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# SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

## FORM 10-K

**Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**  
For the fiscal year ended December 31, 2003 or

**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**  
(State or Other Jurisdiction of  
Incorporation or Organization)

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

**04-3306140**  
(IRS Employer Identification No.)

**84 October Hill Road, Holliston, MA**  
(Address of Principal Executive Offices)

**01746**  
(Zip 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

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 or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2).

YES  NO

The aggregate market value of 20,992,288 shares of voting stock held by non-affiliates of the registrant as of June 30, 2003 was approximately \$79,770,694 based on the last sale price of such stock on such date.

Common Stock Outstanding as of March 10, 2004: 30,164,085 shares.

#### DOCUMENTS INCORPORATED BY REFERENCE.

Portions of the Company's definitive Proxy Statement in connection with the 2004 Annual Meeting of Stockholders to be held on May 27, 2004 are incorporated by reference into Part III of this Form 10-K.

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Form 10-K  
For the Year Ended December 31, 2003  
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## PART I

*This Annual Report on Form 10-K 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. 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.” 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. 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, our expectations in connection with current litigation (including inferences about the finality of the arbitrator’s decision in the Grindle matter and potential appeal of or other challenge to that decision), and our plans, objectives, expectations and intentions that are not historical facts. 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. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in detail under the heading “Important Factors That May Affect Future Operating Results” beginning on page 31 of this Annual Report on Form 10-K. 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, 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 Amersham Biosciences, Fisher Scientific and Cole Parmer. 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 current management team acquired a majority of the then existing business of our predecessor, Harvard Apparatus. Following this acquisition, we redirected the focus of the Company to

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participate in the high 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. Through December 31, 2003, we have completed 19 business acquisitions, internally developed new product lines including new generation syringe pumps, ventilators, DNA/RNA/protein calculators,

spectrophotometers, plate readers, a multi-well plate version of our BTX electroporation product, the Hummingbird system for liquid dispensing, our microscope image automation system (“MIAS”) 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) in 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 for above-average revenue growth and above-average margins.

We grow this range of products through internal development of new products, acquisitions and strategic partnerships with both pharmaceutical companies (for new product development) and other major life science companies (for expanded distribution).

We also 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, Medical Systems, Clark Electromedical, NaviCyte, Hugo Sachs Elektronik 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. They are typically sold through our catalogs and website with support from technical specialists, although BTX 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.

#### *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.

#### *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. They are typically used in place of live animals. 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.

#### *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 anesthetized animal. Ventilators are typically used in surgical procedures common in drug discovery. Our advanced Inspira ventilators have significant safety and ease of use features, such as default safety settings. We expanded our 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 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, 2003. Distributed products accounted for approximately 9% of our revenues for the year ended December 31, 2003. 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.

#### ***Molecular Biology.***

These products are primarily sold under brand names of the distributors including 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 products are typically in the \$5,000 to \$15,000 price range. They 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 UltraSpec, NovaSpec and Biowave. These products are manufactured by our Biochrom subsidiary and sold primarily through our distribution arrangement with Amersham Biosciences.

#### *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 Amersham Biosciences.

#### *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 sold through Amersham Biosciences and other distributors.

#### *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 Amersham Biosciences.

#### *Low Volume, High-Throughput Liquid Dispensers*

A liquid dispenser dispenses low volumes 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. We acquired Asys Hitech in December 2001 through our Biochrom subsidiary. Asys Hitech develops and markets both the liquid dispensers and a line of OEM plate readers. For ultra low volume dispensing 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. Most of these products were acquired with our November 2001 acquisition of SciePlas Ltd. and are sold through distributors. We 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 Amersham Biosciences but we are also establishing a catalog 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 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 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. 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 brand name.

### *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. The data from all these processes can then be analyzed and presented by our powerful software. 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 that are thought to be involved in disease. We manufacture instruments that aspirate and dispense very small quantities (as small as billionths of a liter) of chemicals into test wells (usually either 96, 384 or 1536) on small plastic plates called microtitre plates. We make instruments that can very rapidly, precisely and without cross-contamination add the same compound to each well, or add a different compound to each well. 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.

#### *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.

#### *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.

## **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 largest customers include Glaxo SmithKline, Pfizer, Merck & Co., University of Alabama, University at Zurich, National Taiwan University, Allegheny Singer Research Institute, University of Reading, University of Alberta and Benchmark Services.

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, Amersham Biosciences, a distributor with end users similar to ours, accounted for approximately 13% of our revenues for the year ended December 31, 2003 compared to approximately 18% for the year ended December 31, 2002. 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, 2003, revenues from direct sales to end users through our Harvard Apparatus catalog represented approximately 25% of our revenues; revenues from direct sales to end users through our direct sales force represented approximately 30% of our total revenues; and revenues of our products through distributors represented approximately 45% of our revenues.

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### ***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 range 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 a 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 and the Genomic Solutions' genomics, proteomics, and high-throughput screening product lines. Although there are separate and distinct sales forces for each of these product lines, we are able to leverage our capabilities by having more individuals able to connect with and identify prospective customers. 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 Amersham Biosciences. Under the terms of the agreement Amersham Biosciences serves as our 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 Amersham Biosciences, we entered into a separate distribution agreement with Amersham Biosciences 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 and delivery, by either party the agreement may be terminated with a 30 day notice period.

In addition to engaging Amersham Biosciences as the primary distributor for our Biochrom and Hoefer products, we also engage distributors for the sales of Harvard Apparatus, Biochrom, Union Biometrica and Genomic Solutions products in certain areas of the world and in certain product specific situations. 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 a broad portfolio of technologies, products and core competencies in drug discovery tools, 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 \$6.3 million, \$4.1 million (excluding in-process research and development charges of \$1.6 million) and \$3.2 million (excluding in-process research and development charges of \$5.4 million) in 2003, 2002 and 2001, 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

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a balanced development portfolio strategy of originating new products from internal research and development programs and acquiring products through business and technology acquisitions. Enhancements to COPAS™ and the development of new applications for COPAS™, the development of the second generation of MIAS, the development of the Hummingbird liquid dispensing instrument and the development of the multi-well plate for the BTX electroporation products were our significant development projects in 2003.

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.

## **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.

Our manufacturing operations are primarily to assemble and test. Our manufacturing of syringe pumps, ventilators, cell injectors, protein purification 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. The COPAS™ technology instruments are manufactured in our Somerville, Massachusetts facility. Our genomics, proteomics and high-throughput screening products are manufactured at our Irvine and San Carlos, California and Huntingdon, England facilities. Our manufacturing of spectrophotometers and amino acid analysis systems takes place in our Cambridge, England facility which is certified to ISO 9001. Our manufacturing of surgery and anesthesia related products and 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, and Molecular Devices Corporation. In the genomics and proteomics area, we compete with, among others, Genetix, Ltd., Amersham Biosciences Corp., Axon Instruments, Inc., Bio-Rad Laboratories, Inc., Agilent Technologies, Inc., Bruker BioSciences Corporation, PerkinElmer, Inc and Affymetrix, Inc. In the high-throughput/high-content screening area we compete with, among others, Genetix, Ltd., Amersham Biosciences Corp., Cellomics, Inc., Atto Bioscience, Inc., PerkinElmer, Inc., Zymark Corporation, Tecan Group, Beckman Coulter, Inc., Apogent Technologies, 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 27 issued U.S. patents and have 26 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 not protect our proprietary rights to the same 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, we are not subject to regulatory approval by the United States Food and Drug Administration as none of our products are sold for use in diagnostic procedures or on human clinical patients. In addition, we believe we are in compliance with all relevant environmental laws.

### **Employees**

As of December 31, 2003, we had 425 full-time employees and 37 part-time employees, 241 of whom resided in the United States, 175 of whom resided in the United Kingdom, 15 of whom reside in Austria, 13 of whom resided in Germany, seven of whom resided in Belgium, four of whom resided in Canada, three of whom resided in France, two of whom resided in Japan, 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.

### **Website**

Our website is [www.harvardbioscience.com](http://www.harvardbioscience.com). Our annual reports on Form 10-K, 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.

### **Item 2. Properties.**

Our 13 principal facilities incorporate manufacturing, development, sales and marketing, and administration functions. Our facilities consist of:

- a leased 27,700 square foot facility in Holliston, Massachusetts, which is our corporate headquarters,
- a leased 28,000 square foot facility in Cambridge, England,
- a leased 28,000 square foot facility in Ann Arbor, Michigan,
- a leased 22,500 square foot facility in Huntingdon, England,
- a leased 20,600 square foot facility in San Francisco, California,
- a leased 18,000 square foot facility in Warwickshire, England,
- a leased 16,000 square foot facility in San Carlos, California,
- 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 development, sales and administrative support in Les Ulix, France; Montreal, Canada; and Geel, Belgium. Our lease in Tokyo, Japan ends March 19, 2004. We lease a facility in San Diego, California which is currently vacant.

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

In September, 2002, our Genomic Solutions subsidiary filed suit against Affymetrix, Inc. in the State of Michigan Circuit Court for the County of Washtenaw for breach of contract, negligent/innocent misrepresentation, tortious interference with prospective economic advantage and declaratory relief. The action arose out of a License Agreement that Genomic Solutions entered into with Affymetrix with respect to certain Affymetrix patent rights. In November 2002, Affymetrix filed a counter-claim against Genomic Solutions alleging breach of contract and requesting approximately \$1.45 million in damages for license and other fees and interest allegedly owed. On April 30, 2003, Affymetrix was granted summary disposition and Genomic Solutions' claims were dismissed. In June 2003 the Company settled this claim and paid \$1.3 million to Affymetrix.

In December, 2002, Oxford Gene Technology Ltd. filed suit against our Genomic Solutions subsidiary, Mergen Ltd., Clontech Laboratories, Inc., PerkinElmer Life Sciences, Inc., Axon Instruments, Inc. and BioDiscovery, Inc. in the United States District Court for the District of Delaware seeking unspecified damages as a result of alleged infringement by each of the defendants of a United States Patent issued to Oxford Gene Technology. On May 12, 2003, the Company and Oxford Gene Technology settled the dispute and the lawsuit was dismissed. Under the settlement, Genomic Solutions will display certain notices in connection with the marketing of certain genomic-related products. In addition, a nominal amount was paid to Oxford Gene Technology.

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. We 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 has filed a notice of appeal with the Massachusetts Appeals Court and an application for a direct appellate review with the Massachusetts Supreme Judicial Court, both of which are pending.

On May 30, 2002, we served a claim notice (the "Claim Notice") on the former shareholders of Union Biometrica (the "Former Shareholders"), seeking indemnification in connection with the May 31, 2001 Merger Agreement that effectuated our acquisition of Union Biometrica. The Claim Notice had the effect of withholding the release of certain

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shares of our common stock placed in escrow as part of the merger consideration to the Former Shareholders. On September 5, 2002, the Former Shareholders served a Demand for Arbitration on us which essentially set forth defenses against the indemnification claims asserted in the Claim Notice, alleged that we did not have an adequate basis for our Claim Notice and asserted that the Former Shareholders could be harmed by a decline in value of the escrowed shares as a result of our failure to release the escrowed shares. A hearing was held by an arbitrator in late April and early May 2003. On July 15, 2003, we received the arbitrator's award (the "Award") in favor of the Former Shareholders. The arbitrator ruled that we must release 474,420 shares of our common stock held in escrow to the Former Shareholders and also must pay the Former Shareholders approximately \$696,000 which represents the difference between the market value of 322,875 shares of our common stock held in escrow as of May 31, 2002, and the market value of those shares as of the date those shares are released, calculated as prescribed by the escrow agreement. Each party sought certain corrections to the ruling. On August 26, 2003, the Award became final and the Former Shareholders were awarded approximately \$696,000 plus interest. This charge and certain related costs, totaling approximately \$790,000 is reflected in our financial results for the year ended December 31, 2003. After the Award became final, we entered into a settlement agreement with the Former Shareholders pursuant to which we paid approximately \$790,000 to the Former Shareholders and the parties exchanged mutual releases, which, among other things, provide that the Former Shareholders will not seek to confirm or modify the Award and we will not seek to vacate or modify the Award.

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, 2003.

<u>Name</u>	<u>Age</u>	<u>Position</u>
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Chane Graziano	65	Chief Executive Officer and Director
David Green	39	President and Director
Susan Luscinski	47	Chief Financial Officer
Mark Norige	49	Chief Operating Officer
Paul Bailey	46	Vice President of Finance and Administration
Jeffrey S. Williams (1)	37	President of Genomic Solutions Inc. and Director

(1) Mr. Williams resigned as a director and executive officer in March 2004.

*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 40 years experience in the laboratory products and analytical instruments industry.

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*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.

*Susan Luscinski* has served as our Chief Financial Officer since August 2001. Ms. Luscinski served as our 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.

*Mark Norige* has served as our Chief Operating Officer 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.

*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.

*Jeffrey S. Williams* served as the President of our Genomic Solutions subsidiary and as a member of our board of directors from October 2002 to March 2004. From 1997 to the date of the acquisition of Genomic Solutions by Harvard Bioscience, Mr. Williams served as the President and Chief Executive Officer and as a Director of Genomic Solutions and its predecessor. From 1995 until joining Genomic Solutions' predecessor, Mr. Williams served as the Executive Vice President and Chief Operating Officer of International Remote Imaging Systems, Inc., a publicly traded company specializing in digital imaging products for the clinical diagnostics and research marketplaces. Mr. Williams' prior employment included various positions at Boehringer Mannheim GmbH, a global healthcare company, most recently as Vice President and Global Business Manager.

## PART II

### Item 5. Market for Registrant's Common Equity and Related Stockholder Matters.

#### 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, 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
Year Ended December 31, 2002	High	Low
First Quarter	\$ 10.15	\$ 6.75
Second Quarter	\$ 9.10	\$ 4.07
Third Quarter	\$ 6.73	\$ 2.11
Fourth Quarter	\$ 3.83	\$ 2.50

On March 10, 2004, the closing sale price of our common stock on the Nasdaq National Market was \$9.44 per share. The number of record holders of our common stock as of March 10, 2004 was approximately 210. 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.

	Years Ended December 31,				
	2003	2002	2001	2000	1999
(in thousands, except share and per share data)					
<b>Statement of Operations Data:</b>					
Revenues	\$ 87,141	\$ 57,380	\$ 40,868	\$ 30,575	\$ 26,178
Costs and Expenses:					
Cost of product revenues	43,731	28,824	20,180	15,833	13,547
General and administrative expense	10,882	9,187	7,001	5,181	4,147
Restructuring and severance related expense	—	784	460	—	—
Sales and marketing expense	15,378	8,435	4,840	3,186	2,448
Research and development expense	6,263	4,146	3,179	1,533	1,188
Stock compensation expense	519	1,269	2,679	14,676	3,284
In-process research and development expense	—	1,551	5,447	—	—
Amortization of goodwill and other intangibles	2,702	1,543	1,744	604	368
Operating income (loss)	7,665	1,641	(4,661)	(10,438)	1,196
Other income (expense):					
Foreign currency gain (loss)	484	402	(100)	(324)	(48)
Common stock warrant interest expense	—	—	—	(36,885)	(29,694)
Interest income (expense), net	(151)	341	1,352	(756)	(657)
Amortization of deferred financing costs	(9)	—	—	(153)	(63)
Other	(752)	(36)	(10)	45	(17)
Other income (expense), net	(428)	707	1,242	(38,073)	(30,479)
Income (loss) before income taxes	7,237	2,348	(3,418)	(48,511)	(29,283)
Income taxes	(2,977)	(1,611)	1,790	1,359	137
Net income (loss)	4,260	737	(5,208)	(49,870)	(29,420)
Preferred stock dividends	—	—	—	(136)	(157)
Net income (loss) available to common stockholders	\$ 4,260	\$ 737	\$ (5,208)	\$ (50,006)	\$ (29,577)
Income (loss) per share:					
Basic	\$ 0.14	\$ 0.03	\$ (0.20)	\$ (6.25)	\$ (5.28)
Diluted	\$ 0.14	\$ 0.03	\$ (0.20)	\$ (6.25)	\$ (5.28)
Weighted average common shares:					
Basic	29,923,709	27,090,054	25,784,852	8,005,386	5,598,626
Diluted	30,711,782	27,597,564	25,784,852	8,005,386	5,598,626

	As of December 31,				
	2003	2002	2001	2000	1999
(in thousands)					
<b>Balance Sheet Data:</b>					
Cash and cash equivalents	\$ 8,223	\$ 15,313	\$ 29,385	\$ 35,817	\$ 2,396
Working capital	40,182	31,816	32,597	40,552	3,783
Total assets	128,424	107,584	82,362	58,809	20,610
Long-term debt, net of current portion	12,787	400	637	1	5,073
Preferred stock	—	—	—	—	2,500
Common stock warrants	—	—	—	—	31,194
Stockholders' equity (deficit)	98,879	88,381	66,812	52,335	(25,711)

**Statement of Operations Data:**

**2003:**

Revenues	\$	19,473	\$	22,353	\$	21,108	\$	24,207	\$	87,141
Operating expenses		18,252		20,234		19,416		21,574		79,476
Net income (loss) available to common stockholders		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

**2002:**

Revenues	\$	11,963	\$	13,729	\$	12,797	\$	18,891	\$	57,380
Operating expenses		10,781		12,244		12,549		20,165		55,739
Net Income (loss) available to common stockholders		773		1,018		(82)		(972)		737
Income (loss) per share:										
Basic	\$	0.03	\$	0.04	\$	0.00	\$	(0.03)	\$	0.03
Diluted	\$	0.03	\$	0.04	\$	0.00	\$	(0.03)	\$	0.03

Please see Note 3 to our Consolidated Financial Statements for more information on businesses acquired, which may affect the comparability of the amounts above.

Please see Note 4 to our Consolidated Financial Statements for information related to the effects of adopting Statement of Financial Accounting Standards (“SFAS”) No. 142, *Goodwill and Other Intangible Assets*.

**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 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. We discuss many of these risks in detail under the heading “Important Factors That May Affect Future Operating Results” beginning on page 31. You should carefully review all of these factors, as well as the comprehensive discussion of forward-looking statements on page 2 of this Annual Report on Form 10-K.*

**Overview**

Since 1996, when the current management team began managing Harvard Bioscience, revenues have grown at an annual compounded growth rate of approximately 40%. This has been achieved by implementing our three-part growth strategy of new product development, strategic partnerships and acquisitions. This strategy has provided us with strong organic growth in good economic times and in tough economic times, such as we experienced in 2002 and 2003, it has provided us with strong acquisition growth. During 2003, although we continued with new product development and strategic partnerships which did contribute to revenues, our revenue growth was primarily due to acquisitions we made in 2002 and 2003. Our recent acquisition activity history is listed in Note 3 to our Consolidated Financial Statements.

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. The capital equipment market is very 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. Delays in purchase orders, receipt, manufacture or shipment of products or receivables collection of these relatively high-priced products could lead to substantial variability in our revenues, operating results and working capital requirements from quarter-to-quarter. Approximately, 40% of our revenues in 2003 was derived from capital equipment products.

Also, 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 of projected revenue for the year, could be misinterpreted if the decline was due instead to a negative trend in the market and/or in the demand for our products. Conversely, an increase 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. This could have a material adverse effect on our operations.

In general, we believe that we have seen, particularly in the last half of 2003, a strengthening in the economy. However, we do believe that the economy is still uncertain. While we are optimistic that we can return to solid organic growth in addition to growth from acquisitions, we are unable to definitively label what we saw as strength in the second half of 2003 as a trend that is likely to continue, or even as a trend. We will continue 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.

Generally, management evaluates the financial performance of its operations before the effects of stock compensation expense and before the effects of purchase accounting 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. In the table below, we provide an overview of the operating metrics commonly reviewed by our management.

During 2003 we entered into a \$20 million credit facility with Brown Brothers Harriman & Co, under which we have drawn down approximately \$19.1 million as of March 3, 2004 when we funded the acquisition of KDSscientific. 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 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 in operating the Company and continuing with the acquisition portion of our growth strategy.

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 we will need to raise more capital, either by incurring additional debt, issuing equity or a combination. Currently, we may be unable to access the public equity markets due to an outstanding amendment to a Current Report on Form 8-K in connection with a previous acquisition. In addition, we may not be eligible to use Form S-3 to effect a registration of our equity. We are in the process of seeking to complete this potentially outstanding filing and anticipate that we will become current with our required filings under Form 8K and will become eligible to register equity in the foreseeable future. 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.

#### Operating Metrics for the years ended December 31,

(in thousands)

	2003	% of Revenue	2002	% of Revenue	2001	% of Revenue
Total Revenues	\$ 87,141		\$ 57,380		\$ 40,868	
Cost of Product Revenues	43,731	50.2%	28,824	50.2%	20,180	49.4%
Sales and Marketing Expense	15,378	17.6%	8,435	14.7%	4,840	11.8%
Research and Development Expense	6,263	7.2%	4,146	7.2%	3,179	7.8%
General & Administrative Expense	10,882	12.5%	9,187	16.0%	7,001	17.1%

*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

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approximately 25% of our revenues for the year ended December 31, 2003. We do not currently have the capability to accept purchase orders through our website.

Products typically in the \$5,000 - \$15,000 price range are primarily sold under brand names of distributors including Amersham Biosciences. 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 year ended December 31, 2003 approximately 45% of our revenues were derived from sales to distributors.

For our higher priced products, generally those priced over \$25,000, 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 both instrument specific service, repair and maintenance, and applications support. For the year ended December 31, 2003, approximately 30% of our revenues were derived from sales by our direct sales force.

For the year ended December 31, 2003, approximately 91% of our revenues were derived from products we manufacture or from collaboration and research grant projects. The remaining 9% of our revenues 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 year ended December 31, 2003, approximately 50% 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 Amersham Biosciences, the distributor for our spectrophotometers, plate readers and 1-D gel electrophoresis products. Amersham Biosciences 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 for the year ended December 31, 2003 if we had shipped our products directly to our end users.

*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 facility costs, professional fees for legal and accounting services, investor relations, insurances 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 paid to 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 over the vesting period of the options.

### **Critical Accounting Policies**

We believe that our critical accounting policies are as follows:

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

*Valuation of identifiable intangible assets 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 25% to 31.5%, 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 25% to 36%, reflects the business and financial risks of an investment in technologies. Forecasts of future cash flows are based on managements' judgment of expected conditions and expected courses of action.

*Valuation of in-process research and development 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 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 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 an impairment. The 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. In accordance with SFAS No. 142, the Company performed its annual impairment test on December 31, 2003, which did not indicate any impairment.

*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. At December 31, 2003, we have established a valuation allowance attributable to certain acquisition-related temporary differences as we believe that a portion of the deferred tax assets at December 31, 2003 will not meet the "more likely than not" standard for realization 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.

*Revenue recognition.* The Company generally recognizes revenue upon shipment of product and/or performance of a service, such as installation or training. Revenue is recognized if persuasive evidence of an arrangement exists, the sales price is fixed or determinable, customer acceptance has occurred, collectability is reasonably assured and title and risk of loss have passed to the customer. 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 costs to fulfill customer warranty obligations upon the recognition of the related revenue. 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

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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. 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 collectability 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.

## Results of Operations

### *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. This increase is primarily due to the effects of our 2003 acquisitions and the full year effect of acquisitions made in 2002, compared to a partial year impact in 2002. Revenues for 2003 would have been approximately \$84.6 million if our sales denominated in foreign currencies were translated into U.S. dollars using 2002 exchange rates, an increase of 47%

over 2002. The favorable foreign exchange effects 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 \$14.9 million or 52%, to \$43.7 million in 2003 from \$28.8 million in 2002. As a percentage of product revenues, cost of product revenues for 2003 and 2002 was 50%. For 2003, approximately \$841,000 of the cost of product sales was related to fair value adjustments of inventory and backlog acquired from Genomic Solutions, BTX, GeneMachines, BioRobotics and Hoefer for products which were shipped in 2003. For 2002, approximately \$514,000 of the cost of product sales was related to fair value adjustments of inventory and backlog acquired from Genomic Solutions for products which were shipped in 2002. For 2003 and 2002, excluding fair value adjustments related to acquisitions of \$841,000 and \$514,000, respectively, in cost of product sales, gross margin as a percent of total revenues was 51%. Approximately \$402,000 of estimated fair value adjustments related to the acquisitions of BioRobotics and Hoefer remain on the balance sheet as of December 31, 2003.

*General and administrative expense.* General and administrative expense increased \$1.7 million, or 18%, to \$10.9 million in 2003 from \$9.2 million in 2002 due primarily to acquisitions. 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. 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 and legal expense related to arbitration proceedings.

*Restructuring and severance related expenses.* For the year ended December 31, 2002, we incurred a total charge of \$784,000 for restructuring at both our Union Biometrica and Biochrom subsidiaries. The restructuring at our Union Biometrica subsidiary consolidated most general and administrative activity into our Holliston facility and refocused research and development efforts. The restructuring charges at Biochrom was related to the movement of the

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operation of Walden Precision Apparatus into the Biochrom facility. This consolidation of operations, which was planned at the time of the acquisition of Walden Precision Apparatus in July 2002, eliminated duplicative positions in both our Biochrom and Walden Precision Apparatus operations, and reduced facility costs. Of the \$784,000 charge for restructuring, approximately \$618,000 was for severance and related costs, with the balance of \$166,000 consisting of excess unused lease space.

*Sales and marketing expense.* Sales and marketing expense increased \$6.9 million, or 82%, to \$15.4 million in 2003 from \$8.4 million in 2002 due primarily to acquisitions 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, 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 \$4.1 million for the same period in 2002. This net increase is primarily due to acquisitions made during 2002 and 2003 partially offset by a reduction in expenses as a result of the restructuring at Union Biometrica in the fourth quarter of 2002. As a percentage of revenues, research and development was 7.2% 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.

*Stock compensation expense.* In 2003 we recorded \$519,000 compared to \$1.3 million for 2002 of stock compensation expense. This expense is related to options granted prior to our initial public offering and to options issued in exchange for the outstanding options of Union Biometrica in connection with the acquisition of Union Biometrica. Stock compensation expense has decreased as the Company uses the graded method, which results in decreasing compensation expense from the date of the stock option grant until the vesting dates. We will recognize \$28,304 of stock compensation expense over the remaining vesting life of the options.

*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 directly attributed to acquisitions made in 2002 and 2003.

*Other income (expense), net.* Other expense, net for 2003 of \$428,000 included approximately \$790,000 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 \$151,000 compared to net interest income of \$342,000 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 \$484,000 foreign exchange gain compared to a \$402,000 gain for the same period last year. Other than debt that is treated as a long-term investment, these exchange gains and losses are primarily related to debt between our subsidiaries.

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

#### **Year Ended December 31, 2002 Compared to Year Ended December 31, 2001**

*Revenues.* Revenues increased \$16.5 million, or 40%, to \$57.4 million in 2002 from \$40.9 million in 2001. The majority of this increase is due to the impact of acquisitions made in 2002 and the full year impact of acquisitions made in 2001. The balance of the increase was primarily from the leveraged growth in acquisitions and from existing businesses that introduced new products. Revenues for 2002 would have been approximately \$56.2 million if our sales denominated in foreign currencies were translated into U.S. dollars using 2001 exchange rates, an increase of 37% over 2001.

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*Cost of product revenues.* Cost of product revenues increased \$8.6 million, or 43%, to \$28.8 million in 2002 from \$20.2 million in 2001. As a percentage of product revenues, cost of product revenues for 2002 was higher by 0.7 % compared to 2001 due to the additional cost of product revenues for fair value



adjustments made to inventory and backlog acquired in connection with the acquisition of Genomic Solutions and sold prior to December 31, 2002. Without this additional expense of \$514,000, the cost of product revenues as a percent of product revenues would have been the same as it was for 2001. A significant portion of the expenses associated with collaboration revenue is included in research and development expense.

*General and administrative expense.* General and administrative expense increased \$2.2 million, or 31%, to \$9.2 million in 2002 from \$7.0 million in 2001 due primarily to acquisitions. A portion of the increase, \$1.8 million or 82%, is due to the effects of our 2002 acquisitions and our 2001 acquisitions having a full year impact on 2002 spending compared to a partial year impact in 2001. The balance of the increase in spending over 2001 of approximately \$400,000 was due primarily to increases in expenses such as insurance, professional legal and audit services, and salaries and related costs. As a percentage of revenues, general and administrative expense decreased from 17% in 2001 to 16% in 2002.

*Restructuring and severance related expenses.* During 2002 we incurred a charge of \$784,000 related to restructurings at our Union Biometrica (“UBI”) and Biochrom subsidiaries. The restructuring at UBI was due to the lack of strong revenue growth to support its infrastructure. The restructuring charges associated with UBI in 2002 totaled approximately \$310,000 and consisted of \$166,000 in lease buyout costs for excess and unused space, and \$144,000 in personnel severance and related costs. As planned when we completed the acquisition of Walden Precision Apparatus (“WPA”) in July 2002, the operations of WPA were moved into the Biochrom facility in the third quarter of 2002. As part of this consolidation, we eliminated duplicative positions in our Biochrom and WPA operations and reduced facility costs. This resulted in a \$474,000 restructuring charge in 2002, which consisted entirely of severance and related costs related to existing Biochrom employees. During 2001, severance packages totaling \$298,000 including related costs, were negotiated for the President of UBI and for the Chief Scientific Officer of UBI. Both the President and Chief Scientific Officer were executives of UBI prior to our acquisition of UBI, and the President was the majority shareholder prior to the acquisition. The termination of their employment resulted in an additional expense of \$162,000 related to the intangible asset recorded at the date of acquisition for in place work force.

*Sales and marketing expense.* Sales and marketing expense increased \$3.6 million, or 74%, to \$8.4 million in 2002 from \$4.8 million in 2001 due primarily to acquisitions. Excluding the effect of acquisitions made during 2001 and 2002 of \$3.2 million, sales and marketing expense grew \$397,000, or 8%, due primarily to the addition of sales, customer and technical support personnel to support the direct distribution of certain of our Biochrom products. As a percentage of revenues, sales and marketing expense was 15% in 2002 compared to 12% in 2001.

*Research and development expense.* Research and development spending was \$4.1 million in 2002, \$1.7 million of which was related to businesses acquired in 2001 and 2002. Excluding this \$1.7 million, spending in 2002 was approximately \$2.4 million, a decrease of approximately \$770,000 from spending in 2001. This decrease was due to several factors including the timing of project spending, the amount of spending related to collaboration revenues, and the restructuring of our Union Biometrica subsidiary during the year. As a percentage of revenues, research and development was 7% in 2002 compared to 8% in 2001.

*In-process research and development expense.* As of the date of the acquisitions in 2002 of Genomic Solutions and in 2001 of Warner Instruments and Union Biometrica, we recorded \$1.6 million, \$159,000 and \$5.3 million respectively of in-process research and development expense representing the estimated fair value of acquired research and development projects with no alternative future use.

*Stock compensation expense.* We recorded \$1.3 million of stock compensation expense in the twelve months ended December 31, 2002. We will recognize approximately \$550,000 of additional expense over the remaining vesting life of the options. In 2001, we recorded stock compensation expense of approximately \$2.7 million in connection with the grant of stock options to employees.

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*Amortization of goodwill and other intangibles.* Amortization of goodwill and other intangibles, including amortization of acquired technology, was \$1.5 million in 2002 and \$1.7 million in 2001. As a result of fully adopting SFAS No. 142, we did not record any amortization of goodwill or other indefinite lived intangibles in 2002. For acquisitions subsequent to June 30, 2001, no amortization expense for goodwill or indefinite lived intangibles was recorded during 2001. If this adoption had been made at the beginning of 2001, amortization expense would have been approximately \$654,000 for 2001 compared to the \$1.5 million recorded in 2002. This increase of approximately \$850,000 was the result of amortizing definite lived intangible assets related to our acquisitions in 2002 and the full year effect of amortization of definite lived intangible assets associated with our 2001 acquisitions.

*Other income (expense), net.* Other income, net, was \$707,000 in 2002 compared to \$1.2 million in 2001. Net interest income for 2002 was \$341,000 compared to \$1.4 million in 2001. Net interest income for 2002 and 2001 was the result of interest earned on the proceeds from our December 2000 initial public offering and the underwriters exercise of the over allotment in January 2001. The decline in net interest income in 2002 compared to 2001 was due to lower interest rates in 2002, and lower available cash balances in 2002. This reduction in cash balances was the result of using cash, both in 2001 and 2002, primarily to fund acquisitions. Other income for 2002 also includes a favorable foreign currency gain of \$402,000 compared to an unfavorable currency loss of \$100,000 in 2001. Effective January 1, 2002, certain debt between us and our foreign subsidiaries is now treated as a long-term investment rather than as debt with repayment expected in the foreseeable future (as it was previously treated.) Accordingly, in 2002 we did not record a foreign currency gain adjustment in our consolidated statement of operations related to this intercompany debt. Instead, we recorded the effect of the exchange rate fluctuation as a currency translation adjustment in accumulated other comprehensive income (loss) in stockholders’ equity (deficit). The currency translation adjustment recorded in other comprehensive income in connection with this intercompany debt in 2002 was a gain of \$1,000,000. In 2001, the foreign currency gain reflected in the income statement related to this intercompany debt was approximately \$116,000.

*Income taxes.* The Company’s effective income tax rates were 35% for 2002 and 37% for 2001 notwithstanding the effects of the nondeductible in-process research and development charges for 2002 and 2001, certain stock compensation expense for 2002 and 2001 and certain amortization of goodwill and intangibles for 2001. The decrease in the income tax rate was principally due to the adoption of SFAS 142, *Goodwill and Other Intangible Assets*, which eliminates amortization of goodwill and certain intangibles deemed to have an indefinite life.

## **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, 2003, we had cash and cash equivalents of \$8.2 million which represents a decrease of approximately \$7.1 million from December 31, 2002. Approximately \$6.6 million in cash was used to partially fund the acquisitions of BTX in January 2003 and GeneMachines in March 2003. An additional \$6 million in proceeds from a demand bridge note entered into in March 2003 was used to fund the remaining purchase price for the acquisition of GeneMachines. During the second quarter of 2003, \$1.3 million in cash was used in settlement of a dispute between our subsidiary Genomic Solutions and

Affymetrix. This amount was fully reserved for by Genomic Solutions on the balance sheet prior to our acquisition of Genomic Solutions. During the third quarter of 2003, we received cash in the amount of approximately \$1.0 million as payment in full, including accrued interest, of promissory notes issued in September 2000 to our CEO, Chane Graziano. These proceeds and additional cash on hand were used to partially fund the acquisition of BioRobotics in September 2003. In October 2003, we entered into a second demand bridge note for \$6.5 million to partially fund the acquisition of BioRobotics. On November 21, 2003, we entered into a \$20 million revolving credit facility with Brown Brothers Harriman (the "bank"). The credit facility bears an interest rate equal to the bank's base rate which at December 31, 2003 was equal to the prime rate of 4% and has a three year term. The credit facility also provides for certain restrictive covenants and financial tests, and the breach of such covenants may require repayment of the outstanding debt before the end of the three year term. We are currently in compliance with such covenants. As of December 31, 2003, we have borrowed \$12.7 million against the credit facility, in part used to repay the \$6.5 million outstanding on bridge notes entered into with Brown Brothers Harriman in 2003 and \$5.3 million to fund the acquisition of Hoefer in November 2003. In connection with our March 2004 acquisition of KDSscientific, we borrowed an additional \$6.65 million under the credit facility and currently have approximately \$19.1 million outstanding thereunder.

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Our operating activities generated cash of \$ 2.0 million in 2003, \$799,000 in 2002 and \$4.1 million in 2001. For all periods presented, operating cash flows were primarily due to operating results, including the full-year effect of acquisitions prior to non-cash charges, partially offset by working capital requirements. During 2003, the \$2.0 million of cash provided by operating activities was net of a \$1.3 million settlement paid to Affymetrix and a \$0.8 million settlement paid to the former shareholders of Union Biometrica. Our operating cash flow for 2003 was also negatively impacted by approximately \$2.7 million from the build up in accounts receivables of several of the acquisitions we made during the year. During 2002, Genomic Solutions required approximately \$3.0 million in cash to fund working capital needs primarily as a result of the liabilities that were assumed as part of the acquisition.

Our investing activities used cash of \$22.4 million in 2003, \$12.4 million in 2002, and \$20.2 million in 2001 primarily for funding acquisitions which are more fully described in Note 3 to our Consolidated Financial Statements.

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 \$13.1 million in 2003, used cash of \$3.1 million in 2002 and provided cash of \$9.7 million in 2001. During 2003, we entered into a \$20 million revolving credit facility with Brown Brothers Harriman & Co.. As of December 31, 2003, we have borrowed \$12.7 million against the credit facility, in part used to repay the \$6.5 million outstanding on bridge notes entered into with Brown Brothers Harriman in 2003 and \$5.4 million to fund the acquisition of Hoefer in November 2003. In addition, we received \$1.0 million from the repayment of a note receivable from an officer. During 2002, we used approximately \$3.7 million of cash to repay debt, which originated at the sellers request for the acquisition of SciePlas Ltd. This was partially offset by proceeds from common stock issuances of approximately \$1.3 million of which \$886,000 was from the repayment of a note receivable from an officer.

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

	2003	2002	2001
<b>Cash flows from operations:</b>			
Net Income	\$ 4,260	\$ 737	(5,208)
Adjust non cash items	6,738	5,298	11,461
Changes in assets and liabilities	(8,970)	(5,236)	(2,158)
Cash provided by operations	2,028	799	4,095
<b>Investing activities:</b>			
Acquisition of businesses	(21,149)	(10,736)	(17,984)
Other Investing activities	(1,250)	(1,631)	(2,192)
Cash used by investing activities	(22,399)	(12,367)	(20,176)
<b>Financing activities:</b>			
Cash provided by (repayments of) debt	11,782	(3,744)	3,818
Other financing activities	1,272	600	5,880
Cash provided (used) by financing activities	13,054	(3,144)	9,698
Exchange effect on cash	225	640	(49)
Decrease in cash	\$ (7,090)	\$ (14,072)	\$ (6,432)

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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 at least 12 months. 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 may be unable to access the public equity markets due to outstanding amendment to a Current Report on Form 8-K in connection with a previous acquisition. In addition, we may not be able to use Form S-3 to effect a registration of our equity. We are in the process of seeking to complete this filing and anticipate that we will become current with our required filings under Form 8-K in the foreseeable future. However, until this matter is resolved, our ability to raise capital may be limited to private equity transactions and/or additional borrowings 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, 2003.

Contractual Obligation	Payments Due by Period						
	Total	2004	2005	2006	2007	2008	2009 and beyond
Notes payable	\$ 13,088,026	\$ 343,082	\$ —	\$ 12,744,944	\$ —	\$ —	\$ —
Capital leases, including imputed interest	113,852	69,109	23,704	21,039	—	—	—
Operating leases	4,924,196	2,094,427	1,149,381	693,600	513,353	388,210	85,225
Total	\$ 18,126,074	\$ 2,506,618	\$ 1,173,085	\$ 13,459,583	\$ 513,353	\$ 388,210	\$ 85,225

## 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 2003 and 2002 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 \$4.0 million for 2003 and, for 2002, approximately \$2.5 million. In addition, the currency fluctuations resulted in approximately \$484,000 and \$400,000 in foreign currency gains in 2003 and 2002, 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 \$6.0 million as of December 31, 2003 and \$5.6 million as of December 31, 2002. We include in backlog only those orders for which we have received valid purchase orders. Most 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 June 2001, SFAS No. 143, *Accounting for Asset Retirement Obligations* was issued. SFAS No. 143 applies to legal obligations associated with the retirement of certain tangible long-lived assets. This Statement is effective for fiscal years beginning after June 15, 2002. The Company adopted SFAS No. 143 on January 1, 2003. The adoption of this Statement did not have a material impact on the Company's consolidated results of operations or financial position.

In May 2002, SFAS No. 145, *Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections*, was issued. SFAS No. 145 which is effective for fiscal years beginning after May 15, 2002 rescinds SFAS No. 4, *Reporting Gains and Losses from Extinguishment of Debt*, SFAS No. 64, *Extinguishments of Debt Made to Satisfy Sinking-Fund Requirements*, and SFAS No. 44, *Accounting for Intangible Assets of Motor Carriers*. This Statement also amends SFAS No. 13, *Accounting for Leases*, to eliminate an inconsistency between the required accounting for sale-leaseback transactions. This Statement also amends other existing authoritative pronouncements to make various technical corrections, clarify meanings, or describe their applicability under changed conditions. The Company adopted SFAS No. 145 on January 1, 2003. The adoption of SFAS No. 145 did not have a material impact on the Company's consolidated results of operations or financial position.

In July 2002, SFAS No. 146, *Accounting for Costs Associated with Exit or Disposal Activities*, was issued. SFAS No. 146 is based on the fundamental principle that a liability for a cost associated with an exit or disposal activity should be recorded when it (1) is incurred, and (2) can be measured at fair value. SFAS No. 146 is effective for exit and disposal activities initiated after December 31, 2002. The Company adopted SFAS No. 146 on January 1, 2003. The adoption of this Statement did not have a material impact on the Company's consolidated results of operations or financial position.

In November 2002, FASB issued Interpretation No. 45, *Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness to Others, an interpretation of FASB Statements No. 5, 57 and 107 and a rescission of FASB Interpretation No. 34*. This Interpretation elaborates on the disclosures to be made by a guarantor in its interim and annual financial statements about its obligations under guarantees issued. The Interpretation also clarifies that a guarantor is required to recognize, at inception of a guarantee, a liability for the fair value of the obligation undertaken. The initial recognition and measurement provisions of the Interpretation are applicable to guarantees issued or modified after December 31, 2002. The disclosure requirements are effective for financial statements of interim and annual periods ending after December 31, 2002. The Company adopted this Interpretation on January 1, 2003 and there was no material impact on the Company's consolidated results of operations or financial position.

In December 2002, the FASB issued SFAS No. 148, *Accounting for Stock-Based Compensation – Transition and Disclosure, an amendment of FASB Statement No. 123*. This Statement amends SFAS No. 123, *Accounting for Stock-Based Compensation*, to provide alternative methods of transition for a voluntary change to the fair value method of accounting for stock-based employee compensation. In addition, this Statement amends the disclosure requirements of SFAS No. 123 to require prominent disclosures in both annual and interim financial statements.

In December 2003, the 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 will be required to apply FIN 46R to variable interests in VIEs created after December 31, 2003. For variable interests in VIEs created before January 1, 2004, the Interpretation will be applied beginning on January 1, 2005. For any VIEs that must be consolidated under FIN 46R that were created before January 1, 2004, the assets, liabilities and noncontrolling interests of the VIE initially would be measured at their carrying amounts with any difference between the net amount added to the balance sheet and any previously recognized interest being recognized as the cumulative effect on an

accounting change. If determining the carrying amounts is not practicable, fair value at the date FIN 46R first applies may be used to measure the assets, liabilities and noncontrolling interest of the VIE.

In November, 2002, the Emerging Issues Task Force (“EITF”) reached a consensus on Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*. EITF Issue No. 00-21 addresses the accounting, by a vendor, for contractual arrangements in which multiple revenue-generating activities will be performed by the vendor. The Issue addresses when and, if so, how an arrangement involving multiple deliverables should be divided into separate units of accounting. The Issue also addresses how the arrangement consideration should be measured and allocated to the separate units of accounting in the arrangement. This Issue otherwise does not change applicable revenue recognition criteria. Companies are required to adopt this consensus for fiscal periods beginning after June 15, 2003. Companies may apply this consensus prospectively to new arrangements initiated after the date of adoption or as a cumulative catch adjustment. The Company prospectively adopted the provisions of the EITF’s consensus on this Issue on July 1, 2003 and has determined that the application did not have a material impact on the Company’s consolidated results of operations or financial position as of and for the six months ended December 31, 2003.

In May 2003, FASB issued Statement No. 150, “*Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity*.” This Statement requires that certain instruments that were previously classified as equity on a company’s statement of financial position now be classified as liabilities. The Statement is effective for financial instruments entered into or modified after May 31, 2003, and otherwise is effective at the beginning of the first interim period beginning after June 15, 2003. The Company has determined that application of this Statement did not have a material impact on the Company’s consolidated results of operations or financial position.

In December 2003, FASB Statement No. 132 (revised), *Employers’ Disclosures about Pensions and Other Postretirement Benefits*, was issued. SFAS 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 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 generally is effective for fiscal years ending after December 15, 2003, however all of the Company’s pension plans covered by this Statement are outside of the United States. Therefore, the Company will be required to adopt the disclosure requirements of the Statement as of December 31, 2004.

### **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:

*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.

*Current 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 recent downturn and increased uncertainty in the general economic environment in which we and our customers operate. We cannot project the extent of the impact of the recent economic downturn. If economic conditions worsen or if a wider

economic slowdown occurs, we may experience a material adverse effect on our business, operating results, and financial condition.

*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 seasonal timing of capital equipment purchases by customers and the 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 seasonal and as such, we will experience substantial fluctuations in our quarterly revenues. Additionally, 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.

*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 KDSscientific 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 KDSscientific 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 recently acquired subsidiary, has a history of losses and may not be able to sustain profitability.*

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' continued revenue growth depends on many factors, many of which are beyond its control, including factors discussed in this risk factors section. Genomic Solutions may not sustain revenue growth. 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.

*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 50% of total revenues for the year ended December 31, 2003. 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 \$484,000 for the yearended December 31, 2003 and an increase of foreign equity of approximately \$4,030,260 for the year ended December 31, 2003,
- 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, 2003, approximately 46% 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.

*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, 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 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.

*With new rules, including the Sarbanes-Oxley Act of 2002, we may have difficulty in retaining or attracting officers, directors for the board and various sub-committees thereof.*

The recent changes in SEC and Nasdaq rules, including those resulting from the Sarbanes-Oxley Act of 2002, may result in us being unable to attract and retain the necessary officers, board directors and members of sub-committees thereof, to effectively manage. The perceived increased personal risk associated with these recent changes, may deter qualified individuals from wanting to participate in these roles.

*We may have difficulty obtaining adequate directors and officers insurance and the cost for coverage may significantly increase.*

As an acquisitive company, we may have difficulty in obtaining adequate directors' and officers' insurance to protect us and our directors and officers from claims made against them. Additionally, even if adequate coverage is available, the costs for such coverage may be significantly greater than current costs. This additional cost may have a significant effect on our profits and as a result our results of operations may be adversely affected.

*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.

*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 Financial Officer, Susan Luscinski, 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 may be unable to access the public equity markets due to an outstanding amendment to a Current Report of Form 8-K in connection with a previous acquisition. In addition, we may not be eligible to use Form S-3 to effect a registration of our equity. We are in the process of seeking to complete this potentially outstanding filing. 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 27 U.S. patents and have 26 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.

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*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 is 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 our major source 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 the pharmaceutical industry, several 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 could adversely affect profits.*

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™ technology 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 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.*

For the year ended December 31, 2003, approximately 13% of our revenues were generated through two distribution agreements with Amersham Biosciences. The first distribution agreement was renegotiated in August 2001. Under this agreement, Amersham Biosciences acts as the primary marketing and distribution channel for 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. 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 Amersham Biosciences or its authorized sub-distributors. We have little or no control over Amersham Biosciences' marketing and sales activities or the use of its resources. Amersham Biosciences may fail to purchase sufficient quantities of products from us or perform appropriate marketing and sales activities. The failure by Amersham Biosciences 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 Amersham Biosciences for product distribution could materially impede the growth of our business and our ability to generate sufficient revenue. Our agreement with Amersham Biosciences 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 Amersham Biosciences was entered into in November 2003 in connection with our acquisition of certain assets of Amersham Biosciences, including the Hoefer name. The agreement provides that Hoefer will be the exclusive supplier of 1-D gel electrophoresis products to Amersham Biosciences. Hoefer also has the right to develop, manufacture and market 2-D gel electrophoresis products, which would be offered to Amersham Biosciences for sale under the Amersham Biosciences brand name. Hoefer has the right to sell any of its products,



years with an automatic five year renewal period. Amersham Biosciences 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.

General Electric recently announced its intention to acquire Amersham plc, the parent of Amersham Biosciences. While General Electric has indicated its intention to continue Amersham's presence in the life science market, and we believe our relationship with Amersham Biosciences is good, we cannot guarantee that the distribution agreements will be renewed, that Amersham Biosciences will aggressively market our products in the future or that General Electric will continue the partnership.

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

We have historically amortized goodwill purchased in 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 to determine whether any portion of the remaining balance of goodwill and indefinite lived intangibles may not be recoverable, or more frequently, if events or circumstances indicate there may be an impairment. 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 which could have an adverse effect on net income for the period in which the write off occurs. At December 31, 2003, we had goodwill and intangible assets with indefinite lives of \$36.3 million, or 28% 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 22. If our estimates are incorrect, our future financial operating results and financial condition could be adversely affected.

*We may be adversely affected by litigation or arbitration involving Paul D. Grindle.*

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 our common stock, 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 our common stock as of January 2, 2002. On October 30, 2002, we received a decision from the arbitrator that we had 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. We 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 has filed a notice of appeal with the Massachusetts Appeals Court and an application for a direct appellate review with the Massachusetts Supreme Judicial Court, both of which are pending.

*Customer, vendor and employee uncertainty about the effects of the acquisitions of Genomic Solutions, BTX, GeneMachines, BioRobotics, Hoefer and KDSscientific 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 cannot be used for genetic screening without significant modification. 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 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 since its initial public offering in December 2000 and may become volatile and could decline in the future, perhaps substantially, in response to various factors, many of which are beyond our control, including:

- technological innovations by competitors or in competing technologies,
- revenues and operating results fluctuating or failing to meet the expectations of 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, 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.*

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 foreseeable future. As a result, capital appreciation, if any, of our common stock will be a stockholder's sole source of gain for the foreseeable 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 us 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 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.**

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 possible controls and procedures. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that they believe that our disclosure controls and procedures are reasonably effective 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. We intend to continue to review and document our disclosure controls and procedures, and our internal control over financial reporting, on an ongoing basis, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business. There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2003 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**PART III**

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

Incorporated by reference to the Company's definitive Proxy Statement to be filed pursuant to Regulation 14A, in connection with the 2004 Annual Meeting of Stockholders. Information concerning executive officers of the Registrant is included in Part I of this Report as Item 4.A.

**Item 11. Executive Compensation.**

Incorporated by reference to the Company's definitive Proxy Statement to be filed pursuant to Regulation 14A, in connection with the 2004 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 to be filed pursuant to Regulation 14A, in connection with the 2004 Annual Meeting of Stockholders.

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

Incorporated by reference to the Company's definitive Proxy Statement to be filed pursuant to Regulation 14A, in connection with the 2004 Annual Meeting of Stockholders.

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

Incorporated by reference to the Company's definitive Proxy Statement to be filed pursuant to Regulation 14A, in connection with the 2004 Annual Meeting of Stockholders.

PART IV

Item 15. Exhibits, Financial Statement Schedules, and Reports on Form 8-K.

(a)(1) Financial Statements.

The following documents are filed as part of this report:

1. [Independent Auditors' Report.](#)
2. [Consolidated Balance Sheets as of December 31, 2003 and 2002.](#)
3. [Consolidated Statements of Operations for the years ended December 31, 2003, 2002 and 2001.](#)
4. [Consolidated Statements of Stockholders' Equity and Comprehensive Income \(Loss\) for the years ended December 31, 2003, 2002 and 2001.](#)
5. [Consolidated Statements of Cash Flows for the years ended December 31, 2003, 2002 and 2001.](#)
6. [Notes to Consolidated Financial Statements.](#)

(a) (2) Consolidated Financial Statement Schedules.

None required.

(a)(3) Exhibits.

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.

- |         |  |
|---------|--|
| (1)2.1  | Asset Purchase Agreement dated March 2, 1999 by and among Biochrom Limited and Pharmacia Biotech Limited and Pharmacia & Upjohn, Inc. and Harvard Apparatus, Inc.                                  |
| (1)2.2  | Asset Purchase Agreement dated July 14, 2000 by and between Harvard Apparatus, Inc., AmiKa Corporation and Ashok Shukla.   |
| (2)2.3  | Agreement and Plan of Merger dated as of May 31, 2001 by and among Harvard Bioscience, Inc., Union Biometrica, Inc. and Union Biometrica, Inc.   |
| (3)2.4  | 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)2.5  | 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)2.6 | 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. |
| (1)3.1  | Second Amended and Restated Certificate of Incorporation of the Registrant.  |
| (1)3.2  | Amended and Restated By-laws of the Registrant.  |
| (1)4.1  | Specimen certificate for shares of Common Stock, \$0.01 par value, of the Registrant.  |

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- |           |   |
|-----------|---|
| (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 and Chane Graziano.   |
| **(1)10.6 | Employment Agreement between Harvard Bioscience and David Green.  |
| 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.
** (3) 10.11	Employment Agreement between Genomics Solutions and Jeff Williams
(5) 10.12	Lease between Genomic Solutions Inc. and Highland Industrial Properties, L.L.C., dated August 7, 1997
(6) 10.13	Fourth Addendum to Lease between Genomic Solutions Inc. and Highland Industrial Properties, L.L.C., dated May 17, 2000
(7) 10.14	Fifth Addendum to Lease between Genomic Solutions Inc. and Highland Industrial Properties, L.L.C., dated September 10, 2001
(7) 10.15	Lease between Cartesian Technologies, Inc. and Airport Industrial Complex, dated February 5, 2002
(8) 10.16	Lease between Genomic Solutions Inc. and County Road Properties, dated March 8, 2003 and first Addendum thereto, dated March 10, 2003
10.17	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.
++ 10.18	Distribution Agreement, dated as of November 24, 2003 among Hoefer, Inc., Harvard Bioscience, Inc. and Amersham Biosciences Corp.
10.19	Lease, dated February 23, 2004, by and between William Cash Forman and Hoefer, Inc.
+ (11) 10.20	Trademark License Agreement, dated December 9, 2002, by and between Harvard Bioscience, Inc. and President and Fellows of Harvard College.

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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.

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- (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.
- + 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.

\*\* Management contract or compensatory plan or arrangement required to be filed as an exhibit to this Form 10-K pursuant to Item 15(c) of Form 10-K.

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

(b) Reports on Form 8-K.

1. Form 8-K filed October 2, 2003 – announcing the acquisition of BioRobotics on September 19, 2003 through Genomic Solutions, a wholly owned subsidiary of Harvard Bioscience.
2. Form 8-K filed October 29, 2003 – furnishing the press release of Harvard Bioscience issued on October 28, 2003, announcing its financial results for the quarter ended September 30, 2003.
3. Form 8-K filed November 25, 2003 – announcing the acquisition of certain assets and liabilities of the Hoefer one-dimensional gel electrophoresis business of Amersham Biosciences Corp on November 24, 2003.
4. Form 8-K filed March 3, 2004 – furnishing the press release of Harvard Bioscience issued on March 2, 2004, announcing its financial results for the quarter and year ended December 31, 2003.

### INDEPENDENT AUDITORS' REPORT

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, 2003 and 2002, 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, 2003. 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 auditing standards generally accepted in the United States of America. 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 consolidated financial position of Harvard Bioscience, Inc. and subsidiaries as of December 31, 2003 and 2002, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2003 in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 4 to the consolidated financial statements, effective January 1, 2002, the Company adopted Statement of Financial Accounting Standards No. 142, "Goodwill and Other Intangible Assets".

