between catalog sales, direct sales, and distribution sales are the result of a different sales proportion of acquired companies.

Cost of product revenues. Cost of product revenues includes material, labor and manufacturing overhead costs, obsolescence charges, packaging costs, warranty costs, shipping costs and royalties. Our costs of product revenues may vary over time based on the mix of products sold. We sell products that we manufacture and products that we purchase from third parties. The products that we purchase from third parties have higher cost of goods sold because the profit is effectively shared with the original manufacturer. We anticipate that our manufactured products will continue to have a lower cost of goods sold as a percentage of revenues as compared with the cost of non-manufactured products for the foreseeable future. Additionally our cost of product revenues as a percent of product revenues will vary based on mix of direct end user sales and distributor sales.

General and administrative expense. General and administrative expense consists primarily of salaries and other related costs for personnel in executive, finance, accounting, information technology and human relations functions. Other costs include professional fees for legal and accounting services, restructuring costs, facility costs, investor relations, insurance and provision for doubtful accounts.

Sales and marketing expense. Sales and marketing expense consists primarily of salaries and related expenses for personnel in sales, marketing and customer support functions. We also incur costs for travel, trade shows, demonstration equipment, public relations and marketing materials, consisting primarily of the printing and distribution of our approximately 1,100 page catalog, supplements and various other specialty catalogs, and the maintenance of our websites. We may from time to time expand our marketing efforts by employing additional technical marketing specialists in an effort to increase sales of selected categories of products in our catalog. We may also from time to time expand our direct sales organizations in an effort to increase and/or support sales of our higher priced capital equipment instruments or to concentrate on key accounts or promote certain product lines.

Research and development expense. Research and development expense consists primarily of salaries and related expenses for personnel and capital resources used to develop and enhance our products and to support collaboration agreements. Other research and development expense includes fees for consultants and outside service providers, and material costs for prototype and test units. We expense research and development costs as incurred. We believe that significant investment in product development is a competitive necessity and plan to continue to make these investments in order to realize the potential of new technologies that we develop, license or acquire.

Stock compensation expense. Stock compensation expense resulting from stock option grants to our employees represents the difference between the fair market value and the exercise price of the stock options on the grant date for those options considered fixed awards. Stock compensation is amortized as a charge to operations using an accelerated vesting method in accordance with FASB Interpretation No. 28 *Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans*, which results in decreasing compensation expense from the date of the stock option grant until the vesting dates. In addition, upon the acceleration of vesting pursuant to separation agreements, the Company will record stock compensation expense equal to the difference between the fair market value and the exercise price related to the options which were accelerated. Stock compensation expense is included as a component of cost of product sales, sales and marketing expenses, research and development expenses, and general and administrative expenses as appropriate.

Results of Operations

Year Ended December 31, 2004 Compared to Year Ended December 31, 2003

Revenues. Revenues increased $5.5 million, or 6%, to $92.6 million for the year ended December 31, 2004 from $87.1 million in the same period of 2003. The increase in revenues was primarily due to the acquisitions of Hoefer and KD Scientific (which increased revenues by approximately $11.5 million) and a positive impact from sales denominated in foreign currencies (which increased revenues by approximately $3.8 million), a majority of which was at Biochrom. These increases were partially offset by a decrease in sales at Genomic Solutions of approximately $8.4 million. The favorable foreign exchange effect for the year ended December 31, 2004 is due primarily to the strengthening of the British pound sterling and the Euro against the U.S. dollar.

Cost of product revenues. Cost of product revenues increased $2.7 million or 6%, to $46.5 million for the year ended December 31, 2004 from $43.8 million for the same period in 2003. The increase in the cost of product revenues was primarily due to the factors which contributed to the growth in revenues. As a percentage of total revenues, cost of product revenues for the years ended December 31, 2004 and 2003 was 50% for both periods. For the year ended December 31, 2004, approximately $0.6 million of the cost of product revenues was related to fair value adjustments of inventory and backlog acquired from BioRobotics and Hoefer for products which were sold in 2004. For the year ended December 31, 2003, approximately $0.8 million of the cost of product revenues was related to fair value adjustments of inventory and backlog acquired from Genomic Solutions, BTX, GeneMachines, BioRobotics and Hoefer for products which were sold in 2003.

General and administrative expense. General and administrative expense increased $2.9 million, or 26%, to $14.2 million in the year ended December 31, 2004 compared to $11.3 million for the same period in 2003. Approximately $1.3 million of the increase is attributable to additional costs of Sarbanes-Oxley compliance efforts and approximately $1.0 million of the increase is attributable to acquisitions made in 2003 and 2004. In addition, approximately $0.6 million of the increase is the result of restructuring costs at our Biochrom, Genomic Solutions and Warner Instruments subsidiaries, due to the closure of facilities and realignment of our business strategy. We expect the costs of Sarbanes-Oxley compliance efforts to be approximately $1.0 million in 2005.

Sales and marketing expense. Sales and marketing expense increased $1.4 million, or 9%, to $16.8 million in 2004 from $15.4 million in 2003 due primarily to a general increase in spending on sales and marketing initiatives and acquisitions made in 2003 and 2004 partially offset by approximately $0.8 million due to the closing of the Genomic Solutions Japanese sales office.

Research and development expense. Research and development spending, which includes expenses related to research revenues, was $7.2 million in 2004 compared to $6.3 million in 2003. This increase is primarily due to acquisitions made in 2003 and 2004.

Amortization of intangible assets. Amortization of intangibles was $3.4 million in the year ended December 31, 2004 compared to $2.7 million for the same period in 2003. This increase is primarily attributed to acquisitions made in 2003 and 2004.

Other income (expense), net. Other expense, net, for 2004 of $584,000 included approximately $658,000 net interest expense compared to net interest expense of $151,000 for the same period in 2003. This increase in net interest expense is due to cash and interest-bearing debt being increasingly used to fund acquisitions since 2003. Other expense, net, for 2004 also included a $68,000 foreign exchange gain compared to a $484,000 gain for the same period last year. Other than intercompany debt that is considered as long-term in nature, these exchange gains are primarily the result of currency fluctuations on intercompany transactions between our subsidiaries. Other expense for 2003 included

approximately $790,000 in charges related to the settlement of an arbitration award in favor of the former shareholders of our Union Biometrica subsidiary.

Income taxes. The Company's effective income tax rates were 39% for 2004 and 41% for 2003. The decrease in the effective income tax rate is principally due to the Company incurring a lesser amount of nondeductible expenses in the United States while incurring operating losses in jurisdictions that have greater higher effective income tax rates, principally the United States, and earning operating income in foreign jurisdictions with lower effective income tax rates.

Year Ended December 31, 2003 Compared to Year Ended December 31, 2002

Revenues. Revenues increased $29.8 million, or 52%, to $87.1 million in 2003 from $57.4 million in 2002. The increase in revenues was primarily due to the acquisition of Genomic Solutions and GeneMachines (which increased revenues by approximately $24.7 million) and a positive impact from sales denominated in foreign currencies (which increased revenues by approximately $2.5 million), a majority of which was at Biochrom. The favorable foreign exchange effect for the year is due primarily to the strengthening of the British pound sterling and the Euro against the US dollar.

Cost of product revenues. Cost of product revenues increased $14.8 million, or 51%, to $43.8 million in 2003 from $29.0 million in 2002. Approximately $12.2 million of increase in cost of product revenues is primarily due to our acquisition of Genomic Solutions in October 2002 and GeneMachines in 2003. As a percentage of total revenues, cost of product revenues for 2003 was 50% and for 2002 was 51%. For 2003, approximately $0.8 million of the cost of product revenues was related to fair value adjustments of inventory and backlog acquired from Genomic Solutions, BTX, GeneMachines, BioRobotics and Hoefer for products which were sold in 2003. For 2002, approximately $0.5 of the cost of product revenues was related to fair value adjustments of inventory and backlog acquired from Genomic Solutions for products which were sold in 2002.

General and administrative expense. General and administrative expense increased $0.3 million, or 3%, to $11.3 million in 2003 from $11.0 million in 2002. A portion of the increase is due to the effects of our 2003 acquisitions and our 2002 acquisitions having a full year impact on 2003 spending compared to a partial year impact in 2002 (approximately $1.6 million). The balance of the increase in spending over 2002 was due primarily to increased costs for insurance partially offset by a decrease in bonus earned under the 2003 bonus plan compared to the 2002 bonus plan (approximately $0.7 million) and legal expense related to arbitration proceedings (approximately $1.0 million). These increases were offset by restructuring expenses of approximately $0.8 million incurred during 2002 for restructuring at our Union Biometrica and Genomic Solutions subsidiaries. As a percentage of revenues, general and administrative expense decreased from 19% in 2002 to 13% in 2003.

Sales and marketing expense. Sales and marketing expense increased $6.9 million, or 82%, to $15.4 million in 2003 from $8.5 million in 2002 due primarily to the acquisitions of Genomic Solutions and GeneMachines made during 2002 and 2003. As a percentage of revenues, sales and marketing expense was 18% in 2003 compared to 15% in 2002. This increase as a percentage of revenue is primarily attributable to the higher costs associated with the direct sales force at our Genomic Solutions subsidiary of approximately $6.4 million, which we acquired in October 2002, compared to the traditional spending rate for sales through a catalog or through distributors that we have historically experienced.

Research and development expense. Research and development spending, which includes expenses related to research revenues, was $6.3 million in 2003 compared to $4.2 million for the same period in 2002. This net increase is primarily due to acquisitions made during 2002 and 2003. As a percentage of revenues, research and development was 7% for both 2003 and 2002.

In-process research and development expense. As of the date of the acquisition of Genomic Solutions in 2002, we recorded $1.6 million of in-process research and development expense representing the estimated fair value of acquired research and development projects with no alternative future use.

Amortization of goodwill and other intangibles. Amortization of intangibles, including amortization of acquired technologies, was $2.7 million in 2003 compared to $1.5 million in 2002. This increase is primarily attributed to acquisitions made in 2002 and 2003.

Other income (expense), net. Other expense, net for 2003 of $0.4 million included approximately $0.8 million in charges related to an arbitration award in favor of the former stockholders of Union Biometrica. Other expense, net for 2003 also included net interest expense of approximately $0.2 million compared to net interest income of $0.3 million for 2002. This shift from interest income to interest expense is due to cash and interest-bearing debt being increasingly used to fund acquisitions since 2002. Other expense, net for 2003 also included a $0.5 million foreign exchange gain compared to a $0.4 million gain for the same period last year. Other than intercompany debt that is treated as a long-term investment, these exchange gains and losses are primarily related to transactions between our subsidiaries.

Income taxes. The Company's effective income tax rates were 41% for 2003 and 69% for 2002. Notwithstanding the effects of the nondeductible charges related to a one time arbitration award in 2003, in-process research and development charges for 2002 and certain stock compensation expense for 2003 and 2002 the Company's effective income tax rates were 34% for 2003 and 35% for 2002.

Liquidity and Capital Resources

Historically, we have financed our business through cash provided by operating activities, the issuance of common stock and preferred stock, and bank borrowings. Our liquidity requirements have arisen primarily from investing activities, including funding of acquisitions and capital expenditures. As of December 31, 2004, we had cash and cash equivalents of $13.9 million which represents an increase of approximately $5.6 million from December 31, 2003 primarily driven by positive operating cash flow. As of December 31, 2004, we had approximately $16.5 million outstanding under our credit facility, an increase of approximately $3.8 million from December 31, 2003. The net increase in the credit facility primarily resulted from $6.7 million of borrowings to fund the acquisition of KD Scientific offset by $2.9 million of cash repayments.

Overview of Cash Flows for the year ended December 31,
(in thousands)

	2004	2003	2002
Cash flows from operations:			
Net Income	$ 2,329	$ 4,260	$ 737
Adjust non-cash items	5,661	5,938	5,275
Changes in assets and liabilities	3,448	(8,170)	(5,212)
Cash provided by operations	11,438	2,028	800
Investing activities:			
Acquisition of businesses	(7,082)	(21,149)	(10,736)
Other Investing activities	(3,337)	(1,248)	(1,631)
Cash used in investing activities	(10,419)	(22,397)	(12,367)
Financing activities:			
Cash provided by debt, net	3,339	11,782	(3,745)
Other financing activities	871	1,272	600
Cash provided by (used in) financing activities	4,210	13,054	(3,145)
Exchange effect on cash	415	225	640
Increase (decrease) in cash and cash equivalents	$ 5,644	$ (7,090)	$ (14,072)

Our operating activities generated cash of $11.4 million for the year ended December 31, 2004 compared to $2.0 million for the same period in 2003. The increase in cash flow from operations was primarily the result of decreases in accounts receivable due to improved collection efforts, a decrease in other assets due to the timing of cash payments and an increase in deferred revenue. These items were offset by a decrease in trade accounts payable which was primarily due to the timing of cash payments.

Our investing activities used cash of $10.4 million in 2004 compared to $22.4 million for the same period in 2003. In 2004, approximately $6.7 million was used to fund the acquisition of KD Scientific which is more fully described in Note 6 to our consolidated financial statements and approximately $3.0 million in additions of property, plant and equipment. During the next twelve months the Company expects to spend between $2.0 million and $3.0 million on capital expenditures.

Our financing activities have historically consisted of borrowings under a revolving credit facility, long-term debt and the issuance of preferred stock and common stock, including the common stock issued in our initial public offering. Financing activities provided cash of $4.2 million during 2004 compared to $13.1 million during 2003. We ended the year with approximately $16.5 million drawn against our $20 million credit facility, an increase of approximately $3.8 million since December 31, 2003. The net increase in the credit facility resulted from $6.7 million of borrowings to fund the acquisition of KD Scientific offset by $2.9 million of cash repayments. During 2003, we entered into a $6.0 million bridge loan with Brown Brothers Harriman & Co. in anticipation of closing the $20 million credit facility. The bridge loan was repaid in full with the proceeds of the $20 million credit facility which we entered into in November 2003. As of December 31, 2004, we had available borrowing capacity under our revolving credit facility of $3.5 million.

Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary as a result of a number of factors. Based on our current operations and current operating plans, we expect that our available cash, cash generated from current operations and debt capacity will be sufficient to finance current operations and capital expenditures for 12 months and beyond. However, we may use substantial amounts of capital to accelerate product development or expand our sales and marketing activities. We may need to raise additional capital in order to make significant acquisitions. Additional capital raising activities will dilute the ownership interests of existing stockholders to the extent we raise capital by issuing equity securities. Currently, we are prohibited from accessing the public debt or equity markets until we are able to provide historical audited financial statements for a previous acquisition or until such financial statements are no longer required to be provided by SEC regulations. We are in the process of seeking to complete these audited financial statements and, once we complete these audited financial statements, we will be able to register our debt or equity securities using Form S-3 or other appropriate form of registration statement. However, until this matter is resolved, our ability to raise capital may be limited to private equity transactions and/or additional borrowing and may result in entering into an agreement on less than favorable terms. In addition, our credit facility with Brown Brothers Harriman contains limitations on our ability to incur additional indebtedness and requires creditor approval for acquisitions funded with cash in excess of $6 million and for those which may be funded with equity in excess of $10 million. Accordingly, there can be no assurance that we will be successful in raising additional capital on favorable terms or at all.

Off-Balance Sheet Arrangements

We do not use special purpose entities or other off-balance sheet financing arrangements.

Contractual Obligations

The following schedule represents our contractual obligations as of December 31, 2004.

Payments Due by Period

Contractual Obligation	Total	2005	2006	2007	2008	2009	2010 and beyond
(in 000's)							
Notes payable	$ 16,500	$ —	$ 16,500	$ —	$ —	$ —	$ —
Capital leases, including imputed interest	46	25	21	—	—	—	—
Operating leases	7,287	2,004	1,377	1,180	960	399	1,367
Total	$ 23,833	$ 2,029	$ 17,898	$ 1,180	$ 960	$ 399	$ 1,367

Critical Accounting Policies

We believe that our critical accounting policies are as follows:

- revenue recognition;
- inventory;
- valuation of identifiable intangible assets and in-process research and development in business combinations;
- valuation of long-lived and intangible assets and goodwill; and
- accounting for income taxes

Revenue recognition. The Company recognizes revenue of products when persuasive evidence of a sales arrangement exists, the price to the buyer is fixed or determinable, delivery has occurred, and collectibility of the sales price is reasonably assured. Sales of some of our products include provisions to provide additional services such as installation and training. The Company evaluates all sales with multiple deliverables, including our collaboration agreements, to determine if more than one unit of accounting exists, in accordance with EITF Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables.* When the Company determines that there is more than one unit of accounting, and there is objective and reliable evidence of fair value for all units of accounting in an arrangement, the arrangement consideration is allocated to the separate units of accounting based on their relative fair values. In situations where there is objective and reliable evidence of the fair value(s) of the undelivered item(s) in an arrangement but no such evidence for the delivered item(s) the Company applies the residual method to allocate fair value. Under the residual method, the amount of consideration allocated to the delivered item(s) equals the total arrangement consideration less the aggregate fair value of the undelivered item(s). Revenue for each unit of accounting is recorded once all applicable revenue recognition criteria have been met. Service agreements on our equipment are typically sold separately from the sale of the equipment. Revenues on these service agreements are recognized ratably over the life of the agreement, typically one year, in accordance with FASB Technical Bulletin FTB 90-1, *Accounting for Separately Priced Extended Warranty and Product Maintenance Contracts***.** The Company accounts for shipping and handling fees and costs in accordance with EITF Issue No. 00-10, *Accounting for Shipping and Handling Fees and Costs*, which requires all amounts charged to customers for shipping and handling to be classified as revenues. The Company's costs incurred related to shipping and handling are classified as cost of product revenues. Warranties and product returns are estimated and accrued for at the time sales are recorded. The Company has no obligations to customers after the date products are shipped or installed, if applicable, other than pursuant to warranty obligations and service or maintenance contracts. The Company provides for the estimated amount of future returns upon shipment of products or installation, if applicable, based on historical experience. While product returns and warranty costs have historically not been significant, they have been within our expectations and the provisions established, however, there is no assurance that we will continue to experience the same return rates and warranty repair costs that we have in the past. Any significant increase in product return rates or a significant increase in the cost to repair our products could have a material adverse impact on our operating results for the period or periods in which such returns or increased costs materialize.

Accounting for income taxes. We are required to determine our annual income tax provision in each of the jurisdictions in which we operate. This involves determining our current and deferred income tax expense as well as accounting for differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. The future tax consequences attributable to these differences result in deferred tax assets and liabilities, which are included in our consolidated balance sheets. We must assess the recoverability of the deferred tax assets by considering whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. To the extent we believe that recovery does not meet this "more likely than not" standard as required in SFAS No. 109, *Accounting for Income Taxes*, we must establish a valuation allowance. If a valuation allowance is established or increased in a period, we must allocate the related income tax expense to income from continuing operations in the consolidated statement of operations to the extent those deferred tax assets originated from continuing operations. To the extent income tax benefits are allocated to stockholders' equity, the related valuation allowance also must be allocated to stockholders' equity.

Management judgment and estimates are required in determining our income tax provision, deferred tax assets and liabilities and any valuation allowance recorded against net deferred tax assets. We have established a valuation allowance attributable to certain temporary differences as we believe that a portion of the deferred tax assets at December 31, 2004 are not "more likely than not" to be

realized in the carryback and carryforward periods based on the criteria set forth in SFAS No. 109. We review the recoverability of deferred tax assets during each reporting period by reviewing previous estimates of future taxable income and comparing them to current estimates, and when appropriate, by reviewing possible tax planning strategies that would prevent the loss of the recoverability of any portion of the deferred tax asset that may occur due to expiration.

The Company makes estimates evaluating its allowance for doubtful accounts. On an ongoing basis, the Company monitors collections and payments from its customers and maintains a provision for estimated credit losses based upon our historical experience and any specific customer collection issues that we have identified. While such credit losses have historically not been significant, they have been within our expectations and the provisions established, however, there is no assurance that we will continue to experience the same credit loss rates that we have in the past. A significant change in the liquidity or financial position of our customers could have a material adverse impact on the collectibility of our accounts receivable and our future operating results.

Inventory. The Company values its inventory at the lower of the actual cost to purchase (first-in, first-out method) and/or manufacture the inventory or the current estimated market value of the inventory. The Company regularly reviews inventory quantities on hand and records a provision to write down excess and obsolete inventory to its estimated net realizable value if less than cost, based primarily on its estimated forecast of product demand. Since forecasted product demand quite often is a function of previous and current demand, a significant decrease in demand could result in an increase in the charges for excess inventory quantities on hand. In addition, the Company's industry is subject to technological change and new product development, and technological advances could result in an increase in the amount of obsolete inventory quantities on hand. Therefore, any significant unanticipated changes in demand or technological developments could have a significant adverse impact on the value of the Company's inventory and its reported operating results.

Valuation of identifiable intangible assets acquired in business combinations. Identifiable intangible assets consist primarily of trademarks and acquired technology. Such intangible assets arise from the allocation of the purchase price of businesses acquired to identifiable intangible assets based on their respective fair market values. Amounts assigned to such identifiable intangible assets are primarily based on independent appraisals using established valuation techniques and management estimates. The value assigned to trademarks was determined by estimating the royalty income that would be negotiated at an arm's-length transaction if the asset were licensed from a third party. A discount factor, ranging from 20% to 40%, which represents both the business and financial risks of such investments, was used to determine the present value of the future streams of income attributable to trademarks. The specific approach used to value trademarks was the Relief from Royalty ("RFR") method. The RFR method assumes that an intangible asset is valuable because the owner of the asset avoids the cost of licensing that asset. The royalty savings are then calculated by multiplying a royalty rate times a determined royalty base, i.e., the applicable level of future revenues. In determining an appropriate royalty rate, a sample of guideline, arm's length royalty and licensing agreements are analyzed. In determining the royalty base, forecasts are used based on management's judgments of expected conditions and expected courses of actions. The value assigned to acquired technology was determined by using a discounted cash flow model which measures what a buyer would be willing to pay currently for the future cash stream potential of existing technology. The specific method used to value the technologies involved estimating future cash flows to be derived as a direct result of those technologies, and discounting those future streams to their present value. The discount factors used, ranging from 20% to 40%, reflects the business and financial risks of an investment in technologies. Forecasts of future cash flows are based on management's judgment of expected conditions and expected courses of action.

Valuation of in-process research and development acquired in business combinations. Purchase price allocation to in-process research and development represents the estimated fair value of research and

development projects that are reasonably believed to have no alternative future use. The value assigned to in-process research and development was determined by independent appraisals by estimating the cost to develop the purchased in-process research and development into commercially feasible products, estimating the percentage of completion at the acquisition date, estimating the resulting net risk-adjusted cash flows from the projects and discounting the net cash flows to their present value. The discount rates used in determining the in-process research and development expenditures reflects a higher risk of investment because of the higher level of uncertainty due in part to the nature of the Company and the industry to constantly develop new technology for future product releases and ranged from 25% to 43.5%. The forecasts used by the Company in valuing in-process research and development were based on assumptions the Company believed at the time to be reasonable, but which are inherently uncertain and unpredictable. Given the uncertainties of the development process, no assurance can be given that deviations from the Company's estimates will occur and no assurance can be given that the in-process research and development projects identified will ever reach either technological or commercial success.

Valuation of long-lived and intangible assets and goodwill. In accordance with the provisions of SFAS No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, we assess the impairment of identifiable intangibles with finite lives and long-lived assets whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important which could trigger an impairment review include the following: significant underperformance relative to expected historical or projected future operating results; significant changes in the manner of our use of the acquired assets or the strategy for our overall business; significant negative industry or economic trends; significant changes in who our competitors are and what they do; significant changes in our relationship with GE Healthcare (formerly Amersham Biosciences); significant decline in our stock price for a sustained period; and our market capitalization relative to net book value.

If we were to determine that the value of long-lived assets and identifiable intangible assets with finite lives was not recoverable based on the existence of one or more of the aforementioned factors, then the recoverability of those assets to be held and used would be measured by a comparison of the carrying amount of those assets to undiscounted future net cash flows before tax effects expected to be generated by those assets. If such assets are considered to be impaired, the impairment to be recognized would be measured by the amount by which the carrying value of the assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to dispose.

In June 2001, SFAS No. 142, *Goodwill and Other Intangible Assets* was issued. SFAS No. 142 addresses financial accounting and reporting for acquired goodwill and other intangible assets. Among other things, SFAS No. 142 requires that goodwill and intangible assets with indefinite useful lives no longer be amortized, but rather tested annually for impairment or more frequently if events or circumstances indicate that there may be impairment. The goodwill impairment test consists of a comparison of the fair value of the Company's reporting units with their carrying amount. If the carrying amount exceeds its fair value, the Company is required to perform the second step of the impairment test, as this is an indication that goodwill may be impaired. The impairment loss is measured by comparing the implied fair value of the reporting unit's goodwill with its carrying amount. If the carrying amount exceeds the implied fair value, an impairment loss shall be recognized in an amount equal to the excess. After an impairment loss is recognized, the adjusted carrying amount of the intangible asset shall be its new accounting basis. Subsequent reversal of a previously recognized impairment loss is prohibited. For unamortizable intangible assets if the carrying amount exceeds the fair value of the asset, the Company would write-down the unamortizable intangible asset to fair value. In accordance with SFAS No. 142, the Company performed its annual impairment tests on December 31, 2004, which did not indicate any impairment.

Impact of Foreign Currencies

We sell our products in many countries and a substantial portion of our sales, costs and expenses are denominated in foreign currencies, especially the United Kingdom pound sterling and the Euro. During 2004 and 2003 the U.S. dollar weakened against these currencies resulting in increased consolidated revenue and earnings growth. The gain associated with the translation of foreign equity into U.S. dollars was approximately $2.2 million, net of tax, for 2004 and, for 2003, approximately $4.0 million. In addition, the currency fluctuations resulted in approximately $68,000 and $484,000 in foreign currency gains in 2004 and 2003, respectively.

Historically, we have not hedged our foreign currency position. Currently, we attempt to manage foreign currency risk through the matching of assets and liabilities. However, as our sales expand internationally, we plan to evaluate our currency risks and we may enter into foreign exchange contracts from time to time to mitigate foreign currency exposure.

Backlog

Our order backlog was approximately $6.8 million as of December 31, 2004 and $6.0 million as of December 31, 2003. We include in backlog only those orders for which we have received valid purchase orders. Purchase orders may be cancelled at any time prior to shipment. Our backlog as of any particular date may not be representative of actual sales for any succeeding period. We typically ship our backlog at any given time within 90 days.

Recently Issued Accounting Pronouncements

In December 2003, the Financial Accounting Standards Board ("FASB") issued FASB Interpretation No. 46 (revised December 2003) ("FIN 46R"), *Consolidation of Variable Interest Entities*, which addresses how a business enterprise should evaluate whether it has a controlling financial interest in an entity through means other than voting rights and accordingly should consolidate the entity. FIN 46R replaces FASB Interpretation No. 46, *Consolidation of Variable Interest Entities*, which was issued in January 2003. The Company was required to adopt certain provisions of FIN 46R as of December 31, 2003 and the remaining provisions as of March 31, 2004. The adoption of this Interpretation did not have a material impact on the Company's consolidated results of operations or financial position.

In December 2003, Statement of Financial Accounting Standards ("SFAS") No. 132 (revised), *Employers' Disclosures about Pensions and Other Postretirement Benefits*, was issued. SFAS No. 132 (revised) prescribes employers' disclosures about pension plans and other postretirement benefit plans; it does not change the measurement or recognition of those plans. The Statement retains and revises the disclosure requirements contained in the original SFAS No. 132. It also requires additional disclosures about the assets, obligations, cash flows, and net periodic benefit cost of defined benefit pension plans and other postretirement benefit plans. The Statement was generally effective for fiscal years ending after December 15, 2003, however as all of the Company's pension plans covered by this Statement are outside of the United States the provisions of SFAS No. 132 were not applicable until 2004. The Company adopted the applicable interim disclosure requirements of SFAS No. 132 (revised) as of January 1, 2004 and the remaining disclosure requirements as of December 31, 2004 (see Note 12 to the consolidated financial statements).

In November 2004, Statement of Financial Accounting Standards No. 151 ("SFAS No. 151"), *Inventory Costs: an Amendment of ARB No. 43, Chapter 4*, was issued. SFAS No. 151 clarifies the accounting for abnormal amounts of idle facility expense, freight, handling costs and wasted material by requiring those items to be recognized as current-period charges. The Statement is effective for fiscal years beginning after June 15, 2005. The Company does not believe that adoption of this Statement will have a material impact on its consolidated results of operations or financial position.

In December 2004, Statement of Financial Accounting Standards No. 123R ("SFAS No. 123R"), *Share-Based Payments*, a revision of SFAS No. 123, *Accounting for Stock-Based Compensation*, was issued. SFAS No. 123R addresses financial accounting and reporting for costs associated with stock-based compensation. SFAS No. 123R will require the Company to recognize compensation expense in an amount equal to the fair value of share-based payments related to unvested share-based awards over the applicable vesting period. The Statement is effective for interim or annual periods beginning after June 15, 2005. The Company is currently evaluating the impact that the adoption of this Statement will have on its consolidated results of operations and financial position.

Impact of Inflation

We believe that our revenues and results of operations have not been significantly impacted by inflation during the past three years.

Important Factors That May Affect Future Operating Results

Our operating results may vary significantly from quarter to quarter and year to year depending on a number of factors, including:

Our quarterly revenues will likely be affected by various factors, including the timing of capital equipment purchases by customers and the seasonal nature of purchasing in Europe.

Our quarterly revenues will likely be affected by various factors, including the volatility and seasonal timing of capital equipment purchases by customers and the volatile and seasonal nature of purchasing in Europe. Our revenues may vary from quarter to quarter due to a number of factors, including the seasonal nature of the capital equipment market, the timing of catalog mailings and new product introductions, future acquisitions and our substantial sales to European customers, who in summer months often defer purchases. With the acquisitions of Union Biometrica in May 2001, Genomic Solutions in October 2002, GeneMachines in March 2003 and BioRobotics in September 2003, an increasing portion of our revenues are the result of sales of relatively high-priced products, considered to be capital equipment. The capital equipment market is very volatile and seasonal and as such, we will experience substantial fluctuations in our quarterly revenues. Additionally, reduced demand, delays in purchase orders, receipt, manufacture, shipment or receivables collection of these relatively high-priced products could lead to substantial variability in revenues, operating results and working capital requirements from quarter-to-quarter, which could adversely affect our stock price. In particular, delays or reduction in purchase orders from the pharmaceutical and biotechnology industries could have a material adverse effect on us.

If we engage in any acquisition, we will incur a variety of costs, and may never realize the anticipated benefits of the acquisition.

Our business strategy includes the future acquisition of businesses, technologies, services or products that we believe are a strategic fit with our business. If we undertake any acquisition, the process of integrating an acquired business, technology, service or product may result in unforeseen operating difficulties and expenditures and may absorb significant management attention that would otherwise be available for ongoing development of our business. Moreover, we may fail to realize the anticipated benefits of any acquisition as rapidly as expected or at all. Future acquisitions could reduce stockholders' ownership, cause us to incur debt, expose us to future liabilities and result in amortization expenses related to intangible assets with definite lives.

Uncertain economic trends may adversely impact our business.

We have experienced and may continue to experience reduced demand for our products as a result of the uncertainty in the general economic environment in which we and our customers operate. We

cannot project the extent of the impact of the economic environment specific to our industry. If economic conditions worsen or if an economic slowdown occurs, we may experience a material adverse effect on our business, operating results, and financial condition.

We may misinterpret trends of our capital equipment product lines due to the cyclical nature of the capital equipment purchasing market.

The cyclical buying pattern of the capital equipment purchasing market could mask or exaggerate the economic trends underlying the market for our capital equipment product lines. Specifically, a decline in any quarter that is typically a quarter that we would expect to contribute less than one-quarter projected revenue for the year, could be misinterpreted if the decline was due instead to a negative trend in the market or in the demand for our products. Conversely, an increase in any quarter that is typically a quarter that we would expect to contribute less than one-quarter of projected revenue for the year, could be misinterpreted as a favorable trend in the market and in the demand for our products. This could have a material adverse effect on our operations.

We may not realize the expected benefits of our recent acquisitions of BTX, GeneMachines, BioRobotics, Hoefer and KD Scientific due to difficulties integrating the businesses, operations and product lines.

Our ability to achieve the benefits of our recent acquisitions of BTX, GeneMachines, BioRobotics, Hoefer and KD Scientific will depend in part on the integration and leveraging of technology, operations, sales and marketing channels and personnel. The integration process is a complex, time-consuming and expensive process and may disrupt our business if not completed in a timely and efficient manner. The challenges involved in this integration include the following:

- demonstrating to customers and suppliers that the acquisitions will not result in adverse changes in client service standards or business focus and
- addressing any perceived adverse changes in business focus.

We may have difficulty successfully integrating the acquired businesses, the domestic and foreign operations or the product lines, and as a result, we may not realize any of the anticipated benefits of the acquisitions. Additionally, we cannot assure that our growth rate will equal the growth rates that have been experienced by us and the acquired companies, respectively, operating as separate companies in the past.

Genomic Solutions, our subsidiary acquired in October 2002, has a history of losses and may not be able to regain or sustain profitability.

Prior to our acquisition, Genomic Solutions incurred net losses of $4.0 million for the six months ended June 30, 2002, $26.1 million for the year ended December 31, 2001, $8.9 million for the year ended December 31, 2000 and $11.1 million for the year ended December 31, 1999. As of June 30, 2002, Genomic Solutions had an accumulated deficit of $72.0 million. In September 2001, Genomic Solutions instituted a restructuring plan designed to reduce its operating expenses. In July 2002, Genomic Solutions announced a further restructuring of its operations. However, even with these restructurings, Genomic Solutions needs to generate significant revenues to achieve and maintain profitability.

Genomic Solutions' revenue growth depends on many factors, many of which are beyond its control, including factors discussed in this risk factors section. Additionally, Genomic Solutions may not regain or sustain revenue growth, as evidenced during 2004, due to difficulties in integrating its acquisitions of GeneMachines and BioRobotics which resulted in a further restructuring in June 2004. Even if Genomic Solutions does achieve profitability, it may not sustain or increase profitability on a quarterly or annual basis.

As an acquisitive company, we may be the subject of lawsuits from either an acquired company's previous stockholders or our current stockholders.

As an acquisitive company, we may be the subject of lawsuits from either an acquired company's previous stockholders or our current stockholders. These lawsuits could result from the actions of the acquisition target prior to the date of the acquisition, from the acquisition transaction itself or from actions after the acquisition. Defending potential lawsuits could cost us significant expense and detract management's attention from the operation of the business. Additionally, these lawsuits could result in the cancellation of or the inability to renew, certain insurance coverage that would be necessary to protect our assets.

Accounting for goodwill may have a material adverse effect on us.

We have historically amortized goodwill resulting from our acquisitions on a straight-line basis ranging from five to 15 years. Upon the adoption of SFAS No. 142, goodwill and intangible assets with indefinite lives from acquisitions after June 30, 2001 and existing goodwill and intangible assets with indefinite lives from acquisitions prior to July 1, 2001 that remain as of December 31, 2001 are no longer amortized, but instead are evaluated annually, or more frequently, if events or circumstances indicate there may be an impairment, to determine whether any portion of the remaining balance of goodwill and indefinite lived intangibles may not be recoverable. If it is determined in the future that a portion of our goodwill and intangible assets with indefinite lives is impaired, we will be required to write off that portion of the asset according to the methods defined by SFAS No. 142 which could have an adverse effect on net income for the period in which the write off occurs. At December 31, 2004, we had goodwill and intangible assets with indefinite lives of $42.5 million, or 30% of our total assets.

If our accounting estimates are not correct, our financial results could be adversely affected.

Management judgment and estimates are necessarily required in the application of our Critical Accounting Policies. We discuss these estimates in the subsection entitled Critical Accounting Policies beginning on page 26. If our estimates are incorrect, our future financial operating results and financial condition could be adversely affected.

Our business is subject to economic, political and other risks associated with international revenues and operations.