/s/ KPMG LLP

February 13, 2004, except as to Note 19,  
which is as of March 3, 2004  
Boston, Massachusetts

### HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

#### CONSOLIDATED BALANCE SHEETS

	December 31,	
	2003	2002
Assets		
Current assets:		
Cash and cash equivalents (note 7)	\$ 8,222,797	\$ 15,313,280
Trade accounts receivable, net of reserve for uncollectible accounts of \$416,734 and \$144,058 a December 31, 2003 and 2002, respectively, (note 17)	19,074,634	13,916,563

Other receivables and other assets	1,279,465	478,566
Inventories (note 5)	24,679,131	15,467,268
Catalog costs	—	282,690
Prepaid expenses	2,022,424	1,882,943
Deferred tax asset (note 11)	499,882	1,072,943
Total current assets	<u>55,778,333</u>	<u>48,414,253</u>
Property, plant and equipment, net (notes 6 and 8)	<u>6,745,819</u>	<u>5,918,029</u>
Other assets:		
Deferred tax asset (note 11)	399,546	668,902
Amortizable intangible assets, net of accumulated amortization of \$5,102,904 and \$2,289,554 at December 31, 2003 and 2002, respectively (notes 3 and 4)	28,212,458	20,292,723
Goodwill and other indefinite lived intangible assets (notes 3 and 4)	36,341,532	31,052,981
Other assets (note 10)	951,710	1,236,613
Total other assets	<u>65,905,246</u>	<u>53,251,219</u>
Total assets	<u>\$ 128,429,398</u>	<u>\$ 107,583,501</u>
<b>Liabilities</b>		
Current liabilities:		
Current installments of long-term debt (note 7)	\$ 398,186	\$ 699,005
Trade accounts payable	6,456,768	5,524,688
Deferred revenue	2,079,712	1,458,703
Accrued income taxes payable	1,218,026	1,150,642
Accrued expenses (note 15)	4,984,203	7,362,343
Other liabilities	459,191	403,244
Total current liabilities	<u>15,596,086</u>	<u>16,598,625</u>
Long-term debt, less current installments (note 7)	12,787,259	399,965
Deferred income tax liability (note 11)	207,144	930,251
Other liabilities	960,364	1,273,433
Total long-term liabilities	<u>13,954,767</u>	<u>2,603,649</u>
Total liabilities	<u>29,550,853</u>	<u>19,202,274</u>
Commitments and contingencies (notes 7, 8, 16 and 18)		
Stockholders' equity (notes 10 and 12):		
Common stock, par value \$.01 per share, 80,000,000 shares authorized; 34,796,463 and 34,692,050 shares issued and 30,132,685 and 30,031,266 shares outstanding at December 31, 2003 and 2002	347,966	346,921
Additional paid-in-capital – stock options	6,474,535	6,208,515
Additional paid-in-capital – common stock	165,974,484	165,413,193
Accumulated deficit	(78,591,366)	(82,850,958)
Accumulated other comprehensive income	5,340,671	894,431
Notes receivable	—	(963,130)
Treasury stock, 4,660,784 common shares, at cost	(667,745)	(667,745)
Total stockholders' equity	<u>98,878,545</u>	<u>88,381,227</u>
Total liabilities and stockholders' equity	<u>\$ 128,429,398</u>	<u>\$ 107,583,501</u>

See accompanying notes to consolidated financial statements.

## HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

### CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2003	2002	2001
Product revenues	\$ 86,196,712	\$ 56,343,610	\$ 40,005,442
Research revenues	944,193	1,036,772	862,945
Total revenues (notes 13 and 17)	<u>87,140,905</u>	<u>57,380,382</u>	<u>40,868,387</u>
Costs and expenses:			
Cost of product revenues	43,730,823	28,823,765	20,179,762
General and administrative expense	10,882,406	9,187,125	7,000,638
Restructuring and severance related expense	—	783,824	459,925
Sales and marketing expense	15,378,115	8,435,145	4,840,468
Research and development expense	6,262,805	4,145,997	3,178,591
Stock compensation expense (note 12)	519,480	1,269,397	2,678,743
In-process research and development expense (note 3)	—	1,551,400	5,447,000
Amortization of goodwill and other intangibles (note 4)	2,702,260	1,542,759	1,743,821
Operating income (loss)	<u>7,665,016</u>	<u>1,640,970</u>	<u>(4,660,561)</u>
Other income (expense):			

Foreign currency gain (loss)	483,996	402,373	(99,566)
Interest expense	(327,229)	(104,175)	(6,869)
Interest income	175,985	445,674	1,358,554
Amortization of deferred financing costs	(8,934)	—	—
Other (note 18)	(752,105)	(36,497)	(10,023)
Other income (expense), net	(428,287)	707,375	1,242,096
Income (loss) before income taxes	7,236,729	2,348,345	(3,418,465)
Income taxes (note 11)	2,977,137	1,611,018	1,789,953
Net income (loss)	4,259,592	737,327	(5,208,418)
Net income (loss) available to common stockholders	\$ 4,259,592	\$ 737,327	\$ (5,208,418)
Income (loss) per share (note 14):			
Basic	\$ 0.14	\$ 0.03	\$ (0.20)
Diluted	\$ 0.14	\$ 0.03	\$ (0.20)
Weighted average common shares:			
Basic	29,923,709	27,090,054	25,784,852
Diluted	30,711,782	27,597,564	25,784,852

See accompanying notes to consolidated financial statements.

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HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES  
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY AND COMPREHENSIVE INCOME (LOSS)  
YEARS ENDED DECEMBER 31, 2003, 2002 AND 2001

	Number Of shares Outstanding	Common Stock	Additional Paid-in Capital - Stock Options	Additional Paid-in Capital - Common Stock	Accumulated Deficit	Accumulated Other Comprehensive Income (loss)	Notes Receivable	Treasury Stock	Total Stockholders' Equity (Deficit)
Balance at December 31, 2000	29,442,632	\$ 294,426	\$ 4,635,949	\$ 128,594,672	\$ (78,379,867)	\$ (554,573)	\$ (1,587,939)	\$ (667,745)	\$ 52,334,923
Issuance of common stock									
Underwriters overallotment	937,500	9,375	—	6,964,735	—	—	—	—	6,974,110
Business acquisitions	659,282	6,593	2,781,222	7,140,024	—	—	—	—	9,927,839
Stock option exercises	288,075	2,881	(4,419,439)	4,653,564	—	—	—	—	237,006
Stock purchase plan	11,884	119	—	102,108	—	—	—	—	102,227
Stock compensation expense	—	—	2,678,743	—	—	—	—	—	2,678,743
Accrued interest shareholder note	—	—	160,999	—	—	—	(160,999)	—	—
Comprehensive loss:									
Net loss	—	—	—	—	(5,208,418)	—	—	—	(5,208,418)
Translation adjustments	—	—	—	—	—	(234,561)	—	—	(234,561)
Total comprehensive loss	—	—	—	—	—	—	—	—	(5,442,979)
Balance at December 31, 2001	31,339,373	\$ 313,394	\$ 5,837,474	\$ 147,455,103	\$ (83,588,285)	\$ (789,134)	\$ (1,748,938)	\$ (667,745)	\$ 66,811,869
Issuance of common stock									
Business acquisitions	3,195,083	31,951	—	16,766,165	—	—	—	—	16,798,116
Stock option exercises	128,355	1,284	(998,857)	1,088,450	—	—	—	—	90,877
Stock purchase plan	29,239	292	—	103,475	—	—	—	—	103,767
Stock compensation expense	—	—	1,269,397	—	—	—	—	—	1,269,397
Shareholder note									
Accrued interest	—	—	100,501	—	—	—	(100,501)	—	—
Note repayment	—	—	—	—	—	—	886,309	—	886,309
Comprehensive income:									
Net income	—	—	—	—	737,327	—	—	—	737,327
Translation adjustments	—	—	—	—	—	2,526,789	—	—	2,526,789
Minimum pension liability adjustment, net of tax	—	—	—	—	—	(843,224)	—	—	(843,224)
Total comprehensive income	—	—	—	—	—	—	—	—	2,420,892
Balance at December 31, 2002	34,692,050	\$ 346,921	\$ 6,208,515	\$ 165,413,193	\$ (82,850,958)	\$ 894,431	\$ (963,130)	\$ (667,745)	\$ 88,381,227
Issuance of common stock									
Stock option	47,089	471	(311,006)	376,003	—	—	—	—	65,468



exercises									
Stock purchase plan	57,324	574	—	185,288	—	—	—	—	185,862
Stock compensation expense	—	—	519,480	—	—	—	—	—	519,480
Shareholder note									
Accrued interest	—	—	57,546	—	—	—	(57,546)	—	—
Note repayment	—	—	—	—	—	—	1,020,676	—	1,020,676
Comprehensive income:									
Net income	—	—	—	—	4,259,592	—	—	—	4,259,592
Translation adjustments	—	—	—	—	—	4,030,260	—	—	4,030,260
Minimum pension liability adjustment, net of tax	—	—	—	—	—	415,980	—	—	415,980
Total comprehensive income									8,705,832
Balance at									
December 31, 2003	34,796,463	347,966	6,474,535	165,974,484	(78,591,366)	5,340,671	—	(667,745)	98,878,545

See accompanying notes to consolidated financial statements.

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## HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

### CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2003	2002	2001
<b>Cash flows from operating activities:</b>			
Net income (loss)	\$ 4,259,592	\$ 737,327	\$ (5,208,418)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Stock compensation expense	519,480	1,269,397	2,678,743
In-process research and development expense	—	1,551,400	5,447,000
Impairment loss on write down of intangible assets	—	—	162,090
Depreciation	2,276,215	1,114,125	622,090
Amortization of catalog costs	302,418	352,659	605,108
Loss (gain) on sale of fixed assets	11,135	—	(36)
Provision for bad debts	190,733	23,411	8,978
Amortization of goodwill and other intangibles	2,702,260	1,542,759	1,743,821
Amortization and write-off of deferred financing costs	8,934	—	—
Deferred income taxes	726,380	(555,462)	193,628
Changes in operating assets and liabilities, net of effects of business acquisitions:			
Increase in accounts receivable	(3,246,277)	(3,739,516)	(691,318)
(Increase) decrease in other receivables	(525,451)	1,106,591	37,433
(Increase) decrease in inventories	(1,075,518)	1,312,088	(637,426)
(Increase) decrease in prepaid expenses and other assets	70,832	(904,888)	11,272
Decrease in other assets	708,654	183,596	396,962
Decrease in trade accounts payable	(176,013)	(628,622)	(47,727)
Increase (decrease) in accrued income taxes payable	(333,479)	(486,034)	631,716
Increase (decrease) in accrued expenses	(3,066,403)	(1,353,735)	234,614
Increase (decrease) in deferred revenue	(910,441)	216,593	(1,204,386)
Decrease in other liabilities	(415,237)	(942,225)	(889,113)
Net cash provided by operating activities	2,027,814	799,464	4,095,032
<b>Cash flows from investing activities:</b>			
Additions to property, plant and equipment	(1,349,165)	(1,306,730)	(1,838,851)
Additions to catalog costs	(17,097)	(324,108)	(358,402)
Proceeds from sales of fixed assets	118,255	113	5,626
Acquisition of businesses, net of cash acquired	(21,149,360)	(10,735,975)	(17,984,128)
Net cash used in investing activities	(22,397,367)	(12,366,700)	(20,175,755)
<b>Cash flows from financing activities:</b>			
Proceeds from short-term debt	6,500,000	—	—
Repayments of short-term debt	(6,500,000)	—	—
Net proceeds from long-term debt	12,488,573	—	4,325,519
Repayments of long-term debt	(706,764)	(3,744,850)	(507,395)
Net proceeds from issuance of common stock	1,272,007	600,374	5,880,318
Net cash provided (used) by financing activities	13,053,816	(3,144,476)	9,698,442
Effect of exchange rate changes on cash	225,254	639,537	(49,258)
Decrease in cash and cash equivalents	(7,090,483)	(14,072,175)	(6,431,539)
Cash and cash equivalents at the beginning of year	15,313,280	29,385,455	35,816,994
Cash and cash equivalents at the end of year	\$ 8,222,797	\$ 15,313,280	\$ 29,385,455
<b>Non cash investing and financing activity:</b>			
Common stock and options issued for acquisitions	\$ —	\$ 17,278,689	\$ 9,927,839

Supplemental disclosures of cash flow information:

Cash paid for interest	\$	281,295	\$	111,812	\$	6,600
Cash paid for income taxes	\$	2,465,888	\$	2,087,454	\$	729,886

See accompanying notes to consolidated financial statements.

**HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES**

**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 \$3,342,000 (including \$342,000 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, manufacturer and marketer of a broad range of specialized products, primarily scientific instruments, 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 catalog (and various other specialty catalogs), and through distributors, including Amersham Biosciences, Fischer Scientific and Cole-Parmer. 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's 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) 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.

**(d) Inventories**

Inventories are stated at the lower of cost or market. Cost is determined using the first-in first-out (FIFO) method.

**(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. Effective January 1, 2002, certain debt between the Company and its foreign subsidiaries is being treated as a long-term investment rather than as debt with repayment expected in the foreseeable future, as previously treated. For the years ended December 31, 2003 and 2002, the Company did not record a foreign currency gain in its consolidated statements of operations related to this intercompany debt. Instead the Company recorded the effect of the exchange rate fluctuation as a currency translation adjustment in accumulated other comprehensive income (loss) in stockholders' equity.

**(i) Stock Based Compensation**

The Company applies the intrinsic-value-based method of accounting prescribed by Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees*, and related interpretations including Financial Accounting Standards Board ("FASB") Interpretation No. 44, *Accounting for Certain Transactions Involving Stock Compensation, an interpretation of APB Opinion No. 25*, issued in March 2000, to account for its fixed-plan stock options. Under this method, compensation expense is recorded, using the graded method, on the date of grant only if the current

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market price of the underlying stock exceeded the exercise price. Statement of Financial Accounting Standards ("SFAS") No. 148, *Accounting for Stock-Based Compensation Transition and Disclosure, an amendment of FASB Statement No. 123*, provides alternative methods of transition for a voluntary change to the fair-value-based method of accounting for stock-based employee compensation plans under SFAS No. 123, *Accounting for Stock Based Compensation*, and amends the disclosure requirements of SFAS No. 123. As allowed by SFAS No. 148 and 123, the Company has elected to continue to apply the intrinsic-value-based method of accounting described above, and has adopted only the disclosure requirements of SFAS No. 148. The following table illustrates the effect on net income (loss) if the fair-value-based method had been applied to all outstanding awards in each period.

	2003	2002	2001
Net income (loss) available to common stockholders, as reported	\$ 4,259,592	\$ 737,327	\$ (5,208,418)
Add: stock-based employee compensation expense included in reported net income, net of tax	519,480	1,222,076	2,622,726
Deduct: total stock-based employee compensation expense determined under fair-value based method for all rewards, net of tax	3,774,334	4,794,772	3,124,647
Pro forma net income (loss)	\$ 1,004,738	\$ (2,835,369)	\$ (5,710,339)
Basic net income (loss) per share	\$ 0.14	\$ 0.03	\$ (0.20)
Pro forma basic net income (loss) per share	\$ 0.03	\$ (0.10)	\$ (0.22)
Diluted net income (loss) per share	\$ 0.14	\$ 0.03	\$ (0.20)
Pro forma diluted net income (loss) per share	\$ 0.03	\$ (0.10)	\$ (0.22)

**(j) Income (Loss) Per Share**

Basic income (loss) per share is computed by dividing the net income (loss) available to common stockholders 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. For 2001, diluted loss per share is the same as basic loss per share as the inclusion of common stock equivalents would be antidilutive.

**(k) Comprehensive Income (Loss)**

The Company follows SFAS No. 130, *Reporting Comprehensive Income (Loss)*. 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, 2003, accumulated other comprehensive income consisted of cumulative foreign currency translation adjustments of \$5,815,720 and minimum pension liability adjustment of \$(475,049), net of tax. As of December 31, 2002, accumulated comprehensive income consisted of cumulative foreign currency translation adjustments of \$1,737,655 and a minimum pension liability adjustment of \$(843,224), net of tax.

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**(l) Revenue Recognition**

The Company generally recognizes revenue upon shipment of product and/or performance of a service, such as installation or training. Revenue is recognized if persuasive evidence of an arrangement exists, the sales price is fixed or determinable, customer acceptance has occurred, collectability is reasonably assured and title and risk of loss have passed to the customer. 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 costs to fulfill customer warranty obligations upon the recognition of the related revenue. 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 Intangibles**

Goodwill represents the excess of costs over fair value of assets of businesses acquired. The Company fully adopted the provisions of SFAS No. 142, *Goodwill and Other Intangible Assets*, as of January 1, 2002. Goodwill and intangible assets acquired in a purchase 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. An impairment loss is recognized to the extent that the carrying amount exceeds the asset's fair value. SFAS No. 142 also requires that intangible assets with estimable useful lives be amortized over their respective estimated useful lives to their estimated residual values, and reviewed for impairment in accordance with SFAS No. 144, *Accounting for Impairment or Disposal of Long-Lived Assets*.

In connection with SFAS No. 142's transitional goodwill impairment evaluation, the Statement required the Company to perform an assessment of whether there was an indication that goodwill is impaired as of the date of adoption. To accomplish this, the Company was required to identify its reporting units and determine the carrying value of each reporting unit by assigning the assets and liabilities, including the existing goodwill and intangible assets, to those reporting units as of January 1, 2002. The Company was required to determine the fair value of each reporting unit and compare it to the carrying amount of the reporting unit within six months of January 1, 2002. To the extent the carrying amount of a reporting unit exceeded the fair value of the reporting unit, the Company would be required to perform the second step of the transitional impairment test, as this is an indication that the reporting unit goodwill may be impaired. The second step was not required as the Company identified one reporting unit, the fair value of which exceeded its carrying value. The Company has chosen the fourth quarter to perform its annual impairment test.

Prior to the adoption of SFAS No. 142, goodwill was amortized on a straight-line basis over the expected periods to be benefited, generally 5 to 15 years, and assessed for recoverability by determining whether the amortization of the goodwill balance over its remaining life could be recovered through undiscounted future operating cash flows of the acquired operation. All other intangible assets were amortized on a straight-line basis generally from 10 to 15 years. The amount of goodwill and other intangible asset impairment, if any, was measured based on projected discounted future operating cash flows using a discount rate reflecting the Company's average cost of funds.

**(n) Impairment of Long-Lived Assets and Long-Lived Assets to be Disposed Of**

SFAS No. 144 provides a single accounting model for long-lived assets to be disposed of. SFAS No. 144 also changes the criteria for classifying an asset as held for sale; broadens the scope of businesses to be disposed of that qualify for reporting as discontinued operations and changes the timing of recognizing losses on such

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operations. The Company adopted SFAS No. 144 on January 1, 2002. The adoption of SFAS No. 144 did not affect the Company's consolidated financial statements.

In accordance with SFAS No. 144, long-lived assets, such as property, plant, and equipment, and purchased intangibles subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized by the amount by which the carrying amount of the asset 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 are no longer 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.

Prior to the adoption of SFAS No. 144, the Company accounted for the impairment of long-lived assets in accordance with SFAS No. 121, *Accounting for Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of*.

**(o) Fair Value of Financial Instruments**

The carrying value of the Company's cash and cash equivalents, trade accounts receivable, trade accounts payable and accrued expenses 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 June 2001, SFAS No. 143, *Accounting for Asset Retirement Obligations* was issued. SFAS No. 143 applies to legal obligations associated with the retirement of certain tangible long-lived assets. This Statement is effective for fiscal years beginning after June 15, 2002. The Company adopted SFAS No. 143 on January 1, 2003. The adoption of this Statement did not have a material impact on the Company's consolidated results of operations or financial position.

In May 2002, SFAS No. 145, *Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections*, was issued. SFAS No. 145 which is effective for fiscal years beginning after May 15, 2002 rescinds SFAS No. 4, *Reporting Gains and Losses from Extinguishment of Debt*, SFAS No. 64, *Extinguishments of Debt Made to Satisfy Sinking-Fund Requirements*, and SFAS No. 44, *Accounting for Intangible Assets of Motor Carriers*. This Statement also amends SFAS No. 13, *Accounting for Leases*, to eliminate an inconsistency between the required accounting for sale-leaseback transactions. This Statement also amends other existing authoritative pronouncements to make various technical corrections, clarify meanings, or describe their applicability under changed conditions. The Company adopted SFAS No. 145 on January 1, 2003. The adoption of SFAS No. 145 did not have a material impact on the Company's consolidated results of operations or financial position.

In July 2002, SFAS No. 146, *Accounting for Costs Associated with Exit or Disposal Activities*, was issued. SFAS No. 146 is based on the fundamental principle that a liability for a cost associated with an exit or disposal activity should be recorded when it (1) is incurred, and (2) can be measured at fair value. SFAS No. 146 is effective for exit and disposal activities initiated after December 31, 2002.

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The Company adopted SFAS No. 146 on January 1, 2003. The adoption of this Statement did not have a material impact on the Company's consolidated results of operations or financial position.

In November 2002, FASB issued Interpretation No. 45, *Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness to Others, an interpretation of FASB Statements No. 5, 57 and 107 and a rescission of FASB Interpretation No. 34*. This Interpretation elaborates on the disclosures to be made by a guarantor in its interim and annual financial statements about its obligations under guarantees issued. The Interpretation also clarifies that a guarantor is required to recognize, at inception of a guarantee, a liability for the fair value of the obligation undertaken. The initial recognition and measurement provisions of the Interpretation are applicable to guarantees issued or modified after December 31, 2002. The disclosure requirements are effective for financial statements of interim and annual periods ending after December 31, 2002. The Company adopted this Interpretation on January 1, 2003 and there was no material impact on the Company's consolidated results of operations or financial position.

In December 2002, the FASB issued SFAS No. 148, *Accounting for Stock-Based Compensation – Transition and Disclosure, an amendment of FASB Statement No. 123*. This Statement amends SFAS No. 123, *Accounting for Stock-Based Compensation*, to provide alternative methods of transition for a voluntary change to the fair value method of accounting for stock-based employee compensation. In addition, this Statement amends the disclosure requirements of SFAS No. 123 to require prominent disclosures in both annual and interim financial statements.

In December 2003, the 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 will be required to apply FIN 46R to variable interests in VIEs created after December 31, 2003. For variable interests in VIEs created before January 1, 2004, the Interpretation will be applied beginning on January 1, 2005. For any VIEs that must be consolidated under FIN 46R that were created before January 1, 2004, the assets, liabilities and noncontrolling interests of the VIE initially would be measured at their carrying amounts with any difference between the net amount added to the balance sheet and any previously recognized interest being recognized as the cumulative effect on an accounting change. If determining the carrying amounts is not practicable, fair value at the date FIN 46R first applies may be used to measure the assets, liabilities and noncontrolling interest of the VIE. The Company does not believe the adoption of this Interpretation will have a material impact on its consolidated results of operations or financial position.

In November, 2002, the Emerging Issues Task Force ("EITF") reached a consensus on Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*. EITF Issue No. 00-21 addresses the accounting, by a vendor, for contractual arrangements in which multiple revenue-generating activities will be performed by the vendor. The Issue addresses when and, if so, how an arrangement involving multiple deliverables should be divided into separate units of accounting. The Issue also addresses how the arrangement consideration should be measured and allocated to the separate units of accounting in the arrangement. This Issue otherwise does not change applicable revenue recognition criteria. Companies are required to adopt this consensus for fiscal periods beginning after June 15, 2003. Companies may apply this consensus prospectively to new arrangements initiated after the date of adoption or as a cumulative catch adjustment. The Company prospectively adopted the provisions of the EITF's consensus on this Issue on July 1, 2003 and has determined that the application did not

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have a material impact on the Company's consolidated results of operations or financial position as of and for the six months ended December 31, 2003.

In May 2003, the FASB issued Statement No. 150, *Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity*. This Statement requires that certain instruments that were previously classified as equity on a company's statement of financial position now be classified as liabilities. The Statement is effective for financial instruments entered into or modified after May 31, 2003, and otherwise is effective at the beginning of the first interim period beginning after June 15, 2003. The Company has determined that application of this Statement did not have a material impact on the Company's consolidated results of operations or financial position.

In December 2003, FASB Statement 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 generally is effective for fiscal years ending after December 15, 2003, however all of the Company's pension plans covered by this Statement are outside of the United States. Therefore, the Company will be required to adopt the disclosure requirements of the Statement as of December 31, 2004.

### (3) Acquisition of Businesses

On May 1, 2001, the Company acquired substantially all the assets and certain liabilities of Warner Instruments Corporation (“Warner Instruments”), a developer, manufacturer and marketer of cell and tissue electro-physiology products. Cash consideration of \$2,700,000 (including approximately \$69,000 of acquisition related expenses) was paid for the assets. The purchase price which has been allocated on the basis of fair market value of assets acquired using the purchase method of accounting resulted in the following allocation: current assets of \$951,000, property, plant and equipment of \$34,000, purchased intangibles of \$1.9 million which included: trade name of \$320,000, workforce in place of \$380,000, acquired technologies of \$1.0 million, patents of \$9,000, in-process research and development of \$159,000, goodwill of \$136,000 and liabilities assumed of \$234,000.

On May 31, 2001, the Company acquired all of the outstanding common and preferred shares of Union Biometrica, Inc. (“Union Biometrica”) for \$17.5 million. Union Biometrica develops, manufactures and markets instruments that enable high throughput analysis and sorting of model organisms used in drug discovery research. The transaction was accounted for using the purchase method of accounting. The aggregate purchase price of \$17.5 million, net of cash acquired of \$562,000, included 659,282 common shares and 263,202 common stock options that had an estimated fair value of \$10 million. The purchase price which has been allocated on the basis of fair market value of assets acquired and liabilities assumed resulted in the following allocation: current assets of \$0.5 million, property, plant and equipment of \$0.2 million, other assets of \$1.6 million, purchased intangibles of \$10.1 million, which included work force in place of \$1.4 million, acquired technologies of \$8 million and trademarks of \$0.8 million, in-process research and development of \$5.3 million, goodwill of \$6.2 million and liabilities assumed of \$6.5 million.

On June 29, 2001, the Company acquired all the stock of International Market Supply, Ltd (“IMS”), a company engaged in developing, manufacturing and marketing respiration products. Cash consideration of approximately \$1,600,000 (including approximately \$114,000 of acquisition related expenses) was paid for the stock. The purchase price has been allocated on the basis of fair market value of assets acquired using the purchase method of accounting resulted in an allocation of approximately \$1,402,000 to goodwill, \$462,000 to current assets, \$39,000 to property, plant and equipment and \$277,000 in liabilities assumed.

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On November 1, 2001, the Company acquired all the stock of Scie-Plas, Ltd., a designer, manufacturer and marketer of electrophoresis tools for molecular biology. Cash consideration of \$4,151,000 (including approximately \$99,000 of acquisition related expenses) was paid for the stock. The purchase price was allocated as follows: \$3,926,000 to goodwill and other intangibles, \$327,000 to property, plant and equipment, current assets of \$804,000, other assets of \$23,000 and liabilities assumed of \$929,000.

On December 6, 2001, the Company acquired all of the stock of Asys Hitech GmbH, a designer, manufacturer and marketer of low volume, high throughput, liquid dispensers used for high throughput screening in drug discovery research. Cash consideration of \$2,043,000 (including approximately \$143,000 of acquisition related expenses) was paid for the stock. The purchase price has been allocated as follows: \$1,983,000 to goodwill and other intangibles, \$23,000 to property, plant and equipment, current assets of \$512,000, other assets of \$39,000 and liabilities assumed of \$514,000.

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). As of December 31, 2003, cash consideration of approximately \$343,000 has not been paid (see Note 7). 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.

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. As of December 31, 2002, the Company had not finalized the allocation of the purchase price. The final 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)
Current assets	\$ 12,783
Property, plant and equipment	1,949
Long-term assets	525
Deferred tax asset, net	2,057
Goodwill and other indefinite lived intangibles	10,494
Intangible assets	5,367
Total assets acquired	\$ 33,175
Current liabilities	(7,848)
Long-term debt	(70)
Total liabilities assumed	(7,918)
Net assets acquired	\$ 25,257

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The \$5.4 million of acquired intangible assets was allocated to existing products and technology. In 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.

On January 31, 2003, the Company acquired substantially all of the assets of the BTX division of Genetronics Biomedical Corporation 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 the third quarter of 2003, the Company completed the valuation of 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: \$1.7 million to existing technology, current assets of \$1.4 million, \$1.1 million to goodwill and other indefinite lived intangibles and liabilities assumed of \$0.2 million. During 2003, \$268,000 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.

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 7). 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 the third quarter of 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 fair market value of assets acquired and liabilities assumed at the date of acquisition resulted in the following allocation:

<b>(in thousands)</b>	
Current assets	\$ 2,942
Property, plant and equipment	721
Long-term assets	45
Goodwill and other indefinite lived intangibles	3,087
Amortizable intangible assets	3,736
Total assets acquired	\$ 10,531
Current liabilities	\$ (1,980)
Total liabilities assumed	(1,980)
Net assets acquired	\$ 8,551

The \$3.7 million of acquired amortizable intangible assets was allocated to existing products and technology. During 2003, \$217,800 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.

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 \$3.6 million payable partly in cash and partly in the assumption of certain limited liabilities (including \$0.4 million in acquisition related expenses). 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. As of December 31, 2003, the Company has not finalized the purchase price allocation. A preliminary estimate of the allocation was prepared and included as part of these consolidated financial statements as the final valuation of the assets and liabilities acquired has not yet been completed. The preliminary allocation of the purchase price is as follows: \$1.4 million to existing technology, current assets of \$2.3 million, \$0.3 million to property, plant and equipment, \$0.3 million to goodwill and liabilities assumed of \$0.7 million. During 2003, \$128,154 of fair value adjustments related to BioRobotics' acquired backlog and inventory was expensed through cost of product revenues for orders that were sold since the date of the acquisition. We anticipate that the final valuation of assets and liabilities acquired will be completed during the second quarter of 2004.

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, 2003, the Company has not finalized the purchase price allocation. A preliminary estimate of the allocation was prepared and included as part of these consolidated financial statements as the final valuation of the assets and liabilities acquired has not yet been completed. The preliminary allocation of the purchase price is as follows: \$2.5 million to existing technology, current assets of \$1.8 million, \$0.5 million to property, plant and equipment and \$0.6 million to a distribution agreement. During 2003, \$68,074 of fair value adjustments related to Hoefer's backlog and inventory was expensed through cost of product revenues for orders that were sold since the date of the acquisition. We anticipate that the fair value valuation of assets and liabilities acquired will be completed during the second quarter of 2004.

All acquisitions have been accounted for by the purchase method of accounting for business combinations. Accordingly, the accompanying consolidated statements of operations do not include any revenues or expenses related to these acquisitions prior to the respective acquisition dates.

In connection with the acquisition of Warner Instruments, Union Biometrica and Genomic Solutions, certain research and development projects acquired were determined to have no alternative future use. Accordingly, \$159,000, \$5,288,000 and \$1,551,400, respectively, of purchased in-process research and development was expensed in the second quarter of 2001 for Warner and Union Biometrica and the fourth quarter of 2002 for Genomic Solutions. The 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 averaged 25% to 44% for the projects identified. 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. Additionally, the value of other intangible assets acquired may become impaired.

The following unaudited pro forma results of operations gives effect to the acquisitions of GeneMachines and BioRobotics as if they had occurred as of January 1, 2002. Pro forma information related to the BTX and Hoefer acquisitions is not provided as the acquisitions are not material to the consolidated financial statements. Such pro forma information reflects certain adjustments including amortization of goodwill 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.

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	Years Ended December 31,	
	2003	2002
	(Unaudited, in 000's except per share data)	
Pro forma revenues	\$ 93,030	\$ 74,891
Pro forma net income (loss)	\$ 3,623	\$ (1,153)
Pro forma net income (loss) per share:		
Basic	\$ 0.12	\$ (0.04)
Diluted	\$ 0.12	\$ (0.04)
Pro forma weighted average common shares:		
Basic	29,924	27,090
Diluted	30,712	27,090

#### (4) Goodwill and Other Intangible Assets

On January 1, 2002, the Company fully 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. During the second quarter of 2002, the Company completed the implementation impairment review as required. The review concluded there was no impairment of goodwill at the time of implementation. On December 31, 2003 and 2002 the Company completed its annual goodwill impairment tests and concluded there was no impairment.

With the adoption of SFAS No. 142, the Company ceased amortization of goodwill and other indefinite lived intangible assets as of January 1, 2002. The following table presents the annual results of the Company assuming SFAS 142 was adopted on January 1, 2001.

	Years Ended December 31,		
	2003	2002	2001
Net income (loss) available to common shareholders	\$ 4,259,592	\$ 737,327	\$ (5,208,418)
Add back: goodwill amortization, net of tax	—	—	811,714
Adjusted net income (loss)	\$ 4,259,592	\$ 737,327	\$ (4,396,704)
Basic and diluted earnings per share:			
Net income (loss)	\$ 0.14	\$ 0.03	\$ (0.20)
Goodwill amortization, net of tax	—	—	0.03
Adjusted net income (loss)	\$ 0.14	\$ 0.03	\$ (0.17)

Intangible assets consist of the following:

	December 31, 2003		December 31, 2002	
	Gross Carrying Value	Accumulated Amortization	Gross Carrying Value	Accumulated Amortization
Amortizable intangible assets:				
Existing technology	\$ 30,980,719	\$ 4,709,853	\$ 20,784,949	\$ 2,019,453
Tradename	1,704,643	381,101	1,788,328	269,101
Distribution agreement	621,000	10,350	—	—
Patents	9,000	1,600	9,000	1,000
Total Amortizable Intangible Assets	\$ 33,315,362	\$ 5,102,904	\$ 22,582,277	\$ 2,289,554
Unamortizable intangible assets:				
Goodwill and other indefinite lived intangible assets	\$ 36,341,532	—	\$ 31,052,981	—
Total Intangible Assets	\$ 69,656,894	\$ 5,102,904	\$ 53,635,258	\$ 2,289,554

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On January 31, 2003, the Company acquired intangible assets of approximately \$2.8 million in connection with the acquisition of BTX consisting of approximately \$1.7 million of amortizable assets and \$1.1 million of goodwill and other indefinite lived intangibles. On March 12, 2003, the Company acquired intangible assets of approximately \$6.8 million in connection with the acquisition of GeneMachines consisting of approximately \$3.7 million of amortizable assets and \$3.1 million of goodwill and other indefinite lived intangibles. On September 19, 2003, the Company acquired intangible assets of approximately \$1.7 million in connection with the acquisition of BioRobotics consisting of approximately \$1.4 million of amortizable assets and \$0.3 million of goodwill. On November 24, 2003, the Company acquired amortizable intangible assets of approximately \$3.1 million in connection with the acquisition of Hoefer.



Intangible asset amortization expense was approximately \$2,702,000 and \$1,543,000 for the years ended December 31, 2003 and 2002, respectively. As a result of the Company completing its adoption of SFAS No. 142, there have been no changes to amortizable lives or methods other than goodwill and indefinite lived intangible assets associated with acquisitions consummated prior to June 30, 2001 is no longer amortized. Amortization expense of existing amortizable intangible assets is estimated to be \$3.3 million for each of the years ending December 31, 2004, 2005, 2006, 2007 and 2008. The change in goodwill and other intangible assets during 2003 is also the result of foreign currency translation adjustments and adjustments resulting from final purchase price allocations for certain 2002 acquisitions.

**(5) Inventories**

Inventories consist of the following:

	<u>December 31,</u>	
	<u>2003</u>	<u>2002</u>
Finished goods	\$ 8,159,712	\$ 6,057,012
Work in process	4,326,707	1,878,663
Raw materials	12,192,712	7,531,593
	<u>\$ 24,679,131</u>	<u>\$ 15,467,268</u>

**(6) Property, Plant and Equipment**

Property, plant and equipment consists of the following:

	<u>December 31,</u>	
	<u>2003</u>	<u>2002</u>
Land, Building and leasehold improvements	\$ 1,306,219	\$ 1,104,153
Machinery and equipment	6,392,969	4,459,426
Computer equipment	2,523,352	2,185,125
Furniture and fixtures	1,566,917	1,040,214
Automobiles	241,807	254,606
	12,031,265	9,043,524
Less accumulated depreciation	(5,285,446)	3,125,495
	<u>\$ 6,745,819</u>	<u>\$ 5,918,029</u>

**(7) Long-Term Debt**

Long-term debt consists of the following:

	<u>December 31,</u>	
	<u>2003</u>	<u>2002</u>
Notes payable	\$ 13,088,026	\$ 871,532
Capital lease obligations (note 8)	97,419	227,438
	13,185,445	1,098,970
Less current installments	398,186	699,005
	<u>\$ 12,787,259</u>	<u>\$ 399,965</u>

On November 21, 2003, we entered into a \$20 million revolving credit facility with Brown Brothers Harriman (the "bank"). The credit facility bears an interest rate equal to the bank's base rate which at December 31, 2003 was equal to the prime rate of 4% and has a three year term. 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 and is collateralized by a percentage of the equity interests in the Company's foreign subsidiaries. As of December 31, 2003, we have borrowed \$12,744,944 against the credit facility, in part to repay the \$6.5 million outstanding on the bridge notes entered into with Brown Brothers Harriman in 2003 in anticipation of closing the revolving credit facility. 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 liabilities of \$343,000 related to amounts owed to shareholders of WPA. The entire debt is due to be paid in the first half of 2004.

On December 5, 2001, in connection with the purchase of the outstanding shares of Asys Hitech, GmbH, the Company assumed a liability of \$278,000 related to amounts owed to a shareholder of Asys Hitech. Approximately \$167,000 of this debt was paid in April, 2002, with the remaining \$111,000 paid in December 2002.

In connection with the acquisition of Asys Hitech, payment of approximately \$200,000 of the purchase price was deferred until settlement of the final statement of net assets. Final settlement of the statement of net assets occurred in 2002, resulting in a reduction of the purchase price of approximately \$43,000. The balance of \$157,000 was paid in September, 2003.

On November 1, 2001, at the request of the sellers of Scie-Plas Ltd., the Company entered into a loan agreement with the sellers to defer payment of approximately \$3.9 million of the purchase price for the outstanding shares of Scie-Plas Ltd. (see note 3). The loan is secured with cash in an equal amount and accrues interest at the same rate of interest earned by the cash. Approximately \$3.5 million of the note was paid in November, 2002, and the remaining \$0.4 million was paid in May 2003.

As of December 31, 2003, the debt repayment schedule, excluding capital lease payments, is as follows:

2004	\$	343,082
2005		—
2006		12,744,944
2007 and thereafter		—
	\$	13,088,026

**(8) 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, 2003 and 2002 was \$166,359 and \$254,711, respectively, which is net of \$142,097 and \$74,835, respectively, of accumulated depreciation.

The Company has noncancelable operating leases for office and warehouse space expiring at various dates through 2009. Rent expense for the years ended December 31, 2003, 2002 and 2001 was approximately \$2,279,280, \$2,209,000 and \$744,000, respectively.

Future minimum lease payments for both capital and operating leases, with initial or remaining terms in excess of one year at December 31, 2003, are as follows:

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	Capital Leases	Operating Leases
2004	\$ 69,109	\$ 2,094,427
2005	23,704	1,149,381
2006	21,039	693,600
2007	—	513,353
2008	—	388,210
Thereafter	—	85,225
Net minimum lease payments	\$ 113,852	\$ 4,924,196
Less amount representing interest	16,432	
Present value of net minimum lease payments	\$ 97,419	

**(9) Related Party Transactions**

The Company holds a promissory note in the amount of \$51,310 for amounts owed by Jeffrey Williams, the President of the Company's Genomic Solutions subsidiary and a member of the Company's Board of Directors. The note was assumed by the Company in connection with the acquisition of Genomic Solutions. The note has a five year maturity. The note, with an original principal amount of \$40,000 and accrued interest of \$11,310, is due on the earlier of (i) February 2005 or (ii) the termination of Mr. Williams' employment with the Company.

**(10) Employee Benefit Plans**

The Company sponsors profit sharing retirement plans for its U.S. employees, which includes an employee savings plan established under Section 401(k) of the U.S. Internal Revenue Code (the "401(k) Plan"). The 401(k) plan covers substantially all full-time employees who meet certain eligibility requirements. Contributions to the profit sharing retirement plan are at the discretion of management. For the years ended December 31, 2003, 2002, and 2001, the Company contributed approximately \$289,000, \$175,000 and \$142,000, 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,		
	2003	2002	2001
Components of net periodic benefit cost:			
Service cost	\$ 348,740	\$ 399,779	\$ 390,223
Interest cost	501,725	458,614	418,178
Expected return on plan assets	(556,010)	(543,096)	(512,564)
Net amortization loss...	143,115	39,224	17,581
Net periodic benefit cost	\$ 437,570	\$ 354,521	\$ 313,418

The funded status of the Company's defined benefit pension plans and the amount recognized in the consolidated balance sheets at December 31, 2003 and 2002 follows:

	2003	2002
Change in benefit obligation:		
Balance at beginning of year	\$ 8,785,367	\$ 7,272,720
Service cost	348,740	399,779
Interest cost	501,725	458,614
Participants' contributions	174,370	90,516
Actuarial loss	353,675	67,887
Benefits paid	(194,110)	(300,211)
Currency translation adjustment	1,084,954	796,062

Balance at end of year	\$ 11,054,721	\$ 8,785,367
Change in fair value of plan assets:		
Balance at beginning of year	\$ 6,825,925	\$ 6,442,800
Actual return on plan assets	1,014,965	(316,806)
Participants' contributions	174,370	90,516
Employer contributions	537,915	310,772
Benefits paid	(194,110)	(300,211)
Expenses paid	(101,990)	(48,275)
Currency translation adjustment	886,733	647,129
Balance at end of year	\$ 9,143,808	\$ 6,825,925

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	Years Ended December 31,	
	2003	2002
Funded status	\$ (1,910,913)	\$ (1,959,442)
Unrecognized net loss	2,312,741	2,290,299
Net amount recognized	\$ 401,828	\$ 330,857

The amounts recognized in the consolidated balance sheets consist of:

	2003	2002
Prepaid benefit cost	\$ 401,828	\$ 330,857
Minimum pension liability	(678,642)	(1,204,575)
Accumulated other comprehensive loss	475,049	843,224
Deferred tax asset	203,593	361,351
Net amount recognized	\$ 401,828	\$ 330,857

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

	Years Ended December 31,		
	2003	2002	2001
Weighted average assumptions:			
Discount rate	5.5%	5.5%	6.0%
Expected return on assets	7.2%	7.7%	8.0%
Rate of compensation increase	3.75%	3.25%	4.0%

## 11) Income Taxes

Income tax expense (benefit) attributable to income (loss) from continuing operations for the years ended December 31, 2003, 2002 and 2001 consisted of:

	Years Ended December 31,		
	2003	2002	2001
Current income tax expense (benefit):			
Federal and state	\$ 121,252	\$ (21,165)	\$ (158,835)
Foreign	2,736,575	2,187,645	1,755,161
	2,857,827	2,166,480	1,596,326
Deferred income tax (benefit) expense:			
Federal and state	(274,626)	(141,450)	396,038
Foreign	393,936	(414,012)	(202,411)
	119,310	(555,462)	193,627
Total income tax expense	\$ 2,977,137	\$ 1,611,018	\$ 1,789,953

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The income tax benefits derived from certain stock-based compensation, amounting to \$0, \$0 and \$121,275 for the years ended December 31, 2003, 2002 and 2001, respectively, were allocated to stockholders' equity.

Income tax expense for the periods ended December 31, 2003, 2002 and 2001 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,		
	2003	2002	2001
Computed "expected" income tax expense (benefit)	\$ 2,460,488	\$ 798,437	\$ (1,162,278)
Increase in income taxes resulting from:			
Foreign tax rate and regulation differential	118,672	65,151	195,561
State income taxes, net of federal income tax benefit	(53,312)	29,613	(73,834)
Foreign trading gross receipts tax benefit	(51,680)	(76,776)	(30,195)
Foreign Sourced US income	310,098	—	—
Stock compensation expense in excess of allowable tax benefits on	167,528	382,840	826,487

exercise of options			
Nondeductible acquisition goodwill, trademark and workforce		—	127,234
Nondeductible in-process research and development	—	527,476	1,851,980
Nondeductible acquisition related other	354,245	—	—
Federal tax expense differential from prior year tax	83,496	(126,640)	(31,381)
Tax credits	(356,582)	(203,399)	—
Change in valuation allowance allocated to income tax expense	(220,147)	220,147	—
Other	164,331	(5,831)	86,379
Total income tax expense	\$ 2,977,137	\$ 1,611,018	\$ 1,789,953

Income tax expense is based on the following pre-tax income (loss) for the years ended December 31, 2003, 2002 and 2001:

	Years Ended December 31,		
	2003	2002	2001
Domestic	\$ (1,621,622)	\$ (2,676,602)	\$ (7,408,456)
Foreign	8,858,351	5,024,947	3,989,991
	\$ 7,236,729	\$ 2,348,345	\$ (3,418,465)

The tax effects of temporary differences that give rise to significant components of the deferred tax assets and deferred tax liabilities at December 31, 2003 and 2002 are as follows:

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	Years Ended December 31,	
	2003	2002
Deferred tax assets:		
Accounts receivable	\$ 285,222	\$ 283,466
Inventory	1,248,777	713,333
Operating loss and credit carryforwards	13,872,390	18,209,525
Accrued expenses	63,589	108,463
Goodwill and other intangibles	167,453	893,848
Property, plant and equipment	166,898	166,898
Minimum pension liability	203,593	361,351
Other accrued liabilities	1,457,840	1,316,909
Total gross deferred tax assets	17,465,762	22,053,794
Less: valuation allowance	(9,840,929)	(15,160,201)
Deferred tax assets	7,624,833	6,893,593
Deferred tax liabilities:		
Property, plant and equipment	195,782	174,599
Intangible assets	6,551,011	5,907,400
Other accrued liabilities	185,756	—
Total deferred tax liabilities	6,932,548	6,081,999
Net deferred tax assets	\$ 692,284	\$ 811,594

The amount recorded as gross deferred tax assets as of December 31, 2003 and December 31, 2002 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, 2003 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, 2003, the Company had federal and state net operating loss carryforwards available to offset future taxable income of approximately \$32,302,000 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 \$1,477,000 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 \$995,000 and \$65,000, 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 control 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. As of December 31, 2003, approximately \$17,998,000 of the Company's gross deferred tax assets and liabilities pertain to acquired companies. 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, 2003 was \$9,840,929 of which \$0 was charged against income tax expense while \$9,840,929 was charged against acquisition goodwill and intangible assets. The total valuation allowance decreased by \$5,319,273 from December 31, 2002, as a result of a decrease in acquired temporary differences, including net operating loss carryforwards, from 2002 and 2001 acquisitions. If the valuation allowance is fully realized, \$9,840,929 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 \$18,453,316, \$12,725,476 and \$7,736,580 at December 31, 2003, 2002 and 2001, 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. 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) Stock Compensation Plans

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 94,943 shares were issued as of December 31, 2003.

In 1996, the Company adopted the 1996 Stock Option and Grant Plan (the "1996 Plan") and 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 Plans authorize grants of options to purchase up to 8,759,877 shares of authorized but unissued stock.

As of December 31, 2003 and 2002, 3,972,177 and 2,935,177 "Incentive Stock Options," and 3,283,868 and 3,005,868 "Non-qualified Stock Options," respectively, had been granted to employees. 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. ..

The Company applies APB Opinion No. 25 in accounting for the Plans. APB No. 25 requires no recognition of compensation expense for stock option awards when on the date of grant the exercise price is equal to the estimated fair market value of the Company's common stock and the number of options granted is fixed. During the years ended December 31, 2003 and 2002, 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, 52,621 stock options were granted to employees at an exercise price of \$1.87 for 42,766 of the options and \$1.05 for 9,855 of the options, 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, 2003, 2002 and 2001, compensation expense of \$519,480, \$1,269,397 and \$2,678,743, respectively, was recognized on these stock option grants. As of December 31, 2003 additional compensation expense of approximately \$28,304 will be recognized in future periods.

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 vests 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 of which \$386,089, \$900,859 and \$1,673,025 has been recognized as stock compensation expense for the years ended December 31, 2003, 2002 and 2001, respectively. There is no remaining stock compensation expense to be recognized on these stock option grants. Also on September 29, 2000, two officers of the Company exercised 916,514 fully vested options for cash of \$465 and two promissory notes amounting to \$958,298 payable to the Company. The notes had a three-year maturity and a fixed interest rate of 10% per annum, compounded annually. In February 2002, one of the officers satisfied his obligations under these promissory notes by payment in full to the Company of the principal amount of the notes and accrued

interest of \$886,309. In August, 2003, the remaining obligations under these promissory notes were paid in full to the Company in an amount equal to the principal and accrued interest of \$1,040,458.

The following is a summary of stock option activity:

	Employee Stock Options	
	Options Outstanding	Weighted Average Exercise Price
Balance at December 31, 2000	629,110	\$ 1.33
Options exercised	(288,075)	0.40
Options forfeited	(150,027)	3.20
Options granted	515,057	4.14
Balance at December 31, 2001	706,065	\$ 3.37
Options exercised	(128,355)	0.71
Options forfeited	(98,403)	5.54
Options granted	1,323,500	5.75
Balance at December 31, 2002	1,802,807	\$ 5.19
Options exercised	(47,089)	1.39
Options forfeited	(156,319)	4.16
Options expired	(8,060)	0.01
Options granted	1,315,000	3.19
Balance at December 31, 2003	2,906,339	\$ 4.42

During 2003, 2002 and 2001, no other additional options were exercised, canceled, expired or forfeited, or changes in any option terms, including exercise prices. The weighted average fair value of options granted during 2003, 2002 and 2001 was \$2.26, \$4.16 and \$6.68, respectively.

The following is a summary of information relating to stock options outstanding at December 31, 2003:

Range of Exercise price	Number outstanding at December 31, 2003	Options Outstanding		Options Exercisable	
		Weighted-average remaining contractual life	Weighted-average exercise price	Shares exercisable at December 31, 2003	Weighted-average exercise price
\$0.01-2.99	593,339	7.55 years	\$ 2.01	124,636	\$ 2.17
\$3.00-3.99	1,275,000	9.26 years	\$ 3.20	—	\$ 0.00
\$4.00-6.99	90,500	8.62 years	\$ 4.56	23,250	\$ 4.61
\$7.00-8.00	907,500	7.51 years	\$ 7.48	322,999	\$ 7.58
\$8.01-10.60	40,000	7.80 years	\$ 9.29	17,500	\$ 9.45
\$0.01-10.60	2,906,339	8.32 years	\$ 4.42	488,384	\$ 6.12

Had the Company determined compensation cost based on the fair value of the options at the grant date, as is permitted by SFAS No. 123, the Company's net income (loss) would have been as follows:

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	Years Ended December 31,		
	2003	2002	2001
Net income (loss) available to common stockholders	\$ 4,259,592	\$ 737,327	\$ (5,208,418)
Pro forma net income (loss) available to common stockholders	\$ 1,004,738	\$ (2,835,369)	\$ (5,710,339)
Basic net income (loss) per share	\$ 0.14	\$ 0.03	\$ (0.20)
Pro forma basic net income (loss) per share	\$ 0.03	\$ (0.10)	\$ (0.22)
Diluted net income (loss) per share	\$ 0.14	\$ 0.03	\$ (0.20)
Pro forma diluted net income (loss) per share	\$ 0.03	\$ (0.10)	\$ (0.22)

The fair value of each option grant for the Company's Plans is estimated on the date of the grant using the Black-Scholes pricing model, with the following weighted average assumptions used for grants in 2003, 2002 and 2001.

	Years Ended December 31,		
	2003	2002	2001
Risk free interest rates	3.5%	4.0%	5.4%
Expected option lives	2 years	3 years	2 years
Expected dividend yields	0%	0%	0%
Expected volatility	106.91%	91.40%	89.12%

### (13) 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,		
	2003	2002	2001
United States	\$ 43,562,448	\$ 23,622,032	\$ 16,504,892
United Kingdom	32,763,569	25,034,535	19,098,428
Rest of the world	10,814,888	8,723,815	5,265,067
	\$ 87,140,905	\$ 57,380,382	\$ 40,868,387

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Long lived assets by geographic area consists of the following:

	December 31,	
	2003	2002
United States	\$ 50,393,572	\$ 39,698,739
United Kingdom	17,264,539	14,221,355
Rest of the world	3,622,748	3,343,639

**(14) Income (Loss) Per Share**

Basic income (loss) per share is based upon net income (loss) divided by the weighted average common shares outstanding during each year. The calculation of diluted net income (loss) per share assumes conversion of stock options into common stock. Net income (loss) and shares used to compute net income (loss) per share, basic and diluted, are reconciled below:

	Years Ended December 31,		
	2003	2002	2001
Net income (loss) available to common stockholders	\$ 4,259,592	\$ 737,327	\$ (5,208,418)
Weighted average common shares outstanding during the year	29,923,709	27,090,054	25,784,852
Effect of dilutive securities:			
Common stock options	788,073	507,510	—
	<u>30,711,782</u>	<u>27,597,564</u>	<u>25,784,852</u>

Options to purchase 182,000, 1,095,500 and 1,146,495 shares of common stock for the year ended December 31, 2003, 2002 and 2001, respectively, were not included in the computation of diluted earnings per share because to do so would have been antidilutive.

**(15) Accrued Expenses**

Accrued expenses consist of:

	December 31,	
	2003	2002
Accrued compensation and payroll	\$ 1,128,929	\$ 1,862,719
License fees	—	1,446,479
Accrued legal and professional fees	708,968	1,185,389
Warranty costs	993,413	689,231
Other	2,152,893	2,178,525
	<u>\$ 4,984,203</u>	<u>\$ 7,362,343</u>

**(16) Contingencies**

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.

**(17) Concentrations of Credit Risk**

One commercial customer accounted for 13%, 18% and 30% of revenues for the years ended December 31, 2003, 2002 and 2001, respectively. At December 31, 2003 and 2002, one customer accounted for 12% and 11% 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, 2003, 2002 and 2001. In addition, except as noted above, no other individual customer accounted for more than 10% of accounts receivable at December 31, 2003 and 2002.

**(18) Asserted Legal Claims**

In September, 2002, our Genomic Solutions subsidiary filed suit against Affymetrix, Inc. in the State of Michigan Circuit Court for the County of Washtenaw for breach of contract, negligent/innocent misrepresentation, tortious interference with prospective economic advantage and declaratory relief. The action arose out of a License Agreement that Genomic Solutions entered into with Affymetrix with respect to certain Affymetrix patent rights. In November 2002, Affymetrix filed a counter-claim against Genomic Solutions alleging breach of contract and requesting approximately \$1.45 million in damages for license and other fees and interest allegedly owed. On April 30, 2003, Affymetrix was granted summary disposition and Genomic Solutions' claims were dismissed. In June 2003 the Company settled this claim and paid \$1.3 million to Affymetrix.