Since we manufacture and sell our products worldwide, our business is subject to risks associated with doing business internationally. Our revenues from our non-U.S. operations represented approximately 46% of total revenues for 2004. We anticipate that revenue from international operations will continue to represent a substantial portion of total revenues. In addition, a number of our manufacturing facilities and suppliers are located outside the United States. Accordingly, our future results could be harmed by a variety of factors, including:

- changes in foreign currency exchange rates, which resulted in a foreign currency gain of approximately $68,000 for 2004 and an increase in foreign equity of approximately $2.2 million, for the year ended December 31, 2004,
- changes in a specific country's or region's political or economic conditions, including western Europe and Japan, in particular,
- potentially negative consequences from changes in tax laws affecting the ability to expatriate profits,
- difficulty in staffing and managing widespread operations, and
- unfavorable labor regulations applicable to European operations, such as severance and the unenforceability of non-competition agreements in the European Union.

We may lose money when we exchange foreign currency received from international revenues into U.S. dollars.

For the year ended December 31, 2004, approximately 43% of our business was conducted in functional currencies other than the U.S. dollar, which is our reporting currency. As a result, currency fluctuations among the U.S. dollar and the currencies in which we do business have caused and will continue to cause foreign currency transaction gains and losses. Currently, we attempt to manage foreign currency risk through the matching of assets and liabilities. In the future, we may undertake to manage foreign currency risk through additional hedging methods. We recognize foreign currency gains or losses arising from our operations in the period incurred. We cannot guarantee that we will be successful in managing foreign currency risk or in predicting the effects of exchange rate fluctuations upon our future operating results because of the number of currencies involved, the variability of currency exposure and the potential volatility of currency exchange rates.

Failure to complete all aspects of our assessment of internal controls over financial reporting required by the Sarbanes-Oxley Act of 2002 may result in a decrease in our stock price.

In addition to our responsibilities with respect to an evaluation of our disclosure controls and procedures, we, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, are in the process of performing the assessments required by Section 404 of the Sarbanes-Oxley Act of 2002 and the related rules adopted by the Securities and Exchange Commission (collectively, the "Section 404 requirements"). We are required to include a report on management's assessment of the effectiveness of our internal controls over financial reporting in our Annual Report on Form 10-K or Form 10-K/A filed within forty-five days after March 16, 2005. Our independent registered public accounting firm is also required to attest to and report on management's assessment of the effectiveness of our internal controls over financial reporting. While we have been and continue to devote significant resources to prepare for the Section 404 requirements, we cannot assure you that our management will be able to complete all aspects of its assessment by the filing deadline or that our independent auditor will be able to complete all aspects of the testing necessary to attest to management's assessment. Further, since testing of key controls is still in process we cannot assure you that, once completed, management's assessment and the auditor's attestation will not report any material weaknesses or significant deficiencies in our internal control over financial reporting in addition to those already identified.

Additional costs for complying with recent changes in Securities and Exchange Commission, Nasdaq Stock Market and accounting rules could adversely affect our profits.

Recent changes in the Securities and Exchange Commission and Nasdaq rules including the Sarbanes-Oxley Act of 2002, as well as changes in accounting rules, will cause us to incur significant additional costs including professional fees, as well as additional personnel costs, in order to keep informed of the changes and operate in a compliant manner. These additional costs which were approximately $1.3 million during 2004, may be significant enough to cause our growth targets to be reduced, and consequently, our financial position and results of operations may be negatively impacted. We expect the cost of our Sarbanes-Oxley compliance efforts to be approximately $1.0 million during 2005.

We plan significant growth, and there is a risk that we will not be able to manage this growth.

Our success will depend on the expansion of our operations both through organic growth and acquisitions. Effective growth management will place increased demands on management, operational and financial resources and expertise. To manage growth, we must expand our facilities, augment our operational, financial and management systems, and hire and train additional qualified personnel. Failure to manage this growth effectively could impair our ability to generate revenue or could cause

our expenses to increase more rapidly than revenue, resulting in operating losses or reduced profitability as evidenced in our 2004 results.

If we fail to retain key personnel and hire, train and retain qualified employees, we may not be able to compete effectively, which could result in reduced revenue or increased costs.

Our success is highly dependent on the continued services of key management, technical and scientific personnel. Our management and other employees may voluntarily terminate their employment at any time upon short notice. The loss of the services of any member of the senior management team, including the Chief Executive Officer, Chane Graziano, the President, David Green, the Chief Operating Officer, Susan Luscinski, the Chief Financial Officer, Bryce Chicoyne or any of the managerial, technical or scientific staff may significantly delay or prevent the achievement of product development and other business objectives. We maintain key person life insurance on Messrs. Graziano and Green. Our future success will also depend on our ability to identify, recruit and retain additional qualified scientific, technical and managerial personnel. Competition for qualified personnel in the technology area is intense, and we operate in several geographic locations where labor markets are particularly competitive, including Boston, Massachusetts and London and Cambridge, England, and where demand for personnel with these skills is extremely high and is likely to remain high. As a result, competition for qualified personnel is intense, particularly in the areas of general management, finance, information technology, engineering and science, and the process of hiring suitably qualified personnel is often lengthy and expensive, and may become more expensive in the future. If we are unable to hire and retain a sufficient number of qualified employees, our ability to conduct and expand our business could be seriously reduced.

Our competitors and potential competitors may develop products and technologies that are more effective or commercially attractive than our products.

We expect to encounter increased competition from both established and development-stage companies that continually enter the market. We anticipate that these competitors will include:

- companies developing and marketing life sciences research tools,
- health care companies that manufacture laboratory-based tests and analyzers,
- diagnostic and pharmaceutical companies,
- analytical instrument companies and
- companies developing drug discovery technologies.

Currently, our principal competition comes from established companies that provide products that perform many of the same functions for which we market our products. Our competitors may develop or market products that are more effective or commercially attractive than our current or future products. Many of our competitors have substantially greater financial, operational, marketing and technical resources than we do. Moreover, these competitors may offer broader product lines and tactical discounts, and may have greater name recognition. In addition, we may face competition from new entrants into the field. We may not have the financial resources, technical expertise or marketing, distribution or support capabilities to compete successfully in the future.

Our products compete in markets that are subject to rapid technological change, and therefore one or more of our products could be made obsolete by new technologies.

Because the market for drug discovery tools is characterized by rapid technological change and frequent new product introductions, our product lines may be made obsolete unless we are able to continually improve existing products and develop new products. To meet the evolving needs of its customers, we must continually enhance our current and planned products and develop and introduce new products. However, we may experience difficulties that may delay or prevent the successful

development, introduction and marketing of new products or product enhancements. In addition, our product lines are based on complex technologies that are subject to rapid change as new technologies are developed and introduced in the marketplace. We may have difficulty in keeping abreast of the rapid changes affecting each of the different markets we serve or intend to serve. Our failure to develop and introduce products in a timely manner in response to changing technology, market demands or the requirements of our customers could cause our product sales to decline, and we could experience significant losses.

We offer and plan to offer a broad product line and have incurred and expect to continue to incur substantial expenses for development of new products and enhanced versions of our existing products. The speed of technological change in our market may prevent us from being able to successfully market some or all of our products for the length of time required to recover development costs. Failure to recover the development costs of one or more products or product lines could decrease our profitability or cause us to experience significant losses.

We entered into a $20 million credit facility in November 2003 which contains certain financial and negative covenants the breach of which may adversely affect our financial condition.

We anticipate that our operations will support the covenants required as part of the $20 million revolving credit facility with Brown Brothers Harriman. However, if we are not in compliance with certain of these covenants, in addition to other actions the creditor may require, the amounts drawn on the $20 million facility may become immediately due and payable. This immediate payment may negatively impact our financial condition and we may be forced by our creditor into actions which may not be in our best interests.

Failure to raise additional capital or generate the significant capital necessary to implement our acquisition strategy, expand our operations and invest in new products could reduce our ability to compete and result in lower revenue.

We anticipate that our financial resources which include available cash, cash generated from operations, and debt and equity capacity, will be sufficient to finance operations and capital expenditures for at least twelve months. However, this expectation is premised on the current operating plan, which may change as a result of many factors, including market acceptance of new products and future opportunities with collaborators. Consequently, we may need additional funding sooner than anticipated. Our inability to raise capital could seriously harm our business and product development and acquisition efforts.

If we raise additional funds through the sale of equity or convertible debt or equity-linked securities, existing percentages of ownership in our common stock will be reduced. In addition, these transactions may dilute the value of our outstanding common stock. We may issue securities that have rights, preferences and privileges senior to our common stock. If we raise additional funds through collaborations or licensing arrangements, we may relinquish rights to certain of our technologies or products, or grant licenses to third parties on terms that are unfavorable. We may be unable to raise additional funds on acceptable terms or at all. In addition, our credit facility with Brown Brothers Harriman contains limitations on our ability to incur additional indebtedness and requires creditor approval for acquisitions funded with cash in excess of $6 million and for those which may be funded with equity in excess of $10 million. Currently, we are prohibited from accessing the public debt or equity markets until we are able to provide historical audited financial statements for a previous acquisition or until such financial statements are no longer required to be provided by SEC regulations. We are in the process of seeking to complete these audited financial statements and, once we complete these audited financial statements, we will be able to register our debt or equity securities using Form S-3 or other appropriate form of registration statement. However, until this matter is resolved, our ability to raise capital may be limited to private equity transactions and/or additional borrowing and may result in entering into an agreement on less than favorable terms. If future financing is not

available or is not available on acceptable terms, we may have to curtail operations or change our business strategy.

If we are unable to effectively protect our intellectual property, third parties may use our technology, which would impair our ability to compete in our markets.

Our continued success will depend in significant part on our ability to obtain and maintain meaningful patent protection for certain of our products throughout the world. Patent law relating to the scope of claims in the technology fields in which we operate is still evolving. The degree of future protection for our proprietary rights is uncertain. We own 42 U.S. patents and have 18 patent applications pending in the U.S. We also own numerous U.S. registered trademarks and trade names and have applications for the registration of trademarks and trade names pending. We rely on patents to protect a significant part of our intellectual property and to enhance our competitive position. However, our presently pending or future patent applications may not issue as patents, and any patent previously issued to us may be challenged, invalidated, held unenforceable or circumvented. Furthermore, the claims in patents which have been issued or which may be issued to us in the future may not be sufficiently broad to prevent third parties from producing competing products similar to our products. In addition, the laws of various foreign countries in which we compete may not protect our intellectual property to the same extent as do the laws of the United States. If we fail to obtain adequate patent protection for our proprietary technology, our ability to be commercially competitive will be materially impaired.

In addition to patent protection, we also rely on protection of trade secrets, know-how and confidential and proprietary information. To maintain the confidentiality of trade-secrets and proprietary information, we generally seek to enter into confidentiality agreements with our employees, consultants and strategic partners upon the commencement of a relationship. However, we may not obtain these agreements in all circumstances. In the event of unauthorized use or disclosure of this information, these agreements, even if obtained, may not provide meaningful protection for our trade-secrets or other confidential information. In addition, adequate remedies may not exist in the event of unauthorized use or disclosure of this information. The loss or exposure of our trade secrets and other proprietary information would impair our competitive advantages and could have a material adverse effect on our operating results, financial condition and future growth prospects.

We may be involved in lawsuits to protect or enforce our patents that would be expensive and time-consuming.

In order to protect or enforce our patent rights, we may initiate patent litigation against third parties. We may also become subject to interference proceedings conducted in the patent and trademark offices of various countries to determine the priority of inventions. Several of our products are based on patents that are closely surrounded by patents held by competitors or potential competitors. As a result, we believe there is a greater likelihood of a patent dispute than would be expected if our patents were not closely surrounded by other patents. The defense and prosecution, if necessary, of intellectual property suits, interference proceedings and related legal and administrative proceedings would be costly and divert our technical and management personnel from their normal responsibilities. We may not prevail in any of these suits. An adverse determination of any litigation or defense proceedings could put our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. For example, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments in the litigation. Securities analysts or investors may perceive these announcements to be negative, which could cause the market price of our stock to decline.

Our success will depend partly on our ability to operate without infringing on or misappropriating the intellectual property rights of others.

We may be sued for infringing on the intellectual property rights of others, including the patent rights, trademarks and trade names of third parties. Intellectual property litigation is costly and the outcome is uncertain. If we do not prevail in any intellectual property litigation, in addition to any damages we might have to pay, we could be required to stop the infringing activity, or obtain a license to or design around the intellectual property in question. If we are unable to obtain a required license on acceptable terms, or are unable to design around any third party patent, we may be unable to sell some of our products and services, which could result in reduced revenue.

We are dependent upon our licensed technologies and may need to obtain additional licenses in the future to offer our products and remain competitive.

We have licensed key components of our technologies from third parties. While we do not currently derive a material portion of our revenue from products that depend on these licensed technologies, we may in the future. If our license agreements were to terminate prematurely or if we breach the terms of any licenses or otherwise fail to maintain our rights to these technologies, we may lose the right to manufacture or sell our products that use these licensed technologies. In addition, we may need to obtain licenses to additional technologies in the future in order to keep our products competitive. If we fail to license or otherwise acquire necessary technologies, we may not be able to develop new products that we need to remain competitive.

Many of our current and potential customers are from the pharmaceutical and biotechnology industries and are subject to risks faced by those industries.

We derive a substantial portion of our revenues from pharmaceutical and biotechnology companies. We expect that pharmaceutical and biotechnology companies will continue to be one of our major sources of revenues for the foreseeable future. As a result, we are subject to risks and uncertainties that affect the pharmaceutical and biotechnology industries, such as pricing pressures as third-party payers continue challenging the pricing of medical products and services, government regulation, ongoing consolidation and uncertainty of technological change, and to reductions and delays in research and development expenditures by companies in these industries. In particular, several proposals are being contemplated by lawmakers in the United States to extend the Federal Medicare program to include reimbursement for prescription drugs. Many of these proposals involve negotiating decreases in prescription drug prices or imposing price controls on prescription drugs. If appropriate reimbursement cannot be obtained, it could result in customers purchasing fewer products from us as they reduce their research and development expenditures.

In particular, the biotechnology industry has been faced with declining market capitalization and a difficult capital-raising and financing environment. If biotechnology companies are unable to obtain the financing necessary to purchase our products, our business and results of operations could be materially adversely affected. As it relates to both the biotechnology and pharmaceutical industries, many companies have significant patents that have expired or are about to expire, which could result in reduced revenues for those companies. If pharmaceutical companies suffer reduced revenues as a result of these patent expirations, they may be unable to purchase our products, and our business and results of operations could be materially adversely affected.

In addition, we are dependent, both directly and indirectly, upon general health care spending patterns, particularly in the research and development budgets of the pharmaceutical and biotechnology industries, as well as upon the financial condition and purchasing patterns of various governments and government agencies. Many of our customers, including universities, government research laboratories, private foundations and other institutions, obtain funding for the purchase of products from grants by governments or government agencies. There exists the risk of a potential decrease in the level of

governmental spending allocated to scientific and medical research which could substantially reduce or even eliminate these grants. If government funding necessary to purchase our products were to decrease, our business and results of operations could be materially adversely affected.

If we are unable to achieve and sustain market acceptance of our target validation, high-throughput screening, assay development and ADMET screening products across their broad intended range of applications, we will not generate expected revenue growth and profits could be adversely affected.

Our business strategy depends, in part, on successfully developing and commercializing our ADMET screening, molecular biology, high-throughput/high-content screening, and genomics, proteomics and high-throughput screening to meet customers' expanding needs and demands, an example of which is the COPAS™ and MIAS technologies obtained from the 2001 acquisition of Union Biometrica. Market acceptance of this and other new products will depend on many factors, including the extent of our marketing efforts and our ability to demonstrate to existing and potential customers that our technologies are superior to other technologies or techniques and products that are available now or may become available in the future. If our new products do not gain market acceptance, or if market acceptance occurs at a slower rate than anticipated, it could materially adversely affect our business and future growth prospects and could result in a goodwill and/or intangible impairment loss.

If GE Healthcare (formerly Amersham Biosciences) terminates its distribution agreements with us or fails to perform its obligations under the distribution agreements, it could impair the marketing and distribution efforts for some of our products and result in lost revenues.

During 2004, General Electric acquired Amersham plc, the parent of Amersham Biosciences. In connection with the acquisition, Amersham Biosciences was renamed GE Healthcare ("GE"). While GE has indicated its intention to continue Amersham's presence in the life science market, and we believe our relationship with GE is good, we cannot guarantee that the distribution agreements will be renewed, that GE will aggressively market our products in the future or that GE will continue the partnership.

For 2004, approximately 18% of our revenues were generated through two distribution agreements with GE. The first distribution agreement was renegotiated in August 2001. Under this agreement, GE acts as the primary marketing and distribution channel for the majority of the products of our Biochrom subsidiary and, as a result, we are restricted from allowing another person or entity to distribute, market and sell the majority of the products of our Biochrom subsidiary into the life sciences market. We are also restricted from making or promoting sales of the majority of the products of our Biochrom subsidiary to any person or entity other than GE or its authorized sub-distributors. We have little or no control over GE's marketing and sales activities or the use of its resources. GE may fail to purchase sufficient quantities of products from us or perform appropriate marketing and sales activities. The failure by GE to perform these activities could materially adversely affect our business and growth prospects during the term of this agreement. In addition, our inability to maintain our arrangement with GE for product distribution could materially impede the growth of our business and our ability to generate sufficient revenue. Our agreement with GE may be terminated with 30 days notice under certain circumstances. This agreement has an initial term of three years, commencing August 1, 2001, after which it will automatically renew for an additional two years, unless terminated earlier by either party. In addition, the agreement may be terminated in accordance with its terms by either party upon 18 months prior written notice.

The second distribution agreement, between Hoefer, Inc., our subsidiary, and GE was entered into in November 2003 in connection with our acquisition of certain assets of the Hoefer 1-D gel electrophoresis business, including the Hoefer name, from Amersham Bioscience. The agreement provides that Hoefer will be the exclusive supplier of 1-D gel electrophoresis products to GE. Hoefer also has the right to develop, manufacture and market 2-D gel electrophoresis products, which would be offered to GE for sale under the GE brand name. Hoefer has the right to sell any of its products,

under the Hoefer brand name or any other non-GE brand name, through other distribution channels, both direct and indirect. The initial term of the agreement is five years with an automatic five year renewal period. GE may terminate the agreement during the renewal period if they decide to cease all activities in 1-D gel electrophoresis or if Hoefer fails to deliver new 1-D gel electrophoresis products.