In December, 2002, Oxford Gene Technology Ltd. filed suit against our Genomic Solutions subsidiary, Mergen Ltd., Clontech Laboratories, Inc., PerkinElmer Life Sciences, Inc., Axon Instruments, Inc. and BioDiscovery, Inc. in the United States District Court for the District of Delaware seeking unspecified damages as a result of alleged infringement by each of the defendants of a United States Patent issued to Oxford Gene Technology. On May 12, 2003, the Company and Oxford Gene Technology settled the dispute and the lawsuit was dismissed. Under the settlement, Genomic Solutions will display certain notices in connection with the marketing of certain genomic-related products. In addition, a nominal amount was paid to Oxford Gene Technology.

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 has filed a notice of appeal with the Massachusetts Appeals Court and an application for a direct appellate review with the Massachusetts Supreme Judicial Court, both of which are pending.

On May 30, 2002, the Company served a claim notice (the "Claim Notice") on the former shareholders of Union Biometrica (the "Former Shareholders"), seeking indemnification in connection with the May 31, 2001 Merger Agreement that effectuated the Company's acquisition of Union Biometrica. The Claim Notice had the effect of withholding the release of certain Company shares placed in escrow as part of the merger consideration to the Former Shareholders. On September 5, 2002, the Former Shareholders served a Demand for Arbitration on the Company

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which essentially set forth defenses against the indemnification claims asserted in the Claim Notice, alleged that the Company did not have an adequate basis for its Claim Notice and asserted that the Former Shareholders could be harmed by a decline in value of the escrowed shares as a result of the Company's failure to release the escrowed shares. A hearing was held by an arbitrator in late April and early May, 2003. On July 15, 2003, the Company received the arbitrator's award (the "Award") in favor of the Former Shareholders. The arbitrator ruled that the Company must release 474,420 Company shares held in escrow to the Former Shareholders and also must pay the Former Shareholders approximately \$696,000 which represents the difference between the market value of 322,875 Company shares held in escrow as of May 31, 2002, and the market value of those shares as of the date those shares are released, calculated as prescribed by the escrow agreement. Each party sought certain corrections to the ruling. On August 26, 2003, the Award became final and the Former Shareholders were awarded approximately \$696,000 plus interest. This charge and certain related costs, totaling approximately \$790,000 is reflected in the Company's financial results for the year ended December 31, 2003. After the Award became final, the Company and the Former Shareholders entered into a settlement agreement pursuant to which the Company paid approximately \$790,000 to the Former Shareholders and the parties exchanged mutual releases, which, among other things, provide that the Former Shareholders will not seek to confirm or modify the Award and the Company will not seek to vacate or modify the Award.

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 material adverse effect on our business, financial condition or results of operations.

#### (19) Subsequent Events

On March 3, 2004, the Company acquired all issued and outstanding stock of KDSscientific, Inc. for approximately \$6.65 million in cash. The acquisition was funded by proceeds from the \$20 million credit facility entered into in November 2003 with Brown Brothers Harriman. There is approximately \$950,000 available for use under this credit facility. The transaction will be accounted for using the purchase method of accounting. The results of KDSscientific will be included in the consolidated operating results of the Company from the date of acquisition.

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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: March 15, 2004

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:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Chane Graziano</u> Chane Graziano	Chief Executive Officer and Director (Principal Executive Officer)	March 15, 2004
<u>/s/ Susan Luscinski</u> Susan M. Luscinski	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 15, 2004
<u>/s/ David Green</u> David Green	President and Director	March 15, 2004
<u>/s/ Richard C. Klaffky, Jr.</u> Richard C. Klaffky, Jr.	Director	March 15, 2004
<u>/s/ Robert Dishman</u> Robert Dishman	Director	March 15, 2004



/s/ John F. Kennedy  
John F. Kennedy

Director

March 15, 2004

/s/ Earl R. Lewis  
Earl R. Lewis

Director

March 15, 2004

/s/ Neal J. Harte  
Neal J. Harte

Director

March 15, 2004

Amendment to Lease Agreement  
Amendment # 1

Whereas, on January 3, 2002, a certain Lease Agreement was entered between Seven October Hill, LLC ("Landlord") and Harvard Bioscience, Inc. ("Tenant"), covering a certain space being 20,000 square feet on the lower level at 84 October Hill Road in Holliston, Massachusetts.

Whereas, it is the desire of the parties to amend the Lease, in certain particulars. Now, therefore, for and in consideration of value received, the undersigned Landlord and Tenant confirm their agreement as follows:

1. Area as defined in the Premises section of the Basic Lease Information of the Lease dated January 3, 2002, shall be amended to 24,500 square feet as reflected on the site plan attached hereto. Approximately 20,000 square feet of space shall be on the lower level of the building and 4,500 square feet shall be on the upper level of the building located at 84 October Hill Road (Building # 7), Holliston, MA.
2. Tenant's Proportionate Share of Operating Expenses and Real Estate Taxes shall be adjusted from 17.86 % to 21.90%, which is the percentage obtained by dividing the total square feet rented (24,500) by Harvard Bioscience, Inc. ("Tenant") by the rentable square footage in the building (112,000). The Operating Expenses and Real Estate Taxes shall begin on February 1, 2003.
3. The Term for the additional 4,500 square feet shall begin on February 1, 2003 and run co-terminus with the original lease dated January 3, 2002, ending on March 31, 2005.
4. Basic Rental Rate shall be \$ 8.00 + NNN.

Basic Rent shall be charged on a graduated square footage increase for the additional (4,500 s.f.) leased on the upper level for the following periods:

<u>Lease Months:</u>	<u>Square Footage Basic Rent billed on:</u>	<u>Basic Rent (p.s.f.):</u>
February 1 , 2003 – July 31, 2003	2,500 s.f.	\$ 8.00
August 1, 2003 – January 31, 2004	3,500 s.f.	\$ 8.00
February 1, 2004 – March 31, 2005	4,500 s.f.	\$ 8.00

5. Landlord agrees to touch-up the existing paint; clean, wax and seal the tiled floors; remove one wall at the end of the cafeteria area; install one new door; exterminate as required; and perform general clean-up before occupancy. Landlord and tenant agree to split the cost for new carpeting throughout the additional 4,500 square foot space, the identical carpet as was recently installed on the lower level.

In all other respects, the terms and conditions of the Original Lease shall remain in full force and effect. All parties hereto, their successors and assigns and is hereby made a part of the above described Lease Agreement.

EXECUTED AND DELIVERED this 31st day of January 2003.

Landlord:

Tenant:

Seven October Hill LLC

Harvard Bioscience, Inc.

By: /s/ John R. Parsons, Jr.  
John R. Parsons, Jr.  
Managing Member

By: /s/ Robert D. Bohne  
Robert D. Bohne  
V.P. Operations & Engineering

## REVOLVING CREDIT LOAN AGREEMENT

dated as of November 21, 2003 by and among

**HARVARD BIOSCIENCE, INC.**

(the “Borrower”),

**THE LENDERS THAT ARE SIGNATORIES HERETO**

(the “Lenders”),

and

**BROWN BROTHERS HARRIMAN & CO.**

(the “Agent”)

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REVOLVING CREDIT LOAN AGREEMENT dated as of November 21, 2003 by and among Harvard Bioscience, Inc., a Delaware corporation (the "Borrower") and the Lenders from time to time party hereto, including Brown Brothers Harriman & Co. (both in its capacity as a "Lender" and in its capacity as a "Agent" for itself and the other Lenders), and Fleet National Bank (as a "Lender" and, collectively with Brown Brothers Harriman & Co. the "Lenders"). Certain other terms used herein are defined in Section 2 (LIBOR Provisions) and in Section 9.

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Borrower and the Lenders hereby agree as follows:

Section 1. Amount and Terms of the Credit.

1.1. Recitals; Maximum Line Commitment. The Borrower wishes to establish a revolving credit facility (the "Line of Credit") with the Lenders in an aggregate principal amount at any one time outstanding not in excess of Twenty Million Dollars (\$20,000,000) (the "Maximum Line Commitment"), to expire November 21, 2006 (the "Maturity Date").

The Lenders, severally in accordance with their respective Commitments set forth on Schedule 1.1, are willing to establish such Line of Credit, subject to the terms and conditions hereafter set forth.

1.2. Revolving Credit Loans; Reborrowings; Compliance Certificates.

(a) Establishment of Line of Credit. Subject to the terms and conditions hereof, and in reliance upon the representations and warranties contained herein, the Lenders hereby establish the Line of Credit in an aggregate principal amount at any one time outstanding not to exceed the Maximum Line Commitment. Under the Line of Credit, subject to the terms and conditions hereof, the Borrower may borrow, from time to time, an aggregate principal amount at any time not in excess of the Maximum Line Commitment. Each such borrowing pursuant to the Line of Credit is herein called a "Revolving Credit Loan" or a "Loan" and such borrowings are collectively called the "Revolving Credit Loans" or the "Loans".

(b) Mechanics of Revolving Credit Loans. Each Revolving Credit Loan shall be made by the Lenders, severally in accordance with their respective Commitments and in such amounts (not in excess of the Maximum Line Commitment) as the Borrower shall request. Revolving Credit Loans shall be effected at the principal banking office of the Agent at 40 Water Street, Boston, Massachusetts 02109-3661, and shall be made at such times as the Borrower may request upon one (1) Banking Day's prior notice to the Agent in the case of any borrowing for which interest is calculated using the Base Rate (collectively, "Base Rate Loans") and three (3) Banking Days' prior notice in the case of any borrowing for which interest is calculated using the LIBOR Rate (collectively, "LIBOR Portions"). Each borrowing request shall be in the form attached hereto as Exhibit E (the "Borrowing Request"). Each Borrowing Request may be sent to the Agent by facsimile. The Lenders will use their best efforts to fund requests for Revolving Credit Loans on the requested Banking Day. In the event that notwithstanding its best efforts, the Lenders are unable to fund a requested Revolving Credit Loan on the requested Banking Day, the Lenders shall have no liability whatsoever for such failure to fund and will fund such Revolving Credit Loan on the next Banking Day. The Lenders shall make each Revolving

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Credit Loan hereunder by crediting the amount of such Revolving Credit Loan to the Borrower's operating account (Account No. 8142333) with the Agent (together with any other account from time to time designated by the Borrower for the purpose of effecting Revolving Credit Loans, the "Operating Account").

(c) Reborrowings. The Borrower may, at its option, from time to time prepay all or any portion of the Revolving Credit Loans made from time to time hereunder, subject at all times to payment of any applicable LIBOR Premium, compliance with the provisions of subsection 5.10, and, subject to compliance with subsection 4.3, the Borrower may reborrow from time to time hereunder amounts so paid up to the amount of the Maximum Line Commitment.

1.3. Revolving Credit Notes. The Revolving Credit Loans shall be evidenced by revolving credit promissory notes of the Borrower payable to the order of each Lender, in a principal amount equal to each Lender's Commitment and in the form attached hereto as Exhibit B (the "Revolving Credit Notes" or the "Notes").

1.4. Interest; Applicable Margins.

(a) The Revolving Credit Notes shall bear interest (computed on the basis of the actual number of days elapsed over a 360-day year) on the unpaid principal amount thereof until paid in full at the rate or rates per annum determined as follows:

(i) The per annum rate for any portion of the outstanding principal balance of the Revolving Credit Notes which is not then subject to a LIBOR Option shall be equal to the Applicable Base Rate Margin (as hereinafter defined in subsection 1.4(c)) plus the Base Rate; and

(ii) The per annum rate for any LIBOR Portion shall be equal to the Applicable LIBOR Margin (as hereinafter defined in subsection 1.4(c)) plus the LIBOR Rate.

(b) Interest on any portion of the Revolving Credit Notes accruing interest based on the Base Rate shall be payable monthly in arrears on the first day of each month, commencing on the first such date next succeeding the date of issuance of the Revolving Credit Notes, and interest on any LIBOR Portion of the Revolving Credit Notes shall be payable on the earlier to occur of (i) the last day of the LIBOR Period applicable to such LIBOR Portion or (ii) the 90th day of such LIBOR Period, and at maturity (whether by acceleration or otherwise). Each change in the rate of interest payable on any portion of the outstanding principal balance of the Revolving Credit Notes which is not then subject to a LIBOR Option shall take effect simultaneously with the corresponding change in the Base Rate. Notwithstanding anything contained herein or in any other Loan Document to the contrary, in no event shall the amount paid or agreed to be paid by the Borrower as interest on the Revolving Credit Loans exceed the highest lawful rate permissible under any law applicable thereto.

(c) Applicable Margin. For the purpose of this subsection 1.4, the "Applicable Margin" shall be determined as follows:

(i) subject to the provisions of subparagraph (iii) hereof, from and after the Closing Date, until the first Interest Adjustment Date, and thereafter from and after each Interest Adjustment Date until the next Interest Adjustment Date, the Applicable Margin for Base Rate Revolving Credit Loans (the “Applicable Base Rate Margin”) and for Revolving Credit Loans subject to a LIBOR Option (the “Applicable LIBOR Margin”) shall be the respective amounts set forth in the following table opposite the applicable ratio of outstanding Total Funded Debt to Adjusted EBITDA:

Ratio of Outstanding Total Funded Debt to Adjusted EBITDA	Applicable Base Rate Margin	Applicable LIBOR Margin
(for the most recently concluded period of four consecutive fiscal quarters)		
Greater than or equal to 1.00:1.00 but less than or equal to 2.00:1.00	0%	2.75%
Less than 1.00:1.00	0%	2.50%

The Applicable Margin in effect from the Closing Date until the first Interest Adjustment Date shall be 0% (in the case of the Applicable Base Rate Margin) or 2.50% (in the case of the Applicable LIBOR Margin).

(ii) As used herein, the term “Interest Adjustment Date” shall mean (A) the first day of the first month after the date on which each of the quarterly compliance certificates (together with quarterly unaudited financial statements for such quarter) required to be delivered under subsection 5.1 (the “Required Financial Statements”) with respect to the then most recently ended quarter were due, if the foregoing table indicates an upward adjustment of the Applicable Margin, or (B) the later of such date or the first day of the first month after the date that all of the Required Financial Statements for such quarter shall have been received by the Agent, if the foregoing table indicates a downward adjustment of the Applicable Margin.

(iii) The determination of the Applicable Margin hereunder as of any Interest Adjustment Date shall be based on unaudited quarterly financial statements and compliance certificates as provided above, provided, that in the event of any discrepancy between computations based upon any compliance certificates and the related audited financial statements furnished pursuant to subsection 5.1 (the “Audited Financial Statements”) the computation based upon the Audited Financial Statements shall govern (retroactive to the most recent Interest Adjustment Date). In the event of a retroactive correction in the determination of the Applicable Margin in favor of the Lenders, the amount of

interest thereby overdue and payable by the Borrower shall be paid to the Agent for the account of each Lender in accordance with and proportionate to such Lender’s Commitment within five (5) Banking Days after the date of such retroactive correction. Notwithstanding any of the foregoing, upon any upward adjustment of the Applicable Margin, there shall be no subsequent downward adjustment of the Applicable Margin until the first day of the first month after the ratio of outstanding Total Funded Debt to Adjusted EBITDA would result in such downward adjustment as of the end of a subsequent fiscal quarter. Notwithstanding anything to the contrary set forth in this Agreement, no downward adjustment of the Applicable Margin shall occur if, at the time such downward adjustment would otherwise be made, there shall exist any Event of Default, provided that such downward adjustment shall be made on the first day of the first month after the date on which any Event of Default preventing such downward adjustment shall have been cured in accordance with Section 12, assuming that no other Event of Default exists at the time of such downward adjustment.

#### 1.5. Fees.

(a) Unused Line Fee. The Borrower shall pay the Agent for the ratable benefit of the Lenders an unused line fee (the “Unused Line Fee”) for the period commencing on the Closing Date to and including the Maturity Date, or the earlier date of termination of the Line of Credit hereunder, in an amount equal to the applicable per annum rate set forth below (computed on the basis of the actual number of days elapsed over a 360-day year) of the average daily unused portion of the Maximum Line Commitment. The Unused Line Fee shall be paid quarterly in arrears on the last day of each March, June, September and December of each year, commencing on the first such date next succeeding the Closing Date, and on the date of termination of the Line of Credit.

Ratio of Outstanding Total Funded Debt to Adjusted EBITDA	Unused Line Fee
(for the most recently concluded period of four consecutive fiscal quarters)	
Greater than or equal to 1.00:1.00 but less than or equal to 2.00:1.00	0.375%
Less than 1.00:1.00	0.25%

(b) Changes Affecting Unused Line Fee. If any change in any requirement imposed upon any Lender by any law of the United States of America or by any regulation, order, interpretation, ruling or official directive (whether or not having the force of law) of the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation or any other board or governmental or administrative agency of the United States of America shall impose, increase, modify or deem applicable any reserve, special deposit, assessment or other requirement against the commitment of such Lender hereunder, and the result of the

foregoing, in the reasonable determination of such Lender, is to impose an increased cost on such Lender that is attributable to the maintaining of the commitment, then the Unused Line Fee payable to such Lender shall be increased on the same basis as such fees are increased for all similar commitments maintained by such Lender, for so long as the increased cost is imposed on such Lender, to the extent reasonably determined by such Lender to be necessary to compensate such Lender for such increased cost. The determination by such Lender of the amount of such cost, if done in good faith, shall, in the absence of manifest error, be conclusive, and at the Borrower's request such Lender shall demonstrate the basis for such determination.

(c) Origination Fee. The Borrower shall pay to the Agent, for the accounts of the Lenders on a pro rata basis, an origination fee (the "Origination Fee") in an aggregate amount of One Hundred Thousand Dollars (\$100,000) on the Closing Date. No portion of the Origination Fee paid to the Agent, for the accounts of the Lenders, shall under any circumstances be refunded to the Borrower.

(d) Agent Fee. The Borrower shall pay to the Agent (for its own account) on the Closing Date and on each anniversary thereafter during the term of the Agreement an annual fee of Ten Thousand Dollars (\$10,000), which shall be fully earned and payable on the Closing Date and on each anniversary of the Closing Date.

1.6. Subsidiary Guaranties and Pledge Agreement.

(a) The Notes and all other Obligations of the Borrower hereunder and/or under the other Loan Documents shall be secured by and entitled to the benefits of unconditional payment and performance guaranties from all Subsidiaries of the Borrower organized under the laws of any state in the United States (collectively, the "US Subsidiaries" and each a "US Subsidiary"). The Subsidiary Guaranties (collectively, the "Subsidiary Guaranties") will be satisfactory in form and substance to the Agent.

(b) Subsidiary Pledge Agreements(s). The Notes and all other Obligations of the Borrower hereunder and/or under the other Loan Documents shall be further secured by and entitled to the benefits of one or more pledge agreements of the Borrower in favor of the Agent (collectively, the "Pledge Agreement") pursuant to which the Borrower will pledge to the Agent sixty-five percent (65%) of the outstanding capital stock or other equity interests held by the Borrower in each of its directly owned Subsidiaries which is not a US Subsidiary (each a "Foreign Subsidiary" and collectively, the "Foreign Subsidiaries"). Within ten (10) Banking Days after demand by Agent following the occurrence and during the continuance of an Event of Default, Borrower will deliver to the Agent all Pledged Collateral (as defined in the Pledge Agreement) and other instruments (including stock powers) referenced in the Pledge Agreement, and will certify as to the accuracy (as of the date of such delivery) of all information set forth on the Schedules to such Pledge Agreement.

1.7. Reserved.

1.8. Default Rate of Interest. In the event of any Event of Default, including but not limited to the Borrower's failure to make any payment of principal of or interest on the Notes when due, whether at maturity or at a date fixed for the payment of any installment or

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prepayment thereof or by declaration, acceleration or otherwise, interest on the full outstanding balance of principal and (to the extent permitted by law) interest on the Notes shall, during the continuance of such Event of Default, be payable on demand at a rate per annum equal to two percent (2%) above the rate otherwise applicable to each Note hereunder. Interest shall accrue at such default rate until the Event of Default is cured by the Borrower or waived by the Lenders in accordance with the provisions of Section 12 below.

1.9. Notations. Prior to any sale or other disposition of any Note by any Lender, such Lender shall make a notation on such Note (or on a paper annexed thereto) of the unpaid principal amount thereof at the time outstanding, the last date to which interest has been paid thereon and the amount of unpaid interest accrued thereon to the date of such sale or disposition. Upon payment in full of the principal of and interest on the Note, such Note shall be cancelled and returned to the Borrower, provided that the Revolving Credit Note shall not be cancelled or returned so long as the Lender shall be obligated to make Revolving Credit Loans hereunder.

1.10. Form and Terms of Payment. All payments by the Borrower of principal of or interest on the Notes due to the Lenders pursuant to the Loan Documents shall be made as described below. All other payments shall be made to the Agent for the account of each Lender in accordance with and proportionate to such Lender's Commitment at the address hereinafter set forth in this Agreement (or at such other address as the Agent shall have furnished to the Borrower in writing) and shall be made in immediately available funds free of any counterclaim, set-off or charge. The Borrower hereby authorizes the Agent to charge, on the first Banking Day of each month, the Borrower's Operating Account or any other deposit accounts from time to time maintained by the Borrower with the Agent for the purpose of effecting payments of principal and interest on the Loans. Any other amounts due to the Lenders from the Borrower under the Loan Documents or otherwise shall be billed to the Borrower. If such amounts are not paid by the date specified in any such bill, the Agent is authorized to effect such payment by charging the Operating Account or any other deposit accounts from time to time maintained by the Borrower with the Agent and giving prompt notice thereof to Borrower. If any payment due to the Agent shall become due on a day which is not a Banking Day, such payment may be made on the next succeeding Banking Day and such extension shall be included in computing interest in connection with such payment. All payments made by Borrower hereunder or under any Note or other Loan Document will be made without setoff, counterclaim, or other defense. Except as required by applicable law, all such payments will be made free and clear of, and without deduction or withholding for, any present or future taxes, levies, imposts, duties, fees, assessments or other charges of whatever nature now or hereafter imposed by any jurisdiction (other than the United States) or by any political subdivision or taxing authority thereof or therein (other than of the United States) with respect to such payments (but excluding, any tax imposed by any jurisdiction or by any political subdivision or taxing authority thereof or therein (i) measured by or based on the net income or net profits of a Lender, or (ii) to the extent that such tax results from a change in the circumstances of the Lender, including a change in the residence, place of organization, or principal place of business of the Lender, or a change in the branch or lending office of the Lender participating in the transactions set forth herein) and all interest, penalties or similar liabilities with respect thereto (all such non-excluded taxes, levies, imposts, duties, fees, assessments or other charges being referred to collectively as "Taxes"). If any Taxes are so levied or imposed, Borrower agrees to pay the full amount of such Taxes, and such additional amounts as may be necessary so that every payment of all amounts due under



this Agreement or under any Note, including any amount paid pursuant to this subsection 1.10 after withholding or deduction for or on account of any Taxes, will not be less than the amount provided for herein; provided, however, that Borrower shall not be required to increase any such amounts payable to Agent or any Lender (i) that is not organized under the laws of the United States, if such Person fails to comply with the other requirements of subsection 16.11, or (ii) if the increase in such amount payable results from Agent's or such Lender's own willful misconduct or gross negligence. Borrower will furnish to Agent as promptly as possible after the date the payment of any Taxes is due pursuant to applicable law certified copies of tax receipts evidencing such payment by Borrower.

1.11. Pro-forma Compliance Certificate. On or before the Closing Date, the Borrower shall deliver to the Agent the Pro-forma Compliance Certificate (the "Pro-forma Compliance Certificate"). The Pro-forma Compliance Certificate shall be in the form of the Compliance Certificate attached hereto as Exhibit C, and shall be completed by the Borrower so as to give effect to consummation of this Agreement (including the making of the initial Loans hereunder).

1.12. Capital Adequacy. If after the date of this Agreement, any Lender shall have reasonably determined that the adoption or implementation of any applicable law, rule or regulation regarding capital requirements for banks or bank holding companies, or any change therein (including, without limitation, any change according to a prescribed schedule of increasing requirements, whether or not known on the date of this Agreement), or any change in the interpretation or administration thereof by any governmental authority, central bank or comparable agency charged with the interpretation or administration thereof, or compliance by such Lender with any request or directive of any such Person regarding capital adequacy (whether or not having the force of law) has the effect of reducing the return on such Lender's capital to a level below that which such Lender could have achieved (taking into consideration such Lender's policies with respect to capital adequacy immediately before such adoption, implementation, change or compliance) but for such adoption, implementation, change or compliance as a consequence of its Commitment to make Loans hereunder by any amount reasonably deemed by such Lender to be material, the Borrower shall pay to such Lender as an additional fee from time to time on demand such amount as such Lender shall have reasonably determined to be necessary to compensate it for such reduction. The determination by such Lender of such amount, if done on the basis of any reasonable averaging and attribution methods, shall in the absence of manifest error be conclusive, and at the Borrower's request, such Lender shall demonstrate the basis of such determination.

1.13. Reserved.

1.14. Use of Proceeds. The Borrower will use the proceeds of the Loans as follows: (i) on the Closing Date to repay in full all amounts outstanding under a certain demand promissory note dated March 11, 2003 made by the Borrower in favor of the Agent, in an original principal amount of \$6,000,000 (the "First Demand Note") and a second demand promissory note dated October 10, 2003 made by the Borrower in favor of the Agent in an original principal amount of \$6,500,000 (the "Second Demand Note" and, together with the First Demand Note, the "Demand Notes") and (ii) from and after the Closing Date, the proceeds of the Revolving Credit Loans shall be used to fund Permitted Acquisitions, ongoing working capital needs and other general corporate purposes of the Borrower and its Subsidiaries, including closing costs relating to this

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Agreement. On the Closing Date, the Agent shall return the Demand Notes to the Borrower marked "cancelled". The Borrower will not, and will not permit any Subsidiary to, directly or indirectly, use any part of such proceeds (i) for the purpose of making any Restricted Payment except with the prior written consent of the Agent, (ii) for the purpose of purchasing or carrying any margin stock within the meaning of Regulation U (12 CFR Part 221) of the Board of Governors of the Federal Reserve System, or (iii) for any other purpose which would violate any provision of this Agreement or of any applicable statute, regulation, order or restriction.

## Section 2. LIBOR Provisions.

2.1. LIBOR Option. Subject to the provisions of this Section 2, the Borrower shall have the right to have the interest on all or any portion of the principal amount of the Revolving Credit Loans based on a LIBOR Rate.

2.2. Certain Definitions. As used herein, the following terms have the following respective meanings:

Banking Day: (i) when used with respect to the LIBOR Option, a day on which dealings may be effected in deposits of US dollars in the London interbank foreign currency deposits market and on which banks may conduct business in London, England and Boston, Massachusetts, and (ii) when used with respect to the other provisions of this Agreement, any day excluding Saturday and Sunday and excluding any other day which shall be in Boston, Massachusetts, a legal holiday or a day on which banking institutions are authorized by law to close.

Board: the Board of Governors of the Federal Reserve System of the United States.

Legal Requirement: any requirement imposed upon the Agent or any Lender by any law of the United States of America or the United Kingdom or by any regulation, order, interpretation, ruling or official directive (whether or not having the force of law) of the Board, the Bank of England or any other board, central bank or governmental or administrative agency, institution or authority of the United States of America, the United Kingdom or any political subdivision of either thereof.

LIBOR Option: the option granted pursuant to this Section 2 to have the interest on all or any portion of the principal amount of the Loans based on a LIBOR Rate.

LIBOR Period: any period, selected as provided below in this Section 2, of 30, 60 or 90 days, commencing on any Banking Day; provided, however, that no LIBOR Period with respect to any LIBOR Portion shall extend beyond the Maturity Date. At the commencement of the LIBOR Period, the Agent shall notify the Borrower of the termination date of such LIBOR Period. If any LIBOR Period so selected would otherwise end on a date which is not a Banking Day, such LIBOR Period shall instead end on the next preceding or succeeding Banking Day as determined by the Agent in accordance with the then current banking practice in London. Each determination by the Agent of any LIBOR Period shall, in the absence of manifest error, be conclusive, and at the Borrower's request the Agent shall demonstrate the basis for such determination.

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**LIBOR Portion:** that portion of the Revolving Credit Loans specified in a LIBOR Request (including any portion of such Revolving Credit Loans which are being borrowed by the Borrower concurrently with such LIBOR Request) which is not less than \$100,000 and is an integral multiple of \$100,000, and which, as of the date of the LIBOR Request specifying such LIBOR Portion, has met the conditions for basing interest on the LIBOR Rate in subsection 2.3 hereof and the LIBOR Period of which has commenced and not terminated.

**LIBOR Premium:** With respect to the prepayment of any LIBOR Portion of any Revolving Credit Loans prior to the end of the applicable LIBOR Period, an amount equal to the product of (i) the excess, if any, of the original LIBOR Rate on the amount so prepaid over the LIBOR Rate of interest on Eurodollar deposits in effect on the date of such prepayment and having a maturity date approximating the last Banking Day of the applicable LIBOR Period, multiplied by (ii) the principal amount so prepaid, multiplied by (iii) a fraction, the numerator of which is the number of days remaining in the related LIBOR Period and the denominator of which is 360. If the result of clause (i) is less than or equal to zero, there shall be no LIBOR Premium.

**LIBOR Rate:** with respect to any LIBOR Portion for the related LIBOR Period, an interest rate per annum (rounded upwards, if necessary, to the next higher 1/8 of 1%) equal to the product of (a) the Base LIBOR Rate (as hereinafter defined) and (b) Statutory Reserves. For purposes of this definition, the term “**Base LIBOR Rate**” shall mean the rate (rounded to the nearest 1/8 of 1% or, if there is no nearest 1/8 of 1%, the next higher 1/8 of 1%) at which deposits of US dollars approximately equal in principal amount to the LIBOR Portion and for a maturity equal to the applicable LIBOR Period are offered to the Agent in the London interbank foreign currency deposits market at approximately 11:00 a.m., London time (or, if such rate is not then offered to the Agent, at the rate (rounded as provided above) at which deposits of US dollars approximately equal in principal amount to the LIBOR Portion and for a maturity equal to the applicable LIBOR Period are offered on the Telerate (page 3750) or any successor page), three (3) Banking Days prior to the commencement of such LIBOR Period, for delivery on the first day of such LIBOR Period. Each determination by the Agent of any LIBOR Rate shall, in the absence of manifest error, be conclusive, and at the Borrower’s request, the Agent shall demonstrate the basis for such determination. Promptly upon determining the LIBOR Rate for an applicable LIBOR Period, the Agent shall give written notice of such LIBOR Rate to the Borrower and, if requested by the Borrower, shall provide reasonable details demonstrating the basis for such LIBOR Rate determination.

**LIBOR Request:** notice in writing (or by telephonic communication confirmed by telex, telecopy or other facsimile transmission on the same day as the telephone request) from the Borrower to the Agent requesting that interest on a LIBOR Portion be based on the LIBOR Rate, specifying: (i) the first day of the LIBOR Period, (ii) the length of the LIBOR Period consistent with the definition of that term, and (iii) a dollar amount of the LIBOR Portion consistent with the definition of that term.

**Statutory Reserves:** a fraction (expressed as a decimal), the numerator of which is the number one and the denominator of which is the number one minus the aggregate of the maximum reserve percentages (including, without limitation, any marginal, special, emergency or supplemental reserves), expressed as a decimal, established by the Board and any other

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banking authority to which any Lender is subject for Eurocurrency Liabilities (as defined in Regulation D of the Board). Such reserve percentages shall include, without limitation, those imposed under such Regulation D. LIBOR Portions of the Revolving Credit Loans shall be deemed to constitute Eurocurrency Liabilities and as such shall be deemed to be subject to such reserve requirements without benefit of or credit for proration, exceptions or offsets which may be available from time to time to the Lenders under such Regulation D. Statutory Reserves shall be adjusted automatically on and as of the effective date of any change in any reserve percentage.

**LIBOR Tax:** in relation to any LIBOR Portion and the applicable LIBOR Rate, any tax, levy, impost, duty, deduction, withholding or other charges of whatever nature required by any Legal Requirement (i) to be paid by the Lenders and/or (ii) to be withheld or deducted from any payment otherwise required hereby to be made by the Borrower to the Lenders, provided that the term “**LIBOR Tax**” shall not include any taxes imposed upon the net income of the Lenders by the United States of America, the United Kingdom or any political subdivision thereof.

2.3. **Conditions for Basing Interest on the LIBOR Rate.** Upon the condition that:

- (a) The Agent shall have received a LIBOR Request from the Borrower, at least three (3) Banking Days prior to the first day of the LIBOR Period requested;
- (b) There shall have occurred no change in applicable law which would make it unlawful for the Agent to obtain deposits of US dollars in the London interbank foreign currency deposits market;
- (c) As of the date of the LIBOR Request and the first day of the LIBOR Period, there shall exist no Default or Event of Default; and
- (d) The Agent shall not have determined in good faith that it is unable to determine the LIBOR Rate in respect of the requested LIBOR Period or that it is unable to obtain deposits of US dollars in the London interbank foreign currency deposits market in the applicable amounts and for the requested LIBOR Period; then

the interest on the LIBOR Portion specified in the LIBOR Request during the LIBOR Period specified in the LIBOR Request will be based on the applicable LIBOR Rate.

2.4. **Indemnification for Funding and Other Losses.** Each LIBOR Request shall be irrevocable and binding on the Borrower, provided that the Borrower may specify in any such LIBOR Request a maximum LIBOR Rate which they will accept for the related LIBOR Period and the LIBOR Option elected in such LIBOR Request shall not become effective if the applicable LIBOR Rate determined by the Agent shall exceed such specified maximum. Without limiting the generality of subsection 2.5, the Borrower hereby agrees to indemnify the Agent and Lenders against any loss or expense incurred by the Agent or any Lender as a result of any failure on the part of the Borrower (so long as such failure is through no fault of the Agent or Lenders) to fulfill, on or before the date specified in any LIBOR Request, the applicable conditions set forth in this Agreement, including, without limitation, any loss (including loss of anticipated profits) or expense incurred by reason of the liquidation or redeployment of deposits or other funds acquired by the Agent or any Lender to fund or maintain the requested LIBOR

Portion when interest on such LIBOR Portion, as a result of such failure on the part of the Borrower, is not based on the applicable LIBOR Rate for the requested LIBOR Period.

2.5. Change in Applicable Laws, Regulations, etc. If any Legal Requirement shall make it unlawful for any Lender to fund through the purchase of US dollar deposits any LIBOR Portion, or otherwise to give effect to its obligations as contemplated hereby, or shall impose on any Lender any costs based on or measured by the excess above a specified level of the amount of a category of deposits or other liabilities of any Lender which includes deposits by reference to which the LIBOR Rate is determined as provided herein or a category of extensions of credit or other assets of any Lender which includes any LIBOR Portion, or shall impose on any Lender any restrictions on the amount of such a category of liabilities or assets which such Lender may hold, (a) the Lenders by notice thereof to the Borrower may terminate the LIBOR Option, (b) any LIBOR Portion subject thereto shall immediately bear interest thereafter at the rate provided for (with respect to Revolving Credit Loans not subject to a LIBOR Option) in subsection 1.4, and (c) the Borrower shall indemnify the Lenders against any loss, penalty or expense incurred by the Lenders by reason of the liquidation or redeployment of deposits or other funds acquired by the Lenders, to fund or maintain such LIBOR Portion if and to the extent such loss, penalty or expense is caused by the nature of the business of the Borrower and its Subsidiaries or the locations and jurisdictions where the Borrower or its Subsidiaries are operating. Promptly after becoming aware of the occurrence of any event or condition described in this subsection 2.5, the affected Lender(s) shall give written notice thereof to the Borrower and shall provide reasonable details setting forth the basis for its determination and such other information as shall be reasonably requested by Borrower to confirm the affected Lenders' determination and computations. A certificate of an officer of such Lender setting forth the amount of such loss, penalty or expense, and the basis therefor shall, in the absence of manifest error, be conclusive.

2.6. LIBOR Taxes. It is the understanding of the Borrower and the Lenders that the Lenders shall receive payments of amounts of principal of and interest on the Notes (including but not limited to interest with respect to the LIBOR Portions from time to time subject to a LIBOR Option) free and clear of, and without deduction for, any LIBOR Taxes. If (a) any Lender shall be subject to any such LIBOR Tax in respect of any such LIBOR Portion or part thereof or (b) the Borrower shall be required to withhold or deduct any such LIBOR Tax from any such amount, and (c) such LIBOR Tax shall not have existed as of the date of the applicable LIBOR Request, the LIBOR Rate applicable to such LIBOR Portion shall be adjusted by any such Lender to reflect all additional costs incurred by such Lender in connection with the payment by such Lender or the withholding by the Borrower of such LIBOR Tax and the Borrower shall provide each such Lender with a statement detailing the amount of any such LIBOR Tax actually paid by the Borrower. Determination by any affected Lender of the amount of such costs shall, in the absence of manifest error, be conclusive. Promptly upon obtaining knowledge of any such circumstance set forth above, the Lender shall give written notice of such determination to the Borrower and shall provide reasonable details and facts demonstrating the basis for its determination and shall provide such other information as shall be reasonably requested by the Borrower to permit the Borrower to confirm Lender's computations and determination. If after any such adjustment, any part of any LIBOR Tax paid by a Lender is subsequently recovered by such Lender, the Lender shall reimburse the Borrower to the extent of the amount so recovered. A certificate of an officer of the Lender setting forth the amount of

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such recovery and the basis therefor shall, in the absence of manifest error, be conclusive, and at the Borrower's request, the Lender shall demonstrate the basis of such determination.

### Section 3. Representations and Warranties.

In order to induce the Lenders to enter into this Agreement and to make the Loans provided for hereunder, the Borrower makes the following representations and warranties, which shall survive the execution and delivery hereof and of the Notes, and which shall be re-made by the Borrower each time the Borrower submits a quarterly Compliance Certificate pursuant to subsection 5.1.

3.1. Organization, Standing, etc. of the Borrower. The Borrower is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware, and has all requisite corporate power and authority to own and operate its properties, to carry on its business as now conducted, to enter into this Agreement, the Loan Documents to which it is a party and all other documents to be executed by it in connection with the transactions contemplated hereby, to execute the Pledge Agreement and deliver the Pledged Collateral thereunder, to issue the Notes, and to carry out the terms hereof and thereof.

3.2. Subsidiaries. Schedule 3.2 attached hereto correctly sets forth as to each Subsidiary, its name, the jurisdiction of its incorporation or other formation, the number of shares of its capital stock or other beneficial interest of each class outstanding and the number of such outstanding shares or other beneficial interests owned by the Borrower and/or its Subsidiaries. Each such Subsidiary is a corporation or other entity duly organized, validly existing and, in good standing under the laws of the jurisdiction of its incorporation or other formation, and has all requisite power and authority to own and operate its properties, to carry on its business as now conducted and to enter into such of the Loan Documents, if any, to be executed by it in connection with the transactions contemplated hereby. All of the outstanding capital stock or other beneficial interests of each Subsidiary is validly issued, fully-paid and nonassessable, and is owned by the Borrower or its Subsidiaries as specified in Schedule 3.2, in each case free of any mortgage, pledge, lien, security interest, charge, option or other encumbrance other than Permitted Liens. The Borrower or a Subsidiary of Borrower own all of the outstanding capital stock or other beneficial interest of each of its Subsidiaries which is not a US Subsidiary free and clear of any mortgage, pledge, lien, security interest, charge, option or other encumbrance.

3.3. Qualification. The Borrower and its Subsidiaries are duly qualified or licensed and in good standing as foreign corporations or other entities duly authorized to do business in each jurisdiction in which the character of the properties owned or the nature of the activities conducted makes such qualification or licensing necessary, except where the failure to be so qualified or licensed is not reasonably likely to have a Material Adverse Effect.

### 3.4. Financial Information; Disclosure; Solvency Certificate; Opening Balance Sheet; Projections, etc.

(a) The Borrower has furnished the Lenders (a) with the financial statements and other reports requested by the Agent, and has furnished the Pro-forma Compliance Certificate

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referred to in subsection 1.11, the Opening Balance Sheet and the Solvency Certificate referred to below in this subsection 3.4. Such financial statements and Opening Balance Sheet have been or will be prepared in accordance with GAAP applied on a consistent basis and such financial statements and Opening Balance Sheet fairly present in all material respects the financial position and results of operations of the Borrower and its Subsidiaries on a consolidated basis as of the dates and for the periods indicated. Since December 31, 2002, there has not occurred any event, circumstance or condition which has had or is reasonably likely to have a Material Adverse Effect.

(b) Neither this Agreement, the Opening Balance Sheet, the Solvency Certificate, nor any financial statements, reports or other documents or certificates furnished to the Lenders by the Borrower in connection with the transactions contemplated hereby or thereby contain any untrue statement of a material fact or omit to state any material fact necessary to make the statements herein or therein contained not misleading, in light of the circumstances under which they are made, except to the extent that such financial statements, reports or other documents or certificates expressly relate to an earlier date or are affected by the consummation of the transactions contemplated by this Agreement.

(c) Without limiting the scope of the Solvency Certificate in the form attached hereto as Exhibit D (the "Solvency Certificate") delivered by the Borrower to the Lenders on the Closing Date, none of the Loans will render the Borrower unable to pay its debts as they become due; the Borrower is not contemplating either the filing of a petition by it under any state or federal bankruptcy or insolvency laws or the liquidation of all or a major portion of its property; and the Borrower does not have any knowledge of any person contemplating the filing of any such petition against it. The Borrower is solvent (within the meanings of all applicable fraudulent transfer or fraudulent conveyance statutes and acts, the federal bankruptcy code and all other applicable laws) and has assets having a fair value in excess of the amount required to pay its probable liabilities on its existing debts (including the Loans and contingent debts) as they become absolute and matured, and has access to adequate capital for the conduct of its business and the ability to pay its debts from time to time incurred therewith as such debts mature.

3.5. Licenses; Franchises, etc. The Borrower and its Subsidiaries have all material authorizations, licenses, permits, approvals and franchises of any public or governmental regulatory body necessary for the conduct of the business of the Borrower and its Subsidiaries as now conducted except where the failure to have the same is not reasonably likely to have a Material Adverse Effect (such authorizations, licenses, permits and franchises, together with any extensions or renewals thereof, being herein sometimes referred to collectively as the "Licenses"). All of such Licenses are validly issued and in full force and effect and the Borrower and its Subsidiaries have fulfilled and performed all of their obligations with respect thereto and have full power and authority to operate thereunder.

3.6. Material Agreements. The Borrower's most recent form 10-K filed with the SEC, as supplemented by the Borrower's forms 10-Q and 8-K filed with the SEC thereafter, accurately and completely lists each material agreement and instrument required to be disclosed therein, including but not limited to any material leases, employment agreements or other agreements with management of the Borrower or any Subsidiary, stockholder agreements and all

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other material agreements required to be disclosed therein. Each of the Borrower and its Subsidiaries (as applicable) and, to the best of the Borrower's knowledge, all third parties to such material agreements, are in material compliance with the terms thereof, and no default or event of default by the Borrower or, to the Borrower's knowledge, any other party thereto, exists thereunder.

3.7. Tax Returns and Payments. The Borrower and its Subsidiaries have filed all tax returns required by law to be filed and have paid all taxes, assessments and other governmental charges levied upon any of their respective properties, assets, income or franchises, other than those (i) not yet delinquent, (ii) not material in aggregate amount, (iii) being or about to be contested as provided in subsection 5.4 and/or (iv) not reasonably likely to have a Material Adverse Effect. The charges, accruals and reserves on the books of the Borrower and its Subsidiaries in respect of their respective taxes are adequate in the opinion of the Borrower, and the Borrower knows of no unpaid assessment for additional taxes or of any basis therefor other than those which in the aggregate, are not reasonably likely to have a Material Adverse Effect.

3.8. Indebtedness, Liens and Investments, etc. Other than intercompany Indebtedness, Schedule 3.8 attached hereto correctly describes, as of the date or dates indicated therein, (a) all outstanding Indebtedness of the Borrower and its Subsidiaries in respect of borrowed money, Capital Leases and the deferred purchase price of property; (b) all existing mortgages, liens and security interests in respect of any property or assets of the Borrower or its Subsidiaries; (c) all outstanding investments, loans and advances of the Borrower and its Subsidiaries; and (d) all existing guarantees by the Borrower and its Subsidiaries.

3.9. Real Estate Owned and Leased; Title to Properties; Liens. The Borrower and its Subsidiaries have good and marketable title to or leasehold interests in all of their respective properties and assets, and none of such properties or assets is subject to any mortgage, pledge, lien, security interest, charge or encumbrance except the existing mortgages and security interests, if any, referred to in Schedule 3.8 attached hereto and Permitted Liens. The real property owned by the Borrower and/or its Subsidiaries and the real property leased by the Borrower and/or its Subsidiaries (the "Real Estate Leases") are listed on Schedule 3.9 hereto. The Borrower and its Subsidiaries enjoy quiet possession under all Real Estate Leases to which they are parties as lessees, and all of such Real Estate Leases are valid, subsisting and in full force and effect.

3.10. Litigation, etc. Except as may be set forth on Schedule 3.10, there is no action, proceeding or investigation pending or threatened (or any basis therefor known to the Borrower) (i) which questions the validity of this Agreement, the Notes, the Loan Documents, or the other documents executed in connection herewith or therewith, or any action taken or to be taken pursuant hereto or thereto, or (ii) which if adversely determined against the Borrower, would result in liability of the Borrower in an amount which exceeds \$250,000.

3.11. Authorization; Compliance with Other Instruments. The execution, delivery and performance of this Agreement, the Notes and the other Loan Documents, have been duly authorized by all necessary action on the part of the Borrower and its Subsidiaries party thereto, will not result in any violation of or be in conflict with or constitute a default under any term of the charter or by-laws of the Borrower or any Subsidiary party to any of the Loan Documents, or

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of any material agreement, or any material instrument, judgment, decree, order, statute, rule or governmental regulation applicable to the Borrower or any Subsidiary party to any of the Loan Documents or to which the Borrower or any such Subsidiary is a party, as the case may be, or result in the creation of any mortgage, lien, charge or encumbrance upon any of the properties or assets of the Borrower or any such Subsidiary pursuant to any such term, other than the liens created under the Loan Documents. No consent of stockholders of the Borrower is necessary in order to authorize the execution, delivery or performance of this Agreement or the Loan Documents, or the issuance of the Notes other than those consents which have been obtained as of the Closing Date. Neither the Borrower nor any Subsidiary is in violation of any term of its charter or by-laws, or of any material term of any material agreement or instrument to which it is a party, or, of any judgment, decree, order, statute, rule or governmental regulation applicable to it which is reasonably likely to have a Material Adverse Effect.

3.12. Eligible Accounts. The Eligible Accounts included the calculation of minimum Working Capital are bona fide existing payment obligations of Account Debtors created by the sale or lease and delivery of Inventory or the rendition of services to such Account Debtors in the ordinary course of Borrower's and/or its Subsidiaries' business, owed to Borrower and/or such Subsidiaries without defenses, disputes, offsets, counterclaims, or rights of return or cancellation (other than normal return policies) known to the Borrower or such Subsidiary. As to each Account that is identified by Borrower as an Eligible Account in a Compliance Certificate submitted to Agent, such Account is not excluded as ineligible by virtue of one or more of the excluding criteria set forth in the definition of Eligible Accounts.

3.13. Eligible Inventory. All Eligible Inventory included in the calculation of minimum Working Capital is of good and merchantable quality. As to each item of Inventory that is identified by Borrower as Eligible Inventory in a Compliance Certificate submitted to Agent, such Inventory is located at one of the locations set forth on Schedule 3.13 or at such other location identified in writing by Borrower to Agent, or is in transit from one such location to another such location and is not otherwise excluded as ineligible by virtue of one or more of the excluding criteria set forth in the definition of Eligible Inventory.

3.14. Governmental and Other Third Party Consents. Except for such filings or notices which have already been made or are being made on or prior to the Closing Date, none of the Borrower or any Subsidiary which is a party to any of the Loan Documents is required to obtain any order, consent, approval or authorization of (collectively, the "Consents"), or required to make any declaration or filing with, any governmental unit or other regulatory agency or authority (other than the SEC) in connection with (a) the execution and delivery of this Agreement and the issuance and delivery of the Notes pursuant hereto, (b) the execution and delivery of the Loan Documents, (c) the exercise by the Agent of any rights and remedies following an Event of Default (other than the filing of UCC financing statements) or (d) for the purpose of maintaining in full force and effect each of the Licenses and enabling the Borrower to operate thereunder. To the Borrower's knowledge, no appeal, reconsideration, or rehearing or other review of any Consent has been taken or instituted.

3.15. Regulation U, etc. Neither the Borrower nor any Subsidiary owns or has any present intention of acquiring any margin stock within the meaning of Regulation U (12 CFR Part 221) of the Board of Governors of the Federal Reserve System (herein called "margin

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stock"). None of the proceeds of the Loans will be used, directly or indirectly, by the Borrower or any Subsidiary for the purpose of purchasing or carrying, or for the purpose of reducing or retiring any indebtedness which was originally incurred to purchase or carry, any margin stock or for any other purpose which might constitute the transactions contemplated hereby a "purpose credit" within the meaning of said Regulation U, or cause this Agreement to violate Regulation U, Regulation T, Regulation X, or any other regulation of the Board of Governors of the Federal Reserve System or the Securities Exchange Act of 1934, as amended. If requested by the Agent, the Borrower will promptly furnish the Agent with a statement in conformity with the requirements of Federal Reserve Form U-1 referred to in said Regulation U.

3.16. Employee Retirement Income Security Act of 1974. Schedule 3.16 attached hereto sets forth a true, correct and complete list of all employee benefit plans and arrangements of the Borrower, including, without limitation, all pension, profit sharing or similar plans providing for a program of deferred compensation to any employee or any plan subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). The terms used in this subsection 3.16 and in subsection 5.1 and subsection 6.10 of this Agreement shall have the meanings assigned thereto in the applicable provisions of ERISA and the Internal Revenue Code of 1986, as amended (the "IRC"), and the term "Affiliated Company" shall mean the Borrower and all corporations, partnerships, trades or businesses (whether or not incorporated) which constitute a controlled group of corporations with the Borrower, a group of affiliated service group or other affiliated group, within the meaning of Section 414(b), Section 414(c), Section 414(m) or Section 414(o), respectively, of the IRC, or Section 4001 of ERISA. The Borrower and each employee benefit plan sponsored by an Affiliated Company and, to the best of the Borrower's knowledge, each multi-employer plan (as defined in Section 4001(a)(3) of ERISA) to which any Affiliated Company makes contributions, are in material compliance with applicable provisions of ERISA and the IRC. No Affiliated Company has incurred any material liability to the Pension Benefit Guaranty Corporation ("PBGC") or any employee benefit plan on account of any failure to meet the contribution requirements of any such plan, minimum funding requirements or prohibited transactions under ERISA or the IRC, termination of a single employer plan, partial or complete withdrawal from a multi-employer plan, or the insolvency, reorganization or termination of any multi-employer plan, and no event has occurred or conditions exist which present a material risk that any Affiliated Company will incur any material liability on account of any of the foregoing circumstances. The consummation of the transactions contemplated by this Agreement will not result in any prohibited transaction under ERISA or the IRC for which an exemption is not available.

3.17. Reserved.

3.18. Environmental Matters. Neither the Borrower nor any US Subsidiary has ever caused or permitted any Hazardous Material to be disposed of on or under any real property owned, leased or operated by the Borrower and/or any US Subsidiary in material violation of applicable law and no such real property has ever been used (by the Borrower and/or any US Subsidiary or, to the Borrower's knowledge, by any other Person) as (a) a disposal site or permanent storage site for any Hazardous Material or (b) a temporary storage site for any Hazardous Material, in each instance in material violation of applicable law. Except as may be set forth on Schedule 3.18, the Borrower has been issued and is in compliance with all material permits, licenses, approvals and other authorizations relating to environmental matters and

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necessary or desirable for its business, and has filed all notifications and reports relating to chemical substances, air emissions, underground storage tanks, effluent discharges and Hazardous Material waste storage, treatment and disposal required in connection with the operation of its businesses. All Hazardous Materials used or generated by the Borrower or any US Subsidiary or any business merged into or otherwise acquired by the Borrower or any US Subsidiary have been generated, accumulated, stored, transported, treated, recycled and disposed of in compliance with all applicable laws and regulations. Neither the Borrower nor any of its US Subsidiaries has any liabilities with respect to Hazardous Materials, and to the knowledge of the Borrower, no facts or circumstances exist which could give rise to liabilities with respect to the violation (whether by the Borrower or any other Person) of any Environmental Law and/or Hazardous Materials, which is reasonably likely to have a Material Adverse Effect.

3.19. Patents, Trademarks, Intellectual Property. The Borrower owns or otherwise has rights to use all of its material Proprietary Rights and such Proprietary Rights are adequate for the conduct of its business as now conducted, without any known conflict with the rights or claimed rights of others.

3.20. Chief Executive Offices Principal Place of Business. The chief executive office and principal place of business of the Borrower is, and at all times since April, 1997, has been, located at 84 October Hill Road, Holliston, Massachusetts 01746. The Borrower shall not make any change in the location of its chief executive office without giving the Agent at least thirty (30) days' prior written notice thereof.

3.21. Trade and Other Names. The exact legal name of the Borrower is Harvard Bioscience, Inc. Except as set forth on Schedule 3.21 attached hereto, during the last five years ending on the date hereof, the Borrower has not conducted any business under any other name (including any d/b/a, trade or assumed name).

3.22. Securities Laws. The Borrower is not a "holding company" or a "subsidiary company" of a "holding company", or an "affiliate" of a "holding company" or of a "subsidiary company" of a "holding company", as such terms are defined in the Public Utility Holding Company Act of 1935. The Borrower is not an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940.

3.23. Loan Documents. The representations and warranties of the Borrower and its Subsidiaries contained herein and in the other Loan Documents, are true and correct in all material respects, and the Borrower and its Subsidiaries thereto are in compliance in all material respects with the terms of the Loan Documents to which each is a party.

3.24. Depository and Other Accounts. Schedule 3.24 attached hereto lists all banks and other financial institutions and depositories at which the Borrower and/or any US Subsidiary maintains (or has caused to be maintained) or will maintain deposit accounts, operating accounts, trust accounts, tax or trust receivable accounts or other accounts of any kind or nature into which funds of the Borrower and/or each US Subsidiary (including funds in which the Borrower or any US Subsidiary maintains a contingent or residual interest) are from time to time deposited, and such Schedule 3.24 correctly identifies the name and address of each depository, the name in

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which each account is held, the purpose of the account and the complete account number. The Borrower will notify the Agent simultaneously with the submission of the quarterly Compliance Certificate, and thereby supplement such Schedule 3.24 as new accounts are established by the Borrower and/or any US Subsidiary. The Borrower hereby authorizes the Agent to attach such supplements to Schedule 3.24 from time to time delivered by the Borrower to Schedule 3.24 attached hereto.