Customer, vendor and employee uncertainty about the effects of any of our acquisitions could harm us.

We and the acquired companies' customers may, in response to the consummation of the acquisitions, delay or defer purchasing decisions. Any delay or deferral in purchasing decisions by customers could adversely affect our business. Similarly, employees of acquired companies may experience uncertainty about their future role until or after we execute our strategies with regard to employees of acquired companies. This may adversely affect our ability to attract and retain key management, sales, marketing and technical personnel following an acquisition.

A significant portion of the sales cycle for our products is lengthy and we may spend significant time on sales opportunities with no assurance of success.

Our ability to obtain customers for our products, specifically for products made by Union Biometrica and Genomic Solutions, depends in significant part upon the perception that our products can help accelerate drug discovery and development efforts. The sales cycle for these systems is typically between three and six months due to the education effort that is required. Our sales efforts often require sales presentations to various departments within a single customer, including research and development personnel and key management. In addition, we may be required to negotiate agreements containing terms unique to each customer. We may expend substantial funds and management effort with no assurance that we will successfully sell our systems or products to the customer.

Ethical concerns surrounding the use of our products and misunderstanding of the nature of our business could adversely affect our ability to develop and sell our existing products and new products.

Genetic screening of humans is used to determine individual predisposition to medical conditions. Genetic screening has raised ethical issues regarding the confidentiality and appropriate uses of the resulting information. Government authorities may regulate or prohibit the use of genetic screening to determine genetic predispositions to medical conditions. Additionally, the public may disfavor and reject the use of genetic screening.

Genomic and proteomic research is used to determine the role of genes and proteins in living organisms. Our products are designed and used for genomic and proteomic research and drug discovery and are generally not well suited for human screening. However, it is possible that government authorities and the public may fail to distinguish between the genetic screening of humans and genomic and proteomic research. If this occurs, our products and the processes for which our products are used may be subjected to government regulations intended to affect genetic screening. Further, if the public fails to distinguish between the two fields, it may pressure our customers to discontinue the research and development initiatives for which our products are used.

Additionally, some of our products may be used in areas of research involving cloning, stem cell use, organ transplants, animal research and other techniques presently being explored in the drug discovery industry. These techniques have drawn much negative attention recently in the public forum and could face similar risks to those identified above surrounding products for genomic and proteomic research.

Our stock price has fluctuated in the past and could experience substantial declines in the future and, as a result, management's attention may be diverted from more productive tasks.

The market price of our common stock has experienced significant fluctuations and may become volatile and could decline in the future, perhaps substantially, in response to various factors including:

- technological innovations by competitors or in competing technologies,
- revenues and operating results fluctuating or failing to meet the expectations of management, securities analysts, or investors in any quarter,
- termination or suspension of equity research coverage by securities' analysts,
- comments of securities analysts and mistakes by or misinterpretation of comments from analysts,
- downward revisions in securities analysts' estimates or management guidance,
- investment banks and securities analysts may themselves be subject to suits that may adversely affect the perception of the market,
- conditions or trends in the biotechnology and pharmaceutical industries,
- announcements of significant acquisitions or financings or changes in strategic partnerships,
- non-compliance with the internal control standards pursuant to the Sarbanes-Oxley act of 2002, and
- a decrease in the demand for our common stock.

In addition, the stock market and the Nasdaq National Market in general, and the biotechnology industry and small cap markets in particular, have experienced significant price and volume fluctuations that at times may have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, securities class action litigation has often been instituted following periods of volatility in the market price of a company's securities. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of management's attention and resources.

Provisions of Delaware law and of our charter and bylaws may make a takeover more difficult which could cause our stock price to decline.

Provisions in our certificate of incorporation and bylaws and in the Delaware corporate law may make it difficult and expensive for a third party to pursue a tender offer, change in control or takeover attempt which is opposed by management and the board of directors. Public stockholders who might desire to participate in such a transaction may not have an opportunity to do so. We also have a staggered board of directors that makes it difficult for stockholders to change the composition of the board of directors in any one year. These anti-takeover provisions could substantially impede the ability of public stockholders to change our management and board of directors. Such provisions may also limit the price that investors might be willing to pay for shares of our common stock in the future.

An active trading market for our common stock may not be sustained.

Although our common stock is quoted on the Nasdaq National Market, an active trading market for the shares may not be sustained.

Future issuance of preferred stock may dilute the rights of our common stockholders.

Our board of directors has the authority to issue up to 5,000,000 shares of preferred stock and to determine the price, privileges and other terms of these shares. The board of directors may exercise

this authority without any further approval of stockholders. The rights of the holders of common stock may be adversely affected by the rights of future holders of preferred stock.

Cash dividends will not be paid on our common stock.

Currently, we intend to retain all of our earnings to finance the expansion and development of our business and do not anticipate paying any cash dividends in the near future. As a result, capital appreciation, if any, of our common stock will be a stockholder's sole source of gain for the near future.

The merger with Genomic Solutions may fail to qualify as a reorganization for federal income tax purposes, resulting in the recognition of taxable gain or loss in respect of our treatment of the merger as a taxable sale.

Both we and Genomic Solutions intended the merger to qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended. Although the Internal Revenue Service, or IRS, will not provide a ruling on the matter, Genomic Solutions obtained a legal opinion from its tax counsel that the merger constitutes a reorganization for federal income tax purposes. This opinion does not bind the IRS or prevent the IRS from adopting a contrary position. If the merger fails to qualify as a reorganization, the merger would be treated as a deemed taxable sale of assets by Genomic Solutions for an amount equal to the merger consideration received by Genomic Solutions' stockholders plus any liabilities assumed by us. As successor to Genomic Solutions, we would be liable for any tax incurred by Genomic Solutions as a result of this deemed asset sale.

Item 7A. ***Quantitative and Qualitative Disclosures about Market Risk.***

We manufacture and test the majority of products in research centers in the United States, the United Kingdom, Germany, Belgium and Austria. We sell our products globally through our direct catalog sales, direct sales force and indirect distributor channels. As a result, our financial results are affected by factors such as changes in foreign currency exchange rates and weak economic conditions in foreign markets.

We collect amounts representing a substantial portion of our revenues and pay amounts representing a substantial portion of our operating expenses in foreign currencies. As a result, changes in currency exchange rates from time to time may affect our operating results. Historically, we have not hedged our foreign currency position. Currently, we attempt to manage foreign currency risk through the matching of assets and liabilities. However, as our sales expand internationally, we plan to evaluate currency risks and we may enter into foreign exchange contracts from time to time to mitigate foreign currency exposure.

Item 8. ***Financial Statements and Supplementary Data.***

The consolidated financial statements filed as part of this Annual Report on Form 10-K/A are listed under Item 15 below.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.***

None.

Item 9A. ***Controls and Procedures.***

(a) Evaluation of Disclosure Controls and Procedures

As required by Rules 13a-15 and 15d-15 under the Securities Exchange Act of 1934, we have evaluated, with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. In designing and evaluating our disclosure controls and procedures, we and our management recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management necessarily was required to apply its judgment in evaluating and implementing our disclosure controls and procedures. As described below under "Management's Annual Report on Internal Control Over Financial Reporting," a material weakness was identified in our internal control over financial reporting related to the completeness, valuation and allocation of our accounting for income taxes. Based upon the evaluation described above, our Chief Executive Officer and Chief Financial Officer have concluded that as a result of the aforementioned material weakness in internal control over financial reporting, our disclosure controls and procedures were not effective, as of the end of the period covered by this report. Accordingly, as of that date, our disclosure controls and procedures did not operate effectively to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. Notwithstanding the existence of this material weakness, we believe that the consolidated financial statements present fairly, in all material respects, our financial position, results of operations and cash flows for the fiscal years presented in our previously filed 2004 annual report on Form 10-K.

(b) Management's Annual Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining an adequate system of internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

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

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to the preparation and presentation of the consolidated financial statements. Further, because of changes in conditions, effectiveness of internal control over financial reporting may vary over time.

A material weakness (as defined in Auditing Standard No. 2 of the Public Company Accounting Oversight Board) is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects a company's ability to initiate, authorize, record, process, or report external financial data reliably in accordance with generally accepted

accounting principles such that there is more than a remote likelihood that a misstatement of the company's annual or interim financial statements that is more than inconsequential will not be prevented or detected. A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis.

Management of the Company conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as of December 31, 2004 based on the *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on that evaluation, a material weakness was identified in the Company's internal control over financial reporting related to the completeness, valuation and allocation of accounting for income taxes. Specifically, the Company's policies and procedures did not provide for an effective review of amounts reported for its income tax provision, that was prepared by a Big Four public accounting firm. As a result of this deficiency, material errors in accounting for income tax amounts occurred and were corrected prior to issuance of the Company's 2004 consolidated financial statements.

As a result of the aforementioned material weakness, management concluded that, as of December 31, 2004, the Company's internal control over financial reporting was not effective based on the criteria set forth in the COSO framework.

KPMG LLP, an independent registered public accounting firm, has issued an audit report on management's assessment of the Company's internal control over financial reporting, which is included in Item 9A(d).

(c) Changes in Internal Control Over Financial Reporting

We continue to review our internal control over financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business. These efforts have led to various changes in our internal control over financial reporting. There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2004 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

(d) Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Harvard Bioscience, Inc. and subsidiaries:

We have audited management's assessment, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting (Item 9A(b)), that Harvard Bioscience, Inc. did not maintain effective internal control over financial reporting as of December 31, 2004, because of the effect of a material weakness in internal control over financial reporting identified in management's assessment, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Harvard Bioscience, Inc.'s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express an opinion on management's assessment and an opinion on the effectiveness of the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over

financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

A material weakness is a control deficiency, or combination of control deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected. The following material weakness has been identified and included in management's assessment as of December 31, 2004: the Company's policies and procedures did not provide for an effective review of amounts reported for its income tax provision, that was prepared by a public accounting firm. As a result of this deficiency, material errors in accounting for income tax amounts occurred.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Harvard Bioscience, Inc. and subsidiaries as of December 31, 2004 and 2003, and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows for each of the years in the three-year period ended December 31, 2004. The aforementioned material weakness was considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2004 consolidated financial statements, and this report does not affect our report dated March 15, 2005, which expressed an unqualified opinion on those consolidated financial statements.

In our opinion, management's assessment that Harvard Bioscience, Inc. did not maintain effective internal control over financial reporting as of December 31, 2004, is fairly stated, in all material respects, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Also, in our opinion, because of the effect of the material weakness described above on the achievement of the objectives of the control criteria, Harvard Bioscience, Inc. has not maintained effective internal control over financial reporting as of December 31, 2004, based on criteria established in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

/s/ KPMG LLP
Boston, Massachusetts
April 28, 2005

Item 9B. ***Other Information.***

None.

PART III

Item 10. ***Directors and Executive Officers of the Registrant.***

Incorporated by reference to the Company's definitive Proxy Statement filed pursuant to Regulation 14A, in connection with the 2005 Annual Meeting of Stockholders. Information concerning executive officers of the Company is included in Part I of this Report as Item 4.A and incorporated herein by reference.

Item 11. ***Executive Compensation.***

Incorporated by reference to the Company's definitive Proxy Statement filed pursuant to Regulation 14A, in connection with the 2005 Annual Meeting of Stockholders.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.***

Incorporated by reference to the Company's definitive Proxy Statement filed pursuant to Regulation 14A, in connection with the 2005 Annual Meeting of Stockholders.

Item 13. ***Certain Relationships and Related Transactions.***

Incorporated by reference to the Company's definitive Proxy Statement filed pursuant to Regulation 14A, in connection with the 2005 Annual Meeting of Stockholders.

Item 14. ***Principal Accounting Fees and Services.***

Incorporated by reference to the Company's definitive Proxy Statement filed pursuant to Regulation 14A, in connection with the 2005 Annual Meeting of Stockholders.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules.***

(a) Documents Filed. The following documents are filed as part of this Annual Report or incorporated by reference as indicated:

1. Financial Statements. The consolidated financial statements of Harvard Bioscience, Inc. and its subsidiaries filed under Item 8:

2. Exhibits and Exhibit Index. See the Exhibit Index included as the last part of this Annual Report, which is incorporated herein by reference.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Harvard Bioscience, Inc. and subsidiaries:

We have audited the accompanying consolidated balance sheets of Harvard Bioscience, Inc. and subsidiaries as of December 31, 2004 and 2003, and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows for each of the years in the three-year period ended December 31, 2004. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Harvard Bioscience, Inc. and subsidiaries as of December 31, 2004 and 2003, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2004, in conformity with U.S. generally accepted accounting principles.

/s/ KPMG LLP

Boston, Massachusetts
March 15, 2005

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(In thousands except share and per share data)

	As of December 31,	
	2004	2003
Assets		
Current assets:		
Cash and cash equivalents (note 8)	$ 13,867	$ 8,223
Accounts receivable, net of allowance for doubtful accounts of $853 and $417 at December 31, 2004 and 2003, respectively, (note 16)	18,519	19,075
Inventories (note 4)	25,465	24,679
Deferred tax asset (note 11)	495	500
Other receivables and other assets	2,963	3,301
Total current assets	61,309	55,778
Property, plant and equipment, net (notes 5 and 9)	7,143	6,746
Deferred tax asset (note 11)	810	400
Amortizable intangible assets, net (notes 6 and 7)	27,403	28,212
Goodwill and other indefinite lived intangible assets (notes 6 and 7)	42,535	36,341
Other assets (note 12)	681	952
Total assets	$ 139,881	$ 128,429
Liabilities and Stockholders' Equity		
Current liabilities:		
Current installments of long-term debt (note 8)	$ 20	$ 398
Accounts payable	6,251	6,457
Deferred revenue	2,159	2,080
Accrued income taxes payable (note 11)	1,886	1,218
Accrued expenses (note 10)	4,802	4,984
Other liabilities	946	459
Total current liabilities	16,064	15,596
Long-term debt, less current installments (note 8)	16,520	12,787
Deferred income tax liability (note 11)	1,507	207
Other liabilities	1,433	961
Total liabilities	$ 35,524	$ 29,551
Commitments and contingencies (notes 8, 9 and 13)		
Stockholders' equity:		
Preferred stock, par value $0.01 per share, 5,000,000 shares authorized	$ —	$ —
Common stock, par value $.01 per share, 80,000,000 shares authorized; 35,052,449 and 34,796,463 shares issued and 30,391,665 and 30,135,679 shares outstanding at December 31, 2004 and 2003, respectively	351	348
Additional paid-in-capital	173,469	172,449
Accumulated deficit	(76,262)	(78,591)
Accumulated other comprehensive income	7,467	5,340
Treasury stock, 4,660,784 common shares, at cost	(668)	(668)
Total stockholders' equity	104,357	98,878
Total liabilities and stockholders' equity	$ 139,881	$ 128,429

See accompanying notes to consolidated financial statements.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands except per share data)

	Years ended December 31,		
	2004	2003	2002
Product revenues	$ 91,485	$ 86,197	$ 56,344
Research revenues	1,112	944	1,036
Total revenues (notes 3 and 15)	92,597	87,141	57,380
Costs and expenses:			
Cost of product revenues	46,523	43,811	28,993
General and administrative expense	14,238	11,303	11,023
Sales and marketing expense	16,817	15,398	8,478
Research and development expense	7,193	6,262	4,151
In-process research and development expense	—	—	1,551
Amortization of intangible assets (note 7)	3,446	2,702	1,543
Operating income	4,380	7,665	1,641
Other income (expense):			
Foreign currency gain	68	484	403
Interest expense	(794)	(327)	(104)
Interest income	136	176	445
Amortization of deferred financing costs	(107)	(9)	—
Other	113	(752)	(37)
Other income (expense), net	(584)	(428)	707
Income before income taxes	3,796	7,237	2,348
Income tax expense (note 11)	1,467	2,977	1,611
Net income	$ 2,329	$ 4,260	$ 737
Income per share (note 2):			
Basic	$ 0.08	$ 0.14	$ 0.03
Diluted	$ 0.07	$ 0.14	$ 0.03
Weighted average common shares:			
Basic	30,269	29,924	27,090
Diluted	31,103	30,712	27,597
Components of stock compensation expense:			
Cost of product revenues	$ 80	$ 80	$ 169
General and administrative expense	41	419	1,052
Sales and marketing expense	26	20	43
Research and development expense	5	—	5
Total	$ 152	$ 519	$ 1,269

See accompanying notes to consolidated financial statements.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY AND COMPREHENSIVE INCOME (LOSS)
YEARS ENDED DECEMBER 31, 2004, 2003 AND 2002
(In thousands)

	Number of shares Outstanding	Common Stock	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (loss)	Notes Receivable	Treasury Stock	Total Stockholders' Equity (Deficit)
Balance at December 31, 2001	31,339	$ 313	$ 153,293	$ (83,588)	$ (789)	$ (1,749)	$ (668)	$ 66,812
Issuance of common stock								
Business acquisitions	3,195	32	16,766	—	—	—	—	16,798
Stock option exercises	128	1	90	—	—	—	—	91
Stock purchase plan	30	1	103	—	—	—	—	104
Stock compensation expense	—	—	1,269	—	—	—	—	1,269
Shareholder note			—					
Accrued interest	—	—	101	—	—	(101)	—	—
Note repayment	—	—	—	—	—	887	—	887
Comprehensive income:			—					
Net income	—	—	—	737	—	—	—	737
Translation adjustments	—	—	—	—	2,526	—	—	2,526
Minimum pension liability adjustment, net of tax	—	—	—	—	(843)	—	—	(843)
Total comprehensive income								2,420
Balance at December 31, 2002	34,692	$ 347	$ 171,622	$ (82,851)	$ 894	$ (963)	$ (668)	$ 88,381
Issuance of common stock								
Stock option exercises	47	—	65	—	—	—	—	65
Stock purchase plan	57	1	185	—	—	—	—	186
Stock compensation expense	—	—	519	—	—	—	—	519
Shareholder note			—					
Accrued interest	—	—	58	—	—	(58)	—	—
Note repayment	—	—	—	—	—	1,021	—	1,021
Comprehensive income:			—					
Net income	—	—	—	4,260	—	—	—	4,260
Translation adjustments	—	—	—	—	4,030	—	—	4,030
Minimum pension liability adjustment, net of tax	—	—	—	—	416	—	—	416
Total comprehensive income								8,706
Balance at December 31, 2003	34,796	$ 348	$ 172,449	$ (78,591)	$ 5,340	$ —	$ (668)	$ 98,878
Issuance of common stock								
Stock option exercises	203	2	668	—	—	—	—	670
Stock purchase plan	53	1	200	—	—	—	—	201
Stock compensation expense	—	—	152	—	—	—	—	152
Comprehensive income:			—					—
Net income	—	—	—	2,329	—	—	—	2,329
Translation adjustments	—	—	—	—	2,235	—	—	2,235
Minimum pension liability adjustment, net of tax	—	—	—	—	(108)	—	—	(108)
Total comprehensive income								4,456
Balance at December 31, 2004	35,052	$ 351	$ 173,469	$ (76,262)	$ 7,467	$ —	$ (668)	$ 104,357

See accompanying notes to consolidated financial statements.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years ended December 31,		
	2004	**2003**	**2002**
Cash flows from operating activities:			
Net income	$ 2,329	$ 4,260	$ 737
Adjustments to reconcile net income to net cash provided by operating activities:			
Stock compensation expense	152	519	1,269
In-process research and development expense	—	—	1,551
Depreciation	2,638	2,276	1,114
Amortization of catalog costs	155	302	353
Gain on sale of fixed assets	81	11	—
Amortization of intangible assets	3,446	2,702	1,543
Amortization of deferred financing costs	107	9	—
Deferred income taxes	(918)	119	(555)
Changes in operating assets and liabilities, net of effects of business acquisitions:			
(Increase) decrease in accounts receivable	1,382	(3,056)	(3,716)
Decrease in other receivables and other assets	497	255	386
(Increase) decrease in inventories	582	(1,076)	1,312
Decrease in trade accounts payable	(587)	(176)	(629)
Increase (decrease) in accrued income taxes payable	778	274	(486)
Increase (decrease) in accrued expenses	951	(3,066)	(1,354)
Increase (decrease) in deferred revenue	78	(910)	217
Decrease in other liabilities	(233)	(415)	(942)
Net cash provided by operating activities	11,438	2,028	800
Cash flows from investing activities:			
Additions to property, plant and equipment	(3,011)	(1,349)	(1,307)
Additions to catalog costs	(371)	(17)	(324)
Proceeds from sales of fixed assets	45	118	—
Acquisition of businesses, net of cash acquired	(7,082)	(21,149)	(10,736)
Net cash used in investing activities	(10,419)	(22,397)	(12,367)
Cash flows from financing activities:			
Repayments of short-term debt	—	(6,500)	—
Proceeds from short-term debt	—	6,500	—
Net proceeds from long-term debt	6,950	12,489	—
Repayments of long-term debt	(3,611)	(707)	(3,745)
Net proceeds from issuance of common stock	871	1,272	600
Net cash provided by (used in) financing activities	4,210	13,054	(3,145)
Effect of exchange rate changes on cash	415	225	640
Increase (decrease) in cash and cash equivalents	5,644	(7,090)	(14,072)
Cash and cash equivalents at the beginning of period	8,223	15,313	29,385
Cash and cash equivalents at the end of period	$ 13,867	$ 8,223	$ 15,313
Non cash investing and financing activity:			
Common stock and options issued for acquisitions	$ —	$ —	$ 17,279
Supplemental disclosures of cash flow information:			
Cash paid for interest	$ 751	$ 281	$ 112
Cash paid for income taxes	$ 2,106	$ 2,466	$ 2,087

See accompanying notes to consolidated financial statements.

1. Organization

On March 15, 1996, HAI Acquisition Corp. and its subsidiary, Guell Limited, purchased certain assets and assumed certain liabilities of the former Harvard Apparatus, Inc. and its subsidiary in the United Kingdom, Harvard Apparatus, Ltd. (the "Purchase") for cash consideration of approximately $3.3 million (including $0.3 million of acquisition related expenses). After the date of the Purchase, HAI Acquisition Corp. and Guell Limited legally changed their names to Harvard Apparatus, Inc. and Harvard Apparatus, Ltd., respectively. On November 29, 2000, Harvard Apparatus, Inc. changed its name to Harvard Bioscience, Inc.

Harvard Bioscience, Inc. and subsidiaries (the "Company") is a global developer, distributor, manufacturer and marketer of a broad range of specialized products, primarily scientific instruments and apparatus, used to accelerate drug discovery research at pharmaceutical and biotechnology companies, universities and government laboratories worldwide. We sell our products to thousands of researchers in over 100 countries through our direct sales force, our 1,100 page catalog (and various other specialty catalogs), and through distributors. We have sales and manufacturing operations in the United States, the United Kingdom, Germany, Austria and Belgium with sales facilities in France and Canada.

2. Summary of Significant Accounting Policies

(a) Principles of Consolidation

The consolidated financial statements include the accounts of Harvard Bioscience, Inc. and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

(b) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires the use of management estimates. Such estimates include the determination and establishment of certain accruals and provisions, including those for inventory obsolescence, catalog cost amortization periods, tax and reserves for bad debts. In addition, certain estimates are required in order to determine the value of assets and in-process research and development associated with acquisitions. Estimates are also required to evaluate the recoverability of existing long lived and intangible assets, including goodwill. Actual results could differ from those estimates.

(c) Reclassifications

Certain reclassifications to prior year balances have been made to conform to current year presentations.

(d) Cash and Cash Equivalents

For purposes of the consolidated balance sheets and statements of cash flows, the Company considers all highly liquid instruments with original maturities of three months or less to be cash equivalents.

(e) Allowance for Doubtful Accounts

Allowance for doubtful accounts is based on the Company's assessment of the collectibility of customer accounts. The Company regularly reviews the allowance by considering factors such as historical experience, credit quality, age of the accounts receivable balances and other factors that may affect a customer's ability to pay.

(f) Inventories

The Company values its inventory at the lower of the actual cost to purchase (first-in, first-out method) and/or manufacture the inventory or the current estimated market value of the inventory. The Company regularly reviews inventory quantities on hand and records a provision to write down excess and obsolete inventory to its estimated net realizable value if less than cost, based primarily on its estimated forecast of product demand.

(e) Property, Plant and Equipment

Property, plant and equipment are stated at cost. Equipment under capital leases is stated at the present value of the minimum lease payments at the lease agreement date. Property, plant and equipment is depreciated using the straight-line method over the estimated useful lives of the assets as follows:

Buildings	40 years
Machinery and equipment	3-10 years
Computer equipment	3-7 years
Furniture and fixtures	5-10 years
Automobiles	4-6 years

Property and equipment held under capital leases and leasehold improvements are amortized using the straight line method over the shorter of the lease term or estimated useful life of the asset. Amortization of assets held under capital leases is included with depreciation expense.

(f) Catalog Costs

Significant costs of product catalog design, development and production are capitalized and amortized over the expected useful life of the catalog (usually one to three years).

(g) Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to be applied to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

(h) Foreign Currency Translation

All assets and liabilities of the Company's foreign subsidiaries are translated at exchange rates in effect at year-end. Income and expenses are translated at rates which approximate those in effect on the transaction dates. The resulting translation adjustment is recorded as a separate component of stockholders' equity in accumulated other comprehensive income (loss) in the consolidated balance sheets. Gains and losses resulting from foreign currency transactions are included in net income.

Certain of the debt between the Company and its foreign subsidiaries does not require repayment in the foreseeable future and accordingly the Company treats this intercompany debt as a long-term investment rather than as debt. The Company records the effects of the exchange rate fluctuations on this intercompany debt as a currency translation adjustment in accumulated other comprehensive income (loss) in stockholders' equity.

(i) Stock Based Compensation

Stock compensation expense resulting from stock option grants to employees represents the difference between the fair market value and the exercise price of the stock options on the grant date for those options considered fixed awards. Stock compensation is amortized as a charge to operations using an accelerated vesting method in accordance with FASB Interpretation No. 28 *Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans*, which results in decreasing compensation expense from the date of the stock option grant until the vesting dates.

The Company has adopted the disclosure provisions of SFAS No. 148 *Accounting for Stock-Based Compensation—Transition and Disclosure, an amendment of SFAS No. 123* and continues to apply Accounting Principles Board Opinion No. 25 and related interpretations in accounting for its stock option plans. If the Company had elected to recognize compensation cost for all of the plans based upon fair value at the grant dates for awards under those plans, consistent with the method prescribed by SFAS No. 123, net income and earnings per share would have been changed to the pro forma amounts indicated below:

	Year Ended December 31,		
(in thousands, except per share data)	**2004**	**2003**	**2002**
Net income, as reported	$ 2,329	$ 4,260	$ 737
Add: stock-based employee compensation expense included in reported net income, net of tax	149	511	1,222
Deduct: total stock-based employee compensation expense determined under fair-value based method for all awards, net of tax	(4,786)	(3,774)	(4,795)
Pro forma net income (loss)	$ (2,308)	$ 997	$ (2,836)
Earnings (loss) per share:			
Basic—as reported	$ 0.08	$ 0.14	$ 0.03
Basic—pro forma	$ (0.08)	$ 0.03	$ (0.10)
Diluted—as reported	$ 0.07	$ 0.14	$ 0.03
Diluted—pro forma	$ (0.08)	$ 0.03	$ (0.10)

The fair value of the Company's stock options used to compute pro forma net income and earnings per share disclosures is the estimated present value at grant date using the Black-Scholes option pricing model with the following weighted average assumptions:

	Year Ended December 31,		
	2004	2003	2002
Volatility	85.00%	106.91%	91.40%
Risk-free interest rate	3.60%	3.50%	4.00%
Expected holding period	4 years	4 years	3 years
Dividend yield	0%	0%	0%

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility. Because the Company's stock options have characteristics significantly different from traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in the opinion of management, the existing models do not necessarily provide a reliable single value of the Company's stock options and may not be representative of the future effects on reported net income or the future stock price of the Company.

(j) Earnings Per Share

Basic earnings per share is computed by dividing the net income by the weighted average number of shares of common stock outstanding during the periods presented. The computation of diluted income per share is similar to the computation of basic income per share, except that the denominator is increased for the assumed exercise of dilutive options and other potentially dilutive securities using the treasury stock method unless the effect is antidilutive.

The weighted average number of shares used to compute basic and diluted earnings per share consists of the following:

	Years Ended December 31,		
(in thousands)	**2004**	**2003**	**2002**
Basic	30,269	29,924	27,090
Effect of assumed conversion of employee stock options	834	788	507
Diluted	31,103	30,712	27,597

Options to purchase approximately 2,374, 182 and 1,096 shares of common stock for the years ended December 31, 2004, 2003 and 2002, respectively, were not included in the computation of diluted earnings per share because to do so would have been antidilutive.

(k) Comprehensive Income (Loss)

The Company follows SFAS No. 130, *Reporting Comprehensive Income*. SFAS No. 130 requires companies to report all changes in equity during a period, resulting from net income (loss) and transactions from non-owner sources, in a financial statement in the period in which they are

recognized. The Company has chosen to disclose comprehensive income (loss), which encompasses, net income (loss), foreign currency translation adjustments and pension minimum additional liability adjustments, net of tax, in the consolidated statements of stockholders' equity. As of December 31, 2004, accumulated other comprehensive income consisted of cumulative foreign currency translation adjustments of $8.0 million and a minimum pension liability adjustment of $(0.5) million, net of tax. As of December 31, 2003, accumulated comprehensive income consisted of cumulative foreign currency translation adjustments of $5.8 million and a minimum pension liability adjustment of $(0.4) million, net of tax.

(l) Revenue Recognition

The Company recognizes revenue of products when persuasive evidence of a sales arrangement exists, the price to the buyer is fixed or determinable, delivery has occurred, and collectibility of the sales price is reasonably assured. Sales of some of the Company's products include provisions to provide additional services such as installation and training. The Company evaluates all sales with multiple deliverables, including our collaboration agreements, to determine if more than one unit of accounting exists, in accordance with EITF Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables.* When the Company determines that there is more than one unit of accounting, and there is objective and reliable evidence of fair value for all units of accounting in an arrangement, the arrangement consideration is allocated to the separate units of accounting based on their relative fair values. In situations where there is objective and reliable evidence of the fair value(s) of the undelivered item(s) in an arrangement but no such evidence for the delivered item(s) the Company applies the residual method to allocate fair value. Under the residual method, the amount of consideration allocated to the delivered item(s) equals the total arrangement consideration less the aggregate fair value of the undelivered item(s). Revenue for each unit of accounting is recorded once all applicable revenue recognition criteria have been met. Service agreements on our equipment are typically sold separately from the sale of the equipment. Revenues on these service agreements are recognized ratably over the life of the agreement, typically one year, in accordance with FASB Technical Bulletin FTB 90-1, *Accounting for Separately Priced Extended Warranty and Product Maintenance Contracts.* The Company accounts for shipping and handling fees and costs in accordance with EITF Issue No. 00-10, *Accounting for Shipping and Handling Fees and Costs*, which requires all amounts charged to customers for shipping and handling to be classified as revenues. The Company's costs incurred related to shipping and handling are classified as cost of product revenues. Warranties and product returns are estimated and accrued for at the time sales are recorded. The Company has no obligations to customers after the date products are shipped or installed, if applicable, other than pursuant to warranty obligations or service and maintenance contracts. The Company provides for the estimated amount of future returns upon shipment of products or installation, if applicable, based on historical experience. For long-term collaboration agreements, revenue is recognized based on the costs incurred, which are included as part of research and development expense, as the related work on the contracts progress.

(m) Goodwill and Other Intangible Assets

Goodwill and other intangible assets include goodwill, unamortizable intangible assets and amortizable intangible assets. Amortizable intangible assets (those intangible assets with definite estimated useful lives) are initially recorded at fair value and amortized, using the straight-line method,

over their estimated useful lives. At December 31, 2004, amortizable intangible assets include: existing technology, tradenames, distribution agreements, customer relationships and patents. These amortizable intangible assets are amortized over 1 to 15 years, 15 years, 5 to 15 years, 11 years and 15 years, respectively.

Goodwill and unamortizable intangible assets acquired in a business combination and determined to have an indefinite useful life are not amortized, but instead tested for impairment annually, or more frequently if events or changes in circumstances indicate that the asset might be impaired, in accordance with the provisions of SFAS No. 142, *Goodwill and Other Intangible Assets*. For goodwill, to the extent the carrying amount of a reporting unit exceeds the fair value of the reporting unit, the Company would be required to perform the second step of the impairment test, as this is an indication that the reporting unit goodwill may be impaired. For unamortizable intangible assets if the carrying amount exceeds the fair value of the asset, the Company would write-down the unamortizable intangible asset to fair value.

(n) Impairment or Disposal of Long-Lived Assets

The Company assesses the recoverability of its long-lived assets, such as property, plant and equipment and amortizable intangible assets in accordance with Statement of Financial Accounting Standards (SFAS) No. 144, *Accounting for Impairment or Disposal of Long-Lived Assets* when events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. Recoverability of assets or an asset group to be held and used is measured by a comparison of the carrying amount of an asset or asset group to estimated undiscounted future cash flows expected to be generated by the asset or the asset group. Cash flow projections are based on trends of historical performance and management's estimate of future performance. If the carrying amount of the asset or asset group exceeds the estimated future cash flows, an impairment charge is recognized by the amount by which the carrying amount of the asset or asset group exceeds the fair value of the asset. Assets to be disposed of would be separately presented in the consolidated balance sheet and reported at the lower of the carrying amount or fair value less costs to sell, and would no longer be depreciated. The assets and liabilities of a disposed group classified as held for sale would be presented separately in the appropriate asset and liability sections of the balance sheet.

(o) Fair Value of Financial Instruments

The carrying value of the Company's cash and cash equivalents, trade accounts receivable, trade and accounts payable approximate their fair values because of the short maturities of those instruments. The fair value, which approximates the carrying amount of the Company's long-term debt, is based on the amount of future cash flows associated with the debt discounted using the Company's current borrowing rate for similar debt instruments of comparable maturity.

(p) Recently Issued Accounting Pronouncements

In December 2003, the Financial Accounting Standards Board ("FASB") issued FASB Interpretation No. 46 (revised December 2003) ("FIN 46R"), *Consolidation of Variable Interest Entities*, which addresses how a business enterprise should evaluate whether it has a controlling financial interest in an entity through means other than voting rights and accordingly should consolidate the entity. FIN 46R replaces FASB Interpretation No. 46, *Consolidation of Variable Interest Entities*, which was issued in

January 2003. The Company was required to adopt certain provisions of FIN 46R as of December 31, 2003 and the remaining provisions as of March 31, 2004. The adoption of this Interpretation did not have a material impact on the Company's consolidated results of operations or financial position.

In December 2003, Statement of Financial Accounting Standards ("SFAS") No. 132 (revised), *Employers' Disclosures about Pensions and Other Postretirement Benefits*, was issued. SFAS No. 132 (revised) prescribes employers' disclosures about pension plans and other postretirement benefit plans; it does not change the measurement or recognition of those plans. The Statement retains and revises the disclosure requirements contained in the original SFAS No. 132. It also requires additional disclosures about the assets, obligations, cash flows, and net periodic benefit cost of defined benefit pension plans and other postretirement benefit plans. The Statement was generally effective for fiscal years ending after December 15, 2003, however as all of the Company's pension plans covered by this Statement are outside of the United States the provisions of SFAS No. 132 were not applicable until 2004. The Company adopted the applicable interim disclosure requirements of SFAS No. 132 (revised) as of January 1, 2004 and the remaining disclosure requirements as of December 31, 2004 (see Note 12 to the consolidated financial statements).