3.25. Burdensome Obligations; Future Expenditures. To the Borrower's knowledge, neither the Borrower nor any of its Subsidiaries is party to or bound by any agreement (including but not limited to the Material Agreements listed on the Borrower's most recent form 10-K filed with the SEC, as supplemented by the Borrower's forms 10-Q and 8-K filed with the SEC thereafter), instrument, deed or lease or is subject to any charter, by-law or other restriction, commitment or requirement which, in the opinion of the management of such Person, is so unusual or burdensome as in the foreseeable future to have or cause or create a material risk of having or causing a Material Adverse Effect. Neither the Borrower nor any of its Subsidiaries anticipate that the future expenditures, if any, by the Borrower and its Subsidiaries needed to meet the provisions of any federal, state or foreign governmental statutes, orders, rules or regulations will be so burdensome as to have or cause, or create a material risk of having or causing, a Material Adverse Effect.

3.26. Insurance Policies. Schedule 3.26 lists all material insurance policies of any kind or nature maintained by or on behalf of the Borrower, as well as a summary of the principal terms of such insurance. All such insurance policies, together with any insurance policies obtained by the Borrower after the Closing Date, are or will be in full force and effect and provide coverage of such risks and in such amounts as is customarily maintained for businesses of the scope and size of the Borrower.

3.27. Employment and Labor Agreements. Schedule 3.27 accurately and completely describes each employment agreement, agreement for the payment of deferred compensation, severance or so-called change in control agreement covering executive officers of the Borrower, as well as all collective bargaining agreements or other labor agreements covering any employees of the Borrower.

#### Section 4. Conditions of Closing/Lending.

4.1. Conditions Precedent to Initial Loan on the Closing Date. The obligation of the Agent and Lenders to execute this Agreement and the obligations of the Lenders to make the initial Loan hereunder is subject to the conditions set forth below:

(a) This Agreement, all related Schedules, the Pledge Agreement, the Subsidiary Guaranties, and such other Loan Documents, instruments, schedules, exhibits or certificates as shall be designated by the Agent shall have been executed by the Borrower and the other parties thereto and delivered to the Agent;

(b) The Pro-forma Compliance Certificate, based on the Borrower's September 30, 2003 financial statements shall have been delivered to the Agent;

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(c) The Agent shall have received all other information and documents which the Agent or its counsel reasonably required in connection with the transactions contemplated by this Agreement, such information and documents where appropriate to be certified by the proper officers of the Borrower, its Subsidiaries or governmental authorities.

(d) The Agent shall have received from the Borrower a Solvency Certificate, which shall be satisfactory in all respects in the sole discretion of the Agent;

(e) The Agent shall have received satisfactory evidence that the Borrower is taking all appropriate steps to terminate the financing statements identified on Schedule 4.1(e) hereto;

(f) The Agent shall have received the favorable opinion of Goodwin Procter LLP in form and substance reasonably satisfactory to the Agent and dated as of the Closing Date;

(g) The Agent shall have received a completed Compliance Certificate, current through the immediately preceding quarter-end showing the Working Capital in an amount equal to or greater than the Revolving Credit Loans requested on the Closing Date;

(h) The Borrower shall have paid in full all invoiced costs and expenses (including reasonable attorneys' fees) incurred on behalf of the Agent in connection with this Agreement, which amounts may be paid with the proceeds of the initial Revolving Credit Loan;

(i) The Borrower shall have paid to the Agent the full amount of the Origination Fee set forth in subsection 1.5(c) and the Agent Fee set forth in subsection 1.5(d) of this Agreement, which amounts may be paid with the proceeds of the initial Revolving Credit Loan;

(j) The Agent shall have received a certificate dated as of the Closing Date, signed by the Chief Executive Officer, Chief Financial Officer or such other executive officer of Borrower as may be reasonably acceptable to Agent, certifying that (i) the conditions precedent specified in this subsection 4.1 have been fulfilled; (ii) the representations and warranties of the Borrower and its Subsidiaries contained in this Agreement and in each of the other Loan Documents and the schedules to this Agreement delivered as of the Closing Date, are true, complete and correct as of the Closing Date; (iii) no event or condition has occurred which is reasonably likely to have a Material Adverse Effect; and (iv) as of the Closing Date there is no Default or Event of Default under this Agreement;

(k) The Agent shall have received evidence of insurance coverage for the Borrower and each US Subsidiary in compliance with subsection 5.3.

Without limiting any other provision of this Agreement, each of the opinions, agreements, certificates, and other conditions precedent listed above must be reasonably satisfactory in all respects to the Agent and its counsel in order for such condition precedent to be deemed satisfied.

4.2. Reserved.

4.3. Conditions Precedent to Loans on and After the Closing Date.

(a) No Default; Representations and Warranties, etc. On the Closing Date and on the effective date of each Compliance Certificate submitted by the Borrower hereunder: (i) the representations and warranties of the Borrower and its Subsidiaries contained in this Agreement and in each of the other Loan Documents shall be true and correct in all material respects on and as of such dates as if they had been made on such dates (except to the extent that such representations and warranties expressly relate to an earlier date or are affected by the consummation of transactions permitted under this Agreement and except that references to financial statements shall be deemed to refer to the most recent audited financial statements delivered to the Agent pursuant to Section 5.1(a) hereof); (ii) the Borrower shall be in compliance in all material respects with all of the terms and provisions set forth herein on its part to be observed or performed on or prior to such dates; (iii) after giving effect to any Loans to be made on such dates, no Default or Event of Default shall have occurred and be continuing; and (iv) since the date of the most recently delivered audited financial statements of the Borrower and its Subsidiaries, no event or condition shall have occurred or exist which is reasonably likely to have a Material Adverse Effect. Each request for a Loan hereunder shall constitute a representation and warranty by the Borrower to the Agent and Lenders that all of the conditions specified in this subsection 4.3(a), have been and continue to be satisfied in all material respects as of the date of each such Loan (except the Borrower and its Subsidiaries shall only be required to confirm their representations and warranties on a quarterly basis in connection with the delivery of a Compliance Certificate). As of the date of each request for a Loan hereunder, the Borrower shall not have knowledge that that it is in violation of subsection 7.3 hereof. The Lenders hereby agree that the Borrower shall be permitted, from time to time, to supplement each of the Schedules provided to the Agent in connection with the execution and delivery of this Agreement and the other Loan Documents with respect to any matter arising after the Closing Date which is not otherwise prohibited by the terms of this Agreement (or with respect to which the Agent has otherwise consented) and which is necessary in order to render the representations and warranties of the Borrower and its Subsidiaries given in the Loan Documents true and correct, provided that any such supplements shall not be required more than once every year and such Schedules shall be deemed automatically updated by information contained in each Compliance Certificate and all SEC filings without the need for any further action on the part of the Borrower or any Subsidiary.

(b) The Borrower shall have paid the fees specified in subsection 1.5 and all other amounts (including reimbursement for legal fees) owing from the Borrower to the Agent and Lenders from and after the Closing Date in accordance with the terms hereof.

(c) Except in connection with Permitted Acquisitions in accordance with subsection 6.17.B, if any portion of the requested Loan is to be used to fund an acquisition, at least five (5) Banking Days prior to the consummation of any such acquisition, the Borrower shall have delivered to the Agent a certificate, signed by the Chief Executive Officer or Chief Financial Officer of the Borrower, certifying that such acquisition is a Permitted Acquisition under subsection 6.17.A.

(d) Within thirty (30) days of the Closing Date, the Borrower shall deliver to the Agent evidence of insurance coverage for each Foreign Subsidiary in compliance with subsection 5.3.

(e) Within forty-five (45) days of the Closing Date, the Borrower shall deliver to the Agent evidence of the termination of the financing statements identified on Schedule 4.1(e).

Section 5. Affirmative Covenants.

So long as any of the Loans shall remain available to the Borrower, and until the principal of and interest on the Notes and all fees due hereunder and all of the Borrower's obligations to the Agent and Lenders hereunder shall have been paid in full, the Borrower agrees that:

5.1. Financial Statements, Field Audits etc. The Borrower will furnish or cause to be furnished to the Agent:

(a) Within one hundred twenty (120) days after the end of each fiscal year of the Borrower, (i) the audited consolidated balance sheets of the Borrower and its Subsidiaries as at the end of such year, and (ii) the related audited consolidated statements of income and surplus and cash flows for such year, setting forth in comparative form with respect to such consolidated financial statements figures for the previous fiscal year, all in reasonable detail, together with the opinion thereon of independent public accountants selected by the Borrower with an established national or regional reputation, which opinion shall be in a form generally recognized as unqualified and shall state that such financial statements have been prepared in accordance with GAAP applied on a basis consistent with that of the preceding fiscal year (except for changes, if any, which shall be specified and approved in such opinion) and that the audit by such accountants in connection with such financial statements has been made in accordance with generally accepted auditing standards related to reporting;

(b) within forty-five (45) days after the end of each of the first three quarterly accounting periods and within sixty (60) days after the end of the fourth quarterly accounting period in each fiscal year of the Borrower, (i) (A) the unaudited consolidated and consolidating balance sheets and related statements of income and surplus for such period and for the period from the beginning of the current fiscal year to the end of such period and (B) consolidated cash flows for the period from the beginning of the current fiscal year to the end of such period, all in reasonable detail and signed by the Chief Financial Officer of the Borrower and (ii) a compliance certificate substantially in the form of Exhibit A attached hereto (the "Compliance Certificate") signed by the Chief Executive Officer, or the Chief Financial Officer, or such other officer of the Borrower as may be acceptable in the sole discretion of the Agent, certifying that the representations and warranties of the Borrower and its Subsidiaries contained herein and in each of the other Loan Documents (as supplemented and updated as provided in subsection 4.3(a) hereof) are true, complete and correct in all material respects as of such date, that no event or condition which constitutes a Default or Event of Default exists, and demonstrating the calculations used to determine compliance with the financial covenants listed in such Compliance Certificate;

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(c) As soon as available, but in any event within 45 days after the end of each quarterly accounting period in each fiscal year of the Borrower, (i) a quarterly summary accounts receivable aging report, in such form as Agent may from time to time reasonably require and (ii) reports detailing such other information as Agent may from time to time reasonably require. All of the reports listed in the foregoing clauses (i) and (ii) shall be in reasonable detail and current through at least the close of business for the immediately preceding quarter and certified by the Chief Executive Officer, or the Chief Financial Officer or such other officer of the Borrower as may be acceptable in the sole discretion of the Agent;

(d) On or before January 30 of each fiscal year (commencing January 30, 2004), an annual budget prepared on a quarterly basis for the Borrower and its Subsidiaries for the then current fiscal year, (displaying anticipated balance sheets and statements of income and surplus and cash flows); and promptly upon preparation thereof, any amendments or revisions thereto or any other significant budgets which the Borrower prepares;

(e) Promptly upon their becoming available, copies of all 10-Ks and 10-Qs and other periodic or special reports filed by the Borrower or any Subsidiary with the SEC, or any such periodic or special reports filed with any other federal, state or local governmental agency or authority, and copies of any material notices and other material communications from the SEC or from any other federal, state or local governmental agency or authority which specifically relate to the Borrower or any Subsidiary, except in each case for those reports, notices and other communications required by such governmental agencies to be kept confidential;

(f) Forthwith upon any officer of the Borrower obtaining knowledge of any condition or event which constitutes a Default or Event of Default, a certificate signed by such officer specifying in reasonable detail the nature and period of existence thereof and what action the Borrower has taken or proposes to take with respect thereto;

(g) Promptly upon receipt thereof, copies of all audit reports and management letters, if any, submitted to the Borrower by independent public accountants in connection with each interim or special audit of the books of the Borrower made by such accountants and, upon request by the Agent, copies of all financial statements, reports, notices and proxy statements, if any, sent by the Borrower to its shareholders;

(h) Immediately, after the Borrower obtains knowledge thereof, notice of: (i) the institution or commencement of any action, suit, proceeding or investigation by or against or affecting the Borrower or any of its Subsidiaries or any of its or their assets which, if determined adversely to the Borrower, is reasonably likely to have a Material Adverse Effect; (ii) any litigation or proceeding instituted by or against the Borrower, or any judgment, award, decree, order or determination relating to any litigation or proceeding involving the Borrower which is reasonably likely to have a Material Adverse Effect; (iii) the imposition or creation of any lien against any asset of the Borrower except those permitted by this Agreement; (iv) any reportable event under Section 4043 of ERISA for which the notice requirement is not waived by the regulations thereunder, together with a statement of the Borrower's chief executive officer, chief financial officer and/or controller as to the details thereof and a copy of its notice thereof to the PBGC; and (v) any known release or threat of release of Hazardous Materials on, onto or under

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any site owned or operated by the Borrower or any Subsidiary in material violation of applicable law or the incurrence of any expense or loss in connection therewith or upon the Borrower's obtaining knowledge of any investigation, action or the incurrence of any expense or loss by any governmental authority in



connection with the containment or removal of any Hazardous Materials for which expense or loss the Borrower or any Subsidiary may be liable or potentially responsible;

(i) Promptly notify Agent of any material adverse change in the Borrower's financial condition or of any condition or event which constitutes a Default or an Event of Default under this Agreement or any other Loan Document or any other event or condition which has had or is reasonably likely to have a Material Adverse Effect;

(j) The Borrower will permit the Agent to inspect and audit the books and records and any of the properties or assets of the Borrower and its Subsidiaries during normal business hours and, prior to the occurrence of an Event of Default, upon reasonable notice to the Borrower and any such Subsidiary, each such inspection to be at the Borrower's expense, provided, that the Borrower shall not be responsible for the expenses of such inspections and audits more than two times per fiscal year prior to the occurrence of a Default or Event of Default; and

(k) Promptly upon request therefor, all such other information regarding the business, affairs and condition of the Borrower as the Agent may from time to time reasonably request.

5.2. Legal Existence; Licenses; Compliance with Laws. The Borrower will, and will cause each Subsidiary to: maintain its corporate or other organizational existence and business, except as otherwise permitted pursuant to Section 6.7 hereof; maintain all properties which are reasonably necessary for the conduct of such business, now or hereafter owned, in good repair, working order and condition; take all actions necessary to maintain and keep in full force and effect its rights and franchises, including the Licenses, unless the failure to do so is not reasonably likely to have a Material Adverse Effect; maintain at all times proper books of record and account in which full, true and correct entries shall be made of its transactions in accordance with GAAP and set aside on its books from its earnings for each fiscal year all such proper reserves as shall be required in accordance with GAAP in connection with its business; and comply with all applicable statutes, rules, regulations and orders of, and all applicable restrictions imposed by, all governmental authorities in respect of the conduct of its business and the ownership of its properties in states in which the Borrower desires to continue business operations, except where the failure to comply is not reasonably likely to have a Material Adverse Effect; provided that neither the Borrower nor any Subsidiary shall be required by reason of this subsection to comply therewith at any time while the Borrower or such Subsidiary shall be contesting its obligations to do so in good faith by appropriate proceedings promptly initiated and diligently conducted, and if it shall have set aside on its books such reserves, if any, with respect thereto as are required by GAAP and deemed adequate by the Borrower and its independent public accountants.

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### 5.3. Insurance.

(a) Business Interruption Insurance. Each of the Borrower and its Subsidiaries shall be covered by or maintain with financially sound and reputable insurers insurance related to interruption of business, either for loss of revenues or for extra expense, in the manner customary for businesses of similar size engaged in similar activities.

(b) Property Insurance. Each of the Borrower and its Subsidiaries shall keep its assets which are of an insurable character insured by financially sound and reputable insurers against theft and fraud and against loss or damage by fire, explosion and hazards insured against by extended coverage to the extent, in amounts and with deductibles which are customary for businesses of similar size engaged in similar activities.

(c) Liability Insurance. Each of the Borrower and its Subsidiaries shall be covered by or maintain with financially sound and reputable insurers insurance against liability for hazards, risks and liability to persons and property to the extent, in amounts and with deductibles which are customary for businesses of similar size engaged in similar activities.

(d) Key Person Life Insurance. The Borrower shall maintain at all times "Key Person" life insurance in the amount of at least \$1,000,000 each on the lives of Chane Graziano and David Green.

(e) Requirements; Proceeds. Each insurance policy maintained pursuant to this subsection 5.3 shall provide that the Agent shall be notified of any proposed cancellation of such policy at least thirty (30) days in advance of such proposed cancellation. Upon the request of the Agent, copies of all such policies shall be delivered to the Agent. All insured losses under any policy of insurance will be adjusted by the insurer with, and paid to, the Borrower.

5.4. Payment of Taxes. The Borrower will, and will cause each Subsidiary to, pay and discharge promptly as they become due and payable all taxes, assessments and other governmental charges or levies imposed upon it or its income or upon any of its properties or assets, or upon any part thereof, as well as all lawful claims of any kind (including claims for labor, materials and supplies) which, if unpaid, might by law become a lien or a charge upon its property; provided that neither the Borrower nor any Subsidiary shall be required to pay any such tax, assessment, charge, levy or claim if the amount, applicability or validity thereof shall currently be contested in good faith by appropriate proceedings promptly initiated and diligently conducted and if the Borrower or such Subsidiary, as the case may be, shall have set aside on its books such reserves, if any, with respect thereto as are required by GAAP and deemed appropriate by the Borrower and its independent public accountants.

5.5. Payment of Other Indebtedness, etc. Except as to matters being contested in good faith and by appropriate proceedings, and subject to the provisions of subsection 6.5 (Restricted Payments) hereof, the Borrower will, and will cause each Subsidiary to, pay promptly when due, or in conformance with customary trade terms, all other Indebtedness and obligations incident to the conduct of its business where any failure to pay is reasonably likely to result in a Material Adverse Effect.

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5.6. Further Assurances. From time to time hereafter, the Borrower will execute and deliver, or will cause to be executed and delivered, such additional instruments, certificates or documents, and will take all such actions, as the Agent may reasonably request, for the purposes of implementing or effectuating the provisions of this Agreement, the Loan Documents or the Notes, provided that, the Borrower shall not be required to effect a public registration of all or any part of the Pledged Collateral (as defined in the Pledge Agreement) pursuant to the Securities Act of 1933, as amended, or other similar foreign or state securities law. Subject to the proviso in the preceding sentence, upon the exercise by the Agent of any power, right, privilege or

remedy pursuant to this Agreement or the Loan Documents which requires any consent, approval, registration, qualification or authorization of any governmental authority or instrumentality, the Borrower will execute and deliver, or will cause the execution and delivery of, all applications, certifications, instruments and other documents and papers that the Agent may be required to obtain for such governmental consent, approval, registration, qualification or authorization.

5.7. Depository Accounts. The Borrower will maintain its primary depository account with the Agent.

5.8. Communication with Accountants. The Borrower authorizes the Agent to communicate directly with the Borrower's independent certified public accountants and, on or before the Closing Date, will instruct those accountants to disclose to and discuss with the Agent any and all prepared financial statements and all other supporting financial documents and schedules delivered to the Borrower by such accountants.

5.9. Environmental Indemnification; Compliance.

(a) The Borrower shall at all times, both before and after repayment of the Loans, at its sole cost and expense indemnify, exonerate and save harmless the Agent and Lenders and all those claiming by, through or under the Agent and Lenders (collectively, the "Indemnified Parties") against and from all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, proceedings, costs, disbursements or expenses of any kind whatsoever, including, without limitation, reasonable attorneys' fees and experts' fees and disbursements, which may at any time (including, without limitation, before or after discharge or foreclosure of the Agent's security interests, mortgages or leasehold mortgages or deeds of trust or any other instrument now or hereafter constituting a Loan Document) be imposed upon, incurred by or asserted or awarded against the Indemnified Parties and arising from or out of: (a) any Hazardous Materials liability or other liability for damage to person or property arising out of any Hazardous Materials released on, upon, under, into or about any property at any time owned, leased or operated by the Borrower or any of its Subsidiaries (including without limitation with respect to any condition or circumstance which existed on any such property prior to or as of the time the Borrower or any of its Subsidiaries first acquired, leased or occupied the same) or any violation of any Environmental Laws by the Borrower or any of its Subsidiaries, or any contractor, sub-contractor, tenant, occupant or invitee thereof; or (b) any act, omission, negligence or conduct of the Borrower or any Subsidiary of the Borrower or any contractor, sub-contractor, tenant, occupant or invitee thereof resulting in any Hazardous Material liability. Notwithstanding any limitation which otherwise might be imposed by any applicable statute of limitations, any cause of action which the Indemnified Parties may have

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against the Borrower under this subsection 5.9, may be brought against the Borrower and/or any Subsidiary at any time within two (2) years following assertion of the claim against the Indemnified Parties for which indemnification or exoneration is sought (it being understood that the foregoing shall not require the Indemnified Parties to bring any claim or action within such two (2) year period if a longer statute applies).

(b) The Borrower shall take all appropriate response actions, including any removal and remedial action, in the event of a release, emission, discharge or disposal of any Hazardous Materials in violation of applicable law on, upon, under, into or about any property at any time, owned, leased or operated by the Borrower so as to (a) remain in compliance with subsection 3.18 and (b) keep all property at any time owned, leased or operated by the Borrower free from and uncontaminated by Hazardous Materials and in compliance with applicable Environmental Laws, the failure to comply with which is reasonably likely to have a Material Adverse Effect.

5.10. Mandatory Repayment of Outstanding Revolving Credit Loans in Excess of Working Capital; Prepayment From Proceeds of Asset Sales.

(a) If as of the last day of any fiscal quarter the aggregate outstanding principal amount of the Revolving Credit Loans exceeds the Borrower's Working Capital, the Borrower will within five (5) Banking Days repay the Revolving Credit Notes, without penalty or premium (other than the LIBOR Premiums, if applicable, provided that the Lenders agree that any such repayments shall be applied to repayment in full of Base Rate Loans prior to application to any LIBOR Portions), in an amount necessary to cause the outstanding principal amount of the Revolving Credit Loans not to exceed the Borrower's Working Capital as of the last day of such fiscal quarter. To the extent any such payment is made within five (5) Banking Days, any Default as a result of a breach of subsection 7.3 hereof shall be deemed to have been cured.

(b) Without limiting the provisions of subsection 6.8 below, the Borrower will prepay all of the Revolving Credit Loans (with proceeds to be applied as set forth below) in an amount equal to one hundred percent (100%) of all proceeds of asset sales (other than sales of Inventory) in excess of \$250,000 per fiscal year, immediately upon receipt by the Borrower of such proceeds. Amounts paid to the Lenders pursuant to the preceding sentence will not reduce the Maximum Line Commitment and may be reborrowed by the Borrower pursuant to the terms hereof.

(c) Any prepayments of the Loans shall be applied first to the portion of the Loans not then subject to any LIBOR Option, then the balance of any such prepayment shall be applied to the portion of the Loans then subject to any LIBOR Option, in the chronological order of the respective maturities thereof. After the occurrence and during the continuance of an Event of Default, all payments or prepayments of the Loans may be applied to the Borrower's Obligations under this Agreement and the other Loan Documents in such amounts and manner as may be specified in the Loan Documents or otherwise determined by the Agent in its sole discretion. All payments of principal hereunder shall be made to the Agent for the account of the Lenders in accordance with the Lender's respective Commitment.

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Section 6. Negative Covenants.

So long as any of the Loans shall remain available to the Borrower, and until the principal of and interest on the Notes and all fees due hereunder and all of the Borrower's obligations to the Lenders hereunder shall have been paid in full, the Borrower agrees that:

6.1. Indebtedness. The Borrower will not, and will not permit any Subsidiary to, create, incur, assume or become or remain liable in respect of any Indebtedness, except:

(a) Indebtedness to the Lenders hereunder;

(b) Liabilities of the Borrower and/or its Subsidiaries (other than for borrowed money) incurred in the ordinary course of its business and in accordance with customary trade practices;

(c) Existing Indebtedness, together with all accrued and unpaid interest thereon, of the Borrower and/or any Subsidiary referred to in Schedule 3.8 attached hereto, and refinancings thereof in an amount not more than the greater of (i) the respective unpaid principal amounts thereof or (ii) the respective principal amounts available to be drawn thereunder on the date hereof, in each case as specified in such schedule, together with all accrued and unpaid interest thereon;

(d) Indebtedness of the Borrower and/or any Subsidiary secured as permitted by, and subject to the proviso to, subparagraph (c) of subsection 6.2;

(e) Unsecured Indebtedness incurred or assumed in connection with (i) any Permitted Acquisition consummated pursuant to subsection 6.17.A hereof in an amount not to exceed seventy-five percent (75%) of the purchase price of such Permitted Acquisition (excluding as Indebtedness incurred or assumed for the purpose of this computation, any promissory notes issued in connection with and included in the payment of the purchase price of any such Permitted Acquisition) and (ii) any Permitted Acquisition consummated pursuant to subsection 6.17. B hereof;

(f) Indebtedness in respect of promissory notes issued in connection with any Permitted Acquisition and secured as permitted by subparagraph (l) of subsection 6.2;

(g) Other secured Indebtedness incurred or assumed in connection with any Permitted Acquisition consummated pursuant to (i) subsection 6.17. A hereof in an aggregate principal amount at any time outstanding not to exceed \$500,000 and (ii) subsection 6.17 B hereof;

(h) Other unsecured Indebtedness not to exceed \$100,000;

(i) Indebtedness in respect of (i) taxes, assessments, governmental charges or levies and claims for labor, materials and supplies to the extent that payment thereof shall not at the time be required to be made or is being contested in accordance with the provisions of subsection 5.4 hereof, (ii) judgments or awards which have been in force for less than the applicable appeal period so long as execution is not levied thereunder or in respect of which the

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Borrower or any Subsidiary shall in good faith be prosecuting an appeal or proceedings for review in a manner reasonably satisfactory to the Agent and in respect of which a stay of execution shall have been obtained pending such appeal or review and for which adequate reserves have been established in accordance with, and to the extent required by, GAAP, and (iii) endorsements made in connection with the deposit of items for credit or collection in the ordinary course of business; and

(j) Intercompany Indebtedness.

6.2. Liens, etc. The Borrower will not, and will not permit any Subsidiary to, directly or indirectly, create, incur, assume or suffer to exist, any mortgage, lien, charge or encumbrance on, or security interest in, or pledge of, or conditional sale or other title retention agreement (including any Capital Lease) with respect to, any real or personal property (tangible or intangible, now existing or hereafter acquired)(each being a "Lien"), including but not limited to the Accounts and Inventory, except the following each being a "Permitted Lien":

(a) Liens for taxes not yet delinquent or being contested in good faith as provided in subsection 5.4; mechanics', workmen's, materialmen's or other like liens arising in the ordinary course of business in respect of obligations which are not yet due or which are being contested in good faith (as to which adequate reserves have been established on the Borrower's books to the extent required by GAAP) and which were not incurred in connection with the purchase of property, borrowing of money or the obtaining of credit and which do not detract from the value of the properties or assets of the Borrower and its Subsidiaries or affect the use thereof in the operation of their business;

(b) The existing Liens referred to in Schedule 3.8, securing Indebtedness permitted under Section 6.1(c) hereof and any refinancings thereof, provided that existing Liens set forth on Schedules 4.1(e) shall be terminated pursuant to subsection 4.3(e) hereof;

(c) Purchase money mortgages, liens and other security interests, including Capital Leases, created in respect of property acquired by the Borrower and/or any of its Subsidiaries after the date hereof or existing in respect of property so acquired prior to the date hereof, provided that (i) each such lien shall at all times be confined solely to the item of property so acquired, and (ii) the aggregate principal amount of indebtedness secured by all such liens incurred after the Closing Date shall at no time exceed \$1,000,000;

(d) Easements, rights-of-way, restrictions and other similar encumbrances incurred in the ordinary course of business which, in the aggregate, do not materially detract from the value of the property subject thereto or interfere with the ordinary conduct of the businesses of the Borrower;

(e) Liens arising solely by virtue of any contractual, statutory or common law provision relating to banker's liens, rights of set-off or similar rights and remedies as to deposit accounts or other funds maintained with any financial institution;

(f) Liens in connection with operating leases and granted to secure obligations with respect to "off balance sheet" or "synthetic" leases (i.e., leases where for tax

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purposes the lessee is treated as the owner of the leased property but for GAAP purposes the lease is treated as an operating lease and the lessor is treated as the owner of the leased property);

(g) Liens consisting of security deposits securing the Borrower's and/or any Subsidiary's obligations under real property leases;

(h) Any Lien securing Indebtedness to the Lenders;

(i) Deposits or pledges made in connection with, or to secure payment of, worker's compensation, unemployment insurance, old age pensions or social security;

(j) Liens arising by operation of law or under rental agreements made in the ordinary course of business to secure landlords, lessors or renters under leases and confined to the premises or property rented;

(k) Liens acquired in connection with the consummation of Permitted Acquisitions and subject to subparagraph (g) of subsection 6.1; and

(l) Liens in favor of any bank or other financial institution solely against the Borrower's and/or any Subsidiary's deposit account(s) with such bank or other financial institution securing such bank's or other financial institution's obligation to guarantee the Borrower's and/or its Subsidiaries' promissory notes issued in connection with a Permitted Acquisition.

6.3. Loans, Guarantees and Investments. The Borrower will not, and will not permit any Subsidiary to, make or permit to remain outstanding any loan or advance to, or guarantee or endorse (except as a result of endorsing negotiable instruments for deposit or collection in the ordinary course of business) or otherwise assume or agree to purchase or otherwise remain liable with respect to any obligation of, or enter into any indemnification agreement for the benefit of, or make or own any investment in, or acquire (except in the ordinary course of business) the properties or assets of, any Person, except:

(a) Extensions of credit by the Borrower and/or any of its Subsidiaries in the ordinary course of business in accordance with its and their customary trade practices;

(b) The outstanding investments, loans and advances, if any, and the presently existing guarantees, if any, referred to in Schedule 3.8 attached hereto;

(c) Cash Equivalents;

(d) Capital Expenditures, to the extent permitted by subsection 6.6(a);

(e) Investments and indemnification agreements in connection with Permitted Acquisitions;

(f) Other Investments not to exceed \$200,000 per a fiscal year;

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(g) Investments by the Borrower in its Subsidiaries in the form of capital contributions and/or intercompany loans;

(h) Investments by Subsidiaries in Borrower and/or other Subsidiaries in the form of dividends, capital contributions and/or intercompany loans;

(i) Investments consisting of normal travel and similar advances to employees of the Borrower and/or Subsidiaries; and

(j) Indemnification agreements in connection with contractual arrangements entered into in the ordinary course of business.

6.4. Reserved.

6.5. Restricted Payments. The Borrower shall not directly or indirectly declare, order, pay or make any Restricted Payment or set aside any sum or property therefor.

As used herein, the term "Restricted Payment" means (i) any cash dividend or other cash distribution or payment, direct or indirect, on or on account of any shares of any class of stock of the Borrower now or hereafter outstanding or (ii) any redemption, purchase or other acquisition, direct or indirect, of any shares of any class of stock of the Borrower now or hereafter outstanding or of any warrants, options or rights to purchase any such stock (including, without limitation, the repurchase of any such stock, warrant, option or right or any refund of the purchase price thereof in connection with the exercise by the holder thereof of any right of rescission or similar remedies with respect thereto), provided, however, that Borrower shall be permitted to repurchase or otherwise redeem up to an aggregate of \$5,000,000 of shares of its capital stock pursuant to any stock buyback program now or hereafter instituted by the Borrower or any greater amount as shall be consented to by the Agent, provided, that both before and after giving effect to any such Restricted Payment, no Default or Event of Default exists under this Agreement (including under subsection 7.2 hereof).

6.6. Capital Expenditures. The Borrower will not, and will not permit any Subsidiary to, make any Capital Expenditure during any fiscal year of the Borrower if, after giving effect thereto, the aggregate amount of all Capital Expenditures made by the Borrower and its Subsidiaries during such period would exceed \$4,000,000.

6.7. Subsidiaries, Mergers and Consolidations; Changes in Business. The Borrower will not, and will not permit any Subsidiary to, create any additional Subsidiaries or enter into any merger or consolidation (or any agreement relating to any merger or consolidation) without the prior written consent of the Required Lenders, other than in each case in connection with Permitted Acquisitions and except that the Subsidiary may merge into another Subsidiary or into the Borrower. The Borrower will not, without the prior written consent of the Required Lenders, engage in any business other than the business engaged in as of the date hereof and any other business related thereto which may be acquired in connection with Permitted Acquisitions, and entering into contracts in connection with the foregoing.

6.8. Sale of Assets. The Borrower will not, and will not permit any Subsidiary to, sell, lease or otherwise dispose of any of its properties or assets, except for (a) sales, leases or other

dispositions in the ordinary course of business, (b) sales, leases or other dispositions of obsolete or unusable property or assets (it being understood that customer lists, contracts, inventory and accounts receivable are excluded from this exception), (c) sales, leases or other dispositions of duplicative property or other assets acquired in connection with Permitted Acquisitions and (d) sales, leases and other dispositions of other property and assets in an aggregate amount not to exceed \$2,000,000 per fiscal year.

6.9. Reserved.

6.10. Compliance with ERISA. The Borrower will make, and will cause all Affiliated Companies to make, all payments or contributions to employee benefit plans required under the terms thereof in all material respects and in accordance in all material respects with applicable minimum funding requirements of ERISA and the IRC and applicable collective bargaining agreements. The Borrower will cause all employee benefit plans sponsored by any Affiliated Company to be maintained in material compliance with ERISA and the IRC. The Borrower will not engage, and will not permit or suffer any Affiliated Company or any Person entitled to indemnification or reimbursement from the Borrower or any Affiliated Company to engage, in any prohibited transaction under ERISA for which an exemption is not available. No Affiliated Company will terminate, or permit the PBGC to terminate, any employee benefit plan or withdraw from any multi-employer plan, in any manner which could result in material liability of any Affiliated Company.

6.11. Transactions with Affiliates. The Borrower will not, and will not permit any Subsidiary to, directly or indirectly, enter into any lease or other transaction after the Closing Date with any shareholder of the Borrower, on terms that are less favorable to the Borrower or such Subsidiary than those which might be obtained at the time from Persons who are not such a shareholder except for those transactions disclosed in Borrower's public filings with the SEC.

6.12. Reserved.

6.13. Environmental Liabilities. The Borrower will not, and will not permit any Subsidiary to, violate any Environmental Laws or other requirement of law, rule or regulation regarding Hazardous Materials, the violation of which is reasonably likely to have a Material Adverse Effect; and, without limiting the foregoing, the Borrower will not and will not permit any Subsidiary or any other Person to (except in accordance with applicable law), dispose of any Hazardous Material into, upon, under or onto, or (except in accordance with applicable law) from, any real property owned, leased or operated by the Borrower or any Subsidiary or in which the Borrower or any Subsidiary holds, directly or indirectly, any legal or beneficial interest or estate except as is not reasonably likely to cause a Material Adverse Effect, nor allow any lien imposed pursuant to any law, regulation or order relating to Hazardous Materials or the disposal thereof to be imposed or to remain on such real property, except as is not reasonably likely to have a Material Adverse Effect or for liens being contested in good faith by appropriate proceedings and for which adequate reserves have been established and are being maintained on the books of the Borrower and its Subsidiaries (to the extent required by GAAP).

6.14. Fiscal Year. The Borrower will not change its fiscal year end from December 31 without prior written notice to the Agent.

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6.15. Reserved.

6.16. Reserved.

6.17. Permitted Acquisitions; Conditions Precedent. The Borrower will not, and will not permit any Subsidiary to, acquire or enter into any agreement (other than purchases of equipment or inventory from any Person in the ordinary course of business) requiring the Borrower or such Subsidiary to acquire, all or substantially all of the assets or stock or other equity interests of any Person unless such acquisition (whether by acquisition, merger or otherwise) is to be consummated by (i) the Borrower, (ii) a US Subsidiary, provided, that such US Subsidiary is or becomes a party to a Subsidiary Guaranty or (iii) a Foreign Subsidiary, provided, that to the extent such Foreign Subsidiary is directly owned by the Borrower, its stock or other equity interests have been or will be pledged by the Borrower pursuant to the Pledge Agreement and unless each of the following conditions precedent has been satisfied:

6.17. A Permitted Acquisitions Not Requiring Consent of Required Lenders. The Borrower and/or its Subsidiaries may enter into any agreement to acquire, and shall be permitted to acquire, all or substantially all of the assets or stock or other equity interests of any Person (whether by acquisition, merger or otherwise) without the prior written consent of the Agent or Lenders, provided that the purchase price paid by the Borrower and/or its Subsidiaries in connection with Permitted Acquisitions consummated under this Section 6.17(A) is payable (i) solely in shares of capital stock of the Borrower in an amount not to exceed \$10,000,000 in connection with any single Permitted Acquisition (such capital stock valuation shall be the closing price of the Borrower's common stock on the NASDAQ National Market on the date such transaction is approved by the Borrower's board of directors), (ii) solely in cash, (iii) solely by issuance of one or more promissory notes or (iv) some combination of the foregoing, provided, however, that except in the case of clause (i) above, the amount of cash consideration plus promissory notes plus shares of capital stock of the Borrower does not exceed \$6,000,000 in connection with any single Permitted Acquisition.

The Borrower will notify the Agent of all proposed Permitted Acquisitions under this Section 6.17A no less than thirty (30) days prior to the anticipated closing date. The Borrower will notify the Agent as soon as practicable following any material changes in the business terms or projected impact of any Permitted Acquisition which has previously been disclosed to the Agent.

6.17. B Permitted Acquisitions Requiring Consent of Required Lenders. Except in connection with Permitted Acquisitions consummated in accordance with Section 6.17A, the Borrower and/or its Subsidiaries will only enter into agreements to acquire, and shall only be permitted to acquire, all or substantially all of the assets or stock or other equity interests of any Person (whether by acquisition, merger or otherwise) with the prior written consent of the Required Lenders upon satisfaction of each of the following conditions:

(a) The Lenders shall have received notice of such acquisition and the basic terms thereof, as soon as reasonably practicable, but in any event not less than thirty (30) days prior to the anticipated consummation of the acquisition;

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(b) The assets to be acquired are employed or, if such acquisition is structured as purchase of stock or other equity interests, the Person so acquired conducts its business in an industry described in subsection 6.7 and the Required Lenders are satisfied as to the foregoing;

(c) At the time of consummation of such acquisition, no Default and no Event of Default exists, or would be caused by such consummation and the Required Lenders are satisfied as to the foregoing;

(d) At least five (5) Banking Days prior to the consummation of any such acquisition, the Borrower shall have delivered to the Agent a certificate, signed by the Chief Executive Officer or Chief Financial Officer of the Borrower, certifying that the Borrower has conducted or caused to be conducted all due diligence deemed reasonably necessary for the proposed acquisition, and that the results of such due diligence are deemed satisfactory by the officer of the Borrower executing such certificate;

(e) Reserved;

(f) No less than thirty (30) days prior to the anticipated consummation of the acquisition, the Borrower shall deliver to the Lenders, among such other financial information and reports as may be required by the Lenders, revised financial projections, income statements and balance sheets setting forth the effect of the acquisition and demonstrating to the satisfaction of the Required Lenders (in their sole discretion) that the Borrower will, on a going forward basis, be in compliance with all covenants (including the financial covenants contained in Section 7) set forth in this Agreement, and further demonstrating that the proposed acquisition will, prior to the end of the second fiscal quarter of the Borrower immediately succeeding the fiscal quarter during which any such acquisition is consummated, increase the Borrower's Adjusted EBITDA, after giving effect to all additional interest and Indebtedness related to such acquisition (including any Indebtedness incurred under this Agreement), as well as the relevant income statement effects deemed applicable by the Lenders and all adjustments to historical performance approved by the Required Lenders, all in the Required Lenders' sole discretion;

(g) Reserved;

(h) Reserved; and

(i) The Agent (at the direction of the Required Lenders) shall not have issued notice to the Borrower that, in the Required Lenders' reasonable discretion, the Required Lenders have determined that a proposed acquisition is not a Permitted Acquisition as a result of the Borrower's failure to satisfy any of the conditions set forth in paragraphs (a) through (h) of this Section 6.17.B, any such notice to be delivered to the Borrower within 15 days of receipt of notice from the Borrower required by paragraph (a) of this Section 6.17.B and such notice to set forth, in reasonable detail, the basis for such determination by the Required Lenders.

Each acquisition consummated in accordance with the provisions of subsections 6.17.A and B shall be referred to as a "Permitted Acquisition".

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Section 7. Financial Covenants.

So long as any of the Loans shall remain available to the Borrower, and until the principal of and interest on the Notes and all fees and other amounts due hereunder and all of the Borrower's other obligations to the Agent and the Lenders hereunder shall have been indefeasibly paid in full in cash, the Borrower agrees that:

7.1. Maximum Leverage Ratio. As of the last day of any fiscal quarter, the Borrower will not permit the ratio of (a) Total Funded Debt of the Borrower and its Subsidiaries as of the last day of such fiscal quarter, to (b) the Borrower's and its Subsidiaries' consolidated Adjusted EBITDA for the period of four consecutive fiscal quarters ending on the last day of such fiscal quarter to be more than 2.0:1.0.

7.2. Minimum Fixed Charge Coverage Ratio. As of the last day of any fiscal quarter, the Borrower will not permit the ratio of (a) consolidated Adjusted EBITDA of the Borrower and its Subsidiaries for the four-quarter period ending on the last day of such fiscal quarter, minus, aggregate cash capital expenditures for the four-quarter period ending on the last day of such fiscal quarter, minus cash taxes paid and minus amounts paid in connection with any stock buy back program for the four-quarter period ending on the last day such fiscal quarter, to (b) the current portion of Funded Debt as of the last day of such fiscal quarter, plus (without duplication) Interest Expense during such fiscal quarter to be less than 1.5:1.0.

7.3. Minimum Working Capital. As of the last day of any fiscal quarter, the Borrower will not permit its Working Capital to be less than the aggregate outstanding principal balance of the Revolving Credit Loans. As used herein, the term "Working Capital" means an amount equal to the sum of (i) eighty percent (80%) of the Borrower's and its Subsidiaries' Eligible Accounts (as defined below) plus (ii) the lesser of (a) an amount equal to forty percent (40%) of the Borrower's and its Subsidiaries' Eligible Inventory (as defined below) and (b) \$8,500,000. For purposes of computing Working Capital hereunder after application of the forty percent (40%) formula as set forth in clause (ii) above, the Borrower shall not include more than \$4,250,000 of Eligible Inventory maintained at any one warehouse, distribution center or other real property leased by the Borrower or any Subsidiary in the calculation thereof. As used herein:

"Eligible Accounts" means those Accounts created by Borrower and/or any of its directly or indirectly wholly-owned Subsidiaries in the ordinary course of Borrower's or such Subsidiary's business, that arise out of Borrower's or such Subsidiary's sale of goods or rendition of services, that are less than ninety (90) days past the invoice date, and that comply with each of the representations and warranties respecting Eligible Accounts made by Borrower under the Loan Documents. In determining the amount to be included, Eligible Accounts shall be calculated net of customer deposits and unapplied cash remitted to Borrower or any Subsidiaries. All Eligible Accounts not otherwise denominated in United States dollars shall be converted to United States dollars for purposes of inclusion in any Compliance Certificate (with the conversion calculation set forth in such Compliance Certificate) based on the exchange rate of the applicable currency to United States dollars quoted in the *Wall Street Journal* for the last day of the applicable quarter with respect to which such Compliance Certificate is delivered.

“Eligible Inventory” means Inventory of Borrower and/or its Subsidiaries consisting of first quality finished goods and raw materials (other than work-in-process) held for sale or lease or to be furnished under a contract of service in the ordinary course of Borrower’s or such Subsidiary’s business located at one of Borrowers’ or such Subsidiary’s business locations set forth on Schedule 3.9 or at such other location identified in writing by the Borrower to the Agent (or in-transit between any such locations), that complies with each of the representations and warranties respecting Eligible Inventory made by Borrower in the Loan Documents, and that is not excluded as ineligible by virtue of the one or more of the criteria set forth below. In determining the value of Eligible Inventory, Inventory shall be valued at the lower of Cost or market on a basis consistent with Borrower’s accounting practices less the aggregate amount of all reserves for obsolesce, slow-moving and excess inventory.

An item of Inventory shall not be included in Eligible Inventory if:

- (a) Borrower or any Subsidiary does not have good, valid and marketable title thereto (including Inventory acquired on consignment), or
- (b) it is not located at one of the locations of the Borrower or its Subsidiaries set forth on Schedule 3.9 or at such other location identified in writing by the Borrower to the Agent or in transit from one such location to another such location, or
- (c) it is located at a warehouse, distribution center or other real property leased by a Borrower or any Subsidiary or in a fulfillment center or contract warehouse, in circumstances under which, by operation of law or by the terms of the Borrower’s or any Subsidiary’s lease, a third party has or may have a lien on any Inventory located on the premises, provided, that notwithstanding the foregoing, Inventory in an amount not to exceed \$4,250,000 (after application of the forty percent (40%) formula set forth in the definition of Working Capital in subsection 7.3 hereof) located at any of the foregoing locations, and subject to subparagraphs (a), (b) and (d) hereof, may be included in Eligible Inventory for purposes of calculating Working Capital, or
- (d) it consists of work-in-process or goods returned or rejected by the Borrower’s or any Subsidiary’s customers if such goods can not be re-sold by Borrower or such Subsidiary in the ordinary course of its business.

For any Subsidiary whose Eligible Accounts and Eligible Inventory exceed \$1,000,000 in the calculation of minimum Working Capital pursuant to subsection 7.3 hereof, the Agent shall have received the following with respect to such Subsidiary:

- (i) satisfactory lien, tax and judgment searches confirming the absence of any liens, claims, charges or encumbrances of any nature on any Accounts of such Subsidiary; and
- (ii) certified copies of the charter documents and by-laws of each such Subsidiary, together with certificates of appropriate governmental authorities as to

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the corporate good standing of such Subsidiaries (to the extent such documents and certificates are available in the applicable jurisdiction).

Section 8. Defaults; Remedies; Delivery of Pledged Collateral.

8.1. Events of Default; Acceleration. If any of the following events (each an “Event of Default”) shall occur:

- (a) The Borrower shall default in the payment of principal of or interest on the Notes or any other fee due hereunder when the same becomes due and payable, whether at maturity or at a date fixed for the payment of any installment or prepayment thereof or by declaration, acceleration or otherwise, and such default shall continue for a period of three (3) Banking Days (a “Payment Default”); or
- (b) The Borrower shall default in the performance of or compliance with any term contained in Section 5 (other than subsection 5.10(a)), Section 6 or subsections 7.1 or 7.2 and, to the extent any default is susceptible of remedy or cure, the Borrower has failed to remedy or cure any such default within ten (10) days after the occurrence thereof; or
- (c) The Borrower shall default in the performance of or compliance with any term contained in subsection 5.10(a) or subsection 7.3 and the Borrower has failed to remedy or cure any such default within five (5) Banking Days; or
- (d) The Borrower shall default in the performance of or compliance with any term contained herein other than those referred to above in this Section 8 and such default shall not have been remedied within thirty (30) days after the occurrence thereof provided, that if such default cannot be remedied or cured, then such default shall be deemed an Event of Default as of the date of its occurrence; or
- (e) The Borrower or any Subsidiary which is a party to any of the Loan Documents shall default in the performance of or compliance with any material term contained in the Loan Documents (other than this Revolving Credit Loan Agreement) or in the performance of or compliance with any material term contained in any other written agreement with the Agent and/or the Lenders, executed in connection therewith and such default shall not have been remedied within thirty (30) days after the occurrence thereof provided, that if such default cannot be remedied or cured, then such default shall be deemed an Event of Default as of the date of its occurrence; or
- (f) Any representation or warranty made by the Borrower or any Subsidiary herein or in any other Loan Document or shall prove to have been false or incorrect in any material respect when made; or
- (g) The Borrower or any Subsidiary shall default in any payment due on any Indebtedness in respect of borrowed money where the aggregate principal balance thereof together with interest thereon exceeds \$500,000 or any lesser aggregate principal balance where such failure to pay is reasonably likely to have a Material Adverse Effect (other than to the Lenders, as to which subsection 8.1(a) shall apply), any Capital Lease or the deferred purchase price of property with a principal balance together with interest thereon, lease balance or

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purchase price (as the case may be) in excess of \$500,000 outstanding as of the date of such default, and such default shall continue for more than the period of grace, if any, applicable thereto, or in the performance of or compliance with any term of any evidence of such Indebtedness or of any mortgage, indenture or other agreement relating thereto, and any such default shall continue for more than the period of grace, if any, specified therein and shall not have been waived pursuant thereto, (except such defaults which are being contested in good faith and, if applicable, as to which adequate reserves have been established on the Borrower's books to the extent required by GAAP); or

(h) The Borrower or any Subsidiary shall cease to be solvent (as represented in the Solvency Certificate) or shall discontinue its business (except as otherwise permitted hereby) or the Borrower or any Subsidiary shall make an assignment for the benefit of creditors, or shall fail generally to pay its debts as such debts become due, or shall apply for or consent to the appointment of or taking possession by a trustee, receiver or liquidator (or other similar official) of the Borrower or such Subsidiary or any substantial part of the property of the Borrower or such Subsidiary, or shall commence a case or have an order for relief entered against it under the federal bankruptcy laws, as now or hereafter constituted, or any other applicable federal or state bankruptcy, insolvency or other similar law, or if the Borrower or any Subsidiary shall take any action to dissolve or liquidate the Borrower or such Subsidiary (except as otherwise permitted hereby); or

(i) An involuntary proceeding shall be commenced against the Borrower or any Subsidiary under the federal bankruptcy laws, as now or hereafter constituted, or any other applicable federal or state bankruptcy, insolvency or other similar law, or a decree shall be entered appointing a trustee, receiver or liquidator (or other similar official) of the Borrower or any Subsidiary or any substantial part of the property of the Borrower or such Subsidiary; or

(j) A final judgment which, with other outstanding final judgments against the Borrower and its Subsidiaries shall be rendered against the Borrower or any Subsidiary which is reasonably likely to have a Material Adverse Effect and if, within the earlier of 60 days after entry thereof, such judgment shall not have been discharged or execution thereof stayed pending appeal, or if, within 60 days after the expiration of any such stay, such judgment shall not have been discharged, or if any such judgment shall not be discharged forthwith upon the commencement of proceedings to foreclose any lien, attachment or charge which may attach as security therefor and before any of the property or assets of the Borrower or any Subsidiary shall have been seized in satisfaction thereof; or

(k) If the Borrower is enjoined, restrained, or in any material way prevented by the order of any court or any administrative or regulatory agency from conducting all or any material part of its business and such order is not stayed or revoked within five (5) days; or

(l) This Agreement, the Notes, the Pledge Agreement, any Subsidiary Guaranties or any other Loan Documents shall be cancelled, terminated, revoked, rescinded or declared invalid or unenforceable in whole or in any material respect, otherwise than pursuant to its terms by virtue of the expiration of its term or otherwise than in accordance with the express prior written agreement, consent or approval of the Required Lenders or the Lenders, as the case may be, or any action at law, suit in equity or other legal proceeding to cancel, revoke or rescind

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this Agreement, the Notes, the Pledge Agreement, any Subsidiary Guaranties or any other Loan Documents shall be commenced by or on behalf of the Borrower or any other Person bound thereby or party thereto or by any governmental or regulatory authority or agency of competent jurisdiction; or any court or any other governmental or regulatory authority or agency of competent jurisdiction shall make a determination that, or shall issue a judgment, order, decree or ruling to the effect that any one or more of the Loan Documents or any one or more of the material obligations of any Person or Persons under any one or more of the Loan Documents are illegal, invalid or unenforceable in accordance with the terms thereof;

then, and in any such event, and at any time thereafter, either or both of the following actions may be taken: the Agent may by written notice to the Borrower, (i) declare the principal of and accrued interest in respect of the Notes to be forthwith due and payable, whereupon the principal of and accrued interest in respect of the Notes shall become forthwith due and payable without presentment, demand, protest or other notice of any kind, all of which are hereby expressly waived by the Borrower, and/or (ii) terminate the Maximum Line Commitment, whereupon the Maximum Line Commitment shall forthwith terminate without any other notice of any kind; provided that, in the case of an Event of Default arising by reason of the occurrence of any event described in subsections 8.1(h) or 8.1(i), both such actions shall be deemed to have been automatically taken by the Agent and all obligations of the Borrower to the Lenders shall forthwith automatically become due and payable without presentment, demand, protest or notice of any kind, all of which are hereby expressly waived by the Borrower. Without limiting any provision of this Agreement or any Loan Documents, a Default or Event of Default hereunder shall also constitute a Default or Event of Default under the Loan Documents.

## 8.2. Remedies on Default.

(a) In case any one or more Events of Default shall occur and be continuing, the Agent may proceed to protect and enforce its rights by an action at law, suit in equity or other appropriate proceeding, whether for the specific performance of any agreement contained herein or in the Notes or any Loan Documents or for an injunction against a violation of any of the terms hereof or thereof, or in aid of the exercise of any power granted hereby or thereby or by law. In case of a default in the payment of any principal of or interest on the Notes, or in the payment of any fee due hereunder or under any other Loan Document, the Borrower will pay to the Lenders such further amount as shall be sufficient to cover the costs and expenses of collection, including, without limitation, reasonable attorneys' fees, expenses and disbursements. No course of dealing and no delay on the part of the Agent in exercising any right shall operate as a waiver thereof or otherwise prejudice the rights of the Agent or the Lenders. No right conferred hereby or by the Notes or any Loan Documents upon the Agent or the Lenders shall be exclusive of any other right referred to herein or therein or now or hereafter available at law, in equity, by statute or otherwise.

(b) Power of Attorney. Borrower hereby irrevocably makes, constitutes, and appoints Agent (and any of Agent's officers, employees, or agents designated by Agent) as Borrower's true and lawful attorney, with power to (i) at any time an Event of Default has occurred and is continuing endorse Borrower's name on any collection item that may come into Agent's possession and (ii) at any time that an Event of Default has occurred and is continuing, make, settle, and adjust all claims under Borrower's policies of insurance. The appointment of

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Agent as Borrower's attorney, and each and every one of its rights and powers, being coupled with an interest, is irrevocable until all of the Obligations have been fully and finally repaid and performed and Agent's obligations to extend credit hereunder are terminated.

(c) **Right to Inspect.** At any time an Event of Default has occurred and is continuing, Agent and its officers, employees, or agents shall have the right, from time to time hereafter to inspect the Books and to check, test, and appraise the Borrower's or any Eligible Availability Subsidiary's assets in order to verify Borrower's financial condition or the amount, quality, value, condition of, or any other matter relating to, the Accounts and Inventory, all at Borrower's expense.

Section 9. **Definitions; Certain Rules of Construction.** Certain capitalized terms are used in this Agreement and in the other Loan Documents with the specific meanings defined below in this Section 9. Except as otherwise explicitly specified to the contrary or unless the context clearly requires otherwise, (a) the capitalized term "**Section**" refers to Section of this Agreement, (b) the capitalized term "**Exhibit**" refers to exhibits to this Agreement, (c) the term "**subsection**" includes particular Sections included in subsections thereof, (d) the word "**including**" shall be construed as "**including without limitation**", (e) accounting terms not otherwise defined herein have the meanings provided under GAAP, (f) terms defined in the UCC and not otherwise defined herein have the meaning provided under the UCC, (g) references to particular statute or regulation include all rules and regulations thereunder and any successor statute, regulation or rules, in each case as from time to time in effect and (h) references to a particular Person include such Person's successors and assigns to the extent not prohibited by this Agreement and the other Loan Documents.