In November 2004, Statement of Financial Accounting Standards No. 151 ("SFAS No. 151"), *Inventory Costs: an Amendment of ARB No. 43, Chapter 4*, was issued. SFAS No. 151 clarifies the accounting for abnormal amounts of idle facility expense, freight, handling costs and wasted material by requiring those items to be recognized as current-period charges. The Statement is effective for fiscal years beginning after June 15, 2005. The Company does not believe that adoption of this Statement will have a material impact on its consolidated results of operations or financial position.

In December 2004, Statement of Financial Accounting Standards No. 123R ("SFAS No. 123R"), *Share-Based Payments, a revision of SFAS No. 123, Accounting for Stock-Based Compensation*, was issued. SFAS No. 123R addresses financial accounting and reporting for costs associated with stock-based compensation. SFAS No. 123R will require the Company to recognize compensation expense in an amount equal to the fair value of share-based payments related to unvested share-based awards over the applicable vesting period. The Statement is effective for interim or annual periods beginning after June 15, 2005. The Company is currently evaluating the impact that the adoption of this Statement will have on its consolidated results of operations and financial position.

3. Concentrations of Credit Risk

One commercial customer accounted for 18%, 13% and 18% of revenues for the years ended December 31, 2004, 2003 and 2002, respectively. At December 31, 2004 and 2003, one customer accounted for 12% and 12% of net accounts receivable, respectively. Except as noted above, no other individual customer accounted for more than 10% of revenues for the years ended December 31, 2004, 2003 and 2002. In addition, except as noted above, no other individual customer accounted for more than 10% of accounts receivable at December 31, 2004 and 2003.

4. Inventories

Inventories consist of the following:

(in thousands)	December 31, 2004	2003
Finished goods	$ 9,390	$ 8,160
Work in process	3,746	4,327
Raw materials	12,329	12,192
	$ 25,465	$ 24,679

5. Property, Plant and Equipment

Property, plant and equipment consist of the following:

(in thousands)	December 31, 2004	2003
Land, buildings and leasehold improvements	$ 2,368	$ 1,306
Machinery and equipment	6,749	6,393
Computer equipment	3,200	2,523
Furniture and fixtures	1,612	1,567
Automobiles	257	242
	$ 14,186	$ 12,031
Less: accumulated depreciation	(7,043)	$ (5,285)
Property, plant and equipment, net	$ 7,143	$ 6,746

6. Acquisitions

The Company has completed seven acquisitions since January 1, 2002.

KD Scientific

On March 3, 2004, the Company acquired all issued and outstanding shares of KD Scientific, Inc. ("KDS") for approximately $6.8 million (including acquisition costs of approximately $0.2 million). KDS designs, manufactures and sells a range of quality fluidics equipment used in research laboratories worldwide. The acquisition complements our core fluidics products with the addition of the recognized KD Scientific brand and complementary technology. Currently, KDS sells primarily through major scientific products distributors. Goodwill recognized in connection with the acquisition, represents excess of purchase price over the fair value of net tangible and intangible assets acquired and can be attributed to, among other factors, expected future strategic synergies and the potential for new customers. The acquisition was funded by proceeds from the Company's $20 million credit facility with Brown Brothers Harriman. The results of operations of KD Scientific have been included in the consolidated financial statements of the Company from the date of acquisition.

During 2004, with the assistance of an external valuation company, management finalized the purchase price allocation for the KDS acquisition. The final aggregate purchase price of this acquisition was allocated to tangible and intangible assets acquired based on their fair values as follows:

(in thousands)	
Tangible assets	$ 456
Liabilities assumed	(1,901)
Net liabilities assumed	(1,445)
Goodwill and intangible assets:	
Existing technology	500
Distribution agreements / customer relations	3,100
Goodwill	3,777
Other indefinite lived intangibles (trade name)	900
Total goodwill and intangible assets	8,277
Cash paid for acquisition	$ 6,832

The following unaudited pro forma results of operations give effect to the acquisition of KD Scientific, Inc. as if it had occurred as of January 1, 2003. Such pro forma information reflects certain adjustments including amortization of intangible assets and income tax effect. The pro forma information does not necessarily reflect the results of operations that would have occurred had the acquisitions taken place as described and is not necessarily indicative of results that may be obtained in the future.

	Years Ended December 31,	
(unaudited, in thousands, except per share data)	2004	2003
Pro forma revenues	$ 92,998	$ 90,475
Pro forma net income	$ 2,354	$ 4,950
Pro forma net income per share:		
Basic	$ 0.08	$ 0.17
Diluted	$ 0.08	$ 0.16
Pro forma weighted average common shares:		
Basic	30,269	29,924
Diluted	31,103	30,712

Hoefer

On November 24, 2003, the Company acquired certain assets and liabilities of the Hoefer one-dimensional gel electrophoresis business of Amersham Biosciences Corp., including the Hoefer brand name for approximately $5.4 million (including acquisition costs of approximately $0.4 million). The results of operations have been included in the consolidated financial statements since the date of acquisition. As of December 31, 2004, with the assistance of an external valuation company, management finalized the purchase price allocation for the Hoefer acquisition.

As a result of the final purchase price allocation, as compared to the preliminary allocation, the fair value of the distribution agreement increased by approximately $1.0 million, goodwill increased by

approximately $1.2 million offset by a decrease of $2.2 million in the fair value of existing technology. The change is the result of adjustments to the preliminary purchase price allocation recorded as of December 31, 2003, which was based on management's preliminary estimates of the fair value assigned to both tangible and intangible assets.

The final aggregate purchase price of this acquisition was allocated to tangible and intangible assets acquired based on their fair values as follows:

(in thousands)	
Tangible assets	$ 2,418
Liabilities assumed	(136)
Net assets acquired	2,282
Goodwill and intangible assets:	
Existing technology	314
Distribution agreements / customer relationships	1,653
Goodwill	1,109
Other indefinite lived intangibles (trade name)	27
Total goodwill and intangible assets	3,103
Cash paid for acquisition	$ 5,385

During 2003 and 2004, a total of approximately $0.3 million of fair value adjustments related to acquired backlog and inventory was expensed through cost of product revenues for orders that were sold since the date of the acquisition.

BioRobotics

On September 19, 2003, the Company, through its Genomic Solutions subsidiary, acquired substantially all the assets of BioRobotics, Ltd., a subsidiary of Apogent Technologies Inc. for approximately $3.3 million (including $0.4 million in acquisition related expenses), payable partly in cash and partly in the assumption of certain limited liabilities. The results of operations have been included in the consolidated financial statements since the date of acquisition. BioRobotics designs, develops, manufactures and distributes life science instrumentation for DNA microarray manufacturing and colony picking. During 2004, with the assistance of an external valuation company, management finalized the purchase price allocation for the BioRobotics acquisition.

As a result of the final purchase price allocation, as compared to the preliminary allocation, the fair value of existing technology decreased by approximately $0.4 million and goodwill increased by approximately $0.1 million. Additionally, the final purchase price was reduced by approximately $0.3 million, which was the net effect of a reduction in the amounts owed to the seller partially offset by an increase in acquisition costs. The change is the result of adjustments to the preliminary purchase price allocation recorded as of December 31, 2003, which was based on management's preliminary estimates of the fair market value assigned to both tangible and intangible assets. The final aggregate

purchase price of this acquisition was allocated to tangible and intangible assets acquired based on their fair values as follows:

(in thousands)	
Tangible assets	$ 2,505
Liabilities assumed	(701)
Net assets acquired	1,804
Goodwill and intangible assets:	
Existing technology	1,082
Goodwill	412
Other indefinite lived intangibles (trade name)	24
Total goodwill and intangible assets	1,518
Cash paid for acquisition	$ 3,322

During 2003 and 2004, $0.5 million and $0.4 million, respectively, of fair value adjustments related to BioRobotics' backlog and inventory, was expensed through cost of product revenues for orders that were sold since the date of the acquisition.

GeneMachines

On March 12, 2003, the Company, through its Genomic Solutions subsidiary, acquired substantially all of the assets of Genomic Instrumentation Services, d/b/a/ GeneMachines for $8.6 million in cash (including $0.3 million in acquisition related expenses) and the assumption of $2.0 million of liabilities. The acquisition was partially funded by a $6.0 million bridge loan entered into on March 12, 2003, with Brown Brothers Harriman and Co. In November, 2003, the bridge loan was paid in full with funds available from the $20 million credit facility established with Brown Brothers Harriman and Co (see Note 8). At the time of acquisition approximately $2.0 million of cash consideration was placed into escrow to secure the seller's indemnification obligations under the purchase agreement. This amount has been fully released from escrow as no claims were made against it. The results of operations have been included in the consolidated financial statements since the date of acquisition. GeneMachines designs, develops, manufactures and distributes high throughput instrumentation for DNA and protein microarray production, nucleic acid sample preparation and DNA synthesis. The acquisition of GeneMachines strengthens the Company's genomic product offering, and when coupled with genomic product line of the Company's Genomic Solutions subsidiary, provides a complementary set of products in the DNA microarray systems and instrumentation market.

During 2003, the Company completed the valuation of GeneMachines' assets and liabilities acquired and a final purchase price allocation was prepared and is included as part of these consolidated financial statements. The purchase price which has been allocated on the basis of the fair

value of assets acquired and liabilities assumed at the date of acquisition resulted in the following allocation:

(in thousands)	
Tangible assets	$ 3,708
Liabilities assumed	(1,980)
Net assets acquired	1,728
Goodwill and intangible assets:	
Existing technology	3,736
Goodwill	3,008
Other indefinite lived intangibles (trade name)	79
Total goodwill and intangible assets	6,823
Cash paid for acquisition	$ 8,551

During 2003, $0.2 million of fair value adjustments related to GeneMachines' backlog and inventory was expensed through cost of product revenues for orders that were sold since the date of the acquisition.

BTX

On January 31, 2003, the Company acquired substantially all of the assets of the BTX division of Genetronics Biomedical Corporation (BTX) for $4.0 million in cash (including $0.3 million in acquisition related costs) and the assumption of $0.2 million of liabilities. The results of operations have been included in the consolidated financial statements since the date of acquisition. BTX designs, develops, manufactures and distributes electroporation products.

During 2003, the Company completed the valuation of BTX's assets and liabilities acquired and a final purchase price allocation was prepared and is included as part of these consolidated financial statements. The purchase price which has been allocated on the basis of fair market value of assets acquired and liabilities assumed at the date of acquisition resulted in the following allocation:

(in thousands)	
Tangible assets	$ 1,437
Liabilities assumed	(229)
Net assets acquired	1,208
Goodwill and intangible assets:	
Existing technology	1,678
Goodwill	1,083
Other indefinite lived intangibles (trade name)	32
Total goodwill and intangible assets	2,793
Cash paid for acquisition	$ 4,001

During 2003, $0.3 million of fair value adjustments related to BTX's backlog and inventory was expensed through cost of product revenues for orders that were sold since the date of the acquisition.

Genomic Solutions

On October 25, 2002, the Company acquired all of the outstanding common stock of Genomic Solutions, Inc. for approximately $27.0 million, including $0.7 million in related acquisition costs. The results of operations have been included in the consolidated financial statements since the date of acquisition. Genomic Solutions develops, manufactures and sells products in the fields of proteomics, high-throughput screening and DNA microarray systems including products for protein sample preparation and analysis in conjunction with mass spectrometry, high-speed, noncontact assay preparation for high-throughput screening and high-fidelity microarray processing and analysis. As a result of the acquisition, the Company is expected to further its strategy of providing a broad range of specialized products in niche markets focused on the bottlenecks in drug discovery.

The aggregate purchase price of $27.0 million included 3,195,083 common shares that had an estimated fair value of $17.3 million. The fair value of the stock was estimated using the weighted average market value of the shares for the two days prior and three days subsequent to the announcement of the acquisition on July 17, 2002. The amount recorded in the consolidated statement of stockholders' equity and used in the purchase price allocation below is net of approximately $481,000 of costs associated with registering and issuing these shares.

During 2003, the Company completed the valuation of Genomic Solutions assets and liabilities acquired and a final purchase price allocation was prepared and is included as part of these consolidated financial statements. The purchase price which has been allocated on the basis of fair market value of assets acquired and liabilities assumed at the date of acquisition resulted in the following allocation which is net of cash acquired of $156,700 and in-process research and development of $1,551,400:

(in thousands)	
Tangible assets	$ 17,314
Liabilities assumed	(7,918)
Net tangible assets acquired	9,396
Goodwill and intangible assets:	
Existing technology	5,367
Goodwill	10,178
Other indefinite lived intangibles (trade name)	316
Total goodwill and intangible assets	15,861
Total net assets acquired	$ 25,257

During the fourth quarter of 2002, $1.6 million of in-process research and development was expensed and $0.5 million of fair value adjustments related to backlog and inventory was expensed through cost of goods sold for orders that were on backlog at the date of acquisition but had been sold prior to December 31, 2002. The remaining $0.2 million of fair value adjustments related to backlog and inventory was expensed through cost of goods sold during 2003 for orders that were on backlog at the date of acquisition and sold in 2003.

In connection with the Genomic Solutions acquisition, certain research and development projects acquired were determined to have no alternative future use. The projects acquired had a total value of

$1,551,400 which was expensed in the fourth quarter of 2002 as purchased in-process research and development. Of the projects acquired which were assigned a value for in-process research and development, the most significant one was a non contact high-throughput dispensing instrument valued at approximately $1.1 million. At the time of acquisition, this project was 75% complete and had approximately $110,000 in costs necessary to complete. The project was completed in January, 2003.

The in-process research and development amount was established by identifying research projects for which technological feasibility had not been established and for which no alternative future uses existed. The value of the projects identified to be in progress were determined by estimating future cash flows from the projects once commercially feasible, discounting net cash flows back to their present value and then applying a percentage of completion to the calculated value. The discount rate used ranged from 35% to 65% for the projects identified. A 40% risk factor was assigned to the most significant project. Development of the technologies remains a substantial risk to the Company due to factors including the remaining effort to achieve technological feasibility, rapidly changing customer markets and competitive threats from other companies.

WPA

On July 1, 2002, the Company acquired all of the stock of Walden Precision Apparatus ("WPA"), a designer, manufacturer and marketer of low cost diode-array spectrophotometers for cash consideration of $1,466,000 (including approximately $101,000 of acquisition related expenses). The allocation of the purchase price is as follows: $1,671,000 to goodwill and other intangibles, $110,000 to property, plant and equipment, current assets of $599,000 and liabilities assumed of $914,000.

7. Goodwill and Other Intangible Assets

On January 1, 2002, the Company adopted SFAS No. 142. As a result of the adoption, goodwill and other indefinite-lived intangible assets are no longer being amortized, but are subject to annual impairment reviews, or more frequently, if events or circumstances indicate there may be an impairment. On December 31, 2004, the Company completed its annual goodwill impairment tests and concluded there was no impairment.

Intangible assets consist of the following:

(in thousands)	As of December 31, 2004 Gross	2004 Accumulated Amortization	2003 Gross	2003 Accumulated Amortization	Weighted Average Life (a)
Amortizable intangible assets:					
Existing technology	$ 29,631	$ (7,584)	$ 30,980	$ (4,709)	8.1 years
Tradename	1,680	(493)	1,704	(381)	10.7 years
Distribution agreement/customer relationships	4,753	(591)	621	(10)	8.3 years
Patents	9	(2)	9	(2)	11.3 years
Total amortizable intangible assets	$ 36,073	$ (8,670)	$ 33,314	$ (5,102)	
Unamortizable intangible assets:					
Goodwill	$ 41,083		$ 35,789		
Other indefinite lived intangible assets	1,452		552		
Total goodwill and other indefinite lived intangible assets	$ 42,535		$ 36,341		
Total intangible assets	$ 78,608		$ 69,655		

(a) Weighted average life is as of December 31, 2004

The changes in the carrying amount of goodwill for the years ended December 31, 2004 and 2003 are as follows:

Balance at December 31, 2002	$ 30,663
Goodwill acquired during the year	4,373
Adjustment to purchase price allocations of prior year acquisitions	(231)
Effect of change in foreign currencies	984
Balance at December 31, 2003	35,789
Goodwill acquired during the year	3,777
Adjustment to purchase price allocations of prior year acquisitions	715
Effect of change in foreign currencies	802
Balance at December 31, 2004	$ 41,083

Intangible asset amortization expense for the years ended December 31, 2004 and 2003 was $3.4 million and $2.7 million, respectively. Amortization expense of existing amortizable intangible assets is estimated to be $3.7 million for the years ending December 31, 2005, 2006 and 2007, $3.6 million for the year ended December 31, 2008 and $3.3 million for the year ended December 31, 2009.

8. Long-Term Debt

Long-term debt consists of the following:

(in thousands)	December 31, 2004	2003
Notes payable	$ 16,500	$ 13,088
Capital lease obligations (Note 9)	40	97
	$ 16,540	$ 13,185
Less: current installments	(20)	(398)
	$ 16,520	$ 12,787

On November 21, 2003, we entered into a $20 million revolving credit facility with Brown Brothers Harriman and Company (the "bank"). The credit facility has a three year term and bears an interest rate equal to the bank's base rate which at December 31, 2004 was equal to the prime rate of 5.25%. The credit facility contains covenants relating to net income, debt service coverage and cash flow coverage. The Company is currently in compliance with such covenants. The credit facility requires the Company to seek approval from the bank prior to any acquisition where the purchase price will exceed $10 million in stock or $6 million in cash. As of December 31, 2004, there was approximately $16.5 million outstanding under the credit facility, an increase of approximately $3.8 million from December 31, 2003. The net increase in the credit facility resulted primarily from $6.7 million of borrowings to fund the acquisition of KD Scientific offset by $2.9 million of cash payments. As of December 31, 2004, we had available borrowing capacity under our revolving credit facility of $3.5 million. We are assessed a .25% fee on the unused portion of the credit facility.

On July 1, 2002, in connection with the purchase of the outstanding shares of Walden Precision Apparatus ("WPA"), the Company assumed debt of $343,000 related to amounts owed to shareholders of WPA. The balance of the debt was paid in July 2004.