**Accounts:** means all of Borrower's and its Subsidiaries' now owned or hereafter acquired right, title and interest with respect to "accounts" (as that term is defined in the Code), and any and all supporting obligations in respect thereof.

**Account Debtor:** means any Person who is or who may become obligated under, with respect to, or on account of, an Account, chattel paper, or a General Intangible.

**Act:** means the Securities Exchange Act of 1934, as may be amended from time to time.

**Adjusted EBITDA:** means for any period, EBITDA for such period after adjusting for (a) non-cash stock compensation expense, (b) restructuring charges related to Permitted Acquisitions contemplated at the time of such Permitted Acquisition and mutually agreed upon by the Borrower and the Agent, (c) acquired in-process research and development expense, (d) fair value adjustments resulting from purchase price allocation related to Permitted Acquisitions and (e) other non-recurring exceptional items of income or expense mutually agreed upon by the Borrower and the Agent.

**Affiliate:** shall mean, as applied to any Person, a spouse or relative of such Person, any managing member, director or officer of such Person, any corporation, association, firm or other entity of which such Person is a managing member, director or officer, and any other Person directly or indirectly controlling, controlled by or under direct or indirect common control with such Person. For purposes of this definition, "control" of a Person shall mean the possession,

directly or indirectly, of power to direct or cause the direction of its management or policies, whether through the ownership of voting securities, by contract or otherwise.

**Affiliated Company:** shall have the meaning specified in subsection 3.16.

**Agent:** shall have the meaning specified at the beginning of this Agreement.

**Agent - - Related Persons:** shall have the meaning specified in subsection 16.3.

**Applicable LIBOR Margin:** shall have the meaning specified in subsection 1.4(c).

**Applicable Base Rate Margin:** shall have the meaning specified in subsection 1.4(c).

**Applicable Margin:** shall have the meaning specified in subsection 1.4.

**Audited Financial Statements:** shall have the meaning specified in subsection 1.4.

**Banking Day:** shall have the meaning specified in subsection 2.2.

**Base Rate:** the per annum rate of interest announced from time to time by the Agent in Boston, Massachusetts as its Base Rate.

**Base Rate Loans:** shall have the meaning specified in subsection 1.2.

**BBH:** shall have the meaning specified in Section 16.

**Books:** means all of Borrower's now owned or hereafter acquired books and records (including all of its records indicating, summarizing, or evidencing its assets (including the Accounts and Inventory) or liabilities, all of Borrower's records relating to its business operations or financial condition, and all of its goods or General Intangibles related to such information).

**Borrower:** shall have the meaning specified at the beginning of this Agreement.

**Borrowing Request:** shall have the meaning specified in subsection 1.2.

**Capital Expenditure:** shall mean any payment made directly or indirectly for the purpose of acquiring or constructing fixed assets, real property or equipment which in accordance with GAAP would be added as a debit to the fixed asset account of the Person making such expenditure, including without limitation, amounts paid or payable under any conditional sale or other title retention agreement or under any lease or other periodic payment arrangement

which is of such a nature that payment obligations of the lessee or obligor thereunder would be required by GAAP to be capitalized and shown as liabilities or otherwise appear in the category of property, plant or equipment or intangibles on the balance sheet of such lessee or obligor but excluding amounts expended in connection with Permitted Acquisitions (including reasonable capitalized transaction costs related to such Permitted Acquisitions).

Capital Lease: shall mean any lease of property (real, personal or mixed) which, in accordance with GAAP, should be capitalized on the lessee's balance sheet.

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Cash Equivalents: shall mean (a) negotiable certificates of deposit, time deposits (including sweep accounts), demand deposits and bankers' acceptances having a maturity of nine months or less and issued by any United States financial institution having capital and surplus and undivided profits aggregating at least \$100,000,000 and rated Prime-1 by Moody's Investors Service, Inc. or A-1 by Standard & Poor's Ratings Group or issued by the Agent or any Lender; (b) corporate obligations having a maturity of nine months or less and rated Prime-1 by Moody's Investors Service, Inc. or A-1 by Standard & Poor's Ratings Group or issued by the Agent or any Lender; (c) any direct obligation of the United States of America or any agency or instrumentality thereof, or of any state or municipality thereof, (i) which has a remaining maturity at the time of purchase of not more than one year or which is subject to a repurchase agreement with the Agent or any Lender (or any other financial institution referred to in clause (a) above) exercisable within one year from the time of purchase and (ii) which, in the case of obligations of any state or municipality, is rated AA or better by Moody's Investors Services, Inc. or AA or better by Standard & Poor's Ratings Group; and (d) any mutual fund or other pooled investment vehicle rated AA or better by Moody's Investors Service, Inc. or AA or better by Standard & Poor's Ratings Group which invests principally in obligations described above.

Closing Date: shall mean the date on which each of the conditions precedent to execution set forth in subsection 4.1 shall have been met to the satisfaction of the Agent, and this Agreement shall have been executed by the Borrower and the Agent.

Code: means the Massachusetts Uniform Commercial Code, as in effect from time to time.

Commitment: means, with respect to any Lender, such Lender's obligation to extend the Line of Credit loans contemplated by Section 1. The Commitments are set forth in Schedule 1.1.

Compliance Certificate: shall mean a certificate in substantially the form of Exhibit A hereto, as such form may from time to time be revised by Agent and Borrower, together with such other information as Agent may reasonably require.

Consents: shall have the meaning specified in subsection 3.14.

Cost: means the calculated cost of Inventory, as determined from invoices received by Borrower or any of its Subsidiaries, Borrower's or such Subsidiaries' purchase journals or stock ledgers, based upon Borrower's accounting practices, known to Agent, which practices are in effect on the date on which this Agreement was executed. "Cost" does not include any inventory capitalization costs inclusive of advertising, but may include other charges used in Borrower's determination of cost of goods sold and bringing goods to market, all within Agent's reasonable discretion and in accordance with GAAP.

Default: shall mean any event or condition which, with the giving of notice or the expiration of any applicable grace period, or both, would constitute an Event of Default.

Demand Notes: shall have the meaning specified in subsection 1.14.

Dollars or \$: means United States dollars.

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EBITDA: means for any period, Net Income for such period, after restoring thereto amounts deducted for (a) federal and state taxes in respect of income and profits, (b) Interest Expense and (c) depreciation and amortization, as determined in accordance with GAAP.

Eligible Accounts: shall have the meaning specified in subsection 7.3.

Eligible Inventory: shall have the meaning specified in subsection 7.3.

Environmental Laws: collectively, shall mean the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, the Superfund Amendments and Reauthorization Act of 1986, the Federal Water Pollution Control Act, the Federal Clean Water Act, the Federal Clean Air Act, the Toxic Substances Control Act and any other federal, state or local statute, regulation, ordinance, order or decree relating to the environment, as now or hereafter in effect.

ERISA: shall have the meaning specified in subsection 3.16.

Event of Default: shall have the meaning specified in Section 8.

First Demand Note: shall have the meaning specified in subsection 1.14.

Funded Debt: means all Indebtedness to the Lenders, all Indebtedness for borrowed money incurred in connection with Permitted Acquisitions which is not subordinated to the Indebtedness owing to the Lenders hereunder and all Indebtedness in respect of Capital Leases.

GAAP: shall mean generally accepted accounting principles as in effect from time to time in the United States, consistently applied.

General Intangible: means all of Borrowers' and its Subsidiaries' now owned or hereafter acquired right, title, and interest with respect to "general intangibles" (as such term is defined from time to time in the Code), and any and all supporting obligations in respect thereof.

**Hazardous Material:** shall mean (a) any asbestos or insulation or other material composed of or containing asbestos and (b) any petroleum product and any hazardous, toxic or dangerous waste, substance or material defined as such in (or for purposes of) the Comprehensive Environmental Response, Compensation and Liability Act, any so-called “Superfund” or “Superlien” law, or any other applicable federal, state, local or other statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic or dangerous waste, substance or material, as now or at any time hereafter in effect.

**Indebtedness:** shall mean as applied to any Person, (i) all items (except items of capital or surplus or of retained earnings) which in accordance with GAAP would be included in determining total liabilities as shown on the liability side of the balance sheet of such Person as of the date of which Indebtedness is to be determined, including without limitation subordinated debt, if any, and any Capital Lease, (ii) all indebtedness secured by any mortgage, pledge, lien or conditional sale or other title retention agreement to which any property or asset owned or held by such Person is subject, whether or not the indebtedness secured thereby shall have been

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assumed, and (iii) all indebtedness of others which such Person has directly or indirectly guaranteed, endorsed (otherwise than for collection or deposit in the ordinary course of business), discounted or sold with recourse or agreed (contingently or otherwise) to purchase or repurchase or otherwise acquire, or in respect of which such Person has agreed to supply or advance funds (whether by way of loan, stock purchase, capital contributions or otherwise) or otherwise to become directly or indirectly liable. For avoidance of doubt, the parties hereby agree that the term Indebtedness shall not include the issuance of any equity interests by the Borrower and/or any of its Subsidiaries, whether such equity interests constitute common stock or preferred stock.

**Indemnified Parties:** shall have the meaning specified in subsection 5.9.

**Insolvency Proceeding:** means any proceeding commenced by or against any Person under any provision of the United States Bankruptcy Code, as in effect from time to time, or under any other state or federal bankruptcy or insolvency law, assignments for the benefit of creditors, formal or informal moratoria, compositions, extensions generally with creditors, or proceedings seeking reorganization, arrangement, or other similar relief.

**Interest Adjustment Date:** shall have the meaning specified in subsection 1.4(c).

**Interest Expense:** means required cash interest paid or payable on Funded Debt.

**Inventory:** means all Borrower’s and its Subsidiaries now owned or hereafter acquired right, title, and interest with respect to inventory, including goods held for sale or lease or to be furnished under a contract of service, goods that are leased by Borrower or any of its Subsidiaries as lessor, goods that are furnished by Borrower or any of its Subsidiaries under a contract of service, and raw materials, work in process, or materials used or consumed in Borrower’s or any of its Subsidiaries’ business.

**IRC:** shall have the meaning specified in subsection 3.16.

**Lender:** shall have the meaning specified at the beginning of this Agreement.

**Licenses:** shall have the meaning specified in subsection 3.5.

**Lien:** shall have the meaning specified in subsection 6.2

**Line of Credit:** shall have the meaning specified in subsection 1.1.

**Loan or Loans:** shall have the meanings specified in subsection 1.2.

**Loan Documents:** shall mean collectively, this Agreement, the Notes, the Pledge Agreement, the Subsidiary Guaranties and any and all financing statements, agreements, instruments and certificates now or hereafter related hereto or thereto or executed in connection herewith or therewith, all as amended from time to time.

**Material Adverse Effect:** shall mean any event, matter or condition which is reasonably likely to have a material adverse effect on (a) the financial performance or condition, assets,

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operations or financial or other condition of the Borrower and its Subsidiaries taken as a whole, (b) the Borrower’s ability to pay and perform all of the Loans and other material obligations owing by it to the Lenders in accordance with the terms thereof, and/or (c) the Eligible Accounts or the Eligible Inventory.

**Maturity Date:** means November 21, 2006.

**Maximum Line Commitment:** shall have the meaning specified in subsection 1.1.

**Net Income:** for any period, shall mean net income (or loss) for such period, determined in accordance with GAAP.

**Note or Notes:** shall have the meanings specified in subsection 1.3.

**Obligations:** shall mean the sums evidenced by the Notes and any and all other liabilities, loans, advances, sums due or to become due and all Indebtedness of Borrower to the Agent or the Lenders of every kind, nature and description (whether or not evidenced by any note or other instrument), direct or indirect, absolute or contingent, primary or secondary, joint or several, secured or unsecured, due or to become due, now existing or hereafter arising under the Loan Documents, any liability of Borrower to the Agent or the Lenders including but not limited to all interest, fees, charges, expenses and attorneys’

fees, paid or incurred by Agent or the Lenders at any time in connection with the commitment for, preparation, execution, delivery, amendment, review, perfection, administration and/or enforcement of any of the Loan Documents and any and all other obligations of Borrower to the Agent or the Lenders pursuant to the Loan Documents.

Opening Balance Sheet: shall mean the Borrower's balance sheet dated September 30, 2003.

Operating Account: shall have the meaning specified in subsection 1.2(b).

Origination Fee: shall have the meaning specified in subsection 1.5.

Participant: shall have the meaning specified in subsection 15.8.

Payment Default: shall have the meaning specified in subsection 8.1.

PBGC: shall have the meaning specified in subsection 3.16.

Permitted Acquisition: shall have the meaning specified in subsection 6.17.

Permitted Lien: shall have the meaning specified in subsection 6.2.

Person: means a corporation, an association, a partnership, a limited liability company, an owner, grantor or master trust, a joint venture, an organization, a business, an individual, a government or political subdivision thereof or a governmental agency.

Pledge Agreement: shall have the meaning specified in subsection 1.6.

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Pro-forma Compliance Certificate: shall have the meaning specified in subsection 1.11.

Projections: means Borrower's forecasted (a) balance sheets, (b) profit and loss statements, and (c) cash flow statements, all prepared on a basis consistent with Borrower's historical financial statements, together with appropriate supporting details and a statement of underlying assumptions, accepted by the Agent, in its reasonable discretion, and any revision, amendment, or updates thereto, provided such revision, amendment, or update has been accepted in writing by the Agent (provided that such acceptance shall not be unreasonably withheld.).

Proprietary Rights: any patents, registered trademarks, service marks, trade names, copyrights, licenses and other similar rights, including, applications for each of the foregoing.

Real Estate Leases: shall have the meaning specified in subsection 3.9.

Report: shall have the meaning specified in subsection 16.17.

Required Financial Statements: shall have the meaning specified in subsection 1.4.

Required Lenders: shall mean the Lenders holding greater than sixty-six and two thirds percent (66-2/3%) of the principal amount of the Loans outstanding or, if no Loans are outstanding, sixty-six and two-thirds percent (66-2/3%) of the Commitments.

Restricted Payment: shall have the meaning specified in subsection 6.5.

Revolving Credit Loan or Loans: shall have the meanings specified in subsection 1.2.

Revolving Credit Note or Notes: the meaning specified in subsection 1.3.

SEC: means the Securities and Exchange Commission or any governmental authority succeeding to any of its functions.

Second Demand Note: shall have the meaning specified in subsection 1.14.

Solvent: means, with respect to any Person on a particular date, that such Person is not insolvent (as such term is defined in the Uniform Fraudulent Transfer Act).

Solvency Certificate: shall have the meaning specified in subsection 3.4.

Subsidiary: means any Person of which more than 50% of the outstanding Voting Stock (or other similar beneficial interest) (other than director's qualifying shares) is at the time owned or controlled by the Borrower or by one or more Subsidiaries of the Borrower or by the Borrower and one or more Subsidiaries.

Subsidiary Guaranties: shall have the meaning specified in subsection 1.6.

Taxes: shall have the meaning specified in subsection 1.10.

Total Funded Debt: means at any date of determination, the aggregate outstanding amount of Funded Debt.

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UCC: means the Uniform Commercial Code, as from time to time in effect in The Commonwealth of Massachusetts or any other applicable jurisdiction.

Unused Line Fee: shall have the meaning specified in subsection 1.5.

US Subsidiaries: shall have the meaning specified in subsection 1.6.

Voting Stock: means stock having ordinary voting power to elect a majority of the board of directors of the corporation in question, irrespective of whether or not at the time there exists stock of any class or classes of such corporation which has or might have by its terms accrued voting power by reason of the happening of any contingency.

Working Capital: shall have the meaning specified in subsection 7.3.

Section 10. Setoffs.

If the Borrower becomes insolvent, howsoever evidenced, or any Event of Default occurs and is continuing, any Indebtedness from the Lenders to the Borrower or any Subsidiary may, without regard to the value or adequacy of any collateral, be offset and applied toward the payment of any Indebtedness from the Borrower to the Lenders, whether or not such Indebtedness, or any part thereof shall then be due provided, that Agent or any lender executing such right shall promptly provide notice thereof to Borrower and any affected Subsidiary.

Section 11. Expenses; Indemnification.

(a) Whether or not the transactions contemplated hereby shall be consummated, the Borrower agrees (i) to pay all reasonable expenses, including reasonable fees and disbursements of counsel for the Agent, which the Agent has incurred or may hereafter incur in connection with the preparation of this Agreement, the Loan Documents, the Notes, and all other documents related hereto and thereto (including any amendment, consent or waiver hereof and/or thereof) and the transactions contemplated hereby or the protection, preservation and/or enforcement of the rights of the Lenders hereunder or under the Notes or the Loan Documents (whether in connection with a Permitted Acquisition or otherwise) or in the event of a Default hereunder or thereunder (including without limitation amounts incurred with respect to any so-called “workout” of the Loans) and (ii) to pay all taxes (other than the Lenders’ income taxes) and fees (including interest and penalties), including without limitation all recording and filing fees, transfer and documentary stamp and similar taxes, which may be payable in respect of the execution and delivery of this Agreement, the Loan Documents, the Notes, and all other documents related hereto and thereto (including any amendment, consent or waiver hereafter requested by the Borrower hereunder or thereunder) and to indemnify the Agent and Lenders and hold the Agents and Lenders harmless against any loss or liability resulting from non-payment or delay in payment of any such tax. The Borrower hereby authorizes the Agent to pay all such amounts described above to the Agent or the Lenders, as applicable, and to charge the same to the Operating Account or any other depository account maintained by the Borrower with the Agent if the same are not paid within five (5) Banking Days after the Agent notifies the Borrower in writing of the amounts owed.

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(b) The Borrower hereby agrees to indemnify the Agent and Lenders, and their respective directors, officers, employees, agents, attorneys and each other Person, if any, who controls any Lender, and will hold the Agent and Lenders and such other Persons harmless from and against any and all claims, damages, losses, liabilities, judgments and expenses (including without limitation all reasonable fees and expenses of counsel and all expenses of litigation or preparation therefor) which the Agent and Lenders or such other Persons may incur or which may be asserted against the Agent and Lenders or such other Persons in connection with or arising out of any investigation, litigation or proceeding relating to the transactions contemplated hereby involving the Borrower or any shareholder or any Affiliate of the Borrower or any such shareholder (including compliance with or contesting of any subpoenas or other process issued against the Agent and Lenders, or any director, officer or employee of the Agent and Lenders, or any Person, if any, who controls any Lender in any proceeding relating to the transactions contemplated hereby involving the Borrower or any shareholder or any Affiliate of the Borrower or any such shareholder), whether or not a Lender is party thereto, other than claims, damages, losses, liabilities or judgments with respect to any matter as to which the Agent or a Lender or such other Person seeking indemnity shall have been finally adjudicated not to have acted in good faith or to have been grossly negligent in its actions or inactions. Promptly upon receipt by any indemnified party hereunder of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the Borrower hereunder, notify the Borrower in writing of the commencement thereof.

(c) The Borrower acknowledges and agrees that its agreements and obligations under this Section 11 shall survive the termination of this Agreement and repayment in full of the Loans.

Section 12. Amendments and Waivers, etc.

(a) Amendments and Waivers. No amendment or waiver of any provision of this Agreement or any other Loan Document, and no consent with respect to any departure by Borrower therefrom, shall be effective unless the same shall be in writing and signed by the Required Lenders (or by Agent at the written request of the Required Lenders) and Borrower and then any such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given; provided, however, that no such waiver, amendment, or consent shall, unless in writing and signed by all of the Lenders affected thereby and Borrower and acknowledged by Agent, do any of the following:

- (i) increase or extend any Commitment of any Lender,
- (ii) postpone or delay any date fixed by this Agreement or any other Loan Document for any payment of principal, interest, fees, or other amounts due hereunder or under any other Loan Document,
- (iii) reduce the principal of, or the rate of interest on, any loan or other extension of credit hereunder, or reduce any fees or other amounts payable hereunder or under any other Loan Document,

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- (iv) change the percentage of the Commitments that is required to take any action hereunder,
- (v) amend this Section 12 or any provision of the Agreement providing for consent or other action by all Lenders,
- (vi) reserved,
- (vii) change the definition of "Required Lenders",
- (viii) contractually subordinate any of the Agent's Liens,
- (ix) release any Borrower or Subsidiary from any obligation for the payment of money,
- (x) change the definitions of Eligible Accounts, Eligible Inventory or Maximum Line Commitment, or
- (xi) amend any of the provisions of Section 16.

The foregoing notwithstanding, any amendment, modification, waiver, consent, termination, or release of, or with respect to, any provision of this Agreement or any other Loan Document that relates only to the relationship of the Lenders and the Agent among themselves, and that does not affect the rights or obligations of Borrower, shall not require consent by or the agreement of Borrower so long as such amendment, modification, waiver, consent, termination or release does not adversely affect the Borrower in any way, including without limitation by making any agreement or covenant set forth herein more restrictive for the Borrower or any Subsidiary, or adversely affect the rights or benefits of the Borrower under this Agreement or any other Loan Document.

(b) The failure of the Agent, the Lenders or Required Lenders to insist upon the strict performance of any term, condition or other provision of this Agreement or the Loan Documents or the Notes or to exercise any right or remedy hereunder or thereunder shall not constitute a waiver by the Agent, the Lenders or Required Lenders of any such term, condition or other provision or Default or Event of Default in connection therewith; and any waiver of any such term, condition or other provision or of any such Default or Event of Default shall not affect or alter this Agreement or the Loan Documents or the Notes, and each and every term, condition and other provision of this Agreement, the Loan Documents and the Notes shall, in such event, continue in full force and effect and shall be operative with respect to any other then existing or subsequent Default or Event of Default in connection therewith.

Section 13. Pledge to the Federal Reserve. The Lenders may at any time pledge or assign all or any portion of their rights under the Loan Documents including any portion of the Notes to any of the twelve (12) Federal Reserve Banks organized under Section 4 of the Federal Reserve Act, 12 U.S.C. Section 341. No such pledge or assignment or enforcement thereof shall release any such Lender from its obligations under any of the Loan Documents.

Section 14. Jurisdiction; Waiver of Jury Trial. THE BORROWER, TO THE EXTENT THAT IT MAY LAWFULLY DO SO, HEREBY CONSENTS TO SERVICE OF PROCESS, AND TO BE SUED, IN THE COMMONWEALTH OF MASSACHUSETTS AND CONSENTS TO THE JURISDICTION OF THE COURTS OF THE COMMONWEALTH OF MASSACHUSETTS AND THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MASSACHUSETTS, AS WELL AS TO THE JURISDICTION OF ALL COURTS TO WHICH AN APPEAL MAY BE TAKEN FROM SUCH COURTS, FOR THE PURPOSE OF ANY SUIT, ACTION OR OTHER PROCEEDING ARISING OUT OF ANY OF ITS OBLIGATIONS HEREUNDER OR UNDER THE NOTES OR ANY OF THE LOAN DOCUMENTS OR WITH RESPECT TO THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY, AND EXPRESSLY WAIVES ANY AND ALL OBJECTIONS IT MAY HAVE AS TO VENUE IN ANY SUCH COURTS. THE BORROWER FURTHER AGREES THAT A SUMMONS AND COMPLAINT COMMENCING AN ACTION OR PROCEEDING IN ANY OF SUCH COURTS SHALL BE PROPERLY SERVED AND SHALL CONFER PERSONAL JURISDICTION IF SERVED PERSONALLY OR BY CERTIFIED MAIL TO IT AT ITS ADDRESS PROVIDED IN SUBSECTION 15.1 OR AS OTHERWISE PROVIDED UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS. THE BORROWER IRREVOCABLY WAIVES ALL RIGHT TO A TRIAL BY JURY IN ANY PROCEEDING HEREAFTER INSTITUTED IN RESPECT OF THIS AGREEMENT, THE NOTES, THE LOAN DOCUMENTS, OR ANY OTHER DOCUMENTS EXECUTED IN CONNECTION HEREWITH OR THEREWITH. The Borrower hereby certifies that neither the Agent nor the Lenders nor any of their respective representatives, agents or counsel have represented, expressly or otherwise, that the Agent and/or the Lenders would not, in the event of any such suit, action or proceeding, seek to enforce this waiver of right to trial by jury. The Borrower acknowledges that the Lenders have been induced to enter into this Agreement by, among other things, this waiver. The Borrower acknowledges that it has read the provisions of this Agreement and in particular this paragraph; has consulted legal counsel; understands the rights it is granting in this Agreement and is waiving under this Section in particular; and makes the above waiver knowingly, voluntarily and intentionally.

Section 15. Miscellaneous.

15.1. Notices, etc. All notices and other communications hereunder shall be in writing and shall be personally delivered or mailed by first class mail, postage prepaid, as follows:

- (a) If to the Agent:

Brown Brothers Harriman & Co.  
 40 Water Street  
 Boston, Massachusetts 02109  
 Attention: Peter D. Costa, Vice President

with a copy to:

Peter M. Palladino, P.C.  
 Choate, Hall & Stewart  
 Exchange Place

53 State Street  
Boston, Massachusetts 02109

(b) If to the Lenders:

Brown Brothers Harriman & Co.  
40 Water Street  
Boston, Massachusetts 02109  
Attention: Peter D. Costa, Vice President

and to:

Fleet National Bank  
100 Federal Street  
Boston, Massachusetts 02109  
Attention: Michael W. Sweeney, Vice President

(c) If to the Borrower:

Harvard Bioscience, Inc.  
84 October Hill Road  
Holliston, Massachusetts 01746  
Attention: Susan M. Luscinski, CFO

with a copy to:

H. David Henken, P.C.  
Goodwin Procter LLP  
Exchange Place  
53 State Street  
Boston, Massachusetts 02109

or to such other address or addresses as the party to whom such notice is directed may have designated in writing to the other parties hereto. A notice shall be deemed to have been given upon receipt by the party to whom such notice is directed.

15.2. Calculations, etc. Calculations hereunder shall be made and financial data required hereby shall be prepared, both as to classification of items and as to amounts, in accordance with GAAP and practices which principles and practices shall be consistently applied and in conformity with those used in the preparation of the financial statements referred to herein.

15.3. Governmental Approval. The Borrower agrees to take any action which the Agent may reasonably request in order to obtain and enjoy the full rights and benefits granted to the Agent by this Agreement and the Loan Documents, including specifically, at the Borrower's own cost and expense, the use of its best efforts to assist in obtaining approval of any applicable governmental or regulatory authority or court for any action or transaction contemplated by this

Agreement or the Loan Documents which is then required by law, provided, that, the Borrower shall not be required to effect a public registration of all or any part of the Pledged Collateral (as defined in the Pledge Agreement) pursuant to the Securities Act of 1933, as amended, or other similar foreign or state securities law.

15.4. Survival of Agreements, Assignments, etc. This Agreement shall inure to the benefit of the Agent and the Lenders and their respective successors and assigns including any subsequent holder or holders of the Notes, and the term "Lenders" shall include any such subsequent holders. Each Lender may, with the prior consent of the Agent (such consent not to be unreasonably withheld), sell, assign or delegate all or any part of the Loans and other Obligations held by such Lender to one or more transferees or other purchasers thereof. In the event of a sale, assignment or delegation by any Lender of all or any part of the Loans or any of the Obligations (as defined in the Loan Documents) held by it, such Lender may assign or transfer its rights and interests under this Agreement, the Notes and any one or more of the Loan Documents in whole or in part to the transferee(s), purchaser or purchasers thereof, whereupon such transferee(s), purchaser or purchasers shall become vested with all of the powers and rights of such Lender hereunder and thereunder, and such Lender shall thereafter be forever released and fully discharged from any liability or responsibility hereunder or thereunder accruing or arising after the effective date of the assignment with respect to the rights and interests so assigned. All agreements, representations and warranties made herein shall survive the execution and delivery of this Agreement and the making of the Loans hereunder.

15.5. Counterparts, etc. This Agreement may be executed in any number of counterparts and by the different parties hereto on separate counterparts, each of which when so executed and delivered shall be an original, but all the counterparts shall together constitute one and the same instrument.

15.6. Entire Agreement, etc. This Agreement constitutes the entire contract between the parties hereto and shall supersede and take the place of any other instrument purporting to be an agreement of the parties hereto relating to the transactions contemplated hereby. This Agreement may not be changed orally but only by an agreement in writing signed by the party against whom any waiver, change, modification or discharge is sought.

15.7. Governing Law, etc.; Construction.

(a) This Agreement, the Notes and the other Loan Documents, including the validity hereof and thereof and the rights and obligations of the parties hereunder and thereunder, shall be construed in accordance with and governed by the internal laws of The Commonwealth of Massachusetts (without reference to conflicts of laws principles) and is intended to take effect as a sealed instrument. Except as prohibited by law which cannot be waived, the Borrower, the Agent and each Lender hereby waive any right that they may have to claim or recover in any litigation involving the Agent, any Lender or the Borrower any special, exemplary, punitive or consequential damages or any damages other than, or in addition to, actual damages. The provisions of this Agreement are severable; the unenforceability of any provision of this Agreement shall not affect the validity, binding effect and enforceability of any other provision or provisions of this Agreement.

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(b) Any reference to this Agreement, the Notes, the Loan Documents and the other Loan Documents contained herein or in any other Loan Document shall (unless otherwise expressly indicated) be deemed to refer to such writing as the same may be amended, extended and/or restated from time to time in accordance with the terms thereof. The words “herein”, “hereof”, “hereunder” and words of like import shall refer to this Agreement as a whole and not to any particular Section or paragraph of this Agreement. In the event of any conflict between the provisions of this Agreement (on the one hand) and the provisions of any of the other Loan Documents (on the other hand), the provisions of this Agreement shall prevail.

15.8. Participation. Each Lender shall have the unrestricted right at any time and from time to time, and without the consent of or notice to the Borrower, to grant to one or more banks or other financial institutions (each, a “Participant”) participating interests in such Lender’s obligation to lend hereunder and/or any or all of the Loans held by such Lender hereunder. In the event of any such grant by a Lender of a participating interest to a Participant, whether or not upon notice to the Borrower, such Lender shall remain responsible for the performance of its obligations hereunder and the Borrower shall continue to deal solely and directly with such Lender in connection with such Lender’s rights and obligations hereunder. The Lenders may furnish any information concerning the Borrower in their possession from time to time to prospective Participants, provided that the Lenders shall require any such prospective Participant to agree in writing to maintain the confidentiality of such information pursuant to Section 15.9 herein.

15.9. Confidentiality Agreement of the Lenders. All confidential and non-public information obtained by the Agent, the Lenders and their representatives, assigns and successors with respect to the Borrower or any of its Subsidiaries shall be kept strictly confidential by the Agent, the Lenders and their representatives, assigns and successors until otherwise notified by the Borrower. The confidentiality provisions of this subsection 15.9 do not apply to information that (i) is or becomes available in the public domain through no fault of the Agent, the Lenders and their representatives, assigns and successors, (ii) was received by any of them lawfully from a third party through no breach of any obligation of confidentiality owed to the disclosing party or (iii) was created by a party independently of its access to or use of the other party’s confidential information.

#### Section 16. Agent, the Lender Group.

16.1. Appointment and Authorization of Agent. Each Lender hereby designates and appoints Brown Brothers Harriman & Co. (“BBH”) as its agent and representative under this Agreement and the other Loan Documents and each Lender hereby irrevocably authorizes Agent to take such action on its behalf under the provisions of this Agreement and each other Loan Document and to exercise such powers and perform such duties as are expressly delegated to Agent by the terms of this Agreement or any other Loan Document, together with such powers as are reasonably incidental thereto. Agent agrees to act as such on the express conditions contained in this Section 16. The provisions of this Section 16 are solely for the benefit of Agent and the Lenders, and Borrower shall have no rights as a third party beneficiary of any of the provisions contained herein. Any provision to the contrary contained elsewhere in this Agreement or in any other Loan Document notwithstanding, Agent shall not have any duties or responsibilities, except those expressly set forth herein, nor shall Agent have or be deemed to

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have any fiduciary relationship with any Lender, and no implied covenants, functions, responsibilities, duties, obligations or liabilities shall be read into this Agreement or any other Loan Document or otherwise exist against Agent; it being expressly understood and agreed that the use of the word “Agent” is for convenience only, that BBH is merely the representative of the Lenders, and only has the contractual duties set forth herein. Except as expressly otherwise provided in this Agreement, Agent shall have and may use its sole discretion with respect to exercising or refraining from exercising any discretionary rights or taking or refraining from taking any actions that Agent expressly is entitled to take or assert under or pursuant to this Agreement and the other Loan Documents. Without limiting the generality of the foregoing, or of any other provision of the Loan Documents that provides rights or powers to Agent, Lenders agree that Agent shall have the right to exercise the following powers as long as this Agreement remains in effect: (a) maintain, in accordance with its customary business practices, ledgers and records reflecting the status of the Obligations, any collateral, and related matters, (b) execute or file any and all financing or similar statements or notices, amendments, renewals, supplements, documents, instruments, proofs of claim, notices and other written agreements with respect to the Loan Documents, (c) fund Loans, for itself or on behalf of Lenders as provided in the Loan Documents, (d) exclusively receive, apply, and distribute the collections as provided in the Loan Documents, (e) open and maintain such bank accounts and cash management accounts as Agent deems necessary and appropriate in accordance with the Loan Documents for the foregoing purposes with respect to any collateral and the collections, (f) perform, exercise, and enforce any and all other rights and remedies of the Lenders with respect to Borrower, the Obligations, any collateral, the collections, or otherwise related to any of same as provided in the Loan Documents, and (g) incur and pay such Lender group expenses as Agent may deem necessary or appropriate for the performance and fulfillment of its functions and powers pursuant to the Loan Documents.

16.2. Delegation of Duties. Agent may execute any of its duties under this Agreement or any other Loan Document by or through agents, employees or attorneys-in-fact and shall be entitled to advice of counsel concerning all matters pertaining to such duties. Agent shall not be responsible for the negligence or misconduct of any agent or attorney-in-fact that it selects as long as such selection was made without gross negligence or willful misconduct.

16.3. Liability of Agent. None of the Agent, its Affiliates, officers or directors, employees or agents (collectively, the “Agent-Related Persons”) shall (i) be liable for any action taken or omitted to be taken by any of them under or in connection with this Agreement or any other Loan Document or the transactions contemplated hereby (except for its own gross negligence or willful misconduct), or (ii) be responsible in any manner to any of the Lenders for any recital, statement, representation or warranty made by Borrower or any Affiliate of Borrower, or any officer or director thereof, contained in this Agreement or in any other Loan Document, or in any certificate, report, statement or other document referred to or provided for in, or received by Agent under or in connection with, this Agreement or any other Loan Document, or the validity, effectiveness, genuineness, enforceability or sufficiency of this Agreement or any other Loan Document, or for any failure of Borrower or any other party to any Loan Document to perform its obligations hereunder or



16.4. Reliance by Agent. Agent shall be entitled to rely, and shall be fully protected in relying, upon any writing, resolution, notice, consent, certificate, affidavit, letter, telegram, facsimile, telex or telephone message, statement or other document or conversation believed by it to be genuine and correct and to have been signed, sent, or made by the proper Person or Persons, and upon advice and statements of legal counsel (including counsel to Borrower or counsel to any Lender), independent accountants and other experts selected by Agent. Agent shall be fully justified in failing or refusing to take any action under this Agreement or any other Loan Document unless Agent shall first receive such advice or concurrence of the Lenders as it deems appropriate and until such instructions are received, Agent shall act, or refrain from acting, as it deems advisable. If Agent so requests, it shall first be indemnified to its reasonable satisfaction by Lenders against any and all liability and expense that may be incurred by it by reason of taking or continuing to take any such action. Agent shall in all cases be fully protected in acting, or in refraining from acting, under this Agreement or any other Loan Document in accordance with a request or consent of the Lenders and such request and any action taken or failure to act pursuant thereto shall be binding upon all of the Lenders.

16.5. Notice of Default or Event of Default. Agent shall not be deemed to have knowledge or notice of the occurrence of any Default or Event of Default, except with respect to defaults in the payment of principal, interest, fees, and expenses required to be paid to Agent for the account of the Lenders, except with respect to Events of Default of which Agent has actual knowledge, unless Agent shall have received written notice from a Lender or Borrower referring to this Agreement, describing such Default or Event of Default, and stating that such notice is a "notice of default." Agent promptly will notify the Lenders of its receipt of any such notice or of any Event of Default of which Agent has actual knowledge. If any Lender obtains actual knowledge of any Event of Default, such Lender promptly shall notify the other Lenders and Agent of such Event of Default. Each Lender shall be solely responsible for giving any notices to its participants, if any. Subject to subsection 16.4, Agent shall take such action with respect to such Default or Event of Default as may be requested by the Lenders or the Required Lenders, as applicable, provided, however, that unless and until Agent has received any such request, Agent may (but shall not be obligated to) take such action, or refrain from taking such action, with respect to such Default or Event of Default as it shall deem advisable.

16.6. Credit Decision. Each Lender acknowledges that none of the Agent-Related Persons has made any representation or warranty to it, and that no act by Agent hereinafter taken, including any review of the affairs of Borrower, shall be deemed to constitute any representation or warranty by any Agent-Related Person to any Lender. Each Lender represents to Agent that it has, independently and without reliance upon any Agent-Related Person and based on such documents and information as it has deemed appropriate, made its own appraisal of and investigation into the business, prospects, operations, property, financial and other condition and creditworthiness of Borrower and any other Person party to a Loan Document, and all applicable bank regulatory laws relating to the transactions contemplated hereby, and made its own decision to enter into this Agreement and to extend credit to Borrower. Each Lender also represents that it will, independently and without reliance upon any Agent-Related Person and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit analysis, appraisals and decisions in taking or not taking action under this Agreement and the other Loan Documents, and to make such investigations as it deems necessary to inform itself as to the business, prospects, operations, property, financial and other condition and

creditworthiness of Borrower and any other Person party to a Loan Document. Except for notices, reports, and other documents expressly herein required to be furnished to the Lenders by Agent, Agent shall not have any duty or responsibility to provide any Lender with any credit or other information concerning the business, prospects, operations, property, financial and other condition or creditworthiness of Borrower and any other Person party to a Loan Document that may come into the possession of any of the Agent-Related Persons.

16.7. Costs and Expenses; Indemnification. Agent may incur and pay Lender expenses to the extent Agent reasonably deems necessary or appropriate for the performance and fulfillment of its functions, powers, and obligations pursuant to the Loan Documents, including court costs, reasonable attorneys fees and expenses, costs of collection by outside collection agencies and auctioneer fees and costs of security guards or insurance premiums paid to maintain any collateral, whether or not Borrower is obligated to reimburse Agent or Lenders for such expenses pursuant to the Loan Agreement or otherwise. Agent is authorized and directed to deduct and retain sufficient amounts from collections of Accounts received by Agent to reimburse Agent for such out-of-pocket costs and expenses prior to the distribution of any amounts to Lenders. In the event Agent is not reimbursed for such costs and expenses from collections of Accounts received by Agent, each Lender hereby agrees that it is and shall be obligated to pay to or reimburse Agent for the amount of such Lender's pro rata share (based upon total Commitments) thereof. Whether or not the transactions contemplated hereby are consummated, the Lenders shall indemnify upon demand the Agent-Related Persons (to the extent not reimbursed by or on behalf of Borrower and without limiting the obligation of Borrower to do so), according to their pro rata shares (based upon total Commitments), from and against any and all indemnified liabilities; provided, however, that no Lender shall be liable for the payment to any Agent-Related Person of any portion of such indemnified liabilities resulting solely from such Person's gross negligence or willful misconduct nor shall any Lender be liable for the obligations of any defaulting Lender in failing to make a Loan or other extension of credit hereunder. Without limitation of the foregoing, each Lender shall reimburse Agent upon demand for such Lender's ratable share (based upon total Commitments) of any costs or out-of-pocket expenses (including attorneys fees and expenses) incurred by Agent in connection with the preparation, execution, delivery, administration, modification, amendment, or enforcement (whether through negotiations, legal proceedings or otherwise) of, or legal advice in respect of rights or responsibilities under, this Agreement, any other Loan Document, or any document contemplated by or referred to herein, to the extent that Agent is not reimbursed for such expenses by or on behalf of Borrower. The undertaking in this Section shall survive the payment of all Obligations hereunder and the resignation or replacement of Agent.

16.8. Agent in Individual Capacity. BBH and its Affiliates may make loans to, issue letters of credit for the account of, accept deposits from, acquire equity interests in, and generally engage in any kind of banking, trust, financial advisory, underwriting, or other business with Borrower and its Affiliates and any other Person party to any Loan Documents as though BBH were not Agent hereunder, and, in each case, without notice to or consent of the other members of the Lenders. The Lenders acknowledge that, pursuant to such activities, BBH or its Affiliates may receive information regarding Borrower and any other Person party to any Loan Documents that is subject to confidentiality obligations in favor of Borrower or such other Person and that prohibit the disclosure of such information to the Lenders, and the Lenders acknowledge that, in such circumstances (and in the absence of a waiver of such confidentiality

obligations, which waiver Agent will use its reasonable best efforts to obtain), Agent shall not be under any obligation to provide such information to them. The terms “Lender” and “Lenders” include BBH in its individual capacity.

16.9. Successor Agent. Agent may resign as Agent upon 45 days notice to the Lenders. If Agent resigns under this Agreement, the Required Lenders shall appoint a successor Agent for the Lenders. If no successor Agent is appointed prior to the effective date of the resignation of Agent, Agent may appoint, after consulting with the Lenders, a successor Agent. If Agent has materially breached or failed to perform any material provision of this Agreement or of applicable law, the Required Lenders may agree in writing to remove and replace Agent with a successor Agent from among the Lenders. In any such event, upon the acceptance of its appointment as successor Agent hereunder, such successor Agent shall succeed to all the rights, powers, and duties of the retiring Agent and the term “Agent” shall mean such successor Agent and the retiring Agent’s appointment, powers, and duties as Agent shall be terminated. After any retiring Agent’s resignation hereunder as Agent, the provisions of this Section 16 shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Agent under this Agreement. If no successor Agent has accepted appointment as Agent by the date which is 45 days following a retiring Agent’s notice of resignation, the retiring Agent’s resignation shall nevertheless thereupon become effective and the Lenders shall perform all of the duties of Agent hereunder until such time, if any, as the Lenders appoint a successor Agent as provided for above.

16.10. Lender in Individual Capacity. Any Lender and its respective Affiliates may make loans to, issue letters of credit for the account of, accept deposits from, acquire equity interests in and generally engage in any kind of banking, trust, financial advisory, underwriting or other business with Borrower and Affiliates and any other Person party to any Loan Documents as though such Lender were not a Lender hereunder without notice to or consent of the other members of the Lender group. The other members of the Lender group acknowledge that, pursuant to such activities, such Lender and its respective Affiliates may receive information regarding Borrower or its Affiliates and any other Person party to any Loan Documents that is subject to confidentiality obligations in favor of Borrower or such other Person and that prohibit the disclosure of such information to the Lenders, and the Lenders acknowledge that, in such circumstances (and in the absence of a waiver of such confidentiality obligations, which waiver such Lender will use its reasonable best efforts to obtain), such Lender not shall be under any obligation to provide such information to them.

16.11. Withholding Taxes.

(a) If any Lender is a “foreign corporation, partnership or trust” within the meaning of the IRC and such Lender claims exemption from, or a reduction of, US withholding tax under Sections 1441 or 1442 of the IRC, such Lender agrees with and in favor of Agent and Borrower, to deliver to Agent and Borrower:

(i) if such Lender claims an exemption from withholding tax pursuant to its portfolio interest exception, (a) a statement of the Lender, signed under penalty of perjury, that it is not a (I) a “bank” as described in Section 881(c)(3)(A) of the IRC, (II) a 10% shareholder (within the meaning of Section 881(c)(3)(B) of

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the IRC), or (III) a controlled foreign corporation described in Section 881(c)(3)(C) of the IRC, and (B) a properly completed IRS Form W-8BEN, before the first payment of any interest under this Agreement and at any other time reasonably requested by Agent or Borrower;

(ii) if such Lender claims an exemption from, or a reduction of, withholding tax under a United States tax treaty, properly completed IRS Form W-8BEN before the first payment of any interest under this Agreement and at any other time reasonably requested by Agent or Borrower;

(iii) if such Lender claims that interest paid under this Agreement is exempt from United States withholding tax because it is effectively connected with a United States trade or business of such Lender, two properly completed and executed copies of IRS Form W-8ECI before the first payment of any interest is due under this Agreement and at any other time reasonably requested by Agent or Borrower;

(iv) such other form or forms as may be required under the IRC or other laws of the United States as a condition to exemption from, or reduction of, United States withholding tax.

Such Lender agrees promptly to notify Agent and Borrower of any change in circumstances which would modify or render invalid any claimed exemption or reduction.

(b) If any Lender claims exemption from, or reduction of, withholding tax under a United States tax treaty by providing IRS Form W-8BEN and such Lender sells, assigns, grants a participation in, or otherwise transfers all or part of the obligations of Borrower to such Lender, such Lender agrees to notify Agent of the percentage amount in which it is no longer the beneficial owner of obligations of Borrower to such Lender. To the extent of such percentage amount, Agent will treat such Lender’s IRS Form W-8BEN as no longer valid.

(c) If any Lender is entitled to a reduction in the applicable withholding tax, Agent may withhold from any interest payment to such Lender an amount equivalent to the applicable withholding tax after taking into account such reduction. If the forms or other documentation required by subsection (a) of this section are not delivered to Agent, then Agent may withhold from any interest payment to such Lender not providing such forms or other documentation an amount equivalent to the applicable withholding tax.

(d) If the Internal Revenue Service or any other governmental authority of the United States or other jurisdiction asserts a claim that Agent did not properly withhold tax from amounts paid to or for the account of any Lender (because the appropriate form was not delivered, was not properly executed, or because such Lender failed to notify Agent of a change in circumstances which rendered the exemption from, or reduction of, withholding tax ineffective, or for any other reason) such Lender shall indemnify and hold Agent harmless for all amounts paid, directly or indirectly, by Agent as tax or otherwise, including penalties and interest, and including any taxes imposed by any jurisdiction on the amounts payable to Agent under this Section, together with all costs and expenses (including attorneys fees and expenses).

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The obligation of the Lenders under this subsection shall survive the payment of all Obligations and/or the resignation or replacement of Agent.

16.12. Reserved.

16.13. Restrictions on Actions by Lenders; Sharing of Payments.

(a) Each of the Lenders agrees that it shall not, without the express consent of Agent, and that it shall, to the extent it is lawfully entitled to do so subject to the terms of this Agreement, upon the request of Agent, set off against the Obligations, any amounts owing by such Lender to Borrower or any deposit accounts of Borrower now or hereafter maintained with such Lender. Each of the Lenders further agrees that it shall not, unless specifically requested to do so by Agent, take or cause to be taken any action, including, the commencement of any legal or equitable proceedings, to foreclose any Lien on, or otherwise enforce any security interest in, any collateral the purpose of which is, or could be, to give such Lender any preference or priority against the other Lenders with respect to any collateral.

(b) If, at any time or times any Lender shall receive (i) by payment, foreclosure, setoff, or otherwise, any proceeds of any collateral or any payments with respect to the Obligations arising under, or relating to, this Agreement or the other Loan Documents, except for any such proceeds or payments received by such Lender from Agent pursuant to the terms of this Agreement, or (ii) payments from Agent in excess of such Lender's ratable portion of all such distributions by Agent, such Lender promptly shall (1) turn the same over to Agent, in kind, and with such endorsements as may be required to negotiate the same to Agent, or in immediately available funds, as applicable, for the account of all of the Lenders and for application to the Obligations in accordance with the applicable provisions of this Agreement, or (2) purchase, without recourse or warranty, an undivided interest and participation in the Obligations owed to the other Lenders so that such excess payment received shall be applied ratably as among the Lenders in accordance with their pro rata shares (calculated in accordance with the Lenders' respective Commitments); provided, however, that if all or part of such excess payment received by the purchasing party is thereafter recovered from it, those purchases of participations shall be rescinded in whole or in part, as applicable, and the applicable portion of the purchase price paid therefor shall be returned to such purchasing party, but without interest except to the extent that such purchasing party is required to pay interest in connection with the recovery of the excess payment.

16.14. Agency for Perfection. Agent hereby appoints each other Lender as its agent (and each Lender hereby accepts such appointment) for the purpose of perfecting the Agent's Liens in assets which, in accordance with Article 9 of the Code can be perfected only by possession. Should any Lender obtain possession of any such collateral, such Lender shall notify Agent thereof, and, promptly upon Agent's request therefor shall deliver such collateral to Agent or in accordance with Agent's instructions.

16.15. Payments by Agent to the Lenders. All payments to be made by Agent to the Lenders shall be made by bank wire transfer or internal transfer of immediately available funds pursuant to such wire transfer instructions as each party may designate for itself by written notice

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to Agent. Concurrently with each such payment, Agent shall identify whether such payment (or any portion thereof) represents principal, premium, or interest of the Obligations.

16.16. Concerning the Collateral and Related Loan Documents. Each member of the Lender group authorizes and directs Agent to enter into this Agreement and the other Loan Documents relating to any collateral, for the benefit of the Lender group. Each member of the Lender group agrees that any action taken by Agent in accordance with the terms of this Agreement or the other Loan Documents relating to any collateral and the exercise by Agent of its powers set forth therein or herein, together with such other powers that are reasonably incidental thereto, shall be binding upon all of the Lenders.

16.17. Field Audits and Examination Reports; Confidentiality; Disclaimers by Lenders; Other Reports and Information. By becoming a party to this Agreement, each Lender:

(a) is deemed to have requested that Agent furnish such Lender, promptly after it becomes available, a copy of each field audit or examination report (each a "Report" and collectively, "Reports") prepared by Agent, and Agent shall so furnish each Lender with such Reports;

(b) expressly agrees and acknowledges that Agent does not (i) make any representation or warranty as to the accuracy of any Report, and (ii) shall not be liable for any information contained in any Report;

(c) expressly agrees and acknowledges that the Reports are not comprehensive audits or examinations, that Agent or other party performing any audit or examination will inspect only specific information regarding Borrower and will rely significantly upon the books, as well as on representations of Borrower's personnel;

(d) agrees to keep all Reports and other material, non-public information regarding Borrower and its operations, assets, and existing and contemplated business plans in a confidential manner; it being understood and agreed by Borrower that in any event such Lender may make disclosures (a) to counsel for and other advisors, accountants, and auditors to such Lender, (b) reasonably required by any *bona fide* potential or actual assignee or participant in connection with any contemplated or actual assignment or transfer by such Lender of an interest herein or any participation interest in such Lender's rights hereunder, provided that any such assignee or participant shall agree to and become bound by the confidentiality provisions set forth in subsection 15.9 hereof, (c) of information that has become public by disclosures made by Persons other than such Lender, its Affiliates, assignees, transferees, or participants, or (d) as required or requested by any court, governmental or administrative agency, pursuant to any subpoena or other legal process, or by any law, statute, regulation, or court order; and

(e) without limiting the generality of any other indemnification provision contained in this Agreement, agrees: (i) to hold Agent and any such other Lender preparing a Report harmless from any action the indemnifying Lender may take or conclusion the indemnifying Lender may reach or draw from any Report in connection with any loans or other credit accommodations that the indemnifying Lender has made or may make to Borrower, or the indemnifying Lender's participation in, or the indemnifying Lender's purchase of, a loan or

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loans of Borrower; and (ii) to pay and protect, and indemnify, defend and hold Agent, and any such other Lender preparing a Report harmless from and against, the claims, actions, proceedings, damages, costs, expenses, and other amounts (including, attorneys fees and costs) incurred by Agent and any such other Lender preparing a Report as the direct or indirect result of any third parties who might obtain all or part of any Report through the indemnifying Lender.

In addition to the foregoing: (x) any Lender may from time to time request of Agent in writing that Agent provide to such Lender a copy of any report or document provided by Borrower to Agent that has not been contemporaneously provided by Borrower to such Lender, and, upon receipt of such request, Agent shall provide a copy of same to such Lender, (y) to the extent that Agent is entitled, under any provision of the Loan Documents, to request additional reports or information from Borrower, any Lender may, from time to time, reasonably request Agent to exercise such right as specified in such Lender's notice to Agent, whereupon Agent promptly shall request of Borrower the additional reports or information reasonably specified by such Lender, and, upon receipt thereof from Borrower, Agent promptly shall provide a copy of same to such Lender, and (z) any time that Agent renders to Borrower a statement regarding the Loan Account, Agent shall send a copy of such statement to each Lender.

16.18. **Several Obligations; No Liability.** Notwithstanding that certain of the Loan Documents now or hereafter may have been or will be executed only by or in favor of Agent in its capacity as such, and not by or in favor of the Lenders, any and all obligations on the part of Agent (if any) to make any credit available hereunder shall constitute the several (and not joint) obligations of the respective Lenders on a ratable basis, according to their respective Commitments, to make an amount of such credit not to exceed, in principal amount, at any one time outstanding, the amount of their respective Commitments. Nothing contained herein shall confer upon any Lender any interest in, or subject any Lender to any liability for, or in respect of, the business, assets, profits, losses, or liabilities of any other Lender. Each Lender shall be solely responsible for notifying its participants of any matters relating to the Loan Documents to the extent any such notice may be required, and no Lender shall have any obligation, duty, or liability to any participant of any other Lender. Except as provided in subsection 16.7, no member of the Lender group shall have any liability for the acts or any other member of the Lender group. No Lender shall be responsible to any Borrower or any other Person for any failure by any other Lender to fulfill its obligations to make credit available hereunder, nor to advance for it or on its behalf in connection with its Commitment, nor to take any other action on its behalf hereunder or in connection with the financing contemplated herein.

16.19. **Legal Representation of Agent.** In connection with the negotiation, drafting, and execution of this Agreement and the other Loan Documents, or in connection with future legal representation relating to loan administration, amendments, modifications, waivers, or enforcement of remedies, Choate, Hall & Stewart only has represented and only shall represent BBH in its capacity as Agent and as a Lender. Each other Lender hereby acknowledges that Choate, Hall & Stewart does not represent it in connection with any such matters.

[Signature page follows]

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as a sealed instrument as of the date first above written.

HARVARD BIOSCIENCE, INC.

By: /S/ Susan Luscinski  
Name: Susan Luscinski, Chief Financial Officer

BROWN BROTHERS HARRIMAN & CO.,  
as Lender and as Agent for the Lenders

By: /S/ Joseph E. Hall  
Name: Joseph E. Hall, Managing Director

FLEET NATIONAL BANK,  
as Lender

/S/ Michael Sweeney  
Name: Michael Sweeney, Vice President

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**Schedule 1.1**

**Commitments**

Brown Brothers Harriman & Co.	\$	10,000,000
Fleet National Bank	\$	10,000,000
<b>Total Commitments</b>	<b>\$</b>	<b>20,000,000</b>

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EXHIBIT A

FORM OF COMPLIANCE CERTIFICATE

Dated:

Brown Brothers Harriman & Co., as Agent  
40 Water Street  
Boston, Massachusetts 02109  
Attention: Peter D. Costa, Vice President

Re: Revolving Credit Loan Agreement, dated as of November , 2003 (as amended, supplemented or otherwise modified from time to time, the "Loan Agreement") by and among Harvard Bioscience, Inc., a Delaware corporation (the "Borrower"), Brown Brothers Harriman & Co., as Agent for the Lenders (the "Agent") and the Lenders from time to time party thereto. Capitalized terms used herein and not otherwise defined shall have the meanings ascribed to them in the Loan Agreement.