As of December 31, 2004, the debt repayment schedule, excluding capital lease payments, is as follows:

(in thousands)	
2005	$ —
2006	16,500
2007 and thereafter	—
Total	$ 16,500

9. Leases

The Company leases automobiles and equipment under various leases that are classified as capital leases. The carrying value of automobiles and equipment under capital leases at December 31, 2004 and 2003 was $128,615 and $166,359, respectively, which is net of $155,633 and $142,097, respectively, of accumulated depreciation.

The Company has noncancelable operating leases for office and warehouse space expiring at various dates through 2015. Rent expense for the years ended December 31, 2004, 2003 and 2002 was approximately $2,636,000, $2,279,280 and $2,209,000, respectively.

Future minimum lease payments for both capital and operating leases, with initial or remaining terms in excess of one year at December 31, 2004, are as follows:

(in thousands)	Capital Leases	Operating Leases
2005	$ 25	$ 2,004
2006	21	1,377
2007	—	1,180
2008	—	960
2009	—	399
Thereafter	—	1,367
Net minimum lease payments	$ 46	$ 7,287
Less: interest	(6)	
Present value of net minimum lease payments	$ 40	

10. Accrued Expenses

Accrued expenses consist of:

	December 31,	
(in thousands)	2004	2003
Accrued compensation and payroll	$ 797	$ 1,129
Accrued legal and professional fees	1,409	709
Warranty costs	760	993
Other	1,836	2,153
	$ 4,802	$ 4,984

11. Income Taxes

Income tax expense (benefit) attributable to income (loss) from continuing operations for the years ended December 31, 2004, 2003 and 2002 consisted of:

	Years ended December 31,		
(in thousands)	**2004**	**2003**	**2002**
Current income tax expense (benefit):			
Federal and state	$ 190	$ 121	$ (21)
Foreign	2,195	2,737	2,187
	$ 2,385	$ 2,858	$ 2,166
Deferred income tax (benefit) expense:			
Federal and state	$ (591)	$ (275)	$ (141)
Foreign	(327)	394	(414)
	$ (918)	$ 119	$ (555)
Total income tax expense	$ 1,467	$ 2,977	$ 1,611

Income tax expense for the periods ended December 31, 2004, 2003 and 2002 differed from the amount computed by applying the U.S. federal income tax rate of 34% to pretax income (loss) as a result of the following:

	Years ended December 31,		
(in thousands)	**2004**	**2003**	**2002**
Computed "expected" income tax expense (benefit)	$ 1,291	$ 2,460	$ 798
Increase in income taxes resulting from:			
Foreign tax rate and regulation differential	320	119	65
State income taxes, net of federal income tax benefit	430	(53)	30
Foreign trading gross receipts tax benefit	(43)	(52)	(77)
Foreign sourced U.S. income	66	310	—
Stock compensation expense in excess of allowable tax benefits on exercise of options	50	168	383
Nondeductible in-process research and development	—	—	528
Nondeductible acquisition related other	—	354	—
Federal tax expense differential from prior year tax	11	83	(127)
Tax credits	(328)	(356)	(203)
Reversal of previously accrued taxes	(546)	—	—
Change in valuation allowance allocated to income tax expense	178	(220)	220
Other	38	164	(6)
Total income tax expense	$ 1,467	$ 2,977	$ 1,611

Income tax expense is based on the following pre-tax income (loss) for the years ended December 31, 2004, 2003 and 2002:

(in thousands)	Years ended December 31, 2004	2003	2002
Domestic	$ (234)	$ (1,621)	$ (2,677)
Foreign	4,030	8,858	5,025
	$ 3,796	$ 7,237	$ 2,348

The tax effects of temporary differences that give rise to significant components of the deferred tax assets and deferred tax liabilities at December 31, 2004 and 2003 are as follows:

(in thousands)	Years ended December 31, 2004	2003
Deferred tax assets:		
Accounts receivable	$ 72	$ 285
Inventory	1,270	1,249
Operating loss and credit carryforwards	13,327	13,872
Accrued expenses	122	64
Goodwill and other intangibles	637	167
Property, plant and equipment	22	167
Minimum pension liability	250	204
Other accrued liabilities	2,076	1,458
Total gross deferred assets	$ 17,776	$ 17,466
Less: valuation allowance	(10,402)	(9,841)
Deferred tax assets	$ 7,374	$ 7,625
Deferred tax liabilities:		
Property, plant and equipment	$ 404	$ 196
Intangible assets	6,907	6,551
Other accrued liabilities	265	186
Total deferred tax liabilities	$ 7,576	$ 6,933
Net deferred tax asset/(liability)	$ (202)	$ 692

The amount recorded as gross deferred tax assets as of December 31, 2004 and December 31, 2003 represents the amount of tax benefits of existing deductible temporary differences or carryforwards that are more likely than not to be realized through the generation of sufficient future taxable income within the carryforward period. The Company believes that a portion of the gross deferred tax asset at December 31, 2004 will more likely than not be realized in the carryforward period. Management reviews the recoverability of deferred tax assets during each reporting period.

At December 31, 2004, the Company had federal and state net operating loss carryforwards available to offset future taxable income of approximately $28.8 million. The federal operating loss

carryforwards will begin to expire in 2012. Furthermore, the Company had foreign operating loss carryforwards to offset future taxable income of approximately $1.4 million which begin to expire in 2006. The Company also had general business and minimum tax credit carryforwards available to reduce future regular income taxes of approximately $1.3 million and $77,000, respectively, which begin to expire in 2010. Utilization of the net operating losses and tax credits may be subject to an annual limitation imposed by change in ownership provisions of Section 382 of the Internal Revenue Code and similar state provisions.

In accordance with SFAS No. 109, *Accounting for Income Taxes*, the accounting for the tax benefits of acquired deductible temporary differences which are not recognized at the acquisition date because a valuation allowance may be established and recognized subsequent to the acquisitions, will be applied first to reduce to zero, any goodwill and other noncurrent intangible assets related to the acquisitions. Any remaining tax benefits would be recognized as reduction of income tax expense. If the Company concludes in a subsequent period, that a valuation allowance is required for previously recognized tax benefits from acquisitions, the establishment or reestablishment of that valuation allowance would be recognized as income tax expense attributable to income from continuing operations, not as an increase in goodwill related to the acquisition. The Company's deferred tax liability relates significantly to the financial statement and tax carrying basis amount of certain acquired identifiable intangible assets.

The total valuation allowance for deferred tax assets as of December 31, 2004 was $10.4 million of which $0.6 million was charged against income tax expense while $9.8 million was charged against acquisition goodwill. The total valuation allowance increased by $0.6 million from December 31, 2003 due to the Company's assessment under FAS 109 that certain state & foreign net operating losses are not "more likely than not" to be realized prior to expiration. If the valuation allowance is fully realized, $9.8 million will reduce goodwill and intangible assets and the balance will reduce income tax expense.

Undistributed earnings of the Company's foreign subsidiaries amounted to approximately $20.3 million, $18.5 million and $12.7 million at December 31, 2004, 2003 and 2002, respectively. The Company's policy has been that these earnings are indefinitely reinvested and, accordingly, no related provision for U.S federal and state income taxes has been provided. On October 22, 2004, the American Jobs Creation Act of 2004 (the "Act") was signed into law. The Act creates a one-time incentive for U.S. corporations to repatriate undistributed earnings from their international subsidiaries by providing an 85% dividends received deduction for certain international earnings. The deduction is available to corporations during the tax year that includes October 22, 2004 or in the immediately subsequent year. The Company is in the process of evaluating whether it will repatriate international earnings under the provisions of the Act. Therfore, no incremental tax provision effect has been recorded through December 31, 2004. Upon distribution of those earnings in the form of dividends or otherwise, the Company will be subject to both U.S. income taxes (less foreign tax credits) and withholding taxes in the various foreign countries.

12. Employee Benefit Plans

The Company sponsors profit sharing retirement plans for its U.S. employees, which includes employee savings plans established under Section 401(k) of the U.S. Internal Revenue Code (the "401(k) Plan"). The 401(k) plans cover substantially all full-time employees who meet certain eligibility requirements. Contributions to the profit sharing retirement plans are at the discretion of management.

For the years ended December 31, 2004, 2003, and 2002, the Company contributed approximately $385,000, $289,000 and $175,000, respectively, to the plans.

Certain of the Company's subsidiaries in the United Kingdom (UK), Harvard Apparatus Limited, and Biochrom Limited maintain contributory, defined benefit pension plans for substantially all of their employees.

The components of the Company's pension expense follows:

	Years ended December 31,		
(in thousands)	**2004**	**2003**	**2002**
Components of net periodic benefit cost:			
Service cost	$ 395	$ 349	$ 400
Interest cost	627	502	459
Expected return on plan assets	(669)	(556)	(543)
Net amortization loss	125	143	39
Net periodic benefit cost	$ 478	$ 438	$ 355

The measurement date is December 31 for the Company's plans. The funded status of the Company's defined benefit pension plans and the amount recognized in the consolidated balance sheets at December 31, 2004 and 2003 follows:

	December 31,	
(in thousands)	**2004**	**2003**
Change in benefit obligation:		
Balance at beginning of year	$ 11,055	$ 8,785
Service cost	395	349
Interest cost	627	502
Participants' contributions	156	174
Actuarial loss	1,659	354
Benefits paid	(447)	(194)
Currency translation adjustment	924	1,085
Balance at end of year	$ 14,369	$ 11,055
Change in fair value of plan assets:		
Balance at beginning of year	$ 9,144	$ 6,826
Actual return on plan assets	826	1,015
Participants' contributions	156	174
Employer contributions	484	538
Benefits paid	(447)	(194)
Expenses paid	(26)	(102)
Currency translation adjustment	722	887
Balance at end of year	$ 10,859	$ 9,144

(in thousands)	Years ended December 31, 2004	2003
Funded status	$ (3,510)	$ (1,911)
Unrecognized net loss	3,901	2,313
Net amount recognized	$ 391	$ 402

The accumulated benefit obligation for all defined benefit pension plans was $11.2 million and $8.9 million as of December 31, 2004 and 2003, respectively.

The amounts recognized in the consolidated balance sheets consist of:

(in thousands)	December 31, 2004	2003
Prepaid benefit cost	$ 391	$ 402
Minimum pension liability	(833)	(679)
Accumulated other comprehensive loss	583	475
Deferred tax asset	250	204
Net amount recognized	$ 391	$ 402

The weighted average assumptions used in determining the net pension cost for the Company's plans follows:

(in thousands)	Years ended December 31, 2004	2003	2002
Discount rate	5.30%	5.50%	5.50%
Expected return on assets	6.90%	7.20%	7.70%
Rate of compensation increase	3.90%	3.75%	3.25%

Our mix of pension plan investments among asset classes also affects the long-term expected rate of return on plan assets. Our current target asset mix used in determining the expected return is 60% equities and 40% fixed income securities, including an insurance policy. As of December 31, 2004, our actual asset mix approximated our target mix. Differences between actual and expected returns are recognized in the calculation of net periodic pension (income)/cost over the average remaining expected future working lifetime, which is approximately twelve years, of active plan participants. With the current base of our assets, a 0.5% increase/decrease in the asset return assumption would decrease/increase our annual pension expense by approximately $58,000.

The discount rate assumptions used for pension accounting reflect the prevailing rates available on high-quality, fixed-income debt instruments with terms that match the average expected duration of our defined benefit pension plan obligations. We use the Merrill Lynch Sterling Market AA-rated long-term U.K. corporate bonds, which match the average duration of our pension plan liability of approximately 15 years. With the current base of assets in our pension plans, a 0.1% increase/decrease in the discount rate assumption would decrease/increase our annual pension expense by approximately $326,000.

The Company expects to contribute approximately $0.5 million to its pension plans during 2005.

Plans with accumulated benefit obligation in excess of plan assets:

in thousands	December 31, 2004	2003
Projected benefit obligation	$ 10,437	$ 8,376
Accumulated benefit obligation	8,699	7,001
Fair value of plan assets	7,866	6,322

	Years Ended December 31, 2004	2003
Increase (decrease) in minimum pension liability included in other comprehensive income	$ 154	$ (594)

13. Commitments and Contingent Liabilities

On February 4, 2002, Paul D. Grindle, the former owner of Harvard Apparatus, Inc., initiated an arbitration proceeding against us and certain directors before JAMS in Boston, Massachusetts. Mr. Grindle's claims arise out of post-closing purchase price adjustments related to our purchase of the assets and business of Harvard Apparatus by virtue of an Asset Purchase Agreement dated March 15, 1996 and certain related agreements. In the arbitration demand, Mr. Grindle sought the return of 1,563,851 shares of common stock in Harvard Bioscience, or the disgorgement of the profits of our sale of the stock, as well as compensatory damages and multiple damages and attorney's fees under Mass. Gen. Laws, chapter 93A. In a demand letter that was attached to the arbitration demand, Mr. Grindle asserted losses in the amount of $15 million, representing the value of the 1,563,851 shares of Harvard Bioscience's common stock as of January 2, 2002. On October 30, 2002, we received a decision from the arbitrator that we prevailed on all claims asserted against us and certain of our directors in the arbitration action. Specifically, we received a written decision from the arbitrator granting our motion for summary disposition with respect to all claims brought against all parties in the action. The Company filed a complaint in the Massachusetts Superior Court seeking to confirm the arbitrator's decision. Mr. Grindle filed a complaint in the Massachusetts Superior Court seeking to vacate the arbitrator's decision. These two matters were consolidated. On or about July 30, 2003, the Massachusetts Superior Court granted our motion to confirm the arbitrator's decision and to deny Mr. Grindle's motion to vacate. Mr. Grindle filed a notice of appeal with the Massachusetts Appeals Court. Mr. Grindle also filed an application for direct appellate review with the Massachusetts Supreme Judicial Court, which was denied. On January 6, 2005, the Massachusetts Appeals Court affirmed the judgment of the Massachusetts Superior Court confirming the arbitrator's decision. Mr. Grindle did not move for reconsideration of the Appeals Courts decision and did not appeal the Appeals Court's decision to the Massachusetts Supreme Judicial Court, and his time to so move or appeal has expired.

In addition, from time to time, we may be involved in various claims and legal proceedings arising in the ordinary course of business. Except as disclosed above, we are not currently a party to any such claims or proceedings, which, if decided adversely to us, would either individually or in the aggregate have a material adverse effect on our business, financial condition or results of operations.

The Company is subject to legal proceedings and claims arising out of its normal course of business. Management, after review and consultation with counsel, considers that amounts accrued for in connection therewith are adequate.

14. Stock Compensation Plans

Employee Stock Purchase Plan

In 2000, the Company approved a stock purchase plan allowing employees to purchase the Company's common stock at 85% of the lesser of beginning and ending fair market value at six month intervals. Under this plan, 500,000 shares of common stock are authorized for issuance of which 147,830 shares were issued as of December 31, 2004.

Stock Option Plans

1996 Stock Option and Grant Plan

In 1996, the Company adopted the 1996 Stock Option and Grant Plan (the "1996 Plan") pursuant to which the Company's Board of Directors could grant stock options to employees, directors and consultants. The 1996 Plan authorized grants of options to purchase 4,072,480 shares of authorized but unissued stock. In 2000, the 1996 Plan was replaced by the 2000 Stock Option and Incentive Plan. As of December 31, 2004, there were 258,658 options outstanding under the 1996 Plan.

2000 Stock Option and Grant Plan

In 2000, the Company adopted the 2000 Stock Option and Incentive Plan (the "2000 Plan") and together with the 1996 Plan (the "Plans") pursuant to which the Company's Board of Directors can grant stock options to employees, directors and consultants. The 2000 Plan authorized grants of options to purchase up to 3,750,000 shares of authorized but unissued stock. Under the 2000 Plan, the number of authorized options is increased each June 30 and December 30 in an amount equal to 15% of the common stock issued in the six month periods. As of December 31, 2004, the 2000 Plan authorizes grants of options to purchase 4,815,751 shares of authorized but unissued stock. As of December 31, 2004, there were 3,709,513 options outstanding under the 2000 Plan.

Through December 31, 2004 and 2003, 5,264,177 and 3,972,177 incentive stock options and 3,596,868 and 3,283,868 non-qualified stock options, respectively, were granted to employees, directors and consultants under the Plans. Generally, both the incentive stock options and the non-qualified stock options become fully vested over a four-year period, with one-quarter of the options vesting on each of the first four anniversaries of the grant date.

Stock compensation expense resulting from stock option grants to employees represents the difference between the fair market value and the exercise price of the stock options on the grant date for those options considered fixed awards. Stock compensation is amortized as a charge to operations using an accelerated vesting method in accordance with FASB Interpretation No. 28 *Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans*, which results in decreasing compensation expense from the date of the stock option grant until the vesting dates.

During the years ended December 31, 2004, 2003 and 2002, 1,605,000, 1,315,000 and 1,323,500 stock options, respectively, were granted to employees at exercise prices equal to or greater than fair

market value of the Company's common stock on the date of grant. During the year ended December 31, 2001, 42,766 stock options were granted to employees at an exercise price of $1.87 and 9,855 stock options at an exercise price of $1.05, which was estimated to be less than the fair market value of the Company's common stock on the date of grant. During the year ended December 31, 2000, 1,140,466 stock options were granted to employees at an exercise price of $1.05, which was estimated to be less than the fair market value of the Company's common stock on the date of grant. Accordingly, for the years ended December 31, 2004, 2003 and 2002, compensation expense of $28,302, $519,480 and $1,269,397, respectively, was recognized on these stock option grants. As of December 31, 2004 there is no additional compensation expense to be recognized relating to these grants.

During 2004, the Company modified the terms of stock options granted to certain employees of Warner Instruments and Genomic Solutions whose vesting was accelerated pursuant to separation agreements entered into as part of the restructuring of operations at Warner Instruments and Genomic Solutions. The Company recognized compensation expense of $123,227 in connection with the modification equal to the difference between the fair market value of the Company's common stock on the date of modification and the exercise price.

On September 29, 2000, two officers exercised 563,942 non-vested options that were granted during 2000 for 563,942 shares of restricted common shares for cash consideration of $286 and two promissory notes amounting to $589,652 payable to the Company. The notes had a three-year maturity and a fixed interest rate of 10% per annum, compounded annually. The restricted stock vested over four years with one-quarter of the shares vesting on each of the first four anniversaries of January 1, 2000. The estimated fair market value of the shares awarded on the original option date grant and on the date of exercise was estimated to be $6,177,127. As of December 31, 2003, all stock compensation expense related to these stock options had been recognized.