Ladies and Gentlemen:

Concurrently herewith the Borrower delivers to the Agent (i) the unaudited consolidated and consolidating balance sheets of the Borrower and its Subsidiaries and the related unaudited consolidated and consolidating statements of income and surplus for the most recently ended quarterly accounting period of the Borrower and for the period from the beginning of the current fiscal year to the end of such period and (ii) the related unaudited consolidated cash flows for the period from the beginning of the current fiscal year to the end of such period.

This letter shall serve as certification to the Agent that:

(a) In accordance with subsection 5.1(b) of the Loan Agreement, (i) all financial statements delivered herewith have been prepared in accordance with GAAP and fairly present the financial condition of Borrower and its Subsidiaries on a consolidated basis at the close of, and the consolidated results of Borrower's and its Subsidiaries' operations and cash flows for, the periods covered, subject, however to usual year end adjustments and the absence of footnotes, (ii) there does not exist any condition or event that constitutes a Default or Event of Default, or if there is such a Default or Event of Default, the nature of it and the steps (if any) being taken or contemplated by Borrower to be taken on account thereof are set forth as Exhibit 1 attached hereto, and (iii) all representations and warranties of Borrower set forth in the Loan Agreement and other Loan Documents (as supplemented and updated as provided in subsection 4.3(a) of the Loan Agreement) are true and correct in all material respects on and as of the date of this certification, as though made on and as of such date (A) except to the extent that such representations and warranties relate solely to an earlier date, (B) except to the extent such representations and warranties are affected by the consummation of transactions permitted under

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the Loan Agreement, (C) except that references to financial statements shall be deemed to refer to the most recent audited financial statements delivered pursuant to subsection 5.1(a) of the Loan Agreement, and (D) except as set forth on the correspondingly numbered schedule(s) to the Loan Agreement and/or Loan Document, as applicable, attached hereto as Annex 1 (provided that, the Borrower shall not be required to update such schedules more than once every year and such schedules shall be deemed automatically updated pursuant to subsection 4.3(a) of the Loan Agreement). The Borrower hereby authorizes the Agent to attach the foregoing schedule(s) to the applicable Loan Document.

(b) All premiums for insurance as required under subsection 5.3 of the Loan Agreement have been paid, or if any such premiums have not been paid, any unpaid premiums are set forth as Exhibit 2 attached hereto.

(c) Other than such assessments and taxes which are being contested in good faith in accordance with the terms of subsection 5.4 of the Loan Agreement, all assessments and taxes as required under subsection 5.4 of the Loan Agreement have been paid, or if any such assessments or taxes have not been paid, any unpaid assessments or taxes are set forth as Exhibit 3 attached hereto.

(d) In accordance with subsection 5.5 of the Loan Agreement, except as to matters being contested in good faith and by appropriate proceedings, and subject to the provisions of subsection 6.5 (Restricted Payments) thereof, the Borrower and each Subsidiary has paid when due, or in conformance with customary trade terms, all other Indebtedness and obligations incident to the conduct of its business where any failure to pay is reasonably likely to result in a Material Adverse Effect, or if any such amounts have not been paid, any unpaid amounts are set forth as Exhibit 4 attached hereto.

(e) The Leverage Ratio, as of the last day of the fiscal quarter ending [ ] is . :1.0. The maximum permitted Leverage Ratio pursuant to subsection 7.1 of the Loan Agreement for the period is 2.0:1.0.

(f) The Fixed Charge Coverage Ratio, as of the last day of the fiscal quarter ending [ ] is . :1.0. The minimum permitted Fixed Charge Coverage Ratio pursuant to subsection 7.2 of the Loan Agreement for the period is 1.5:1.0.

(g) The aggregate outstanding principal balance of the Revolving Credit Loans as of the last day of the fiscal quarter ending [ ] is \$ . Pursuant to subsection 7.3 of the Loan Agreement, the Working Capital and maximum permitted aggregate outstanding principal balance of the Revolving Credit Loans as of the last day of such period is \$ .

[Signature page follows]

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Such certification is made as of the fiscal quarter ending , 200 .

By: \_\_\_\_\_  
Name:  
Title:

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ANNEX 1

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EXHIBIT 1

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EXHIBIT 2

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EXHIBIT 3

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EXHIBIT 4

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EXHIBIT B

FORM OF REVOLVING CREDIT NOTE

HARVARD BIOSCIENCE, INC.

\$10,000,000

Boston, Massachusetts  
November , 2003

Harvard Bioscience, Inc., a Delaware corporation (the "Borrower"), for value received, hereby promises to pay to (the "Holder"), or order, on or before November , 2006, the principal amount of TEN MILLION and 00/100 dollars (\$10,000,000), or such lesser amount as may, on November , 2006 (the "Maturity Date"), be the aggregate unpaid principal amount of all Revolving Credit Loans made by the Holder to the Borrower pursuant to a certain Revolving Credit Loan Agreement dated as of the date hereof (as amended, restated, supplemented, and/or modified from time to time, the "Loan Agreement") by and between the Borrower, the Holder and other Lenders named therein. Capitalized terms used herein without definition shall have the meanings ascribed to them in the Loan Agreement.

Prior to the Maturity Date, interest only shall be payable on the unpaid principal amount hereof at the rate or rates (including the default rate) specified in the Loan Agreement, payable monthly in arrears on the first day of each calendar month with respect to any portion of this Revolving Credit Note accruing interest based on the Base Rate, and on the earlier to occur of (i) the last day of the LIBOR Period applicable to such LIBOR Portion or (ii) the 90th day of such LIBOR Period in the case of any LIBOR Portion, commencing on the first such date next succeeding the date hereof, and at maturity (whether by acceleration or otherwise). In no event shall the amount contracted for and agreed to be paid by the Borrower as interest on this Revolving Credit Note exceed the highest lawful rate permissible under any law applicable hereto. Each change in the rate of interest payable on this Revolving Credit Note shall take place at the times set forth in the Loan Agreement.

This Revolving Credit Note evidences a loan or loans and other advances under, and is subject to the provisions of, the Loan Agreement. The Holder is entitled to the benefits of the Loan Agreement and to the benefits of the other Loan Documents referred to therein. Neither this reference to the Loan Agreement and the other Loan Documents, nor any provisions thereof, shall affect or impair the absolute and unconditional obligation of the Borrower to pay the principal of and interest on this Revolving Credit Note as provided herein. All payments of principal of and interest on this Revolving Credit Note shall be payable in immediately available funds as set forth in the Loan Agreement. In the event of a conflict between the terms of this Revolving Credit Note and the terms of the Loan Agreement, the terms of the Loan Agreement will prevail.

This Revolving Credit Note is subject to prepayment in whole or in part, and to acceleration, in both instances at the times and in the manner specified in the Loan Agreement.

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The maker and all endorsers of this Revolving Credit Note hereby waive presentment, demand, notice, protest and all other demands and notices in connection with the delivery, acceptance, performance or enforcement of this Revolving Credit Note.

This Revolving Credit Note is governed by the laws of The Commonwealth of Massachusetts and is executed as a sealed instrument as of the date first above written.

HARVARD BIOSCIENCE, INC.

By: \_\_\_\_\_

Name:

Title:

EXHIBIT C

FORM OF PRO-FORMA COMPLIANCE CERTIFICATE

Brown Brothers Harriman & Co., as Agent  
40 Water Street  
Boston, Massachusetts 02109  
Attention: Peter D. Costa, Vice President

Re: Revolving Credit Loan Agreement, dated as of November , 2003 (the "Loan Agreement") by and among Harvard Bioscience, Inc., a Delaware corporation (the "Borrower"), Brown Brothers Harriman & Co., as Agent for the Lenders (the "Agent") and the Lenders from time to time party thereto. Capitalized terms used herein and not otherwise defined shall have the meanings ascribed to them in the Loan Agreement.

Ladies and Gentlemen:

Concurrently herewith the Borrower delivers to the Agent (i) the Opening Balance Sheet and (ii) the Solvency Certificate.

This letter shall serve as certification to the Agent that after giving effect to the transactions contemplated by the Loan Agreement and Loans thereunder requested on the date hereof, that:

(a) In accordance with subsection 3.4 of the Loan Agreement:

(i) all financial statements delivered to the Agent have been prepared in accordance with GAAP applied on a consistent basis and fairly present the financial position and results of operations of the Borrower and its Subsidiaries on a consolidated basis as of the dates and for the periods indicated; (ii) all representations and warranties of Borrower set forth in the Loan Agreement and other Loan Documents are true and correct in all material respects on and as of the date of this certification; and (iii) there does not exist any condition or event that constitutes a Default or Event of Default.

(b) The Leverage Ratio, as of the last day of the fiscal quarter ending September 30, 2003 pro forma to give effect to the transactions contemplated by the Loan Agreement and the Loans made on the date hereof, is . :1.0. The maximum permitted Leverage Ratio pursuant to subsection 7.1 of the Loan Agreement for the period is 2.0:1.0.

(c) The Fixed Charge Coverage Ratio, as of the last day of the fiscal quarter ending September 30, 2003 pro forma to give effect to the transactions contemplated by the Loan Agreement and the Loans made on the date hereof, is . :1.0. The minimum permitted Fixed Charge Coverage Ratio pursuant to subsection 7.2 of the Loan Agreement for the period is 1.5:1.0.

(d) Pursuant to subsection 7.3 of the Loan Agreement, the Working Capital and maximum permitted aggregate outstanding principal balance of the Revolving Credit Loans as of

the last day of the fiscal quarter ending September 30, 2003 pro forma to give effect to the transactions contemplated by the Loan Agreement and the Loans made on the date hereof, is \$ .

[Signature page follows]

Such certification is made as of November , 2003.

HARVARD BIOSCIENCE, INC.

By: \_\_\_\_\_  
Name:  
Title: Chief Financial Officer

EXHIBIT D

FORM OF SOLVENCY CERTIFICATE

November , 2003

This Solvency Certificate is delivered to Brown Brothers Harriman & Co., as Agent for the Lenders (the "Agent"), pursuant to subsection 4.1 of the Revolving Credit Loan Agreement dated as of the date hereof (the "Loan Agreement") by and among Harvard Bioscience, Inc., a Delaware corporation (the "Borrower"), the Agent and the Lenders from time to time party thereto. Capitalized terms used herein and not otherwise defined shall have the meanings ascribed to them in the Loan Agreement.

I, Susan Luscinski, as Chief Financial Officer of the Borrower and not in my individual capacity, hereby certify on behalf of the Borrower as follows:

1. I am the duly elected Chief Financial Officer of the Borrower. I am familiar with the properties, business, assets and financial affairs of the Borrower and its Subsidiaries and am authorized to execute this Certificate on behalf of the Borrower;
2. The fair value of the assets of the Borrower individually and on a consolidated basis with its Subsidiaries is greater than the amount of the Borrower's liabilities (including disputed, contingent and unliquidated liabilities) as such value is established and liabilities evaluated for purposes of Section 101(32) of the United States Bankruptcy Code, as in effect from time to time;
3. The present fair salable value of the assets of the Borrower and its Subsidiaries on a consolidated basis in an orderly liquidation of the Borrower and its Subsidiaries is not less than the amount that will be required to pay the probable liability of the Borrower and its Subsidiaries on their respective debts as they become absolute and matured;
4. The Borrower individually and on a consolidated basis with its Subsidiaries is able to realize upon its property and pay its debts and other liabilities (including disputed, contingent and unliquidated liabilities) as they mature in the normal course of business;
5. The Borrower does not intend to, and does not believe that it will, incur debts or liabilities beyond its ability to pay as such debts and liabilities mature;
6. The Borrower is not engaged in business or a transaction, and is not about to engage in business or a transaction, for which its property would constitute unreasonably small capital; and
7. On the date hereof, immediately before and after giving effect to the Loans and the consummation of the transactions contemplated by the Loan Agreement, the Borrower individually and on a consolidated basis with its Subsidiaries is Solvent.

[Signature page follows]

IN WITNESS WHEREOF, I have executed this Solvency Certificate under seal as of the date first above written.

HARVARD BIOSCIENCE, INC.

By: \_\_\_\_\_  
Susan Luscinski  
Chief Financial Officer

EXHIBIT E

FORM OF BORROWING REQUEST

Dated:

Brown Brothers Harriman & Co., as Agent  
40 Water Street  
Boston, Massachusetts 02109  
Attention: Peter D. Costa, Vice President



Re: Revolving Credit Loan Agreement, dated as of November , 2003 (as amended, supplemented or otherwise modified from time to time, the "Loan Agreement") by and among Harvard Bioscience, Inc., a Delaware corporation (the "Borrower"), Brown Brothers Harriman & Co., as Agent for the Lenders (the "Agent") and the Lenders from time to time party thereto. Capitalized terms used herein and not otherwise defined shall have the meanings ascribed to them in the Loan Agreement.

Ladies and Gentlemen:

(a) Pursuant to subsection 1.2(b) of the Loan Agreement, the Borrower hereby gives notice of its intention to borrow a Revolving Credit Loan in an aggregate principal amount of \$ on , 200 , (the "Borrowing Date") which borrowing shall consist of the following Loan:

Type of Loan (LIBOR Portion or Base Rate Loan)	Amount	first day of the LIBOR Period	LIBOR Period days
	\$	, 200	

(b) The location and account to which funds are to be disbursed is the following:

[To be completed by the Borrower]

(c) The Borrower hereby certifies that on the date hereof and on the Borrowing Date set forth above, and immediately after giving effect to the Loan requested hereby, no Default or Event of Default shall have occurred and be continuing.

IN WITNESS WHEREOF, the Borrower has duly executed this Borrowing Request as of the date and year first above written.

HARVARD BIOSCIENCE, INC.

By:

\_\_\_\_\_  
Name:  
Chief Financial Officer

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CONFIDENTIAL INFORMATION HAS BEEN OMITTED PURSUANT TO RULE 24b-2 UNDER THE SECURITIES EXCHANGE ACT OF 1934 AND HAS BEEN FILED SEPARATELY WITH THE COMMISSION. THE LOCATIONS OF THE OMITTED INFORMATION ARE INDICATED BY THE FOLLOWING NOTATION: [OMITTED MATERIAL].

EXECUTION COPY

### DISTRIBUTION AGREEMENT

This DISTRIBUTION AGREEMENT (the "Agreement"), is made as of the 24th day of November, 2003 (the "Effective Date") among Hoefer, Inc., a Delaware corporation having a principal place of business at 654 Minnesota Street, San Francisco, California 94107-0387 ("Hoefer"); Harvard Bioscience, Inc., a Delaware corporation having a principal place of business at 84 October Hill Road, Holliston, Massachusetts 01746 ("HBIO"), solely for the limited purpose of performing the obligations set forth in Section 19.16 below; and Amersham Biosciences Corp, a Delaware corporation, having a principal place of business at 800 Centennial Avenue, Piscataway, New Jersey 08855 ("AB").

#### WITNESSETH:

WHEREAS, pursuant to that certain Asset Purchase Agreement by and among HBIO, Hoefer, Amersham Biosciences (SF) Corp. ("Seller") and AB of even date herewith (the "Purchase Agreement"), Hoefer is purchasing from Seller certain assets related to Seller's 1-D gel electrophoresis business (the "Acquisition");

WHEREAS, it is a condition to the closing of the Acquisition that AB enter into this Agreement with Hoefer and HBIO and that this Agreement become effective upon the closing of the Acquisition;

WHEREAS, subsequent to the closing of the Acquisition, Hoefer will be the reseller or manufacturer and seller of certain Products and Equivalent Products (each as hereinafter defined);

WHEREAS, Hoefer and AB recognize AB's strength in marketing Products to certain categories of customers; and

WHEREAS, Hoefer and AB desire that AB distribute the Products on the terms and subject to the conditions set forth in this Agreement.

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

#### 1. Definitions.

1.1 "AB Trademarks" shall mean (a) any of the trademarks, service marks, trade names or logos owned by AB or its Affiliates or any successor entities and (b) the Product Trademarks.

1.2 "Adjusted Contract Year Purchase Minimum" shall mean any of Adjusted Contract Year One Purchase Minimum, Adjusted Contract Year Two Purchase Minimum or Adjusted Contract Year Three Purchase Minimum as each of such terms is defined in Schedule 2 hereof.

1.3 "Affiliate" shall mean any company or entity that directly or indirectly through one or more intermediaries Controls, is Controlled by, or is under common Control with a party, where "Control" means the ownership of at least fifty percent (50%) of such company's or entity's

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capital stock or the power to direct or cause the direction of such company's or entity's management, whether by ownership of securities, by contract or otherwise.

1.4 "Contract Year" shall mean any of Contract Year One, Contract Year Two, Contract Year Three, Contract Year Four, Contract Year Five or any other subsequent period of the same length prior to the termination of this Agreement commencing immediately subsequent to a Contract Year. "Contract Year One" shall mean the period from the Effective Date until September 30, 2004. "Contract Year Two" shall mean the period from October 1, 2004 until September 30, 2005. "Contract Year Three" shall mean the period from October 1, 2005 to September 30, 2006. "Contract Year Four" shall mean the period from October 1, 2006 to September 30, 2007. "Contract Year Five" shall mean the period from October 1, 2007 to September 30, 2008.

1.5 "Effective Date" shall have the meaning set forth above.

1.6 "Equivalent Products" shall mean any products which have the same or substantially the same external appearance, base function and internal components of the Products, or are functionally equivalent thereto, but which do not bear or otherwise display any of the AB Trademarks.

1.7 "European Economic Area" means the territories defined in the Agreement on the European Economic Area, signed in Oporto on May 2, 1992, as such agreement has been amended or may be amended from time to time. The member countries currently consist of the Kingdom of Belgium, the Kingdom of Denmark, the Federal Republic of Germany, the Hellenic Republic, the Kingdom of Spain, the French Republic, Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the Portuguese Republic, the United Kingdom of Great Britain and Northern Ireland, the Republic of Austria, the Republic of Finland, the Republic of Iceland, the Principality of Liechtenstein, the Kingdom of Norway, and the Kingdom of Sweden.

1.8 "Hoefer Trademarks" shall mean any of the trademarks, service marks, trade names or logos owned by Hoefer or its Affiliates other than the Product Trademarks.

1.9 "Intellectual Property Rights" means all rights in, to and under patents, trade secret rights, copyrights, trademarks, service marks, logos, trade dress and similar rights of any type under the laws of any governmental authority, including without limitation, all applications and registrations relating to the foregoing.

1.10 "Product Trademarks" shall mean the trademarks owned by Hoefer or its Affiliates listed on Schedule 6 attached hereto.

1.11 "Products" shall mean the products listed in Schedule 1 attached hereto and all updates or replacements thereof and any other 1-D Products manufactured and sold or resold by Hoefer in the future, in each case solely to the extent that any such updates, replacements or other 1-D products are added to Schedule 1 in accordance with Sections 8.1 or 8.3. "1-D Products" shall mean gel electrophoresis equipment, instrumentation and accessories that aid in the analysis of proteins according to a single property, either isoelectric point or molecular weight, and that aid in the analysis of nucleic acids according to a combination of charge and

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size. "2-D Products" shall mean gel electrophoresis equipment, instrumentation and accessories that aid in the analysis of proteins according to the two independent properties of isoelectric points and molecular weight in any combination. The terms Products, 1-D Products and 2-D Products shall not include reagents (including gel electrophoresis reagents). Notwithstanding anything herein to the contrary, any and all products listed in Schedule 1 shall be deemed a "Product" under this Agreement, regardless of whether any such product bears or otherwise displays an AB Trademark, a Hoefer Trademark, a third party trademark or any combination of the foregoing or no trademark.

1.12 "Restricted Distributor" shall mean any of the following entities: **[OMITTED MATERIAL]** and each of their respective Affiliates.

1.13 "Seller Affiliate" shall mean (a) Amersham plc and any successor to Amersham plc, (b) any company or entity (including, without limitation, AB and Seller) that, on or after the Effective Date, directly or indirectly through one or more intermediaries is Controlled by Amersham plc or by a successor to Amersham plc, and any successor to any such company or entity, and (c) in the event of an assignment by AB to an assignee in accordance with Section 19.9, such assignee and Affiliates of such assignee; provided that no Qualified Company (as hereinafter defined), Non-Qualified Company (as hereinafter defined), or owner of Amersham plc or of a successor to Amersham plc shall be considered a Seller Affiliate.

1.14 "Territory" shall mean the world.

1.15 "USD" shall mean United States Dollars.

## 2. Appointment of Distributor.

2.1 Appointment. Subject to the terms and conditions hereof and except as otherwise set forth in Section 2.4 below, Hoefer hereby appoints AB as the exclusive distributor, marketer and seller of the Products which, subject to Section 2.5 below, bear or otherwise display AB Trademarks in the Territory. AB agrees to market, distribute and sell the Products solely under AB Trademarks unless the parties agree in writing that AB may market, distribute and sell Products which bear the AB Trademarks and/or Hoefer Trademarks. The preceding notwithstanding, the parties acknowledge that Hoefer and AB each have an inventory of Products that may bear both the AB and Hoefer Trademarks and that Hoefer will require a reasonable period of time in which to modify its procedures so as to manufacture and sell Products which, consistent with past practice, or as reasonably requested by AB and to the extent practicable, bear AB Trademarks and, unless otherwise agreed by the parties in writing, do not bear Hoefer Trademarks. Accordingly, the parties agree as follows: (a) Hoefer will exercise commercially reasonable efforts to promptly modify its procedures in order to manufacture, sell or resell Products to AB which consistent with past practice, or as reasonably requested by AB and to the extent practicable, bear AB Trademarks and, unless otherwise agreed by the parties in writing, do not bear Hoefer Trademarks; (b) for a period of up to 270 days after the Effective Date, Hoefer may supply, and AB shall accept, delivery of Products which may bear Hoefer Trademarks; and (c) AB shall have the right to market, sell and distribute any such Products and any other Products in AB's inventory which may bear Hoefer Trademarks, whether before or

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after the foregoing 270 day period. For the avoidance of doubt: (x) Hoefer may not sell to any party other than AB any Product that bears an AB Trademark; and (y) AB may not use any of the Hoefer Trademarks, except in connection with (i) distributing and selling of any Products which AB has in inventory on the date hereof or which are purchased from Hoefer prior to the end of the foregoing 270 day period and/or (ii) distributing marketing materials in existence on the date hereof, without the prior written consent of Hoefer. AB shall obtain Hoefer's written approval of all samples of any materials (other than materials provided by Hoefer) which bear or display any Hoefer Trademark or Product Trademark prior to any use of a Hoefer Trademark or Product Trademark, any and all use of the Hoefer Trademarks and of the Product Trademarks by AB or any of its Affiliates inures solely to the benefit of Hoefer and any right AB or any of its Affiliates may acquire in such trademarks is hereby assigned to Hoefer or its Affiliates absolutely; provided further that, AB shall not use the Hoefer Trademarks or the Product Trademarks in a manner or form whereby, in Hoefer's reasonable opinion, the goodwill and reputation of such trademarks are prejudiced or damaged.

2.2 Hoefer is Exclusive Supplier. Except as otherwise permitted in Section 8.3(b) or Section 15, AB agrees that, in the geographic areas and for the time periods set forth in this Section 2.2 below AB and the Seller Affiliates shall not, directly or indirectly, manufacture any product, purchase any product from any company or entity other than Hoefer, and/or market, sell or distribute any product (other than a Product pursuant to this Agreement) which (a) is substantially the same as any of the Products or (b) has substantially the same external appearance, base function and internal components of any of the Products or is functionally equivalent thereto. Such restrictions shall apply: (x) in the European Economic Area for the Initial Term plus any Tail Period; and (y) in the rest of the world for the Term of this Agreement plus any Tail Period (the aforementioned territories being referred to as the "Restricted Territories" during the applicable time periods). The term "Tail Period" shall mean: (m) in the European Economic Area, the one (1) year period following any termination of this Agreement (other than any termination by AB under Section 17.2) effective during the Initial Term; and (n) in the rest of the world, the one (1) year period following any termination of this Agreement (other than any termination by AB under Section 17.1(b) or 17.2); provided that such Tail Period shall not extend beyond September 30, 2013.

2.3 AB Sub-distributors. AB shall be entitled to appoint one or more sub-distributors (each, a "Sub-distributor"). AB shall have written agreements (each a "Sub-distribution Agreement") with any and all Sub-distributors that are not Affiliates of AB (each an "Independent Sub-distributor"); provided, however, that in no event shall any Sub-distribution Agreement contain terms and conditions, that are inconsistent with the terms and conditions of this Agreement. Notwithstanding AB's entering into any Sub-distribution Agreement, AB shall remain responsible to Hoefer for any and all actions or inactions of its Sub-distributors in connection with the performance of any AB obligations under this Agreement, and AB shall not be relieved from responsibility for

its obligations under this Agreement. Hoefer shall not be required to seek fulfillment of, or otherwise enforce, such obligations from or against any Sub-distributor or any party other than AB.

2.4 Hoefer Distribution of Equivalent Products. Hoefer may directly (e.g., to end users or customers), or indirectly, through one or more distributors, market, sell and/or distribute Equivalent Products under any trademarks other than the AB Trademarks or no trademarks;

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provided, however, that in light of, among other things, AB's undertakings in Section 11.1(a) below, Hoefer will not engage or appoint any Restricted Distributor to market, sell and/or distribute any of the Equivalent Products: (a) during Contract Year One, Contract Year Two or Contract Year Three; and (b) thereafter until the earlier of: (i) the termination of this Agreement; and (ii) such time as the total amount of Products purchased by AB from Hoefer multiplied by the transfer price for such Products then in effect under this Agreement (reduced by any credit notes or refunds issued for returns or discounts applied to any such Products) for each of three (3) consecutive calendar months falls below **[OMITTED MATERIAL]**.

2.5 AB Trademarks Usage. Hoefer shall utilize AB Trademarks only in connection with the manufacturing of Products for sale to AB pursuant to this Agreement. Hoefer agrees as follows:

(a) Hoefer shall be responsible for the safe and suitable packaging of the Products for delivery;

(b) The Products, product literature and packaging shall, consistent with past practice, or as reasonably requested by AB and to the extent practicable, state that the Products are manufactured by and/or for Hoefer and shall, consistent with past practice, or as reasonably requested by AB and to the extent practicable, bear AB Trademarks specified by AB to be affixed by and at the expense of Hoefer (except as otherwise contemplated in Section 10.1(k)). Hoefer shall obtain AB's prior written approval of all samples of product literature and packaging relating to the Products.

(c) AB or its Affiliates own all AB Trademarks (other than Product Trademarks) appearing on or used in relation to the Products and literature pursuant to this Section 2.5;

(d) Hoefer may only use AB Trademarks for the purposes set forth in this Agreement during the Term of this Agreement; provided, however, that nothing herein shall restrict Hoefer's use of any of the Product Trademarks after the termination of this Agreement;

(e) Any and all use of the AB Trademarks (other than Product Trademarks) by Hoefer will inure to the benefit of AB and any right Hoefer or any of its Affiliates may acquire in such trademarks is hereby assigned to AB or its Affiliates absolutely;

(f) Hoefer shall not use the AB Trademarks in a manner or form whereby, in AB's reasonable opinion, the goodwill or reputation of such trademarks is prejudiced or damaged; and

(g) Hoefer hereby grants AB and its Affiliates an exclusive (even as to Hoefer), worldwide, non-royalty bearing license to use the Product Trademarks in connection with distributing and selling the Products, any marketing media relating to the Products and otherwise consistently with its rights and obligations hereunder during the Term. AB shall not and will ensure that none of its Affiliates modify or alter the Product Trademarks without first obtaining Hoefer's written consent, which shall not be unreasonably withheld or delayed. AB and its Affiliates shall display such notices as may be necessary to preserve and protect Hoefer's Intellectual Property Rights in the Product Trademarks. AB and its Affiliates shall not use any

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trademark, trade name, logo, internet domain name or design which is the same or substantially similar to any of the Product Trademarks as such to cause confusion in the mind of a reasonable person. If Hoefer at any time finds that AB's or any of its Affiliates' use of any of the Product Trademarks is not consistent with standards of quality acceptable to Hoefer, Hoefer may notify AB in writing of such deficiencies, and if AB fails to correct such deficiencies within forty five (45) days after receipt of such notice, Hoefer may, at its election, terminate this license effective immediately. Hoefer reserves all rights to the Product Trademarks except as expressly granted herein to AB and its Affiliates. AB and its Affiliates shall never challenge Hoefer's ownership of or right to license, or the validity of, the Product Trademarks, any application for registration thereof or any trademark registration thereof.

### 3. Forecasts; Orders.

3.1 Forecasts. AB will submit a 90 day non-binding units forecast for AB's future Product needs to Hoefer each calendar quarter. This forecast will be used by Hoefer for production planning. AB shall submit such forecast to Hoefer no later than ten (10) days after the beginning of each calendar quarter. AB shall use commercially reasonable efforts to provide reasonable estimates in such forecasts.

3.2 Orders. Although AB may submit its standard purchase order form for orders, change orders, or other notices hereunder, such orders, change orders, or notices will be governed by the terms and conditions of this Agreement and any term or condition set forth in any such form which is inconsistent with or in addition to the terms and conditions of this Agreement shall have no force or effect. AB will submit purchase orders (each, a "PO") in a manner and form consistent with past practice. Subject to the foregoing, AB may, in its sole discretion, change the manner in which it submits POs; provided that such change does not unreasonably increase the expenses incurred by or workload required by Hoefer to respond to and/or accept any such PO.

3.3 Acceptance of Orders. Hoefer shall accept any PO submitted by AB that is consistent with the terms of this Agreement. If AB submits a PO that is not consistent with the terms of this Agreement, Hoefer will notify AB of such fact within five (5) business days and each of AB and Hoefer will work together expeditiously and in good faith to address and resolve the issues which caused Hoefer to query such PO. If the parties cannot resolve such outstanding issues within five (5) business days after the date of Hoefer's notice, Hoefer may reject such PO. If Hoefer does not give AB notice of a PO's inconsistency with this Agreement within five (5) business days, such PO shall be deemed accepted. Notwithstanding anything herein to the contrary, in the event that AB submits a PO which is consistent with the terms of this Agreement but contains terms which Hoefer cannot reasonably fulfill (e.g., delivery timing or unusually large order (as measured against AB's applicable forecast or, if no such forecast has been issued, against AB's average orders during the prior calendar quarter)), Hoefer shall notify AB within five (5) business days and each of AB and Hoefer will work together expeditiously and in good faith to address and resolve such issue(s) within five (5) business days. If the parties cannot resolve such issue(s) within five (5) business days after the date of

#### 4. Delivery of Products.

4.1 "Ex Works" Delivery. The Products sold by Hoefer to AB shall be delivered "ex works" Hoefer's production facility located in San Francisco, California, or if such location is moved, to such other location as Hoefer notifies AB in writing. The term "ex works" as used in this Agreement refers to Incoterms 2000.

4.2 Delivery of Products. Subject to the requirement that the Products shall be delivered "ex works", Hoefer will deliver, consistent with past practice, the Products covered by a PO which it has accepted or is deemed to have accepted. AB may change the way that Products are delivered "ex-works" from Hoefer to AB, at AB's sole discretion; provided that such change does not unreasonably increase the expenses incurred by or workload required by Hoefer to so deliver such Products.

#### 5. Prices.

5.1 Initial Price List. The transfer prices for Products sold by Hoefer to AB from the Effective Date until December 31, 2004 shall be the transfer prices set forth in Schedule 1 attached hereto; provided that such transfer prices shall be not less favorable to AB than any transfer prices for Equivalent Products offered by Hoefer to any other customer or distributor under substantially similar circumstances (e.g., substantially similar purchase commitments and volumes).

5.2 Delivery of Subsequent Price Lists. Subsequent price lists for the Products shall be prepared in accordance with the provisions of this Section 5 and issued by Hoefer at least three (3) months prior to the commencement of calendar year 2005 and each calendar year thereafter. Notwithstanding any other provisions of this Agreement, in all cases transfer prices shall be not less favorable to AB than any transfer prices for Equivalent Products offered by Hoefer to any other customer or distributor under substantially similar circumstances (e.g., substantially similar purchase commitments and volumes).

5.3 Price Increases. The parties shall meet on or before one hundred twenty (120) days prior to the end of each calendar year beginning with calendar year 2004 and negotiate in good faith increases in the transfer prices of Products to be sold to AB in the subsequent calendar year such price increase to be effective as of on January 1 of each such calendar year; provided, that (a) for calendar year 2005, Hoefer may, in its sole discretion, increase the transfer prices of Products sold to AB by up to **[OMITTED MATERIAL]** over the transfer prices previously in effect, and (b) for each of calendar years 2006 and 2007 and each calendar year thereafter, Hoefer may, in its sole discretion, increase the transfer prices of Products sold to AB by up to **[OMITTED MATERIAL]** over the transfer prices previously in effect. Any transfer price increase in excess of **[OMITTED MATERIAL]** in 2005 and **[OMITTED MATERIAL]** in each of 2006 and 2007 and in each calendar year thereafter must be mutually agreed upon by the parties; provided however that, in the event that AB or any Seller Affiliate, directly or indirectly, manufactures any Restricted Product, purchases any Restricted Product from any company or entity other than Hoefer, and/or markets, sells or distributes any Restricted Product (other than a Product pursuant to this Agreement) in the European Economic Area during the Renewal Term, AB will immediately notify Hoefer in writing and Hoefer may unilaterally increase the transfer prices of

Products sold to AB by up to **[OMITTED MATERIAL]** over the transfer prices previously in effect. The term "Restricted Product" shall mean any 1-D Product other than any product described in Section 15.1(a) or any Rejected Requested 1-D Product.

5.4 General. All transfer prices for Products shall be stated in USD and will exclude those items described in Section 9.5 below, which items shall be paid by AB in accordance with Section 9.5 below.

#### 6. Minimum Annual Purchases.

6.1 For purposes of this Section 6, a "purchase" of Products shall be deemed to be made on the actual date that Hoefer delivers the Products "ex works" in accordance with Section 4 above. A purchase of Products shall be deemed to have been made as of the final day of Contract Year Three, notwithstanding that Hoefer has not delivered such Products "ex works", in the event that (a) AB has submitted a PO for such Products thirty (30) days or more prior to such date and (b) such PO has been deemed accepted by Hoefer in accordance with Section 3 of this Agreement.

6.2 During each of Contract Year One, Contract Year Two and Contract Year Three, AB will purchase from Hoefer a sufficient number of Products such that the aggregate purchase price (this calculation to be based on the units of Products purchased by AB from Hoefer during a Contract Year multiplied by the applicable transfer price for such Products then in effect for such Contract Year reduced by any credit notes or refunds issued for returns or discounts applied to such purchased Products) (the "Aggregate Purchase Price") of Products purchased by AB during a Contract Year shall be at least equal to the applicable Adjusted Contract Year Purchase Minimum (each as determined and defined on Schedule 2); provided that it shall not be a breach of this Agreement if AB does not meet such Adjusted Contract Year Purchase Minimum in any such period provided that AB complies with its obligations under Section 7.

#### 7. Minimum Adjustment Mechanisms; Failure to Meet Minimums; Inventory Over-Stocking Payment and Related Reports.

7.1 Minimum Adjustment Mechanisms. As set forth in Schedule 2, the Initial Contract Year Purchase Minimum (as defined on Schedule 2) for Contract Year Two and Contract Year Three shall be reduced by the amount of (i) the dollar value amount, if any, of the Aggregate Purchase Price of Products purchased by AB during the immediately prior Contract Year in excess of the Adjusted Contract Year Purchase Minimum for the immediately prior Contract Year. In addition, as set forth in Schedule 2, the Initial Contract Year Purchase Minimum for each Contract Year shall be reduced by the aggregate sales by Hoefer for sales of Equivalent Products during such Contract Year (this calculation to be based on units of Equivalent Products sold by Hoefer (excluding any and all returned units) multiplied by the transfer price for the corresponding equivalent Products then in effect under this Agreement).

7.2 Failure to Meet Minimums. In the event that AB does not purchase, during any of Contract Year One, Contract Year Two or Contract Year Three, from Hoefer a sufficient number of Products such that the Aggregate Purchase Price of Products purchased by AB during such

Contract Year is not equal to or greater than the applicable Adjusted Contract Year Purchase Minimum for such Contract Year, then the following shall apply:

(a) Make Good Order. Subject to Section 7.2(b), on or prior to thirty (30) days after the end of any such Contract Year, AB shall submit to Hoefer a PO (a "Make Good PO") which is clearly identified as a Make Good PO to order an amount of Products such that the aggregate purchase price (this calculation to be based on the units of Products ordered by AB from Hoefer via the Make Good PO multiplied by the applicable transfer price for such Products then in effect as of the date of such Make Good PO reduced by any discounts applied to such Products) (the "MGPO Aggregate Purchase Price") of such Products is at least equal to the difference between (i) the applicable Adjusted Contract Year Purchase Minimum for such Contract Year and (ii) the Aggregate Purchase Price for all Products purchased by AB during such Contract Year prior to submitting such Make Good PO. For the avoidance of doubt, the parties agree that purchases of Products pursuant to a Make Good PO will not be included as purchases of Products during any Contract Year in which the Make Good PO is submitted by AB for purposes of calculating whether AB has met an applicable Adjusted Contract Year Purchase Minimum.

(b) Inventory Restriction.

(i) Notwithstanding the provisions of Section 7.2(a), with respect to Contract Year Three only, AB shall not submit and shall not be permitted to submit a Make Good PO which orders an amount of Products such that the MGPO Aggregate Purchase Price for such ordered Products is in excess of the greater of X or Y where:

X = [OMITTED MATERIAL]

Y = [OMITTED MATERIAL]

As used herein, the "Starting Inventory Value" means the product of (A) the number of units of Products held by or on behalf of AB in inventory as of September 30, 2003 as set forth on Schedule 5 (the "Starting Inventory Units") and (B) the transfer price per unit of such Products as of September 30, 2006, or if such Products have been removed from Schedule 1, the transfer price of such Products as of the date they were removed from Schedule 1. As used herein, the "Ending Inventory Value" means the product of (1) the number of units of Products held by or on behalf of AB in inventory as of September 30, 2006 and (2) the transfer price per unit of such Products as of September 30, 2006, or if such Products have been removed from Schedule 1, the transfer price of such Products as of the date they were removed from Schedule 1. AB shall deliver to Hoefer notice within a reasonable time after September 30, 2006, setting forth the number of units of Products held by or on behalf of AB in inventory as of such date and AB's computation of the Starting Inventory Value and the Ending Inventory Value. AB shall use the same methodology to measure the number of units of Products held by or on behalf of AB in inventory as of September 30, 2006 as it used to calculate the Starting Inventory Units; provided that such methodology will incorporate the assumptions set forth on Schedule 5.

(ii) For the avoidance of doubt, to the extent that the restriction in Section 7.2(b)(i) actually applies to a Make Good PO to be submitted by AB, AB will only be permitted to submit a Make Good PO which orders an amount of Products such that the MGPO Aggregate Purchase Price for such ordered Products is equal to the greater of X or Y (each as defined in Section 7.2(b)(i) above).

(c) Margin Payment. In the event that (i) AB does not submit a Make Good PO to order an amount of Products such that the MGPO Aggregate Purchase Price for such ordered Products is at least equal to the difference between (A) the Adjusted Contract Year Purchase Minimum for Contract Year Three and (B) the Aggregate Purchase Price for Products purchased by AB during Contract Year Three or (ii) Section 7.2(b) prohibits AB from submitting such a Make Good PO, on or prior to thirty (30) days after the end of Contract Year Three, AB shall pay to Hoefer an amount equal to [OMITTED MATERIAL] (such amount, the "Margin Payment") where:

P = [OMITTED MATERIAL]

Q = [OMITTED MATERIAL]

R = [OMITTED MATERIAL]

7.3 Inventory Over-Stocking Payment. In addition to any payments required to be made pursuant to Section 7.2(c), on or prior to thirty (30) days after the end of Contract Year Three, AB will pay to Hoefer an amount equal to [OMITTED MATERIAL] where:

J = [OMITTED MATERIAL]

K = [OMITTED MATERIAL]

7.4 Reports. Within 15 days after the end of each of March 31 and September 30 during Contract Years One, Two and Three, (a) AB will deliver to Hoefer a written report certified by an officer of AB which sets forth the units of Products held by or on behalf of AB as of each such March 31 or September 30 and (b) Hoefer will deliver to AB a written report certified by an officer of Hoefer which sets forth the aggregate transfer prices received by Hoefer for sales of Equivalent Products during the six (6) months ending on such March 31st or September 30th, as applicable (this calculation to be based on units of Equivalent Products sold by Hoefer during such periods multiplied by the then current transfer price applicable to the corresponding

equivalent Products sold to AB, or if AB has discontinued selling such equivalent Products as of such date, the transfer price of such equivalent Products as of the date they were discontinued.

For the avoidance of doubt, the parties acknowledge and agree that Schedule 3 attached hereto sets forth examples of the Minimums Mechanisms and the Inventory Over-Stocking Payment described in Sections 7.2(a), 7.2(b), 7.2(c) and 7.3.

8. Products. The parties acknowledge that Hoefer will, from time to time, update products and develop new products which will either replace current Products or represent additions to Hoefer's existing catalog of products. Accordingly, the products listed on Schedule 1 may be amended from time to time in the following manner:

8.1 Adding, Updating and Replacing 1-D Products. When Hoefer develops an additional, updated or replacement 1-D Product, Hoefer shall notify AB in writing of the development of any such product, and describe in reasonable detail its specifications and functions and, for up to 60 days after Hoefer delivers such notice, Hoefer and AB will negotiate in good faith the transfer price at which Hoefer will sell such product to AB taking into consideration the prices of any comparable Products. If the parties mutually agree on the applicable transfer price at which Hoefer will sell such 1-D product to AB prior to the expiration of such 60 day period, the parties will promptly attach an amendment to Schedule 1 which will identify such product and the corresponding transfer price and upon attaching such amendment such product will be deemed to be a "Product" under and subject to this Agreement. If the parties cannot agree on such applicable transfer price prior to the expiration of such 60 day period, such product will only be (a) added to Schedule 1 and deemed a "Product" under or subject to this Agreement on such date as AB purchases such product from Hoefer (such date, the "Section 8.1 Sale Date") and (b) deemed an "Equivalent Product" under or subject to this Agreement if and to the extent it is sold by Hoefer to any third party after the Section 8.1 Sale Date. AB shall be entitled to purchase such product from Hoefer at a price no less favorable to AB than any prices for such product offered by Hoefer to any other customer or distributor under substantially similar circumstances (e.g., substantially similar purchase commitments and volumes). For the avoidance of doubt, (i) sales of products described in this Section 8.1 by Hoefer to third parties on and after the Section 8.1 Sale Date will be deemed sales of Equivalent Products and (ii) sales of products described in this Section 8.1 by Hoefer to AB shall be deemed sales of Products and, in each case, such sales will be taken into account in the computations with respect to the Adjusted Contract Year Purchase Minimums as set forth in Schedule 2.

### 8.2 Adding 2-D Products or other non-1-D products.

(a) Hoefer hereby grants to AB a right of first negotiation to be the exclusive (even as to Hoefer) distributor of any 2-D Product or other non-1-D Product developed by Hoefer while this Agreement is in effect, such products to be distributed under AB Trademarks. The right of first negotiation shall be exercised as follows: (i) Hoefer will notify AB in writing of the development of any such product, and describe in reasonable detail its specifications and functions, a reasonable period of time prior to product launch; (ii) if AB notifies Hoefer within 30 days of receiving Hoefer's notice that it may be interested in distributing such product, AB will be offered a reasonable opportunity to evaluate the product and both parties will negotiate in good faith the transfer price and other principal terms relating to the distribution of such product

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within 45 days of the date on which AB received Hoefer's notice; and (iii) if Hoefer and AB agree to such terms during such 45 day period, Hoefer and AB shall use good faith efforts to enter into a separate distribution agreement relating to such product within 90 days of the date on which AB received Hoefer's notice.

(b) In the event that Hoefer and AB do not enter into an exclusive distribution agreement with respect to any 2-D Product or other non-1-D Product, within such 90 day period, Hoefer may directly (e.g., to end users or customers), or indirectly, through one or more distributors, including but not limited to, Restricted Distributors, market, sell and/or distribute such products but on transfer price terms which are no better than those which were offered to AB; provided that in any event, AB shall be entitled to purchase any such product from Hoefer at a price no less favorable to AB than any price for such product offered to any other customer or distributor under substantially similar circumstances (e.g., substantially similar purchase commitments and volumes); provided further, and notwithstanding any of the foregoing, that AB shall not be so entitled to purchase with respect to any such product with respect to which Hoefer has entered into an exclusive distribution agreement with another distributor. Notwithstanding anything herein, in no event will any 2-D Products or other non-1-D Products described in this Section 8.2 be deemed to be a "Product" or an "Equivalent Product" under this Agreement, and sales by Hoefer or purchases by AB of such products shall not be taken into account in the computation of any of the Adjusted Contract Year Purchase Minimums as set forth in Schedule 2.

### 8.3 AB's Request For Adding 1-D Products.

(a) AB VP Product Management Genomics (or such VP's designee) and/or the AB VP Product Management Proteomics (or such VP's designee) will meet with the Hoefer Sales and Marketing Manager (or such Manager's designee) and/or Research and Development Manager (or such Manager's designee) every six months starting three months after the Effective Date to discuss, among other things, product development issues. In the event that AB desires to distribute a new product that replaces a Product or any other product that AB would otherwise not be permitted to develop, manufacture or sell pursuant to the Purchase Agreement or Section 2.2 hereof (a "Requested 1-D Product"), AB will so notify Hoefer of such desire during any such meeting in a writing (together with a reasonably detailed description of the proposed technical specification and functions, competitive comparison, unique selling propositions, expected end-user sales price, transfer price required, sales volumes, sales channels and requested launch date) (each a "Requested 1-D Product Notice") and shall offer to Hoefer the first opportunity to develop, manufacture and sell such Requested 1-D Product. If Hoefer notifies AB within 30 days of receiving a Requested 1-D Product Notice that it may be interested in developing, manufacturing and selling such Requested 1-D Product, both parties will, for up to 60 days after Hoefer delivers such notice, negotiate in good faith the transfer price at which Hoefer will sell such Requested 1-D Product to AB taking into consideration the prices of any comparable Products. If the parties mutually agree on the applicable transfer price at which Hoefer will sell such Requested 1-D Product to AB prior to the expiration of such 60 day period, the parties will promptly attach an amendment to Schedule 1 which will identify such Requested 1-D Product and the corresponding transfer price and such product will be deemed to be a "Product" under and subject to this Agreement at such time as Hoefer notifies AB that such product is available for sale. If the parties cannot agree on such applicable transfer price prior to

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the expiration of such 60 day period and Hoefer develops such Requested 1-D Product, such Requested 1-D Product will be (i) added to Schedule 1 and be deemed a "Product" under or subject to this Agreement on such date as AB purchases such product from Hoefer (such date, the "Section 8.3 Sale Date") and

(ii) deemed an “Equivalent Product” under or subject to this Agreement if and to the extent it is sold by Hoefer to any third party after the Section 8.3 Sale Date. AB shall be entitled to purchase such Requested 1-D Product from Hoefer at a price no less favorable to AB than any prices for such product offered by Hoefer to any other customer or distributor under substantially similar circumstances (e.g., substantially similar purchase commitments and volumes). For the avoidance of doubt, sales of Requested 1-D Products (A) by Hoefer to third parties on and after the Section 8.3 Sale Date will be deemed sales of Equivalent Products and (B) by Hoefer to AB shall be deemed sales of Products and, in each case, such sales will be taken into account in the computations with respect to the Adjusted Contract Year Purchase Minimums as set forth in Schedule 2. Both AB and Hoefer accept that only a reasonable number of such Requested 1-D Products should be proposed by AB, based on their size and complexity and based on the capacity of Hoefer’s research and development department.

(b) If, during the Renewal Term, AB delivers a Requested 1-D Product Notice and either (i) Hoefer does not notify AB that it may be interested in developing, manufacturing and selling such Requested 1-D Product within 30 days of receiving such Requested 1-D Product Notice or (ii) Hoefer and AB do not, after negotiating in good faith for the 60 day period described in Section 8.3(a) above, agree on the applicable transfer price at which Hoefer will sell such Requested 1-D Product to AB (any Requested 1-D Product described in the foregoing subsections (i) or (ii), a “Rejected Requested 1-D Product”), then AB and its Affiliates may develop or have developed, manufacture or have manufactured, sell and/or distribute such Rejected Requested 1-D Product, but on terms with respect to transfer price which are no better than those which were offered to Hoefer. The manufacture, sale and/or distribution of any Rejected Requested 1-D Product by AB or its Affiliates during the Renewal Term shall not be deemed to be a breach of Section 2.2 or Section 15 of this Agreement or of Section 3.6 of the Purchase Agreement by AB. For the avoidance of doubt, AB agrees that it shall not develop or have developed, manufacture or have manufactured, sell and/or distribute any Requested 1-D Product during the Initial Term.

8.4 Removing Products. Hoefer may remove obsolete or replaced Products from Schedule 1 by giving AB not less than six (6) months prior written notice. Such removal shall be effective six (6) months from the date that Hoefer delivers such written notice, unless the parties mutually agree in writing to a different effective date. Notwithstanding anything to the contrary in this Section 8.4, (a) Hoefer shall not without the written consent of AB remove from Schedule 1 any Product which Hoefer continues to sell or distribute directly (e.g., to end users or customers), or indirectly, through one or more distributors, after such removal date and (b) any removal of a Product from Schedule 1 in the absence of the agreement of AB to the contrary shall be accompanied by a pro rata reduction (based on the prior sales volume of such product) in the Adjusted Contract Year Purchase Minimum for the current period as well as future periods.

8.5 Replacing Minor Products. Notwithstanding anything herein to the contrary, Hoefer may modify Schedule 1 to replace any Product, the per unit transfer price of which is less than one hundred USD (\$100), with a replacement product which has the same functionality and

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transfer price upon reasonable prior written notice to AB. Each such replacement product will be deemed to be a “Product” under and subject to this Agreement. For the avoidance of doubt, nothing in this Section 8.5 will be deemed to cause or require any adjustment to any of the Adjusted Contract Year Purchase Minimums.

## 9. Payment.

9.1 Timing. Payment of invoices shall be made in full by AB in USD to Hoefer for all Products sold by Hoefer to AB no later than forty-five (45) days from the date of invoice in USD.

9.2 Delivery of Invoices. No invoice shall be issued by Hoefer with respect to Products prior to the actual date Hoefer delivers such Products “ex works” in accordance with Section 4. Although Hoefer may submit its standard invoice form, such invoices and any order confirmations or other standard forms issued by Hoefer will be governed by the terms and conditions of this Agreement and every term or condition set forth in any such invoice, order confirmation or other standard form which is inconsistent with or in addition to the terms and conditions of this Agreement shall have no force or effect.

9.3 Wire Transfer. All payments to be made by AB to Hoefer hereunder shall be made in USD by wire transfer in immediately available funds to such bank account as Hoefer shall specify in writing to AB.

9.4 Deductions. No deductions are to be taken for any reason without a written credit memo from Hoefer for such amount, which credit memo shall not be unreasonably withheld or delayed.

9.5 Taxes; Shipping and Handling. All transfer prices quoted for Products in accordance with the provisions of this Agreement shall be exclusive of any federal, state, municipal, value added and other taxes (such as sales, use or privilege taxes), all customs duties, shipping and handling costs (if any), imposts, or excise taxes, or personal property or other similar taxes or duties and any such taxes and other amounts shall be assumed and paid by AB except those taxes based on or measured by the net income of Hoefer.

9.6 Returns. Should AB wish, for whatever reason, to return to Hoefer any items purchased from Hoefer, it will do this only with the agreement of Hoefer in the form of a return number issued by Hoefer; provided, however, that this Section 9.6 will not operate to limit or otherwise restrict any of AB’s remedies set forth in Section 13.1(b) below.

## 10. Duties of Hoefer.

10.1 Duties. Without limiting any of its obligations otherwise set forth in this Agreement, Hoefer shall, except as otherwise provided below, at its sole expense, perform the following duties:

(a) Hoefer shall manufacture Products and sell Products to AB for distribution as set forth herein.

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(b) Hoefer shall, as reasonably requested by AB, assist AB in its sales and marketing program concerning the Products; provided however, that AB is solely responsible for all costs of marketing and sales efforts, except where agreed in advance and in writing, by Hoefer.



(c) Hoefer shall provide sales and support training which AB and Hoefer shall jointly deem necessary for AB's sales and service representatives, if any, in individual or other sessions at such location as AB shall reasonably request. Hoefer will provide instructors with training materials and Products for use in connection with such training activities, provided that AB acknowledges that ownership of all rights, including but not limited to, all Intellectual Property Rights, in and to such materials remains vested in Hoefer. Accordingly, AB undertakes not to amend or copy any such materials without Hoefer's consent in writing and if this Agreement terminates, to immediately return all such materials (together with any copies or amended versions allowed as aforesaid) to Hoefer.

(d) Hoefer shall update AB with all available information reasonably necessary or desirable for the effective marketing of Products and promptly notify AB, in suitable electronic format, of any material instrument modifications or changes.

(e) Hoefer shall provide reasonable back-up technical support by e-mail, telephone and facsimile to AB and its Sub-distributors' technical service and sales personnel in connection with the Products.

(f) Hoefer will participate, as mutually agreed by Hoefer and AB, in AB's promotional efforts, by providing relevant copy and photography for advertising, direct mail and/or any other promotional efforts in connection with the Products, the manner in which the materials are to be used to be mutually agreed upon by Hoefer and AB, all costs and expenses for advertising, direct mail and/or any other promotional effort are solely to be borne by AB.

(g) Hoefer will update existing Products and develop new products and all such products will be offered to AB for sale by AB on an exclusive or non-exclusive basis in accordance with Section 8 above. Hoefer will during the Initial Term of this Agreement dedicate not less than a monthly average (calculated over the Initial Term) of an aggregate of three full time equivalent employees within its research and development department to updating existing Products and developing new products.

(h) Hoefer shall, as reasonably requested, perform maintenance, service and repair activities for Products at Hoefer's then current rates and terms for such services and at levels consistent with prior practice. If Hoefer does not currently provide such services as of the date they are requested, Hoefer will provide them to AB at Hoefer's then current rates and terms.

(i) Hoefer shall make available spare parts for Products for a period of not less than seven (7) years following the date the relevant Product is discontinued by Hoefer; provided that AB shall immediately notify Hoefer in the event that its commitments to its customers to make spare parts available for discontinued Products provide for a shorter period, and if any such commitments provide for a shorter period, the term of Hoefer's applicable obligation set forth in this Section 10.1(i) will be automatically reduced to such shorter period in accordance with such

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notice. Both parties accept and agree that the price of spare parts for discontinued Products may increase at a higher rate than the caps on price increases contemplated in Section 5.3 and thus, if Hoefer's costs for such spare parts increase at a rate greater than the caps on price increases set forth in Section 5.3, Hoefer and AB will negotiate the transfer price for such spare parts in good faith.

(j) Hoefer shall comply with all applicable export control laws and regulations relating to Hoefer's export of Products pursuant to this Agreement and shall provide information and documentation reasonably necessary or useful to assist AB in complying with its obligations under applicable export control laws and regulations; provided that AB reimburse Hoefer for any and all reasonable out-of-pocket expenses incurred by Hoefer in connection with performing the foregoing obligations.

(k) Hoefer shall make changes to the packaging and labeling of the Products as might be reasonably requested by AB; provided that AB shall reimburse Hoefer for any and all reasonable out-of-pocket expenses incurred by Hoefer in connection with performing the foregoing obligations (other than any expenses incurred by Hoefer to modify its manufacturing procedures to remove Hoefer Trademarks from Products supplied to AB pursuant to this Agreement), including the cost of any materials Hoefer has to scrap as a result of these changes.

## 11. Duties of AB.

11.1 Duties of AB. Without limiting any of its obligations otherwise set forth in this Agreement, AB shall, except as otherwise provided below, at its sole expense, perform the following duties:

(a) AB shall use commercially reasonable efforts to market, promote and sell the Products. For purposes of this Section 11.1(a), "commercially reasonable efforts" shall mean the (i) listing and displaying of the Products in AB's product catalog or any successor document and on AB's website or any successor website in at least the same manner and prominence as the listing and displaying of the Transferred 1-D Product Lines (as defined in the Purchase Agreement) set forth in Chapter 9 of the AB 2003 BioDirectory Catalog and the AB website as of the Effective Date, and (ii) market, promote and sell any new Product with the level of marketing and promotion customarily given by AB to the launch of comparable new products.

(b) AB shall, within 10 business days from the Effective Date (the "DVD Delivery Date"), deliver to Hoefer a copy of the AB website substantially as such web site existed on the Effective Date in DVD format (the "DVD"). Upon Hoefer's receipt of the DVD, the DVD will be attached to this Agreement as Schedule 4.

(c) AB shall establish and maintain an inventory of the Products, appropriate to meet the needs of purchasers and end-users.

(d) AB shall notify Hoefer if it becomes aware of any substantial improper or wrongful use of the Products, any complaints or allegations of product liability in respect of the Products, or of any unauthorized use and/or exploitation of the Intellectual Property Rights contained in the Products and provide such assistance as Hoefer may reasonably request (at

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Hoefer's expense) in connection with any action concerning such unauthorized use or exploitation.

(e) AB shall, on a quarterly basis, at a minimum, brief Hoefer with any information regarding sales of the Products, that AB believes would be of benefit to the business relationship between the two parties.

(f) AB shall not misrepresent Hoefer's descriptions or instructions for the use of the Products.

(g) AB shall comply with all applicable export control laws and regulations relating to AB's or its Affiliates' export of Products pursuant to this Agreement and shall provide information and documentation reasonably necessary or useful to assist Hoefer in complying with its obligation under applicable export control laws and regulations; provided that AB shall reimburse Hoefer for any and all reasonable out-of-pocket expenses incurred by Hoefer in connection with performing the foregoing obligations.

12. Insurance. From and after the Effective Date, for so long as this Agreement shall remain in effect and for two (2) years thereafter, Hoefer shall maintain or have maintained on its behalf, product liability insurance coverage on an occurrence basis for all occurrences relating to the Products sold by Hoefer to AB with limits of liability not less than Two Million USD (\$2,000,000) combined single limit for bodily injury and property damage. Hoefer shall, if requested, provide to AB a certificate evidencing coverage of such policy.

### 13. Warranties.

#### 13.1 Warranties of Hoefer.

(a) Hoefer warrants that the Products sold to AB in accordance with the provisions of this Agreement will be free of defects in material and workmanship and will conform to the published specifications set forth in literature, packaging, inserts, materials and/or other documentation prepared by or on behalf of Hoefer and provided with the Products under normal use and service for a period of fifteen (15) months from the date on which Hoefer delivers the Products "ex works" in accordance with Section 4 above, except for those parts and/or materials which are consumed or expended in the normal use of the Products, in which case Hoefer warrants conformity to the published specifications described above for a period of ninety (90) days from the date on which Hoefer delivers the Products. This warranty is void if the Product has been abused or misused or if repairs have been attempted by unauthorized persons.

(b) The obligation of Hoefer for breaches of the warranties set forth in Section 13.1(a) is limited to, at Hoefer's sole discretion (i) repairing the Product at Hoefer's or one of its Affiliates' premises or (ii) replacing the Product; provided that if AB so agrees, Hoefer may supply spare parts to AB for AB to carry out the repair. The cost of the shipment of spare parts or replacement Products from Hoefer to AB will be paid by Hoefer and the cost of returning defective spare parts or defective Products to Hoefer, if such return is requested by Hoefer, will be paid by AB.

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(c) As between Hoefer and AB, AB's sole and exclusive remedy for breach of the warranties set forth in Section 13.1(a) is set forth in Section 13.1(b).

(d) Hoefer warrants that it owns and has valid title to the Products sold to AB in accordance with the provisions of this Agreement free and clear of all liens, security interests or other encumbrances; provided however, that this representation and warranty shall not constitute any representation or warranty that such Products do not infringe or otherwise conflict with any copyright, patent, trade secret, trademark or other intellectual property right of any third party.

13.2 Warranties of Hoefer and AB. Each of Hoefer and AB represents and warrants that (a) it is a corporation organized and existing under the laws of its jurisdiction of incorporation with full power and authority to enter into and perform this Agreement; (b) this Agreement has been duly authorized by all necessary corporate action and constitutes the binding obligation of such party enforceable against such party in accordance with its terms, except as such enforceability may be limited by bankruptcy laws or other laws affecting the rights of creditors generally, equitable principles, or the discretionary powers of courts or arbitral bodies; (c) the person(s) executing this Agreement on its behalf has actual authority to bind it to this Agreement; and (d) its execution and performance of this Agreement does not and will not violate or conflict with any provision of its governing corporate instruments or of any commitment, agreement or understanding that it has or will have to or with any company or entity.

13.3 Exclusion of Implied Warranties. Except as provided in this Section 13, Hoefer makes no warranty as to any Products, or the results to be obtained from using any Products. HOEFER EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OR TITLE AND ALL WARRANTIES ARISING FROM THE COURSE OF DEALING OR USAGE OF TRADE.

### 14. Indemnification.

14.1 Indemnification by Hoefer. Hoefer shall indemnify, defend and hold harmless AB and its Affiliates and their respective officers, directors, shareholders, employees, successors and assigns against and from any and all third party claims, actions, suits and judgments, and against and from any and all claims, liabilities, losses, damages, costs (including, reasonable attorney's fees), charges and other expenses of whatever nature and character (collectively, "Claims") arising out of or in connection with (i) third party claims which result from the manufacture of any Product or (ii) an allegation by a third party that the Products sold by Hoefer to AB in accordance with this Agreement infringe any other party's Intellectual Property Rights. If Hoefer determines, in its sole discretion, that a claim of infringement is likely or if infringement is held to exist, or if injunctive relief is granted to a claimant, and such infringement is not covered by AB's indemnification obligations under the Purchase Agreement (it being understood by the parties that such indemnification obligations will be governed by and subject to the provisions of the Purchase Agreement), Hoefer may, at its own expense and at its option, either (A) supply to AB revisions to the infringing material so as to make it noninfringing while retaining substantially similar functionality or substitute other noninfringing material of substantially similar functionality, or (B) procure for AB, at no additional expense to AB, the

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right to continue accessing, using and distributing the infringing material to the extent permitted by this Agreement, or (C) if Hoefer is not able to supply revisions or otherwise secure for AB the right to continue accessing, using and distributing the infringing material, on commercially reasonable terms, AB

shall, upon written request by Hoefer, return the material claimed to be infringing and Hoefer will refund all amounts paid for such Product(s). THE FOREGOING STATES HOEFER'S ENTIRE OBLIGATION AND LIABILITY WITH RESPECT TO ANY CLAIMS DESCRIBED IN CLAUSES (i) AND (ii) OF THIS SECTION 14.1. Notwithstanding anything contained herein to the contrary, Hoefer shall not be required to provide indemnification with respect to any Claims to the extent that they result from (1) the gross negligence or willful misconduct of AB, (2) the combination of a Product with different product supplied by AB or any of its Sub-distributors, where such Claim would not have arisen but for such combination, (3) use of any Products for any use other than its reasonably intended use, (4) matters for which Hoefer is entitled to indemnification from AB pursuant to the Purchase Agreement or (5) any infringement or misappropriation of any third party Intellectual Property Right by any Subject Asset (as defined in the Purchase Agreement) and/or the Transferred 1-D Business (as defined in the Purchase Agreement) as conducted on or prior to the Closing Date (as defined in the Purchase Agreement), provided, however, that if Hoefer becomes aware of any such infringement or misappropriation it will take reasonable steps to avoid selling infringing or misappropriating Products to AB or any of its Sub-distributors.

14.2 Indemnification by AB. AB shall defend, indemnify and hold harmless Hoefer and its Affiliates and their respective officers, directors, shareholders, employees, successors and assigns from and against any and all Claims arising out of or in connection with the distribution by AB or any of its Sub-distributors of Products pursuant to this Agreement. Notwithstanding anything contained herein to the contrary, AB shall not be required to provide indemnification with respect to any Claims to the extent that they result from (a) the gross negligence or willful misconduct of Hoefer or (b) matters for which AB is entitled to indemnification from Hoefer pursuant to Section 14.1 above or the Purchase Agreement. THE FOREGOING STATES AB'S ENTIRE OBLIGATION AND LIABILITY WITH RESPECT TO ANY CLAIMS ARISING OUT OF OR IN CONNECTION WITH THE DISTRIBUTION BY AB OR ANY OF ITS SUB-DISTRIBUTORS OF PRODUCTS PURSUANT TO THIS AGREEMENT.

14.3 Notice; Defense of Claims. An indemnified party may seek indemnification hereunder by giving written notice thereof to the indemnifying party. The indemnified party shall also give written notice thereof to the indemnifying party promptly after it receives notice of a Claim being asserted, but the failure to do so shall not relieve the indemnifying party from any liability except to the extent that it is materially prejudiced by the failure or delay in giving such notice. Such notice shall summarize the bases for seeking indemnification and any Claim being asserted by a third party. Within thirty (30) days after receiving such notice the indemnifying party shall give written notice to the indemnified party stating whether it disputes the right for indemnification and whether it will defend against any third party Claim at its own cost and expense. If the indemnifying party fails to give notice that it disputes an indemnification request within thirty (30) days after receipt of notice thereof, it shall be deemed to have accepted and agreed to the request and it shall defend against such third party Claim at its own cost and expense. An indemnifying party (provided such indemnifying party acknowledges its obligation to indemnify if adversely determined) shall be entitled to direct the defense against

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a third party Claim with counsel selected by it as long as the indemnifying party is conducting a good faith and diligent defense. If the named parties to the action or proceeding include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate under applicable standards of professional conduct, the indemnified party may engage separate counsel at the expense of the indemnifying party. The indemnifying party shall have the right to compromise or settle any such dispute if such settlement includes an unconditional release of all claims against the indemnified party. If such settlement does not include an unconditional release of all claims against the indemnified party, the settlement shall be subject to the prior written consent of the indemnified party (which consent shall not be unreasonably withheld, delayed or conditioned). If a good faith and diligent defense is not being or ceases to be conducted by the indemnifying party, the indemnified party shall have the right, at the expense of the indemnifying party, to undertake the defense of such claim or liability (with counsel selected by the indemnified party), and to compromise or settle it, exercising reasonable business judgment. If the third party claim or liability is one that by its nature cannot be defended solely by the indemnifying party, then the indemnified party shall make available such information and assistance as the indemnifying party may reasonably request and shall cooperate with the indemnifying party in such defense, at the expense of the indemnifying party.

15. Exceptions to Exclusivity.

15.1 Nothing in Section 2.2 shall prevent AB or any of the Seller Affiliates, from:

(a) manufacturing, purchasing, marketing, promoting, selling or distributing anywhere in the world 2-D Products, 1-D Products used solely within in a 2-D Product or system (it being expressly understood that in no event shall any 1-D Product be marketed, purchased, promoted, sold or distributed as a stand-alone product), Multi-Channel Platforms, MegaBACE products, any products in the Retained Product Lines (as defined in the Purchase Agreement) (including any updates, replacements or functional equivalents thereof), any products for use in Diagnostics, and reagents (including gel electrophoresis reagents). The term "Multi-Channel Platforms" shall mean plate systems with multiple microfabricated channels for electrophoresis and/or chromatography. The term "MegaBACE products" shall mean high throughput, multi-channel capillary electrophoresis analysis systems for nucleic acid sequencing, genotyping and fragment analysis as well as for protein and carbohydrate analysis. The term "Diagnostics" shall mean the testing or analysis of biological samples (whether human or otherwise), the results of which are provided to health care recipients and/or providers for use in the diagnosis of disease, assessing the predisposition to disease, determining genetic status, monitoring the progression of disease, determining efficacy of treatment of disease, clinical management of the health care recipients from which such samples are derived and/or performing research to discover and develop methods and technologies for any of the foregoing.

(b) acquiring Control of, or being acquired by (in either case, whether by merger, sale of stock, assets or otherwise) any company or entity having annual, world-wide revenue in its last complete fiscal year in excess of one billion dollars (\$1,000,000,000) (such acquired or acquiring company or entity together with any company or entity Controlled by such company or entity on or following the effective date of such acquisition (excluding Seller Affiliates), a "Qualified Company"); provided that following any such acquisition: (i) except upon Hoefer's

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receipt of the payment contemplated in Section 15.2 below, none of the catalogues, websites or sales personnel of any Seller Affiliate shall be used to market, promote, sell or distribute both Products and such Qualified Company's Restricted Products in the Restricted Territory; (ii) each Seller Affiliate shall continue to use commercially reasonable efforts which are substantially equivalent to those used by such Seller Affiliate prior to such acquisition to market, promote, sell and distribute the Products and, in the case of AB, in accordance with Section 11.1(a); provided that upon Hoefer's receipt of the payment contemplated in Section 15.2 below, each Seller Affiliate that markets, promotes, sells or distributes both Products and the Qualified Company's Restricted Products in the Restricted Territory shall use substantially equivalent efforts (on a per product basis) to market, promote, sell and distribute Products as it uses to market,

promote, sell and distribute the Qualified Company's Restricted Products in the Restricted Territory (including, without limitation, listing and displaying the Products in such Seller Affiliate's product catalogue or any successor document and on such Seller Affiliate's website in a manner and prominence that are substantially equivalent to any listing and displaying of the Qualified Company's Restricted Products in the Restricted Territory), and the Seller and the Seller Affiliates shall, in the aggregate, use substantially equivalent efforts (on a per product basis) to market, promote, sell and distribute Products as they use to market, promote, sell and distribute the Qualified Company's Restricted Products in any Restricted Territory and (iii) no Seller Affiliate will (A) grant any license to or otherwise permit any Qualified Company to use the Relevant Patents (as defined in the Purchase Agreement) which are licensed to Hoefer for purposes of selling, developing, using or manufacturing Restricted Products in the Restricted Territory or (B) grant any license or sublicense to or otherwise permit any Qualified Company to use any of the Relevant Trade Secrets (as defined in the Purchase Agreement) for purposes of selling, developing, using or manufacturing Restricted Products in the Restricted Territory other than in accordance with the terms and conditions of the Trade Secrets License Agreement dated as of the date hereof between Amersham Biosciences (SF) Corp., a California corporation and Hoefer (the "Trade Secrets License Agreement");

(c) acquiring Control of, or being acquired by (in either case whether by merger, sale of stock, assets or otherwise), any company or entity having annual, world-wide revenue in its last complete fiscal year equal to or less than one billion dollars (\$1,000,000,000) (such acquired or acquiring company or entity together with any company or entity Controlled by such company or entity on or following the effective date of such acquisition (excluding Seller Affiliates), a "Non-Qualified Company"), including any company or entity that manufactures, markets, promotes, sells or distributes Restricted Products; provided that following any such acquisition: (i) the catalogues, websites or sales personnel of any Seller Affiliate shall not be used to market, promote, sell or distribute both Products and such Non-Qualified Company's Restricted Products in the Restricted Territory; (ii) each Seller Affiliate shall continue to use commercially reasonable efforts which are substantially equivalent to those used by such Seller Affiliate prior to such acquisition to market, promote, sell and distribute the Products and, in the case of AB, in accordance with Section 11.1(a) and (iii) no Seller Affiliate will (A) grant any license to or otherwise permit any Non-Qualified Company to use the Relevant Patents (as defined in the Purchase Agreement) which are licensed to Hoefer for purposes of selling, developing, using or manufacturing Restricted Products in the Restricted Territory or (B) grant any license or sublicense to or otherwise permit any Non-Qualified Company to use any of the Relevant Trade Secrets (as defined in the Purchase Agreement) for purposes of selling, developing, using or manufacturing Restricted Products in the Restricted Territory other than in

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accordance with the terms and conditions of the Trade Secrets License Agreement; provided, further that, the preceding notwithstanding, in the event that a Seller Affiliate acquires Control of a Non-Qualified Company that manufactures, markets, promotes, sells or distributes Restricted Products that are competitive with the Products in the Restricted Territory, such Seller Affiliate shall use commercially reasonable efforts to promptly divest any portion(s) of such Non-Qualified Company's business that manufactures, markets, promotes, sells or distributes such Restricted Products that are competitive with the Products in the Restricted Territory;

(d) entering into joint ventures, strategic alliances or other collaborations (each a "Collaboration") with any company or entity, even if such company or entity manufactures, purchases, markets, promotes, sells, or distributes Restricted Products, as long as (i) such Collaboration does not relate to Restricted Products in the Restricted Territory, (ii) the catalogues, websites or sales personnel of any Seller Affiliate are not used to market, promote, sell or distribute Restricted Products of any such company or entity in the Restricted Territory, and (iii) no Seller Affiliate will (A) grant any license to or otherwise permit any such company or entity to use the Relevant Patents (as defined in the Purchase Agreement) which are licensed to Hoefer for purposes of selling, developing, using or manufacturing Restricted Products in the Restricted Territory or (B) grant any license or sublicense to or otherwise permit any such company or entity to use any of the Relevant Trade Secrets (as defined in the Purchase Agreement) for purposes of selling, developing, using or manufacturing Restricted Products in the Restricted Territory other than in accordance with the terms and conditions of the Trade Secrets License Agreement; or

(e) owning beneficially or of record up to five percent (5%) of the outstanding securities of a publicly-held corporation which engages in any Restricted Activity (as defined in the Purchase Agreement) and/or manufactures, purchases, markets, promotes, sells or distributes any Restricted Products in the Restricted Territory.

15.2 Following an acquisition contemplated by Section 15.1(b), prior to the date of the first use (the "Integration Date") by any Seller Affiliate or Qualified Company of the catalogues, websites or sales personnel of any Seller Affiliate to market, sell or distribute both Products and Restricted Products of any Qualified Company in the Restricted Territory (a) AB or another Seller Affiliate shall deliver to Hoefer reasonable prior written notice thereof, and (b) AB or another Seller Affiliate shall pay Hoefer as follows:

- Three;
- (i) **[OMITTED MATERIAL]**, if the Integration Date occurs during Contract Year One, Contract Year Two or Contract Year
  - (ii) **[OMITTED MATERIAL]**, if the Integration Date occurs during Contract Year Four;
  - (iii) **[OMITTED MATERIAL]**, if the Integration Date occurs during Contract Year Five; or
  - (iv) **[OMITTED MATERIAL]**, if the Integration Date occurs during the Term after Contract Year Five.

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Upon making the foregoing payment, the restrictions set forth in Section 15.1(b)(i) shall have no further effect with respect to any acquisition transaction described in Section 15.1(b). Each applicable Seller Affiliate shall continue to comply with the obligations set forth in Section 15.1(b)(ii) and (iii).

15.3 Except as otherwise expressly stated herein, all terms and conditions of this Agreement will remain in full force and effect subsequent to an acquisition transaction described in Section 15.1(b) or 15.1(c); provided that no product of a Qualified Company or Non-Qualified Company (or any of any such entity's Affiliates in existence prior to the effective date of such a transaction) involved in such a transaction will be deemed to be a Product under this Agreement.

16. Confidential Information.

16.1 In the course of performing this Agreement, the parties may disclose to each other Confidential Information. "Confidential Information" shall mean any information or data, whether or not in writing, pertaining to the business, products, services or technology of either party which is disclosed by a party (the "Disclosing Party") to the other party (the Receiving Party) that the Disclosing Party has either marked as confidential or proprietary, or has identified in writing as confidential or proprietary within fifteen (15) days of disclosure to the Receiving Party, except that the following will be deemed Confidential Information even if not so marked or identified: Disclosing Party's business plans, business methodologies, business strategies, technologies, customers and unpublished dealer, customer and other prices relating to Products. The terms of this Agreement shall be considered Confidential Information of both parties; provided, that, notwithstanding anything herein to the contrary, either party may file a copy of this Agreement with appropriate regulatory authorities in order to comply with any obligation it may have under any applicable securities laws or regulations; provided, however, that any such filing party shall request confidential treatment of the dollar amounts, numerical percentages and mathematical formulae relating to transfer prices, minimum purchases, liquidated damages and price increases, and the names of the Restricted Distributors, in each case with such level of redaction or other means as such party may reasonably determine. All Confidential Information shall remain the sole property of the Disclosing Party, and the Receiving Party shall have no interest in or rights with respect thereto except as expressly set forth in this Agreement. Each party agrees: (a) not to use any Confidential Information of the other party for any purpose except in the performance of its obligations under this Agreement or as otherwise expressly permitted hereunder; (b) not to disclose such Confidential Information except to its employees (or third party subcontractors) who have a need to know such Confidential Information for purposes of this Agreement and who are bound to a written agreement protecting such Confidential Information as required hereby; and (c) to protect such Confidential Information from unauthorized use, access or disclosure in the same manner that it protects its own similar Confidential Information, but not less than a reasonable degree of care.

16.2 Exclusions. Confidential Information does not include any information that the Receiving Party can show:

(a) is or becomes publicly available (other than through unauthorized disclosure by the Receiving Party);

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(b) is shown by written record to have been in the possession of or known to the Receiving Party prior to its disclosure hereunder; or

(c) is made available without restriction to the Receiving Party by any person other than the Disclosing Party without breach of any obligation of confidentiality of such other person.

16.3 Disclosure in Judicial or Other Proceedings. Notwithstanding the foregoing, the Receiving Party may disclose Confidential Information in a judicial, legislative or administrative investigation or proceeding or to a government or other regulatory agency (including any securities regulatory agency or stock exchange); provided that, Receiving Party provides to Disclosing Party prior notice of the intended disclosure and shall permit the Disclosing Party to intervene therein to protect its interests in its Confidential Information, and provide full cooperation and assistance to Disclosing Party in seeking to obtain such protection.

16.4 Injunctive Relief. Each party acknowledges and agrees that disclosure or use of Confidential Information of the other party in violation of this Agreement may result in irreparable harm to such other party. Accordingly, in addition to any other legal remedies which may be available to it, in the event of any actual or threatened breach of this Section 16.4, each party has the right to immediately obtain injunctive relief.

16.5 Return of Confidential Information. Upon termination of this Agreement, Receiving Party will, at Disclosing Party's written request, promptly deliver to Disclosing Party or destroy all memos, notes, records, reports, media, documents and materials (and all copies thereof) regarding or including any Confidential Information which Receiving Party may then possess or have under its control and, upon request by the Disclosing Party, certify to such return or destruction.

17. Term; Termination.

17.1 Term. The initial term of this Agreement shall be from the Effective Date until September 30, 2008 (the "Initial Term"). Thereafter, this Agreement shall be automatically renewed for an additional term ending on September 30, 2013 (the "Renewal Term" and collectively with the Initial Term, the "Term"); provided that as of any date subsequent to September 30, 2008:

(a) Either party may terminate this Agreement upon 365 days prior written notice in the event that AB and all of the Seller Affiliates will cease any and all marketing, distributing and selling of any 1-D Products (other than products described in Section 15.1(a)), including, without limitation any product which (i) is substantially the same as any of the Products or (ii) has substantially the same external appearance, base function and internal components of any of the Products or is functionally equivalent thereto. The parties acknowledge that no termination pursuant to this Section 17.1(a) shall serve to terminate AB's obligation not to compete with Hoefer pursuant to Section 3.6 of the Purchase Agreement.

For the avoidance of doubt, AB will be deemed to have materially breached this Agreement if (x) AB or any of the other Seller Affiliates markets, distributes and/or sells any 1-D Product (other than products described in Section 15.1(a)) which (i) is substantially the same as any of

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the Products or (ii) has substantially the same external appearance, base function and internal components of any of the Products or is functionally equivalent thereto during the Tail Period after the Agreement is terminated in accordance with Section 17.1(a) or (y) any 1-D Products (other than products described in Section 15.1(a)) of any Qualified Company, Non-Qualified Company or company or entity which is a party to a Collaboration are promoted, marketed, sold or distributed in the Restricted Territory using the catalogs, web sites or sales personnel of any Seller Affiliate during the Tail Period.

(b) AB may terminate this Agreement upon 365 days prior written notice in the event that AB, during the Renewal Term, has delivered Hoefer four (4) or more Requested 1-D Product Notices which result in four (4) or more Rejected Requested 1-D Products which are subsequently actually sold by AB or its Affiliates to its distributors or customers; provided that AB has complied with its obligations set forth in Section 8.3, including but not limited to, its obligation to negotiate in good faith.

17.2 Termination. Notwithstanding Section 17.1 hereof, either party may terminate this Agreement by written notice to the other party if the other party fails to observe or perform any material term or condition of this Agreement, and does not cure such failure within thirty (30) days or, if such failure is susceptible to cure and the breaching party has commenced cure efforts and pursues cure of the breach in good faith, sixty (60) days, after written demand by the first party stating the default and such party's intention to terminate. In the event that Hoefer fails to supply Products in accordance with this Agreement, such failure shall be deemed material if Hoefer (a) fails to supply 50% or more of the aggregate Products ordered by AB under POs which Hoefer is required to accept in accordance with Section 3.3 above in any calendar quarter and (b) had the ability to supply such ordered Products.

17.3 Effect of Termination. Upon any termination of this Agreement:

(a) Hoefer shall only be obliged to supply AB with further Products in respect of orders already accepted by Hoefer and spare parts in accordance with Section 10.1(i). Furthermore, AB shall be free to sell remaining quantities of Products in inventory to customers, after the termination date, as permitted under this Agreement but shall in all other respects cease to hold itself out as a distributor of Hoefer.

(b) AB shall continue to be responsible for the support of customers of the Products sold by AB and Hoefer shall continue to provide back-up technical support in accordance with Section 10.1(e).

(c) AB may offer for return to Hoefer any inventory of the Products held by it, provided that Hoefer may, at its sole discretion, agree or not agree to repurchase such inventory.

(d) The rights and obligations of the parties set forth in Sections 2.2, 12, 13, 14, 15, 16, 17, 18 and 19 shall survive any termination of this Agreement.

(e) Liquidated Damages.

(i) To the extent that this Agreement is terminated at any time prior to the end of Contract Year Three by Hoefer pursuant to Section 17.2 above, AB shall, within ten

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(10) business days following the effective date of the termination (and subject to reimbursement pursuant to Section 17.3(e)(iv)), pay to Hoefer by wire transfer in immediately available funds to accounts as Hoefer shall specify to AB in writing, an amount (the "Termination Amount") equal to: **[OMITTED MATERIAL]**, where

(A) = Aggregate Purchase Price for Products purchased by AB after the Effective Date and prior to the effective date of such termination;

(B) = aggregate sales by Hoefer of Equivalent Products after the Effective Date and prior to the effective date of such termination (this calculation to be based on units of Equivalent Products sold by Hoefer during such period (excluding any and all returned units) multiplied by the transfer price applicable to the corresponding equivalent Products in effect under this Agreement during such period)

(C) = the amount equal to **[OMITTED MATERIAL]** multiplied by the number of business days between September 30, 2003 and the Effective Date.

(ii) AB acknowledges that Hoefer will suffer a material adverse impact on its business if this Agreement is terminated prior to the expiration of Contract Year Three, and that the damages associated with respect to Contract Year One, Contract Year Two and Contract Year Three may not be susceptible of precise determination. AB acknowledges that the payment of the Termination Amount contemplated by this Section 17.3(e) is a reasonable approximation of the damages with respect to Contract Year One, Contract Year Two and Contract Year Three and will be deemed to be liquidated damages and not a penalty for such years.

(iii) The remedy set forth in this Section 17.3(e) shall be the exclusive remedy of Hoefer with respect to damages associated with AB's obligations under Sections 6 and 7 hereof and any breach thereof, and such remedy shall be in lieu of any other damages or remedies to which Hoefer might otherwise be entitled with respect to AB's breach of Sections 6 and 7. The preceding will not limit Hoefer's right to collect damages arising from breaches by AB of any provisions other than Sections 6 or 7 under this Agreement.

(iv) In the event that AB is required to and makes a payment of the Termination Amount to Hoefer pursuant to Section 17.3(e) (i), Hoefer shall, within ten (10) business days following the final day of Contract Year Three, pay to AB by wire transfer in immediately available funds to accounts as AB shall specify to Hoefer in writing, an amount equal to **[OMITTED MATERIAL]** of the aggregate sales by Hoefer of Equivalent Products (including, without limitation, to any customers of Hoefer, customers of AB or customers contemplated by Section 17.3(g)) after the effective date of termination through the final day of Contract Year Three (this calculation to be based on units of Equivalent Products sold by Hoefer during such period (excluding any and all returned units) multiplied by the transfer price applicable to the corresponding equivalent Products in effect under this Agreement during such period).

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(f) The termination of this Agreement shall not limit either party from pursuing any other remedies available to it, including injunctive relief, nor shall such termination relieve any party of its obligations to pay all amounts that accrued prior to such termination.

(g) For at least two (2) years following the effective date of any termination, other than a termination by AB pursuant to Sections 17.1 or 17.2, AB will (i) inform its customers that any purchases of Equivalent Products after such termination date can be made from Hoefer (A) via a statement in each new catalogue published after such termination date, which statement includes Hoefer's website address, (B) via a statement on AB's website and on any website of its Affiliates that included Products within six (6) months of the termination date which statement contains a hypertext link to Hoefer's website and (C) verbally or in writing in response to any inquiry with respect to Products, and (ii) promptly deliver to Hoefer any purchase orders, inquiries or requests for quotations for Products received by AB or any of its Affiliates from any of their respective customers.

18. Force Majeure. Neither party shall be subject to any liability to the other party for failure to meet any of its obligations under this Agreement if such failure results from any of the following events: act of God, fire, explosion, perils of the sea, flood, draught, war, riot, sabotage, embargo, interruption of or delay in transportation, strike, compliance with any order, direction, request from any governmental agency or office; provided that financial inability in and of itself shall not be a “force majeure event”. The party which shall be subject to any such event of force majeure shall, promptly upon the occurrence thereof, notify the other party of the occurrence of such event and shall, promptly upon the cessation thereof, notify the other party in writing of such cessation.

19. Miscellaneous.

19.1 Legal Compliance. AB shall be responsible for compliance with any and all laws and regulations applicable to its use and distribution of Products, including without limitation U.S. laws and regulations pertaining to export control.

19.2 Public Announcement. Except as required by law (including without limitation applicable securities laws or stock exchange regulations), neither party will make any separate public announcement regarding this Agreement or any of the contents contained herein without the prior written consent of the other party.

19.3 Audit Rights.

(a) AB shall maintain accurate books and records of all sales of Products. Upon reasonable notice to AB by Hoefer, and no more frequently than twice in any calendar year, AB shall make such books and records available to Hoefer, at AB’s place of business during normal business hours, to confirm compliance with this Agreement by AB.

(b) Hoefer shall maintain accurate books and records of all sales of Products and Equivalent Products. Upon reasonable notice to Hoefer by AB, and no more frequently than twice in any calendar year, Hoefer shall make such books and records available to AB, at Hoefer’s place of business during normal business hours, to confirm compliance with this Agreement by Hoefer.

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19.4 Severability. In the event that any provision of this Agreement is found to be unenforceable, such provision will be reformed only to the extent necessary to make it enforceable or if such reform is not possible, stricken from this Agreement, and the remainder will continue in effect, to the extent consistent with the intent of the parties as of the Effective Date.

19.5 Relationship of the Parties. Nothing in this Agreement shall be construed to place AB and Hoefer in an agency, employment, franchise, joint venture, or partnership relationship. Neither party will have the authority to obligate or bind the other in any manner, and nothing herein contained shall give rise or is intended to give rise to any rights of any kind to any third parties. Neither party will represent to the contrary, either expressly, implicitly or otherwise.

19.6 Governing Law. ALL DISPUTES, CLAIMS OR CONTROVERSIES ARISING OUT OF THIS AGREEMENT, OR THE NEGOTIATION, VALIDITY OR PERFORMANCE OF THIS AGREEMENT, OR THE TRANSACTIONS CONTEMPLATED HEREBY SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK AND SPECIFICALLY EXCLUDING FROM APPLICATION TO THIS AGREEMENT THE UNITED NATIONS CONVENTION ON THE INTERNATIONAL SALE OF GOODS.

19.7 Dispute Resolution.

(a) Except with respect to injunctive relief, which may be sought in a court of competent jurisdiction, as more specifically set forth below, all disputes, claims, or controversies arising out of or relating to this Agreement or any other agreement executed and delivered pursuant to this Agreement or the negotiation, validity or performance hereof and thereof or the transactions contemplated hereby and thereby that are not resolved by mutual agreement shall be resolved solely and exclusively by binding arbitration to be conducted before the American Arbitration Association or its successor. The arbitration shall be held in New York, New York, and shall be conducted in accordance with the Commercial Arbitration Rules of the American Arbitration Association unless specifically modified herein. The number of arbitrators shall be three, chosen in accordance with this Section 19.7. Each party shall appoint one arbitrator. The arbitrators thus appointed shall choose the third arbitrator. If within thirty (30) days such arbitrators have not agreed on the third arbitrator, then the third arbitrator shall be appointed by the appointing authority. The American Arbitration Association shall be the appointing authority.

(b) The parties covenant and agree that the arbitration shall commence within one hundred twenty (120) days of the date on which any party files a written demand for arbitration hereunder. In connection with the arbitration proceeding, the arbitrators shall have the power to order the production of documents by each party and any third-party witnesses. In addition, each party may take up to three (3) depositions as of right, and the arbitrators may in their discretion allow additional depositions upon good cause shown by the moving party. However, the arbitrators shall not have the power to order the answering of interrogatories or the response to requests for admission. In connection with any arbitration, each party shall provide to the other, no later than fifteen (15) business days before the date of the arbitration, the identity of all persons that may testify at the arbitration and a copy of all documents that may be introduced at

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the arbitration or considered or used by a party’s witness or expert. All submissions and awards in relation to arbitration hereunder shall be made in English and all arbitration proceedings shall be conducted in English. The arbitrators’ decision and award shall be made and delivered within six (6) months of the selection of the third arbitrator. The arbitrators’ decision shall set forth a reasoned basis for any award of damages or finding of liability. The arbitrators shall not have the power to award damages in excess of actual compensatory damages or liquidated damages provided for herein and shall not multiply actual or liquidated damages or award punitive damages or any other damages that are specifically excluded under this Agreement, and each party hereby irrevocably waives any claim to such damages.

(c) The parties covenant and agree that they will participate in the arbitration in good faith, that they will share equally the fees and expenses of the American Arbitration Association and that they will each bear their own attorneys’ fees and expenses, except as otherwise provided herein.

The arbitrators may in their discretion assess costs and expenses (including the reasonable attorneys' fees and expenses of the prevailing party) against any party to a proceeding. Any party unsuccessfully refusing to comply with an order of the arbitrators shall be liable for costs and expenses, including attorneys' fees, incurred by the other party in enforcing the order.

(d) Each of the parties hereto irrevocably and unconditionally consents to the jurisdiction of the courts located in New York County in the State of New York for the purposes of enforcing the arbitration provisions of this Section 19.7. Each party further irrevocably waives any objection to proceeding before any such courts based upon lack of personal jurisdiction or to the laying of the venue and further irrevocably and unconditionally waives any objection to proceeding before any such court on the grounds that it is an inconvenient forum. Each of the parties hereto hereby consents to service of process by registered mail at the address to which notices are to be given. Each of the parties hereto agrees that its submission to jurisdiction and its consent to service of process by mail are made for the express benefit of the other parties hereto.

(e) The failure or refusal of a party to submit to arbitration in accordance with this Section 19.7 shall be deemed a breach of this Agreement. If a party seeks and secures judicial intervention requiring enforcement of this arbitration provision, such party shall be entitled to recover from the other party in such judicial proceeding all costs and expenses, including reasonable attorneys' fees, that it was thereby required to incur.

(f) The preceding notwithstanding, the parties may seek temporary or preliminary injunctive relief in a court of competent jurisdiction for the limited purpose of avoiding immediate and irreparable harm. Any request for permanent injunctive relief (except when confirming an arbitral award that includes permanent injunctive relief) shall instead be directed solely to the arbitrators contemplated in this Section 19.7. The prevailing party in any proceeding for temporary or preliminary injunctive relief shall be entitled to reimbursement of its reasonable attorneys' fees and expenses incurred in connection therewith.

19.8 Consent to Jurisdiction. Solely for the purpose of allowing a party to enforce its indemnification rights hereunder, each of the parties hereby consents to personal jurisdiction,

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service of process and venue in the court in which a third party claim for which indemnification may be sought hereunder is properly brought against an indemnified party.

19.9 Assignability; Binding Effect. This Agreement shall be binding upon and enforceable by, and shall inure to the benefit of, the parties hereto, and their respective successors and permitted assigns. Neither party may assign any of its rights or obligations hereunder except as may be contemplated hereby or except with the prior written consent of the other party (which consent shall not be unreasonably withheld); provided that: (a) AB shall be entitled to assign any or all of its rights or obligations hereunder without obtaining prior written consent of Hoefer to (i) any of its Affiliates or (ii) any successor in interest in the event of a merger, a sale of all or substantially all of its assets (including all or substantially all of the assets to which this Agreement relates), a sale of a majority of its capital stock; (b) Hoefer shall be entitled to assign any or all of its rights and obligations hereunder without obtaining prior written consent of AB to (i) any of its Affiliates or (ii) any successor in interest in the event of a merger, a sale of all or substantially all of its assets (including all or substantially all of the assets to which this Agreement relates), or a sale of a majority of its capital stock; (c) AB shall be required to assign all of its rights and obligations hereunder to any successor in interest in the event of a sale of all or substantially all of its assets; and (d) Hoefer shall be required to assign all of its rights and obligations hereunder to any successor in interest in the event of a sale of all or substantially all of its assets (subject to Section 19.16); provided further that no assignment by AB pursuant to clause (a)(i) above or by Hoefer pursuant to clause (b)(i) above shall relieve the assigning party of any of its obligations hereunder; provided further that any such proposed assignee shall expressly assume all of the assigning party's obligations under this Agreement by a writing delivered to the non-assigning party. Notwithstanding clause (b)(ii) and (d) above, to the extent that the restrictions set forth in Section 2.4 regarding Hoefer's engagement of any Restricted Distributor are still in effect, the consent of AB shall be required prior to the assignment by Hoefer of any rights or obligations hereunder to any Restricted Distributor. Any attempted assignment, delegation or transfer in violation hereof shall be null and void.

19.10 Notices. All notices under this Agreement will be in writing and will reference this Agreement. Notices will be deemed given when: (a) delivered personally; (b) sent by confirmed telex or facsimile; (c) three (3) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (d) one (1) day after deposit with a commercial overnight carrier, with written verification of receipt. All communications will be sent to the following addresses, or such subsequent address specified in writing by a party in accordance with this Section 19.10:

if to Hoefer:

Hoefer, Inc.  
654 Minnesota Street  
San Francisco, California 94107-0387  
Attention: Hugh Douglas  
Facsimile No.: (415) 920-4431

With copies to:

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Harvard Bioscience, Inc.  
84 October Hill Road  
Holliston, MA 01746  
Attention: David Green, President  
Facsimile No.: (508) 429-8478

and



Biochrom Ltd.  
22 Cambridge Science Park  
Cambridge, CB4 0FJ, United Kingdom  
Attention: David Parr, Managing Director  
Facsimile No.: (011) (44) 1223 427856

and

Goodwin Procter LLP  
Exchange Place  
Boston, MA 02109  
Attention: H. David Henken, P.C.  
Facsimile No.: (617) 523-1231

if to AB:

Amersham Biosciences Corp  
800 Centennial Avenue  
Piscataway, NJ 08855  
Attention: General Counsel  
Facsimile No.: (732) 457-8673

With a copy to :

Curtis, Mallet-Prevost, Colt & Mosle LLP  
101 Park Avenue  
New York, NY 10178  
Attention: Eric Gilioli  
Facsimile No.: (212) 697-1559

19.11 No Waiver. Failure by a party to enforce any provision of this Agreement will not be deemed a waiver of future enforcement of that or any other provision.

19.12 Counterparts. This Agreement may be executed in three or more counterparts, each of which will be deemed an original, but all of which will constitute but one and the same instrument.

19.13 Headings. The headings and captions used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

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19.14 Construction. This Agreement has been negotiated by the parties and their respective counsel. This Agreement will be fairly interpreted in accordance with its terms and without any strict construction in favor of or against any party. The original of this Agreement has been written in English, and such version will be the governing version of the Agreement. All notices, communications and discussions pertaining to this Agreement, whether oral or written, will be conducted in the English language, including any enforcement proceedings.

19.15 Complete Agreement. This Agreement, the Purchase Agreement and any other written and duly executed agreement entered into in connection therewith constitute the entire agreement among the parties with respect to the subject matter hereof and supersede and replace all prior or contemporaneous understandings or agreements, written or oral, regarding such subject matter, and shall prevail over any conflicting terms or conditions contained on printed forms submitted with purchase orders, invoices, sales acknowledgments or quotations. This Agreement may not be modified or waived, in whole or part, except in writing and signed by an officer or duly authorized representative of both parties.

19.16 Guarantee. HBIO hereby guarantees to AB and its successors and assigns the full and timely performance of all obligations of Hoefer under this Agreement. HBIO's continuing guarantee under this Section 19.16 will automatically terminate upon any assignment of this Agreement by Hoefer in accordance with Section 19.9(b)(i) to a company or entity with net assets (as indicated by its most recent fiscal year and balance sheet) greater than or equal to \$10 million (the "Guarantee Threshold"). For the avoidance of doubt, HBIO's guarantee pursuant to this Section shall continue: (a) in the event that the assignee does not meet the Guarantee Threshold; and (b) with respect to any acts, omissions, obligations, breaches and liabilities arising or occurring prior to the assignment.

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IN WITNESS WHEREOF, the parties have caused this Agreement to be executed as of the Effective Date by their respective representatives thereunto duly authorized.

HOEFER, INC.

By: /s/ David Green  
Name: David Green

Solely for the limited purpose of performing the obligations set forth in Section 19.16:

HARVARD BIOSCIENCE, INC.

By: /s/ David Green

Name: David Green

Title: President

[Signature page to Distribution Agreement]

AMERSHAM BIOSCIENCES CORP

By: /s/ Andrew Rackear

Name: Andrew Rackear

Title: President

[Signature page to Distribution Agreement]

EXECUTION COPY

Schedule 1  
"Products and Price List"

		<u>TRANSFER PRICE USD\$</u>
27951	GD-2 VACUUM DRYER-HETO 115V	[OMITTED MATERIAL]
27952	GD-2 VACUUM DRYER-HETO 230V	[OMITTED MATERIAL]
28788	ARJAY DQ200 MODEL 1	[OMITTED MATERIAL]
28789	ARJAY DQ200 NEW LAMP	[OMITTED MATERIAL]
80600172	80600172 PROD SHT HE33 MINISUB	[OMITTED MATERIAL]
80600191	80600191 PROD SHT HE99X MAXSUB	[OMITTED MATERIAL]
80602357	SINGLE FILTER HOLDER, 25MM	[OMITTED MATERIAL]
80602376	3/16 DIA FOAM GASKET 100 CM "	[OMITTED MATERIAL]
80602452	UNIVERSAL RACK	[OMITTED MATERIAL]
80602471	PVC COLLECTION BOX	[OMITTED MATERIAL]
80602528	WEIGHT FOR 25MM RECT FLTR HLDR	[OMITTED MATERIAL]
80602566	VALVE, RECT FH, PINHOLE, LONG	[OMITTED MATERIAL]
80602604	SCREEN FOR 24 OR 25MM FLTR MAN	[OMITTED MATERIAL]
80602623	VACUUM GAUGE	[OMITTED MATERIAL]
80602642	HOSE CONNECTOR	[OMITTED MATERIAL]
80603022	ELECTRODE CAP REPLACEMENT	[OMITTED MATERIAL]
80603079	PORUS POLYETHYLNE.PLUG(100)	[OMITTED MATERIAL]
80603098	BLOTTING PAPER DISKS (100)	[OMITTED MATERIAL]
80603117	DISPOSABLE ELUTION TUBE (100)	[OMITTED MATERIAL]
80603193	PLASTIC REFL PLATE, 22X14 CM	[OMITTED MATERIAL]
80603668	GEL TUBES,5MMID,7MMOD,15CM (24	[OMITTED MATERIAL]
80603915	RACK FOR 3 LG HYB TUBES	[OMITTED MATERIAL]
80603934	*BUBBLE LEVEL\	[OMITTED MATERIAL]
80603953	LG.HYB.TUBE W/END CAPS 7.3 ID	[OMITTED MATERIAL]
80603972	*END CAP W/HOLES	[OMITTED MATERIAL]
80603991	*END CAP W/O HOLES, WHT	[OMITTED MATERIAL]
80604010	*SEALING O-RING	[OMITTED MATERIAL]
80604029	SEALING O-RINGS (100C)	[OMITTED MATERIAL]
80604048	*GREASE,O-RING	[OMITTED MATERIAL]
80604067	SMALL HYB TUBE W/CAPS 3.7CM ID	[OMITTED MATERIAL]
80604124	32 MM TUBE- SCREW CAP	[OMITTED MATERIAL]
80604238	TUBE- 80MM O/D- COMPLETE	[OMITTED MATERIAL]
80604276	TUBE - 44MM O/D COMPLETE	[OMITTED MATERIAL]
80604314	TUBE 3.2D X 20CM COMPLETE (4)	[OMITTED MATERIAL]

80604352	4-PLACE 32MM TUBE CARRIER	[OMITTED MATERIAL]
80604409	BUFFER CHAMBER ASSEMBLY ONLY	[OMITTED MATERIAL]
80604447	COMB, 12 WELL, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80604466	COMB, 12 WELL, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80604485	COMB, 12 WELL, BACKLESS, 3.0MM	[OMITTED MATERIAL]
80604504	COMB, 20 WELL, BACKLESS, 1.0MM	[OMITTED MATERIAL]

		TRANSFER PRICE USD\$
80604523	COMB, 20 WELL, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80604542	COMB, 20 WELL, BACKLESS, 3.0MM	[OMITTED MATERIAL]
80604561	COMB, 30 WELL, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80604580	COMB, 30 WELL, BACKLESS, 3.0MM	[OMITTED MATERIAL]
80604599	COMB, 36 WELL, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80604618	COMB, 36 WELL, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80604637	COMB, 36 WELL, BACKLESS, 3.0MM	[OMITTED MATERIAL]
80604656	BACK & 3 SCREWS FOR HE111 COMB	[OMITTED MATERIAL]
80604751	UVT GEL RUNNING TRAY 15X20CM	[OMITTED MATERIAL]
80604770	UVT GEL RUNNING TRAY 20X20CM	[OMITTED MATERIAL]
80604789	UVT GEL RUNNING TRAY 20X25CM	[OMITTED MATERIAL]
80604808	CASTING TRAY, 15X20CM	[OMITTED MATERIAL]
80604827	CASTING TRAY, 20X20CM	[OMITTED MATERIAL]
80604846	CASTING TRAY20X25CM	[OMITTED MATERIAL]
80604865	LID ASSEMBLY WITH POWER CABLES	[OMITTED MATERIAL]
80604884	GEL CASTING KIT, 15X20CM	[OMITTED MATERIAL]
80604903	GEL CASTING KIT, 20X20CM	[OMITTED MATERIAL]
80604922	GEL CASTING KIT, 20X25CM	[OMITTED MATERIAL]
80604979	BUFFER CHAMBER ASSEMBLY ONLY	[OMITTED MATERIAL]
80605017	CHAMBER ASSBLY	[OMITTED MATERIAL]
80605036	BACK & 2 SCREWS FOR HE31 COMB	[OMITTED MATERIAL]
80605055	SCREWS FOR HE31/91 COMB(12)	[OMITTED MATERIAL]
80605074	COMB, 12 WELL, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80605093	COMB, 12 WELL, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80605112	COMB, 16 WELL, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80605131	COMB, 16 WELL, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80605150	COMB, 8 WELL, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80605169	COMB, 8-WELL, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80605188	COMB, PREP, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80605207	COMB, PREP, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80605245	MINNIE GEL UNIT, 8 WELL 7X10CM	[OMITTED MATERIAL]
80605264	MINNIE GEL UNIT WITHOUT COMB	[OMITTED MATERIAL]
80605283	LID ASSEMBLY	[OMITTED MATERIAL]
80605302	BOTTOM FILL PLUG/FOR HE33 (H)	[OMITTED MATERIAL]
80605321	ELECTRODE REPLACE KIT FOR HE33	[OMITTED MATERIAL]
80605340	GEL RUNNING TRAY, UVT, 7X10 CM	[OMITTED MATERIAL]
80605359	GEL CASTING TRAY, 7X10 CM	[OMITTED MATERIAL]
80605378	GEL CASTING KIT, 7X10 CM	[OMITTED MATERIAL]
80605397	FOAM GASKET (HE47-10 CAST.KIT)	[OMITTED MATERIAL]
80605416	CHAMBER ASSEMBLY FOR HE99X	[OMITTED MATERIAL]
80605435	BACK & 2 SCREWS FOR HE91 COMBS	[OMITTED MATERIAL]
80605568	COMB,10 WELLS, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80605587	COMB,10 WELLS, BACKLESS, 3.0MM	[OMITTED MATERIAL]
80605606	COMB,15 WELLS, BACKLESS, 1.0MM	[OMITTED MATERIAL]

		TRANSFER PRICE USD\$
80605625	COMB,15 WELLS, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80605644	COMB, 15 WELL, BACKLESS, 3.0MM	[OMITTED MATERIAL]
80605663	COMB,20 WELLS, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80605682	COMB,20 WELLS, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80605701	COMB,20 WELLS, BACKLESS, 3.0MM	[OMITTED MATERIAL]
80605720	COMB,30 WELLS, BACKLESS, 1.0MM	[OMITTED MATERIAL]
80605758	PREP COMB, BACKLESS, 1.5MM	[OMITTED MATERIAL]
80605777	PREP COMB, BACKLESS, 3.0MM	[OMITTED MATERIAL]
80605815	RUNNING TRAY,NEW STYLE,15 X 10	[OMITTED MATERIAL]
80605834	RUNNING TRAY,NEW STYLE,15 X 15	[OMITTED MATERIAL]
80605853	RUNNING TRAY,NEW STYLE,15 X 20	[OMITTED MATERIAL]
80605967	ELECTRODE ASSEMBLY FOR HE950	[OMITTED MATERIAL]
80605986	CASTING TRAY,NEW STYLE,15 X 10	[OMITTED MATERIAL]
80606005	CASTING TRAY,NEW STYLE,15 X 15	[OMITTED MATERIAL]
80606024	CASTING TRAY,NEW STYLE,15 X 20	[OMITTED MATERIAL]

80606043	LID ASSEMBLY/CABLES FO HE99X	[OMITTED MATERIAL]
80606062	CASTING KIT,NEW STYLE,15 X 10	[OMITTED MATERIAL]
80606081	CASTING KIT,NEW STYLE,15 X15	[OMITTED MATERIAL]
80606100	CASTING KIT,NEW STYLE,15 X 20	[OMITTED MATERIAL]
80606119	FOAM SEALING GASKETS (4/PKG)	[OMITTED MATERIAL]
80606138	MAX HORIZ SUB UNIT-NEW VERSION	[OMITTED MATERIAL]
80606157	MAX HORIZ SUB W/CAST KIT/COMB	[OMITTED MATERIAL]
80606499	LOWER BUFFER CHAMBER	[OMITTED MATERIAL]
80606518	UPPER BUFFER CHAMBER	[OMITTED MATERIAL]
80606537	LID WITH POWER CABLES	[OMITTED MATERIAL]
80606556	ISO GAUGE, GEL TUBE POSITIONER	[OMITTED MATERIAL]
80607088	ADAPTER FOR 0.4 ML TUBES (6)	[OMITTED MATERIAL]
80607107	ADAPTER FOR 0.5 ML TUBE(6)	[OMITTED MATERIAL]
80607297	****PLASTIC STIRRING PLATFORM	[OMITTED MATERIAL]
80607715	LAMP WHITE 36W	[OMITTED MATERIAL]
80607734	PHOTOMAN DIRECT COPY CAMERA	[OMITTED MATERIAL]
80607753	HOOD ONLY, 8X10 (UVTM: 10-40)	[OMITTED MATERIAL]
80607772	**HOOD & LARGE SHIELD 8X10CM	[OMITTED MATERIAL]
80607829	HOOD/SHIELD 10X12 (UVTM:10-15)	[OMITTED MATERIAL]
80607848	HOOD ONLY 10X12 (UVTM: 10-40)	[OMITTED MATERIAL]
80607905	HOOD/SHIELD 15/20 (UVTM:19-40)	[OMITTED MATERIAL]
80607924	HOOD ONLY 15X20CM	[OMITTED MATERIAL]
80607943	****HOOD W/ADAPTORS,35MM15X20C	[OMITTED MATERIAL]
80607981	HOOD/SHIELD 17X23 (UVTM:25-40)	[OMITTED MATERIAL]
80608000	HOOD ONLY 17X23 (UVTM: 25-40)	[OMITTED MATERIAL]
80608038	HOOD/SHIELD 23/30 (UVTM:25-40)	[OMITTED MATERIAL]
80608057	HOOD ONLY 23/30 (UVTM:25-40)	[OMITTED MATERIAL]
80608114	FILM B&W 3X4 3000/36 (20) 36	[OMITTED MATERIAL]
80608133	TIFFIN#15 FILTR.DNA/RNA(PHC34)	[OMITTED MATERIAL]