The following is a summary of stock option activity:

	Options Outstanding	Weighted Average Exercise Price
Balance at December 31, 2001	706,065	$ 3.37
Options granted	1,323,500	5.75
Options exercised	(128,355)	0.71
Options forfeited	(98,403)	5.54
Balance at December 31, 2002	1,802,807	$ 5.19
Options granted	1,315,000	3.19
Options exercised	(47,089)	1.39
Options forfeited	(156,319)	4.16
Options expired	(8,060)	0.01
Balance at December 31, 2003	2,906,339	$ 4.42
Options granted	1,605,000	7.44
Options exercised	(203,099)	3.30
Options forfeited	(340,069)	4.84
Balance at December 31, 2004	3,968,171	$ 5.66

The weighted average fair value of options granted during 2004, 2003 and 2002 was $4.89, $2.26 and $4.16, respectively.

The following is a summary of information relating to stock options outstanding at December 31, 2004:

	Options Outstanding			Options Exercisable	
Range of Exercise Price	Number Outstanding at December 31, 2004	Weighted average Remaining Contractual life	Weighted average Exercise Price	Shares Exercisable at December 31, 2004	Weighted average Exercise Price
$0.01-2.99	372,071	5.93	$ 1.57	319,071	$ 1.35
$3.00-3.99	1,106,850	8.25	3.20	261,975	3.23
$4.00-6.99	389,250	9.19	4.52	42,750	4.63
$7.00-8.00	1,848,000	8.24	7.76	457,625	7.51
$8.01-10.60	252,000	8.85	8.88	27,500	9.39
$0.01-10.60	3,968,171	8.16	$ 5.66	1,108,921	$ 4.66

15. Segment and Related Information

The Company operates in one business segment: the development, manufacture and marketing of specialized products used to accelerate drug discovery research at pharmaceutical and biotechnology companies, universities and government laboratories worldwide. The Company provides tools for drug discovery focusing on the areas of target validation, high throughput screening, sample preparation, assay development and ADMET screening. These products all have similar economic characteristics and attributes, including similar nature of the products and services, similar marketing and distribution channels, similar production processes and similar class of customers. As a result, the Company aggregates its product lines into a single segment of tools for drug discovery. The Company operates primarily in three geographic regions: the United States, United Kingdom and the rest of the world.

The following tables summarize selected financial information of the Company's operations by geographic location:

Revenues by geographic area consists of the following:

	Years ended December 31,		
(in thousands)	2004	2003	2002
United States	$ 50,237	$ 43,562	$ 23,622
United Kingdom	31,910	32,764	25,034
Rest of the world	10,450	10,815	8,724
	$ 92,597	$ 87,141	$ 57,380

Tangible long lived assets by geographic area consists of the following:

(in thousands)	December 31, 2004	2003
United States	$ 3,537	$ 3,046
United Kingdom	2,823	2,870
Rest of the world	783	830
	$ 7,143	$ 6,746

Net assets by geographic area consists of the following:

(in thousands)	December 31, 2004	2003
United States	$ 68,331	$ 69,089
United Kingdom	27,604	22,333
Rest of the world	8,422	7,456
	$ 104,357	$ 98,878

16. Allowance for Doubtful Accounts

Allowance for doubtful accounts is based on the Company's assessment of the collectibility of customer accounts. A rollforward of allowance for doubtful accounts is as follows:

(in thousands)	Beginning Balance	Charged to Bad Debt Expense	Write-offs Charged to Allowance	Ending Balance
Year ended December 31, 2002	$ 98	46	—	$ 144
Year ended December 31, 2003	$ 144	325	(52)	$ 417
Year ended December 31, 2004	$ 417	443	(7)	$ 853

17. Warranties

A rollforward of product warranties is as follows:

(in thousands)	Beginning Balance	Payments	Additions (a)	Ending Balance
Year ended December 31, 2002	$ 279	(155)	565	$ 689
Year ended December 31, 2003	$ 689	(885)	1,189	$ 993
Year ended December 31, 2004	$ 993	(841)	608	$ 760

(a) Includes additions of acquired companies

18. Supplemental Cash Flow Information

(in thousands)	Years ended December 31, 2004	2003	2002
Supplemental disclosures of cash flow information:			
Cash paid for acquisitions, net of cash acquired:			
Net assets acquired or liabilities assumed	$ (1,869)	$ 5,127	$ 10,474
Goodwill and intangible assets	8,951	16,022	17,697
Less stock issued	—	—	17,279
Less cash acquired, if any	—	—	156
Cash paid for acquisitions, net of cash acquired	$ 7,082	$ 21,149	$ 10,736

19. Supplemental Statement of Stockholders' Equity Information

	As of December 31, 2004	2003
Cumulative Balances Included in Other Comprehensive Income:		
Cumulative translation adjustment	$ 6,067	$ 4,356
Cumulative translation adjustment on investment type loans, net of tax	1,983	1,459
Minimum pension liability, net of tax	(583)	(475)
Balance	$ 7,467	$ 5,340

20. Quarterly Financial Information (Unaudited)

Statement of Operations Data:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Fiscal Year
	(in thousands, except per share data)				
2004					
Revenues	$ 22,165	$ 22,460	$ 23,223	$ 24,749	$ 92,597
Costs and Expenses:					
Cost of product revenues	11,588	11,178	11,822	11,935	46,523
General and administrative expense	3,524	3,551	3,446	3,717	14,238
Sales and marketing expense	4,298	4,288	3,835	4,396	16,817
Research and development expense	1,669	1,747	1,898	1,879	7,193
Amortization of goodwill and other intangibles	923	1,089	544	890	3,446
Operating income (loss)	163	607	1,678	1,932	4,380
Other income (expense), net	(314)	(191)	(155)	76	(584)
Income (loss) before income taxes	(151)	416	1,523	2,008	3,796
Income taxes	(100)	118	566	883	1,467
Net income (loss)	$ (51)	$ 298	$ 957	$ 1,125	$ 2,329
Income (loss) per share:					
Basic	$ 0.00	$ 0.01	$ 0.03	$ 0.04	$ 0.08
Diluted	$ 0.00	$ 0.01	$ 0.03	$ 0.04	$ 0.07

Statement of Operations Data:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Fiscal Year
	(in thousands, except per share data)				
2003					
Revenues	$ 19,473	$ 22,353	$ 21,108	$ 24,207	$ 87,141
Costs and Expenses:					
Cost of product revenues	9,662	10,961	10,685	12,503	43,811
General and administrative expense	2,939	2,980	2,723	2,661	11,303
Sales and marketing expense	3,606	3,898	3,815	4,079	15,398
Research and development expense	1,420	1,666	1,615	1,561	6,262
Amortization of goodwill and other intangibles	625	729	578	770	2,702
Operating income (loss)	1,221	2,119	1,692	2,633	7,665
Other income (expense), net	109	(1,028)	249	242	(428)
Income (loss) before income taxes	1,330	1,091	1,941	2,875	7,237
Income taxes	554	348	955	1,120	2,977
Net income (loss)	$ 776	$ 743	$ 986	$ 1,755	$ 4,260
Income (loss) per share:					
Basic	$ 0.03	$ 0.02	$ 0.03	$ 0.06	$ 0.14
Diluted	$ 0.03	$ 0.02	$ 0.03	$ 0.06	$ 0.14

SIGNATURES

Pursuant to the requirements of Section 13 and 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

HARVARD BIOSCIENCE, INC.

Date: April 28, 2005

By: /s/ CHANE GRAZIANO

Chane Graziano
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Signature	Title	Date
/s/ CHANE GRAZIANO Chane Graziano	Chief Executive Officer and Director (Principal Executive Officer)	April 28, 2005
/s/ BRYCE CHICOYNE Bryce Chicoyne	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	April 28, 2005
/s/ DAVID GREEN David Green	President and Director	April 28, 2005
/s/ ROBERT DISHMAN Robert Dishman	Director	April 28, 2005
/s/ NEAL J. HARTE Neal J. Harte	Director	April 28, 2005
/s/ JOHN F. KENNEDY John F. Kennedy	Director	April 28, 2005
/s/ EARL R. LEWIS Earl R. Lewis	Director	April 28, 2005

EXHIBIT INDEX

The following exhibits are filed as part of this report. Where such filing is made by incorporation by reference to a previously filed document, such document is identified.

(3)2.1	Agreement and Plan of Merger by and among Harvard Bioscience, Inc., HAG Acq. Corp. and Genomic Solutions, Inc., dated as of July 17, 2002.
(9)2.2	Asset Purchase Agreement, dated as of February 28, 2003, by and among Genomic Solutions, Inc. and Genomic Instrumentation Services, Inc. d/b/a GeneMachines.
(10)2.3	Asset Purchase Agreement, dated as of September 19, 2003, by and among Genomic Solutions Acquisitions Limited, BioRobotics Limited, BioRobotics Group Limited and Matrix Technologies Corporation.
(13)2.4	Stock Purchase Agreement, dated as of March 3, 2004, by and among Harvard Bioscience, Inc., a Delaware Corporation, KD Scientific, Inc., a Massachusetts Corporation, and Ken Dunne.
(1)3.1	Second Amended and Restated Certificate of Incorporation of Harvard Bioscience, Inc..
(1)3.2	Amended and Restated By-laws of Harvard Bioscience, Inc..
(1)4.1	Specimen certificate for shares of Common Stock, $0.01 par value, of Harvard Bioscience, Inc.
(1)4.2	Amended and Restated Securityholders' Agreement dated as of March 2, 1999 by and among Harvard Apparatus, Inc., Pioneer Partnership II, Pioneer Capital Corp., First New England Capital, L.P. and Citizens Capital, Inc. and Chane Graziano and David Green.
(1)10.1	Harvard Apparatus, Inc. 1996 Stock Option and Grant Plan.
(1)10.2	Harvard Bioscience, Inc. 2000 Stock Option and Incentive Plan.
(1)10.3	Harvard Bioscience, Inc. Employee Stock Purchase Plan.
+(4)10.4	Distribution Agreement dated August 1, 2001 by and between Biochrom Limited and Amersham Pharmacia Biotech UK Limited.
(1)10.5	Employment Agreement between Harvard Bioscience, Inc. and Chane Graziano.
(1)10.6	Employment Agreement between Harvard Bioscience, Inc. and David Green.
(12)10.7	Amendment dated January 31, 2003 to Lease Agreement dated January 3, 2002 between Seven October Hill LLC and Harvard Bioscience, Inc.
(1)10.8	Form of Director Indemnification Agreement.
(4)10.9	Lease Agreement dated January 3, 2002 between Seven October Hill LLC and Harvard Bioscience, Inc.
(1)10.10	Lease of Unit 22 Phase I Cambridge Science Park, Milton Road, Cambridge dated March 3, 1999 between The Master Fellows and Scholars of Trinity College Cambridge, Biochrom Limited and Harvard Apparatus, Inc.
(5)10.11	Lease between Genomic Solutions Inc. and Highland Industrial Properties, L.L.C., dated August 7, 1997
(6)10.12	Fourth Addendum to Lease between Genomic Solutions Inc. and Highland Industrial Properties, L.L.C., dated May 17, 2000
(7)10.13	Fifth Addendum to Lease between Genomic Solutions Inc. and Highland Industrial Properties, L.L.C., dated September 10, 2001

(7)10.14	Lease between Cartesian Technologies, Inc. and Airport Industrial Complex, dated February 5, 2002
(8)10.15	Lease between Genomic Solutions Inc. and County Road Properties, dated March 8, 2003 and First Addendum thereto, dated March 10, 2003
(12)10.16	Revolving Credit Loan Agreement, dated as of November 21, 2003, by and among Harvard Bioscience, Inc., the Lenders that are signatories thereto and Brown Brothers Harriman & Co.
+(12)10.17	Distribution Agreement, dated as of November 24, 2003, among Hoefer, Inc., Harvard Bioscience, Inc. and Amersham Biosciences Corp.
(12)10.18	Lease, dated February 23, 2004, by and between William Cash Forman and Hoefer, Inc.
+(11)10.19	Trademark License Agreement, dated December 9, 2002, by and between Harvard Bioscience, Inc. and President and Fellows of Harvard College.
(14)10.20	Form of Incentive Stock Option Agreement Executive Officers
(14)10.21	Form of Non-Qualified Stock Option Agreement Executive Officers
(14)10.22	Form of Non-Qualified Stock Option Agreement Non-Employee Board of Directors
21.1	Subsidiaries of the Registrant.
23.1	Consent of KPMG LLP.
31.1	Certification of Chief Financial Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-15(e) and 15d-15(e), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Executive Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-15(e) and 15d-15(e), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Financial Officer of Harvard Bioscience, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Chief Executive Officer of Harvard Bioscience, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

(1) Previously filed as an exhibit to the Company's Registration Statement on Form S-1 (File No. 333-45996) and incorporated by reference thereto.

(2) Previously filed as an exhibit to the Company's Current Report on Form 8-K/A (filed August 14, 2001) and incorporated by reference thereto.

(3) Previously filed as an exhibit to the Company's Registration Statement on Form S-4 (File No. 333-98927) and incorporated by reference thereto.

(4) Previously filed as an exhibit to the Company's Annual Report on Form 10-K (filed April 1, 2002) and incorporated by reference thereto.

(5) Previously filed as an exhibit to Genomic Solutions Inc.'s Registration Statement on Form S-1, as amended (File No. 333-30246) and incorporated by reference thereto.

(6) Previously filed as an exhibit to Genomic Solutions Inc.'s Annual Report on Form 10-K (filed April 2, 2001) and incorporated by reference thereto.

(7) Previously filed as an exhibit to Genomic Solutions Inc.'s Annual Report of Form 10-K (filed April 1, 2002) and incorporated by reference thereto.

(8) Previously filed as an exhibit to the Company's Annual Report of Form 10-K (filed March 31, 2003) and incorporated by reference thereto.

(9) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed March 3, 2003) and incorporated by reference thereto.

(10) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed October 2, 2003) and incorporated by reference thereto.

(11) Previously filed as an exhibit to the Company's Quarterly Report on Form 10-Q (filed May 15, 2003) and incorporated by reference thereto.

(12) Previously filed as an exhibit to the Company's Annual Report on Form 10-K (filed March 15, 2004) and incorporated by reference thereto.

(13) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed March 18, 2004) and incorporated by reference thereto.

(14) Previously filed as an exhibit to the Company's Quarterly Report on Form 10-Q (filed November 9, 2004) and incorporated by reference thereto.

+ Certain portions of this document have been granted confidential treatment by the Securities and Exchange Commission (the "Commission").

* This certification shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

The Company will furnish to stockholders a copy of any exhibit without charge upon written request.

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EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Harvard Bioscience, Inc. and subsidiaries:

We consent to the incorporation by reference in registration statements Nos. 333-53848 and 333-104544 on Form S-8 of Harvard Bioscience, Inc. and subsidiaries of our report dated March 15, 2005, with respect to the consolidated balance sheets of Harvard Bioscience, Inc. as of December 31, 2004 and 2003, and the related consolidated statements of operations, stockholders' equity and comprehensive income (loss), and cash flows for each of the years in the three-year period ended December 31, 2004, and our report dated April 28, 2005 with respect to management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2004 and the effectiveness of internal control over financial reporting as of December 31, 2004, which reports appear in the December 31, 2004 annual report on Form 10-K/A of Harvard Bioscience, Inc.

Our report dated April 28, 2005, on management's assessment of the effectiveness of internal control over financial reporting and the effectiveness of internal control over financial reporting as of December 31, 2004, expresses our opinion that Harvard Bioscience, Inc. did not maintain effective internal control over financial reporting as of December 31, 2004 because of the effect of a material weakness on the achievement of the objectives of the control criteria and states that the Company's policies and procedures did not provide for an effective review of amounts reported for its income tax provision, that was prepared by a public accounting firm.

/s/ KPMG LLP

Boston, Massachusetts
April 28, 2005

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EXHIBIT 31.1

Certification

I, Bryce Chicoyne, certify that:

1. I have reviewed this annual report on Form 10-K/A of Harvard Bioscience, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the consolidated financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 28, 2005

/s/ BRYCE CHICOYNE

Bryce Chicoyne
Chief Financial Officer

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EXHIBIT 31.2

Certification

I, Chane Graziano, certify that:

1. I have reviewed this annual report on Form 10-K/A of Harvard Bioscience, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the consolidated financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonable likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 28, 2005

/s/ CHANE GRAZIANO

Chane Graziano
Chief Executive Officer

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EXHIBIT 32.1

CERTIFICATION OF PERIODIC FINANCIAL REPORT
PURSUANT TO 18 U.S.C. SECTION 1350

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies that the Company's annual report on Form 10-K/A for the year ended December 31, 2004 to which this certification is being furnished as an exhibit (the "Report"), as filed with the Securities and Exchange Commission on the date hereof, fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. This certification is provided solely pursuant to 18 U.S.C. Section 1350 and Item 601(b)(32) of Regulation S-K ("Item 601(b)(32)") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act. In accordance with clause (ii) of Item 601(b)(32), this certification (A) shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and (B) shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Date: April 28, 2005

/s/ BRYCE CHICOYNE

Name: Bryce Chicoyne
Title: Chief Financial Officer

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EXHIBIT 32.2

CERTIFICATION OF PERIODIC FINANCIAL REPORT
PURSUANT TO 18 U.S.C. SECTION 1350

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies that the Company's annual report on Form 10-K/A for the year ended December 31, 2004 to which this certification is being furnished as an exhibit (the "Report"), as filed with the Securities and Exchange Commission on the date hereof, fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. This certification is provided solely pursuant to 18 U.S.C. Section 1350 and Item 601(b)(32) of Regulation S-K ("Item 601(b)(32)") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act. In accordance with clause (ii) of Item 601(b)(32), this certification (A) shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and (B) shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Date: April 28, 2005

/s/ CHANE GRAZIANO

Name: Chane Graziano
Title: Chief Executive Officer

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