		TRANSFER PRICE USD\$
80608152	TIFFIN#9 FILTER PROTEIN(PHC34)	[OMITTED MATERIAL]
80608171	TIFFIN#58 FILTER;SILVER STAIN	[OMITTED MATERIAL]
80608209	VIALS, GLASS, 30 ML (12)	[OMITTED MATERIAL]
80608228	VIAL, COVER, 30 ML	[OMITTED MATERIAL]
80608266	ISOPRIME VIAL RACK	[OMITTED MATERIAL]
80608285	STIR BARS, 0.75 IN STAR (4)	[OMITTED MATERIAL]
80608304	PUMP TUBING 2.79 MM ID (8)	[OMITTED MATERIAL]
80608342	NUMBERED TUBING CLIPS	[OMITTED MATERIAL]
80608361	FILTERS GFID, 4.7 CM, 100/BOX	[OMITTED MATERIAL]
80608380	MEMBRANE CASTING CHAMBER,DUAL	[OMITTED MATERIAL]
80608399	COVER GLASS FOR CASTER (8)	[OMITTED MATERIAL]
80608798	MGTY SML DECAPROBE UNIT	[OMITTED MATERIAL]
80608817	SILICONE SEAL GASKET, SLOTTED	[OMITTED MATERIAL]
80608836	SILICONE SEAL GASKET , SOLID	[OMITTED MATERIAL]
80608855	TEFLON SCREWS (4)	[OMITTED MATERIAL]
80609064	DRIVE BELT(PR70)RED ROTOR REPL	[OMITTED MATERIAL]
80609083	MOTOR FOR PR70 (BODINE)	[OMITTED MATERIAL]
80609102	BRUSHES,FOR PR50/70 SINCE 1988	[OMITTED MATERIAL]
80609140	BRUSHES, FOR PR50/55 PRE 9/88	[OMITTED MATERIAL]
80609159	MOTOR FOR PR50 (BODINE)	[OMITTED MATERIAL]
80609178	115V CIRCUIT BOARD, REPLCMNT	[OMITTED MATERIAL]
80609197	230V CIRCUIT BOARD, REPLCMNT	[OMITTED MATERIAL]
80609235	2ND TRAY W/POSTS 29X29CM	[OMITTED MATERIAL]
80609292	TRAY,1ST TIER RPLCMNT FOR PR50	[OMITTED MATERIAL]
80609311	TRAY LINER,29x29CM RPLCMNT	[OMITTED MATERIAL]
80609330	*MOTOR BRUSHES-OLD(SER # HSIJ)	[OMITTED MATERIAL]
80609349	SNAP RINGS	[OMITTED MATERIAL]
80609406	PR56 2ND TIER ROCKER TRAY 50CM	[OMITTED MATERIAL]
80609444	TOP BLOCK, REPLACEMENT	[OMITTED MATERIAL]
80609463	MIDDLE BLOCK, REPLACEMENT	[OMITTED MATERIAL]
80609482	BOTTOM BLOCK, REPLACEMENT	[OMITTED MATERIAL]
80609501	O-RING, SLOTBLOT RPLCMNT (4)	[OMITTED MATERIAL]
80609520	SCREW ,SHORT,PR600 RPLCMNT (4)	[OMITTED MATERIAL]
80609539	MEMBRANE TEMPLATE	[OMITTED MATERIAL]
80609558	SLOTBLOT, 48 SLOTS	[OMITTED MATERIAL]
80609577	TOP BLOCK, REPLMNT FOR PR648	[OMITTED MATERIAL]
80609596	MIDDLE BLOCK, RPLMNT FOR PR648	[OMITTED MATERIAL]
80609615	BOTTOM BLOCK,REPLMNT FOR PR648	[OMITTED MATERIAL]
80609634	O-RING, RPLCMNT FOR PR648	[OMITTED MATERIAL]
80609653	SCREWS, RPLCMNT FOR PR648 (6)	[OMITTED MATERIAL]
80609672	MEMBRANE TEMPLATE FOR PR648	[OMITTED MATERIAL]

80609729	TRAY ORBITAL SHAKER,25X35 CM	[OMITTED MATERIAL]
80609748	TRAY LINER, 25X35CM RPLCMNT	[OMITTED MATERIAL]
80609767	TRAY, RED ROTOR SHAKER, 50X50	[OMITTED MATERIAL]

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		TRANSFER PRICE USDS
80609786	TRAY LINER, 50X50CM RPLCMNT	[OMITTED MATERIAL]
80610508	ADAPTOR,SLEEVED 2MM M/4MM F(2)	[OMITTED MATERIAL]
80610527	ADAPTER KIT 4MM FIXED SLEEVE	[OMITTED MATERIAL]
80610603	POWER CORD, DETACHABLE	[OMITTED MATERIAL]
80610641	POWER CORD,DETACHABLE,15A,115V	[OMITTED MATERIAL]
80610679	FUSE .25A/250V SB 3AG (5)	[OMITTED MATERIAL]
80610698	FUSE .25A/250V SB 5X20 (5)	[OMITTED MATERIAL]
80610736	FUSE .375A/250V SB 2AG (3)	[OMITTED MATERIAL]
80610774	FUSE .5A/250V FB 3AG (5)	[OMITTED MATERIAL]
80610812	FUSE .5A/250V SB 5X20 (5)	[OMITTED MATERIAL]
80610831	FUSE .8A/250V FB 5X20 (5)	[OMITTED MATERIAL]
80610869	FUSE 1.6A/250V SB 5X20 (5)	[OMITTED MATERIAL]
80610926	FUSE 12A/250V FB 3AG (5)	[OMITTED MATERIAL]
80610945	FUSE 1A/250V FB 5X20 (5)	[OMITTED MATERIAL]
80610964	FUSE 1A/250V SB 3AG (5)	[OMITTED MATERIAL]
80610983	FUSE 1A/250V SB 15X20 (5)	[OMITTED MATERIAL]
80611002	FUSE 2.5A/250V SB 3AG (5)	[OMITTED MATERIAL]
80611021	FUSE 2.5A/250V SB 5X20 (5)	[OMITTED MATERIAL]
80611040	FUSE 2A/250V F 5X20 (5/PK)	[OMITTED MATERIAL]
80611059	FUSE 3A/250V FB 3AG (5)	[OMITTED MATERIAL]
80611078	FUSE 3A/250V FB 5X20 (5)	[OMITTED MATERIAL]
80611116	FUSE 3A 250V 5 X 20 MM SB 5PK	[OMITTED MATERIAL]
80611192	FUSE 5A/250V FB 5X20 (3)	[OMITTED MATERIAL]
80611230	FUSE 5A/250V SB 5x20 (5)	[OMITTED MATERIAL]
80611268	FUSE 6.3A/250V SB 5X20 (5)	[OMITTED MATERIAL]
80611420	PUMP HEAD/DIAPHRAM, PV100	[OMITTED MATERIAL]
80611496	QUICKFIT FEMALE CONNECTOR,1/4	[OMITTED MATERIAL]
80611515	QUICKFIT FEMALE CONNECTOR,3/8	[OMITTED MATERIAL]
80611553	QUICKFIT MALE CONNECTOR, 3/8 “	[OMITTED MATERIAL]
80611629	PLATE MATE WASH SYS	[OMITTED MATERIAL]
80611648	LONG PLATE ADAPTOR FOR SE100	[OMITTED MATERIAL]
80611667	PLATE HOLDER W/HANDLE	[OMITTED MATERIAL]
80611762	FILTER PAPER,35x44CM (25)	[OMITTED MATERIAL]
80611781	POROUS CELLOPHANE (50)	[OMITTED MATERIAL]
80611800	SILICONE RUBBER SHEET	[OMITTED MATERIAL]
80611819	MYLAR SHEET	[OMITTED MATERIAL]
80611838	POROUS POLYETHYLENE SHEET	[OMITTED MATERIAL]
80611857	STAINLESS SCREEN	[OMITTED MATERIAL]
80611971	PCB ASSY.FOR SE1160-115V 1990+	[OMITTED MATERIAL]
80611990	PCB ASSY FOR SE1160-230V 1990+	[OMITTED MATERIAL]
80612009	TIMER,4HR 115V/SE1150/1160	[OMITTED MATERIAL]
80612028	TIMER, 4 HR, 230V/SE1150/1160	[OMITTED MATERIAL]
80612085	REPAIR KIT 115V: SE1150,SE1160	[OMITTED MATERIAL]
80612104	REPAIR KIT 230V: SE1150/SE1160	[OMITTED MATERIAL]

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		TRANSFER PRICE USDS
80612199	PRECUT CELLOPHAN SHEET(50)	[OMITTED MATERIAL]
80612218	PRECUT MYLAR SHEETS (25)	[OMITTED MATERIAL]
80612256	O-RING SEAL FOR GEL FRAME	[OMITTED MATERIAL]
80612275	BLACK QUARTER TURN KNOB(10)	[OMITTED MATERIAL]
80612313	OUTER FRAME W/ 1/4 TURN CLAMPS	[OMITTED MATERIAL]
80612332	INNER FRAME WITH O-RING SEAL	[OMITTED MATERIAL]
80612465	MYLAR SEALING TAPE - 216 FT	[OMITTED MATERIAL]
80612560	COMB, 32 WELL, .25MM	[OMITTED MATERIAL]
80612579	COMB, 32 WELL, .35MM	[OMITTED MATERIAL]
80612750	FOAM TABS (20)	[OMITTED MATERIAL]
80612769	BULLDOG BINDER CLIPS (12)	[OMITTED MATERIAL]
80612788	WONDER WEDGE” PLASTIC WEDGE “	[OMITTED MATERIAL]
80612940	GLASS PLATE SET FOR SE1600	[OMITTED MATERIAL]
80612997	CLAMP ASSEMBLIES (2)	[OMITTED MATERIAL]
80613035	UPPER BUFFER CHAMBER ASSEMBLY	[OMITTED MATERIAL]
80613054	ALUMINUM PLATE (SE1600)	[OMITTED MATERIAL]
80613073	LID W/ CABLES & CONNECTORS	[OMITTED MATERIAL]
80613567	WAX PAPER FOR SE215/275 (100)	[OMITTED MATERIAL]

80613605	NOTCHED GLASS PLATE,10X8CM (5)	[OMITTED MATERIAL]
80613643	ALUMINA PLATES, 10 X 8 CM (10)	[OMITTED MATERIAL]
80613681	RECTGLR.GLASS PLTS 10X8CM (10)	[OMITTED MATERIAL]
80613719	FOAM GASKET, 61CM X 4.5MM OD	[OMITTED MATERIAL]
80613738	FILLER PLUG SET FOR SE215	[OMITTED MATERIAL]
80613795	T SPACERS 8CM X .75MM (2)	[OMITTED MATERIAL]
80613814	T SPACERS 8CM X 1.0MM (2)	[OMITTED MATERIAL]
80613833	T SPACERS 8CM X 1.5MM (2)	[OMITTED MATERIAL]
80613871	COMB, SPINELESS, 10 WELL, .75	[OMITTED MATERIAL]
80613890	COMB, SPINELESS, 10 WELL,1.0MM	[OMITTED MATERIAL]
80613909	COMB, SPINELESS, 10 WELL, 1.5	[OMITTED MATERIAL]
80613947	COMB, SPINELESS,15 W,0.75	[OMITTED MATERIAL]
80613966	COMB, SPINELESS, 15 WELL,1.0MM	[OMITTED MATERIAL]
80613985	COMB, SPINELESS, 15 WELL, 1.5	[OMITTED MATERIAL]
80614004	MICROTITER COMB,18 WELL,1.0 MM	[OMITTED MATERIAL]
80614023	COMB, SPINELESS, 5 WELL, .75MM	[OMITTED MATERIAL]
80614042	COMB, SPINELESS, 5 WELL, 1.0MM	[OMITTED MATERIAL]
80614061	COMB, SPINELESS,5 W.,1.5MM	[OMITTED MATERIAL]
80614080	MICROTITER COMB,9 WELL,1.0 MM	[OMITTED MATERIAL]
80614156	COMB, SPINELESS REFERENCE, .75	[OMITTED MATERIAL]
80614175	COMB,SPINELESS REFERENCE,1.0MM	[OMITTED MATERIAL]
80614194	COMB, SPINELESS REFERENCE, 1.5	[OMITTED MATERIAL]
80614213	WELL-LOCATING DECAL (2)	[OMITTED MATERIAL]
80614232	FILLER SHEETS SE215/275(5)	[OMITTED MATERIAL]
80614251	10-PLACE CASTER FOR SE250 GELS	[OMITTED MATERIAL]
80614270	LWR BUFF CHMBR SE200/280	[OMITTED MATERIAL]

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		TRANSFER PRICE USDS
80614346	SPACE-SAVER FOR SE215 & SE275	[OMITTED MATERIAL]
80614365	FACE PLATE FOR SE215/275	[OMITTED MATERIAL]
80614555	WAX PAPER FOR SE235(100)	[OMITTED MATERIAL]
80614574	CLIPS WITH SCREWS (2)	[OMITTED MATERIAL]
80614593	FILLER SHEETS FOR SE235(5)	[OMITTED MATERIAL]
80614612	4-PLACE CASTER FOR SE260 GELS	[OMITTED MATERIAL]
80614631	SPACE-SAVER FOR SE235 GEL CSTR	[OMITTED MATERIAL]
80614650	MIGHTY SMALL DUAL GEL CASTER	[OMITTED MATERIAL]
80614669	SEALING GASKET SET (TWO PAIR)	[OMITTED MATERIAL]
80614707	CASTING CLAMP ASSEMBLY	[OMITTED MATERIAL]
80614745	MIGHTY SMALL II FOR 8Z7CM GELS	[OMITTED MATERIAL]
80614783	LONG RED SPRINGCLAMP (4)	[OMITTED MATERIAL]
80614802	SHORT RED SPRINGCLAMPS (4)	[OMITTED MATERIAL]
80614840	UPR BUFR CHMBR (NEW TYPE)SE250	[OMITTED MATERIAL]
80614859	LOWER BUFFER CHAMBER FOR SE250	[OMITTED MATERIAL]
80614878	DEEP LOWER BUFFER CHAMBER	[OMITTED MATERIAL]
80614916	LID W/CABLES FOR SE 250	[OMITTED MATERIAL]
80614935	MIGHTY SMALL II FOR 8X9CM GELS	[OMITTED MATERIAL]
80614992	T SPACER PVC GRAY .75x105MM(2)	[OMITTED MATERIAL]
80615011	T SPACERS PVC WHITE 1x105MM(2)	[OMITTED MATERIAL]
80615030	T SPACER PVC GRAY 1.5x105MM(2)	[OMITTED MATERIAL]
80615049	NOTCHD GLASS PLATS 10x10CM (5)	[OMITTED MATERIAL]
80615068	NOTCHD ALUMINA PLT 10X10CM (5)	[OMITTED MATERIAL]
80615087	RECT. GLASS PLATES 10x10CM (5)	[OMITTED MATERIAL]
80615106	4-PLACE CASTER FOR SE250 GELS	[OMITTED MATERIAL]
80615144	FILLER PLUG SET SE235/275/295	[OMITTED MATERIAL]
80615220	SPACERS T-SHAPE 12CM X.75MM(2)	[OMITTED MATERIAL]
80615239	SPACERS T-SHAPE 12CM X1.0MM(2)	[OMITTED MATERIAL]
80615258	SPACERS T-SHAPE 12CM X1.5MM(2)	[OMITTED MATERIAL]
80615315	NTCHD ALUMNA PLATE 10X12CM (2)	[OMITTED MATERIAL]
80615334	RCTNGLR GLSS PLATE,10X12CM (5)	[OMITTED MATERIAL]
80615353	UPPER BUFFER CHAMBER FOR SE280	[OMITTED MATERIAL]
80615372	LID WITH CABLES FOR SE280	[OMITTED MATERIAL]
80615467	FACEPLATE FOR SE295	[OMITTED MATERIAL]
80615524	STURDIER,15W 1.5MM CMB,SP,	[OMITTED MATERIAL]
80615543	SLOTTED GASKET GRAY (LONG) (1)	[OMITTED MATERIAL]
80615562	BLANK GASKET FOR CASTING STAND	[OMITTED MATERIAL]
80615657	LOWER BUFFER CHAMBER	[OMITTED MATERIAL]
80615676	CAST STND ASEM, LWR BFR CH	[OMITTED MATERIAL]
80615695	UPPER BUFFER CHAMBER	[OMITTED MATERIAL]
80615714	LID WITH ELECTRODES	[OMITTED MATERIAL]
80615733	LID W/ELECTRDS/24CM/FOR SE410	[OMITTED MATERIAL]
80615999	COMB, 10 WELL, .75MM	[OMITTED MATERIAL]
80616018	COMB, 10 WELL, 1.0MM	[OMITTED MATERIAL]

		TRANSFER PRICE USD\$
80616037	COMB, 10 WELL, 1.5MM	[OMITTED MATERIAL]
80616113	COMB, 15 WELL, .75MM	[OMITTED MATERIAL]
80616132	COMB, 15WELL, 1.0MM	[OMITTED MATERIAL]
80616151	COMB, 15 WELL, 1.5MM	[OMITTED MATERIAL]
80616170	COMB, 20 WELL, .75MM	[OMITTED MATERIAL]
80616189	COMB, 20WELL, 1.0MM	[OMITTED MATERIAL]
80616208	COMB, 20 WELL, 1.5MM	[OMITTED MATERIAL]
80616227	COMB, 28 WELL, .75MM/15MM DEEP	[OMITTED MATERIAL]
80616246	COMB, 28 WELL, 1.0MM/15MM DEEP	[OMITTED MATERIAL]
80616265	COMB, 28 WELL, 1.5MM/15MM DEEP	[OMITTED MATERIAL]
80616322	COMB BACK,ADJUST,10&15MM	[OMITTED MATERIAL]
80616341	COMB W/ADJ BACK/DUAL REF/.75MM	[OMITTED MATERIAL]
80616360	COMB W/ADJ BACK/DUAL REF.	[OMITTED MATERIAL]
80616379	COMB W/ADJ BACK/DUAL REF/1.5MM	[OMITTED MATERIAL]
80616417	COMB W/ADJ BACK/REFERENCE/.75	[OMITTED MATERIAL]
80616436	COMB W/ADJ BACK/REFERENCE/1.0	[OMITTED MATERIAL]
80616455	COMB W/ADJ BACK/REFERENCE/1.5	[OMITTED MATERIAL]
80616968	FILTER PAPER (25)	[OMITTED MATERIAL]
80616987	POROUS CELLOPHANE (50)	[OMITTED MATERIAL]
80617196	VERT SLAB, 15W 1.5 CMB,SP	[OMITTED MATERIAL]
80617329	CLAMP ASSY UNIVERSAL 16CM (2)	[OMITTED MATERIAL]
80617348	CLAMP THUMBSCREW UNIVERSAL(12)	[OMITTED MATERIAL]
80617367	UNIVERSAL CLMP(4) & CAM(8) KIT	[OMITTED MATERIAL]
80617424	CAMS,BLACK,LONG (NEW) (4)	[OMITTED MATERIAL]
80617443	SLOTTED GASKET GRAY (LONG) (2)	[OMITTED MATERIAL]
80617462	BLANK GASKETS (2)	[OMITTED MATERIAL]
80617500	GEL CASTING STAND +GASKETS	[OMITTED MATERIAL]
80617519	BUFFER DAM	[OMITTED MATERIAL]
80617633	UPPER BUFFER CHAMBER	[OMITTED MATERIAL]
80617652	LID WITH CABLES	[OMITTED MATERIAL]
80617709	HIGH VOLTAGE LEAD SET	[OMITTED MATERIAL]
80617728	GROMMETS (4)	[OMITTED MATERIAL]
80617747	BANANA PLUG 4MM GOLD W/WASHERS	[OMITTED MATERIAL]
80617899	SE6102 GLASS PLATES (PR)	[OMITTED MATERIAL]
80617918	DIVIDER GLASS PLATE,18X16CM(1)	[OMITTED MATERIAL]
80617994	SPAC 1CM X 16CM 1.0MM (2)	[OMITTED MATERIAL]
80618013	SPACERS 1CM X 16CM X 1.5MM (2)	[OMITTED MATERIAL]
80618051	SPAC 2CM X 16CM X .75MM(2)	[OMITTED MATERIAL]
80618070	SPACERS 2CM X 16CM 1.0MM (2)	[OMITTED MATERIAL]
80618089	SPAC 2CM X 16CM X 1.5MM(2)	[OMITTED MATERIAL]
80618165	SPACER-MATE, SE400/600/700 (3)	[OMITTED MATERIAL]
80618184	ACRYLIC BLOCK,11MM THICK,18X16	[OMITTED MATERIAL]
80618241	POLYCARB FILLER SHEETS (5)	[OMITTED MATERIAL]
80618260	WAXED PAPER, 100 SHEETS	[OMITTED MATERIAL]

		TRANSFER PRICE USD\$
80618279	MULT CAST, 18X16CM W/GLS PLTS	[OMITTED MATERIAL]
80618298	LOWER BUFFER CHAMBER	[OMITTED MATERIAL]
80618374	HEAT EXCHANGER FOR SE600,SE660	[OMITTED MATERIAL]
80618393	GLASS TUBE WITH 2 GROMMETS	[OMITTED MATERIAL]
80618431	PLUG, FILLER, FOR SE615	[OMITTED MATERIAL]
80618469	GLASS PLATES 18 X 32CM (2)	[OMITTED MATERIAL]
80618659	GLASS PLATES, 18X8CM (2)	[OMITTED MATERIAL]
80618678	DIVIDER PLATE, 18 X 8 CM	[OMITTED MATERIAL]
80618735	CLAMP ASSY 8CM UNIVERSAL	[OMITTED MATERIAL]
80618773	SPACERS 2CM X 8CM X.75MM (2)	[OMITTED MATERIAL]
80618792	SPACERS 2CM X 8CM 1.0MM (2)	[OMITTED MATERIAL]
80618811	SPACERS 2CM X 8CM X1.5MM (2)	[OMITTED MATERIAL]
80618982	BASIC SLAB,14X24GEL,NO C&S	[OMITTED MATERIAL]
80619001	GLASS PLATES 18 X 24CM (2)	[OMITTED MATERIAL]
80619020	DIVIDER GLASS PLATE, 18X24CM	[OMITTED MATERIAL]
80619058	SPACERS 2CM X 24CM X .75MM (2)	[OMITTED MATERIAL]
80619077	SPACERS 2CM X 24CM X 1.0MM (2)	[OMITTED MATERIAL]
80619096	SPACERS 2CM X 24CM X 1.5MM (2)	[OMITTED MATERIAL]
80619115	LOWER BUFFER CHMBR FOR SE660	[OMITTED MATERIAL]
80619134	GEL CASTER, 1-4 16CM GELS	[OMITTED MATERIAL]
80619191	SILICONE FILLER PLUG SET/SE675	[OMITTED MATERIAL]

80619419	LEVEL	[OMITTED MATERIAL]
80619609	GRADIENT MAKER, 100 ML	[OMITTED MATERIAL]
80619628	STOPCOCK FOR SG5/50/30/15	[OMITTED MATERIAL]
80619647	STOPCOCK, DELIVERY SG100	[OMITTED MATERIAL]
80619685	WHITE OUTLET FITTING,APPRX 4MM	[OMITTED MATERIAL]
80619704	STOPCOCK, CONNECTOR SG100	[OMITTED MATERIAL]
80619761	GRADIENT MAKER, 15 ML	[OMITTED MATERIAL]
80619780	GRADIENT MAKER, 30 ML	[OMITTED MATERIAL]
80619799	GRADIENT MAKER, 50 ML	[OMITTED MATERIAL]
80619818	GRADIENT MAKER, 500 ML	[OMITTED MATERIAL]
80619837	PUSH-PULL VALVE,RPLMT,500-2000	[OMITTED MATERIAL]
80619856	PUSH-PULL VALVE,FOR SALT GRDNT	[OMITTED MATERIAL]
80620426	MIGHTY SMALL TRANSPHOR	[OMITTED MATERIAL]
80620445	ELECTRODE PANEL	[OMITTED MATERIAL]
80620464	GEL CASSETTE W/ FOAM SPONGES	[OMITTED MATERIAL]
80620502	FOAM SPONGES,1/4 THICK (PK4) “	[OMITTED MATERIAL]
80620521	FOAM SPONGES, 1/8 THICK (4) “	[OMITTED MATERIAL]
80620540	BLOTTING PAPER, 9X10.5CM (50)	[OMITTED MATERIAL]
80620559	LWR CHAMBER/HEAT EXCHANGER	[OMITTED MATERIAL]
80620578	LID WITH CABLES	[OMITTED MATERIAL]
80620597	TRANSPHOR UNIT +2 CASSETTES	[OMITTED MATERIAL]
80620616	TE43BK PK ELECTRODE- BLACK	[OMITTED MATERIAL]
80620635	TE43GY PK ELECTRODE - GREY	[OMITTED MATERIAL]

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		TRANSFER PRICE USD\$
80620654	TE44H PK HINGED CASSETTE W/SPO	[OMITTED MATERIAL]
80620673	DACRON SPONGES (2)	[OMITTED MATERIAL]
80620692	FOAM SPONGES, 1/4THICK (4)”	[OMITTED MATERIAL]
80620711	FOAM SPONGES, 1/8THICK (4)”	[OMITTED MATERIAL]
80620730	BLOTTER PAPER,14.5x21.5CM (50)	[OMITTED MATERIAL]
80620749	HEAT EXCHANGER	[OMITTED MATERIAL]
80620768	STANDARD PLASTIC LID W/CABLES	[OMITTED MATERIAL]
80620939	BUFFER CHAMBER FOR TE42/TE52	[OMITTED MATERIAL]
80620958	TRANSPHOR +4 CASSETTES& COOLER	[OMITTED MATERIAL]
80621015	BUFFER CHAMBER W/HEAT EXCHANGR	[OMITTED MATERIAL]
80621034	SEMIPHOR TRANSPHOR UNIT	[OMITTED MATERIAL]
80621053	POROUS CELLOPHANE, 50 SHEETS	[OMITTED MATERIAL]
80621072	SMALL MYLAR MASK, SOLID (4)	[OMITTED MATERIAL]
80621129	BLOT.PAPER(TE70)20X25GELS (25)	[OMITTED MATERIAL]
80621167	BLOTTER PAPER,14X16CM(25)	[OMITTED MATERIAL]
80621186	LARGE SEMIPHOR TRANSPHOR UNIT	[OMITTED MATERIAL]
80621205	MYLAR MASK	[OMITTED MATERIAL]
80621281	VACUUM SEAL, SOLID	[OMITTED MATERIAL]
80621604	INSTRUCTIONS TKO100	[OMITTED MATERIAL]
80621832	SEALING COMPOUND/CAP TUBES (6)	[OMITTED MATERIAL]
80621889	HEX KEY & 4 CAP CUVETTE SCREWS	[OMITTED MATERIAL]
80622231	MINI UV CROSSLINKER 115V	[OMITTED MATERIAL]
80622250	MINI UV CROSSLINKER 230V	[OMITTED MATERIAL]
80622269	UVLL-15 UV LAMP 365NM 15	[OMITTED MATERIAL]
80622288	LAMP UV 15W 300NM	[OMITTED MATERIAL]
80622307	UV LAMP 300NM 6 WATT,UVTM-10	[OMITTED MATERIAL]
80622326	LAMP UV 8W 300NM	[OMITTED MATERIAL]
80622345	LAMP UV 15W 254NM	[OMITTED MATERIAL]
80622364	LAMP UV 8W 254NM	[OMITTED MATERIAL]
80622402	RK UV BLK ASSY UTM19,20,25,40R	[OMITTED MATERIAL]
80622421	WORK SURFACE UV TRANSPARENT	[OMITTED MATERIAL]
80622478	MACROVUE UV-25 115V	[OMITTED MATERIAL]
80622497	MACROVUE UV-25 230V	[OMITTED MATERIAL]
80622516	MACROVUE UVIS-20 115V	[OMITTED MATERIAL]
80622535	MACROVUE UVIS-20 230V	[OMITTED MATERIAL]
80622592	RK VALVE(4X)DIAPHRAGM(2X) KIT	[OMITTED MATERIAL]
80622611	VACUUM TUBING 8mm ID 3 METERS	[OMITTED MATERIAL]
80622630	RED OUTLET FITTINGS (4)	[OMITTED MATERIAL]
80622687	HOECHST 33258 DYE, 100 MG	[OMITTED MATERIAL]
80622706	CALF THYMUS DNA STANDARD	[OMITTED MATERIAL]
80622725	4-METHYLLUMBELLIFERONE, 100 MG	[OMITTED MATERIAL]
80622744	GLASS FLUOROMETRY CUVETTE	[OMITTED MATERIAL]
80622763	CAPILLARY ADAPTER KIT	[OMITTED MATERIAL]
80622782	CAPILLARY TUBES 10 UL, 100/PK	[OMITTED MATERIAL]

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		TRANSFER PRICE USDS
80622801	CAPILLARY TUBES 100 UL, 100/PK	[OMITTED MATERIAL]
80622820	CAPILLARY TUBES,50 UL, 100/PK	[OMITTED MATERIAL]
80622839	QUARTZ CAPILLARY CUVETTE KIT	[OMITTED MATERIAL]
80622858	CAPILLARY TUBE,GLASS,250/PKG	[OMITTED MATERIAL]
80622896	RK DQ200-LAMP ASSEMBLY	[OMITTED MATERIAL]
80622915	RK DQ200 PCB ASSEMBLY	[OMITTED MATERIAL]
80622934	RK DQ200 OPTICS REPAIR	[OMITTED MATERIAL]
80622953	RK DQ200 LID ASSEMBLY	[OMITTED MATERIAL]
80622972	RK DQ200 FUSE REPAIR	[OMITTED MATERIAL]
80623010	POWER CORD,DETACHABLE,10A,230V	[OMITTED MATERIAL]
80623124	INSTRUCTIONS - DYNA QUANT 200	[OMITTED MATERIAL]
80623143	QUICK REFERENCE CARD- DQ200	[OMITTED MATERIAL]
80623162	QUICK REFERENCE CARD-DQ120	[OMITTED MATERIAL]
80623181	QUICK REFERENCE CARD- DQ130	[OMITTED MATERIAL]
80623200	INSTRUCTIONS DQ120	[OMITTED MATERIAL]
80623219	INSTRUCTIONS DQ130	[OMITTED MATERIAL]
80623257	WIRE,PLATINUM, 0.01 OD, 72 IN	[OMITTED MATERIAL]
80623276	WIRE,PLATINUM,0.01 OD,36 IN.	[OMITTED MATERIAL]
80623390	SHAFT-SHAKE,SS PR70	[OMITTED MATERIAL]
80623485	DATA LOGGER GS365W/GS370	[OMITTED MATERIAL]
80623542	CABLE ASSY GS365W SIGNAL	[OMITTED MATERIAL]
80623846	FUSE .4A,250V,SB 5/PKG	[OMITTED MATERIAL]
80623865	FUSE .8A, 250V, SB 5/PKG	[OMITTED MATERIAL]
80623903	INSTRUCTIONS SE6035-1.5	[OMITTED MATERIAL]
80623941	QUICK REF CARD SE600	[OMITTED MATERIAL]
80623960	INSTRUCTIONS - SE400/410/420	[OMITTED MATERIAL]
80624055	PLG MALE 2MM SAFETY RD&BK PR	[OMITTED MATERIAL]
80624511	MACROVUE UV-20 115V	[OMITTED MATERIAL]
80624530	MACROVUE UV-20 230V	[OMITTED MATERIAL]
80624568	INSTRUCTIONS TE22	[OMITTED MATERIAL]
80625252	PERFORMANCE VALIDATION KIT	[OMITTED MATERIAL]
80625290	KIT CLAMP - TE80	[OMITTED MATERIAL]
80625309	KIT GASKET- TE80	[OMITTED MATERIAL]
80625328	KIT COUPLING BODY W/SHUTOFF	[OMITTED MATERIAL]
80625347	KIT SEALING RIM- TE80	[OMITTED MATERIAL]
80625537	RK SE400 LEVELING FASTENER	[OMITTED MATERIAL]
80625575	RK HE100/120 ELECTRODE HDWR	[OMITTED MATERIAL]
80625594	FUSE 2A 250V 5X20MM SB 5PK	[OMITTED MATERIAL]
80625613	SERVICE MANUAL - UVC1000	[OMITTED MATERIAL]
80625632	INSTRUCTIONS - UVC500	[OMITTED MATERIAL]
80625727	RK TKO100 WIRE SET REPLACEMENT	[OMITTED MATERIAL]
80625803	RK STARTER FS-11 23-V/8-15W	[OMITTED MATERIAL]
80625898	RK UVC500 BALLAST, 230V/60HZ	[OMITTED MATERIAL]
80625917	RK SWITCH ON/OFF (R)	[OMITTED MATERIAL]

		TRANSFER PRICE USDS
80625936	RK STARTER FS-5 115V/8W	[OMITTED MATERIAL]
80625993	RK TE90 PCB ASSY	[OMITTED MATERIAL]
80626012	RK TE90 UPPER ELECTRODE ASSY	[OMITTED MATERIAL]
80626031	RK TE90 STEPPER MOTOR ASSY	[OMITTED MATERIAL]
80626050	RK TE90 ELECTRONIC COMPONET	[OMITTED MATERIAL]
80626069	RK TE90 HARDWARE KIT	[OMITTED MATERIAL]
80626088	INSTRUCTIONS TE90 GENESWEEP	[OMITTED MATERIAL]
80626107	RK TE90 WIRE SET	[OMITTED MATERIAL]
80626126	RK TE90 TRANSFORMER	[OMITTED MATERIAL]
80626145	RK TE90 DRIVE BELT HARDWARE	[OMITTED MATERIAL]
80626183	RK GS300 DECTOR HEAD & BAR	[OMITTED MATERIAL]
80626202	RK GS300 WIRE SET	[OMITTED MATERIAL]
80626221	RK GS300 MOTOR BRKT ASSY 115V	[OMITTED MATERIAL]
80626240	RK GS300 MOTOR BRKT ASSY 230V	[OMITTED MATERIAL]
80626259	RX GS300 ELECTRONIC HARDWARE	[OMITTED MATERIAL]
80626278	RK GS300 PCB ASSY CALIBRATED	[OMITTED MATERIAL]
80626297	RK GS300 SLIDE DRIVE ASSY	[OMITTED MATERIAL]
80626354	RK TE70 TOP ASSY	[OMITTED MATERIAL]
80626373	RK TE70 BASE ASSY	[OMITTED MATERIAL]
80626392	RK TE77 TOP ASSY	[OMITTED MATERIAL]
80626411	RK TE77 BASE ASSEMBLY	[OMITTED MATERIAL]
80626430	RK TE70 & TE77 SWITCH HDWR	[OMITTED MATERIAL]
80626449	HV LEADS 4MM M SAFETY RD & BK	[OMITTED MATERIAL]
80626468	INSTRUCTIONS- TE70/77	[OMITTED MATERIAL]
80626506	RK PC500 CONTROL BOARD ASSY	[OMITTED MATERIAL]

80626525	RK PC500 POWER BARD ASSY	[OMITTED MATERIAL]
80626544	RK PC500 WIRE SET KIT	[OMITTED MATERIAL]
80626563	RK PC500 HARDWARE KIT	[OMITTED MATERIAL]
80626582	INSTRUCTIONS SQ3 SEQUENCER	[OMITTED MATERIAL]
80626601	INSTRUCTIONS - EPS2A/200	[OMITTED MATERIAL]
80626677	SERVICE MANUAL - UVC500	[OMITTED MATERIAL]
80626715	RK HE99X ELECTRODE STRIP ASSY	[OMITTED MATERIAL]
80626753	INSTRUCTIONS- HE99X	[OMITTED MATERIAL]
80626791	RK HE950 CABLE ASSY	[OMITTED MATERIAL]
80627038	RK GT1 COOL CORE GROMMET/GLASS	[OMITTED MATERIAL]
80627057	INSTRUCTIONS PC500	[OMITTED MATERIAL]
80627076	FUSE.160A 250V 5X20MM FB 5PK	[OMITTED MATERIAL]
80627114	PUMP HEAD ASSEMBLY, PV100	[OMITTED MATERIAL]
80627133	PRESSURE REGULATION VALVE ASSY	[OMITTED MATERIAL]
80627152	VACUUM REGULATION VALVE ASSY	[OMITTED MATERIAL]
80627171	VACUUM/PRESSURE GAUGE	[OMITTED MATERIAL]
80627247	INSTRUCTIONS TE42,52X,62,62X	[OMITTED MATERIAL]
80627342	INSTRUCTIONS - HE33	[OMITTED MATERIAL]
80627380	RK PR50/70 PEG	[OMITTED MATERIAL]

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		TRANSFER PRICE USD\$
80627399	RK TE22 FITTINGS/HARDWARE KIT	[OMITTED MATERIAL]
80627475	RK TE50X PCB ASSEMBLY-TESTED	[OMITTED MATERIAL]
80627513	RK TE50X HARDWARE	[OMITTED MATERIAL]
80627570	RK PR50/70 115V LIGHTED SWITCH	[OMITTED MATERIAL]
80627589	RK PR50/70 GROMMET	[OMITTED MATERIAL]
80627608	RK PR50/70 230V SWITCH	[OMITTED MATERIAL]
80627627	RK PR50 BUSHING	[OMITTED MATERIAL]
80627646	RK PR50 CRANK ARM	[OMITTED MATERIAL]
80627665	RK PR50 DRIVE LINKAGE	[OMITTED MATERIAL]
80627684	RK PR50 BUSHING HOLDER	[OMITTED MATERIAL]
80627703	RK PR50 DRIVE PLATE	[OMITTED MATERIAL]
80627722	RK PR50 SNAP RING	[OMITTED MATERIAL]
80627760	INSTRUCTIONS - PR50	[OMITTED MATERIAL]
80627779	SERVICE MANUAL PR50/55	[OMITTED MATERIAL]
80627874	TRANSFORMER HB1100D	[OMITTED MATERIAL]
80627893	RK HB1100D OVN TMP, CUT OUT	[OMITTED MATERIAL]
80627950	MOTOR,FAN,120V HB1100D	[OMITTED MATERIAL]
80627988	HEATER 120V HB1100D	[OMITTED MATERIAL]
80628007	PCB ASSY HB1100D	[OMITTED MATERIAL]
80628045	INSTRUCTIONS - UVC500/1000	[OMITTED MATERIAL]
80628159	RK PS250/500/3000 POT 10K	[OMITTED MATERIAL]
80628178	RK PS250/500XT POT 2K	[OMITTED MATERIAL]
80628197	RK PS250/500XT METER	[OMITTED MATERIAL]
80628216	RK PS250/500XT KNOB KIT	[OMITTED MATERIAL]
80628235	RK FUSEHOLDER KIT	[OMITTED MATERIAL]
80628425	RK PS250/500XT/3000 TIMER 230V	[OMITTED MATERIAL]
80628444	RK PS250/500XT/3000 TIMER 115V	[OMITTED MATERIAL]
80628463	RK PS250/500XT/3000 XSTR BLOCK	[OMITTED MATERIAL]
80628501	MOTOR/GEARBOX 120V, TUBE DRIVE	[OMITTED MATERIAL]
80628539	INSTRUCTIONS - HB1100D	[OMITTED MATERIAL]
80628558	SERVICE MANUAL HB1100D	[OMITTED MATERIAL]
80628634	INSTRUCTIONS EMD101	[OMITTED MATERIAL]
80628672	RK GE200 CHAMBER REPLACEMNET	[OMITTED MATERIAL]
80628691	RK GE200 HOSE CONNECTOR	[OMITTED MATERIAL]
80628710	RK GE200 PWR ENTRY MODULE 115V	[OMITTED MATERIAL]
80628729	RK GE200 PWR ENTRY MODULE 230	[OMITTED MATERIAL]
80628748	RK GE200 PCB POWER BOARD 115V	[OMITTED MATERIAL]
80628767	RK GE200 PCB POWER BOARD 230V	[OMITTED MATERIAL]
80628786	RK GE200 PCB CONTROL BOARD	[OMITTED MATERIAL]
80628805	RK GE200 HARDWARE	[OMITTED MATERIAL]
80628824	INSTRUCTIONS-GE200	[OMITTED MATERIAL]
80628862	RK SE1160 ELEC REPAIR KIT-115V	[OMITTED MATERIAL]
80628881	RK SE1160 ELEC REPAIR KIT 230	[OMITTED MATERIAL]
80628900	RK SE1160 KNOB KIT	[OMITTED MATERIAL]

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		TRANSFER PRICE USD\$
80628919	RK SE1160 HARDWARE KIT	[OMITTED MATERIAL]
80628938	INSTRUCTIONS- SE1160	[OMITTED MATERIAL]

80628976	RK SE1200 HEATER/FAN 115V	[OMITTED MATERIAL]
80628995	RK SE1200 HEATER/FAN 230V	[OMITTED MATERIAL]
80629014	RK SE1200 HARDWARE	[OMITTED MATERIAL]
80629033	RK SE1200 ELECTRONIC RPR 115V	[OMITTED MATERIAL]
80629052	RK SE1200 ELECTRONIC RPR 230V	[OMITTED MATERIAL]
80629071	INSTRUCTIONS SE1200	[OMITTED MATERIAL]
80629109	RK SE280/200 LBC REPAIR KIT	[OMITTED MATERIAL]
80629128	INSTRUCTIONS- SE280	[OMITTED MATERIAL]
80629166	RK SE280/260 HARDWARE KIT	[OMITTED MATERIAL]
80629185	INSTRUCTIONS- SE250/260	[OMITTED MATERIAL]
80629299	RK MS100 PCB ASSY	[OMITTED MATERIAL]
80629318	RK MS100 ELEC REPAIR KIT-115V	[OMITTED MATERIAL]
80629337	RK MS100 ELECTRONIC REPAIR-23	[OMITTED MATERIAL]
80629356	RK MS100/120 HARDWARE	[OMITTED MATERIAL]
80629375	RK MS110 HARDWARE LVL TABLE	[OMITTED MATERIAL]
80629394	****INSTRUCTIONS- MS100	[OMITTED MATERIAL]
80629470	RK SE400 ELECTRODE	[OMITTED MATERIAL]
80629508	INSTRUCTIONS- FH225V	[OMITTED MATERIAL]
80629546	RK PR600 CONN REPLACEMENT	[OMITTED MATERIAL]
80629565	RK PR648 QCK CONN REPLACEMENT	[OMITTED MATERIAL]
80629679	RK HE100 PUMP HARDWARE	[OMITTED MATERIAL]
80629698	RK HE100 PUMP COOLING ASSEMBLY	[OMITTED MATERIAL]
80629717	RK HE100 IMPELLER	[OMITTED MATERIAL]
80629736	INSTRUCTIONS- HE100B	[OMITTED MATERIAL]
80629774	RK PS500XT PCB ASSY 115V	[OMITTED MATERIAL]
80629793	RK PS500XT PCB ASSY 230V	[OMITTED MATERIAL]
80629831	RK PS3000 WIRE SET	[OMITTED MATERIAL]
80629850	RK PS3000 TRANSFORMER	[OMITTED MATERIAL]
80629869	RK PS3000 PCB ASSY 115V	[OMITTED MATERIAL]
80629888	RK PS3000 PCB ASSY 230V	[OMITTED MATERIAL]
80629907	RK PS250/PS500XT METER FILTER	[OMITTED MATERIAL]
80629926	RK PS3000 DISPLAY PCB ASSY	[OMITTED MATERIAL]
80629945	RK PS500XT/3000 PWR ENTRY MOD	[OMITTED MATERIAL]
80629964	RK PS500XT FAN ASSY	[OMITTED MATERIAL]
80629983	RK PS500XT HARDWARE KIT	[OMITTED MATERIAL]
80630002	RK PS500XT WIRE SET	[OMITTED MATERIAL]
80630021	RK PS3000 KNOB KIT	[OMITTED MATERIAL]
80630040	RK PS3000 HARDWARE KIT	[OMITTED MATERIAL]
80630059	INSTRUCTIONS - PS3000	[OMITTED MATERIAL]
80630078	RK PC500 POWER ENTRY MOD-115	[OMITTED MATERIAL]
80630097	RK PC500 POWER ENTRY MOD-230	[OMITTED MATERIAL]
80630135	GLASS PLATES (1 LONG, 1 SHORT)	[OMITTED MATERIAL]

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		TRANSFER PRICE USDS
80630154	HOEFER TEMPERATURE MONITOR	[OMITTED MATERIAL]
80630173	SPACER SET; 0.2MM,BLUE COLOR	[OMITTED MATERIAL]
80630192	SPACER SET; 0.4MM, RED COLOR	[OMITTED MATERIAL]
80630211	SPACER SET; 1.0MM, WHITE COLOR	[OMITTED MATERIAL]
80630230	SHARKSTOOTH COMB 32-WELL,0.2MM	[OMITTED MATERIAL]
80630249	SHARKSTOOTH COMB,64 WELL,0.2MM	[OMITTED MATERIAL]
80630268	SHARKSTOOTH COMB,96 WELL,0.2MM	[OMITTED MATERIAL]
80630287	SHARKSTOOTH COMB,32 WELL,0.4MM	[OMITTED MATERIAL]
80630306	SHARKSTOOTH COMB,64 WELL,0.4MM	[OMITTED MATERIAL]
80630325	SHARKSTOOTH COMB,96 WELL,0.4MM	[OMITTED MATERIAL]
80630344	WEDGED-SHAPED SPACERS.20-.50MM	[OMITTED MATERIAL]
80630363	STANDARD COMB,32 WELL,0.4 MM	[OMITTED MATERIAL]
80630382	STANDARD COMB,32 WELL, 1.0 MM	[OMITTED MATERIAL]
80630401	INSTRUCTIONS MACROVUE UV-20/25	[OMITTED MATERIAL]
80630439	INSTRUCTIONS UVIS 20	[OMITTED MATERIAL]
80630458	RK GS300 HARDWARE	[OMITTED MATERIAL]
80630515	RK PR70 SHAFT SET	[OMITTED MATERIAL]
80630534	RK PR70 BEARING HOUSING	[OMITTED MATERIAL]
80630553	RK PR70 DRIVE PLATE	[OMITTED MATERIAL]
80630572	RK PR70 PULLEY SET	[OMITTED MATERIAL]
80630591	RK PR70 PULLEY DRIVE WEIGHT	[OMITTED MATERIAL]
80630610	RK PR70 BEARING DRIVE PLATE	[OMITTED MATERIAL]
80630629	INSTRUCTION MANUAL PR70	[OMITTED MATERIAL]
80630648	SERVICE MANUAL SE280	[OMITTED MATERIAL]
80630667	INSTRUCTIONS - PS500XT	[OMITTED MATERIAL]
80630705	SERVICE MANUAL SE250/260	[OMITTED MATERIAL]
80630724	WEDGED-SHAPED SPACERS.20-.75MM	[OMITTED MATERIAL]
80630762	STEP REPLACEMENT GASKET	[OMITTED MATERIAL]

80630781	DRAIN TUBING (18 INCHES)	[OMITTED MATERIAL]
80630819	LOWER BUFFER CHAMBER	[OMITTED MATERIAL]
80630838	HIGH VOLTAGE LEADS -SQ3	[OMITTED MATERIAL]
80630857	SAFETY SHIELD - SQ3	[OMITTED MATERIAL]
80630876	WASTE COLLECTION BOTTLE	[OMITTED MATERIAL]
80630895	UPPER ELECTRODE REPLCMNT- SQ3	[OMITTED MATERIAL]
80630914	LOWER ELECTRODE REPLCMNT - SQ3	[OMITTED MATERIAL]
80630933	SERVICE MANUAL SQ3	[OMITTED MATERIAL]
80631047	SERVICE MANUAL PR600/648	[OMITTED MATERIAL]
80631066	SERVICE MANUAL - EMD101B	[OMITTED MATERIAL]
80631104	RK CORD W/ STRAIN RELIEF	[OMITTED MATERIAL]
80631142	SERVICE MANUAL - FH225V	[OMITTED MATERIAL]
80631161	SERVICE MANUAL GT1	[OMITTED MATERIAL]
80631180	RK - GT1 BANANA PLUG KIT	[OMITTED MATERIAL]
80631199	SERVICE MANUAL - HE120	[OMITTED MATERIAL]
80631212	SERVICE MANUAL - HE100	[OMITTED MATERIAL]

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		TRANSFER PRICE USDS
80631294	SERVICE MANUAL SE400/410	[OMITTED MATERIAL]
80631332	SERVICE MANUAL - SE600/660	[OMITTED MATERIAL]
80631370	TEFLON TUBING 24 PACK"	[OMITTED MATERIAL]
80631389	SERVICE MANUAL - TE22	[OMITTED MATERIAL]
80631408	SERVICE MANUAL - HE33	[OMITTED MATERIAL]
80631541	SERVICE MANUAL - HE99X	[OMITTED MATERIAL]
80631674	RK HE99X LEVELING FEET	[OMITTED MATERIAL]
80631693	SERVICE MANUAL- TKO100	[OMITTED MATERIAL]
80631712	SERVICE MANUAL PR70/75	[OMITTED MATERIAL]
80631750	RK MC200 LID REPLACEMENT	[OMITTED MATERIAL]
80631769	RK MC200 ROTOR	[OMITTED MATERIAL]
80631788	RK MC200 ACTUATOR	[OMITTED MATERIAL]
80631807	RK MC200 PCB 115V	[OMITTED MATERIAL]
80631826	RK MC200 PCB 230V	[OMITTED MATERIAL]
80631845	INSTRUCTIONS MC200	[OMITTED MATERIAL]
80631864	SERVICE MANUAL MC200	[OMITTED MATERIAL]
80631883	RK MC200 MOTOR 115V	[OMITTED MATERIAL]
80631902	SERVICE MANUAL TE50X	[OMITTED MATERIAL]
80631921	SERVICE MANUAL GE200	[OMITTED MATERIAL]
80631928	SERVICE MANUAL - PR1000	[OMITTED MATERIAL]
80631940	SERVICE MANUAL DQ200	[OMITTED MATERIAL]
80631959	SERVICE MANUAL SE1160	[OMITTED MATERIAL]
80632016	RK HB RED FILL HOLE CAP	[OMITTED MATERIAL]
80632149	RK HB400/1100D TRIAC 10A	[OMITTED MATERIAL]
80632244	INSTRUCTIONS DQ210 PERF VAL	[OMITTED MATERIAL]
80632263	SERVICE MANUAL TE70/77	[OMITTED MATERIAL]
80632282	SERVICE MANUAL TE42/52/62X	[OMITTED MATERIAL]
80632301	RK TE62/62X FITTINGS KIT	[OMITTED MATERIAL]
80632320	QUICK REFERENCE CARD EPS 2A200	[OMITTED MATERIAL]
80632396	SERVICE MANUAL MS100/110/120	[OMITTED MATERIAL]
80632415	SERVICE MANUAL SE1200	[OMITTED MATERIAL]
80632472	**RK HINGE UV SERIES	[OMITTED MATERIAL]
80632491	RK DOOR ASSEMBLY UVC500	[OMITTED MATERIAL]
80632510	RK CVR ASSY UV20/25,UVTM19/25	[OMITTED MATERIAL]
80632529	RK CVR ASSY UVIS20,UVVIS20	[OMITTED MATERIAL]
80632548	RK SE1200 CORD ASSEMBLY 115V	[OMITTED MATERIAL]
80632605	PI8 SEPARATION UNIT MODULE	[OMITTED MATERIAL]
80632624	SERVICE MANUAL - HB400	[OMITTED MATERIAL]
80632662	RK HB400 FAN MOTOR	[OMITTED MATERIAL]
80632681	RK HB400 PCB ASSY 120/240V	[OMITTED MATERIAL]
80632700	RK HB400 TUBE DRIVE MOTOR 120V	[OMITTED MATERIAL]
80632719	RK HB400 TUBE DRIVE MOTOR 230V	[OMITTED MATERIAL]
80632852	RK HB400-DRIVE BELT	[OMITTED MATERIAL]
80633156	RK PS3000 SWITCH KIT	[OMITTED MATERIAL]

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		TRANSFER PRICE USDS
80633175	RK UV20/25 SWITCH ILLUM ON/OFF	[OMITTED MATERIAL]
80633251	LAMP FL COOL WHITE 8W T5	[OMITTED MATERIAL]
80633498	INSTRUCTIONS - MACROVUE VIS-45	[OMITTED MATERIAL]
80633517	RK PH90 LAMP, 14W COOL WHITE	[OMITTED MATERIAL]
80633536	BALLAST, 115V/60HZ FOR PH90	[OMITTED MATERIAL]

80633555	RK PH90 BALLAST 230V	[OMITTED MATERIAL]
80633574	FUSE .5A 250V 5X20MM FB 5PK	[OMITTED MATERIAL]
80633802	RK PS3000 FAN ASSY	[OMITTED MATERIAL]
80633897	SERVICE MANUAL PC500	[OMITTED MATERIAL]
80633973	SERVICE MANUAL HE950	[OMITTED MATERIAL]
80633992	RK HE950 CORD ASSY 230V	[OMITTED MATERIAL]
80634372	SERVICE MANUAL PV100	[OMITTED MATERIAL]
80634923	SERVICE MANUAL-GS300	[OMITTED MATERIAL]
80635132	HV LEAD SET 2 MM	[OMITTED MATERIAL]
80635379	INSTRUCTIONS SE600/660	[OMITTED MATERIAL]
80635512	INSTRUCTIONS VP200	[OMITTED MATERIAL]
80635550	RK GS300 TRAN LED HOUSING ASSY	[OMITTED MATERIAL]
80635588	RK GLASS VAPOR FLASK	[OMITTED MATERIAL]
80635607	RK ORING FLANGE GLASS FLASK	[OMITTED MATERIAL]
80635626	RK PLASTIC VAPOR FLASK	[OMITTED MATERIAL]
80635645	RK DRAIN PLUG PLASTIC FLASK	[OMITTED MATERIAL]
80635664	RK ORING DRAIN PLUG PLASTIC FL	[OMITTED MATERIAL]
80635683	RK ORING FLANGE PLASTIC FLASK	[OMITTED MATERIAL]
80635702	RK VALVE	[OMITTED MATERIAL]
80635721	RK DIAPHRAGM	[OMITTED MATERIAL]
80635759	VP200 SEPARATOR RETROFIT KIT	[OMITTED MATERIAL]
80635778	VP200 NONRETURN VALVE KIT	[OMITTED MATERIAL]
80635797	VP200 HOSE NOZZLE NW6-10 ID	[OMITTED MATERIAL]
80635816	VP200 HOSE 10MM ID	[OMITTED MATERIAL]
80636044	RK PH90 FILTER ASSEMBLY	[OMITTED MATERIAL]
80636082	INSTRUCTIONS UVT - WS	[OMITTED MATERIAL]
80636139	****QUICK REF AUTO GEL STAINER	[OMITTED MATERIAL]
80636462	RK FILTER ASSY UVTM19W	[OMITTED MATERIAL]
80636481	RK FILTER ASSY UVTM25W, UV25	[OMITTED MATERIAL]
80636519	RK FILTER ASSY UV20	[OMITTED MATERIAL]
80636994	RK MC200 BODY REPLACEMENT	[OMITTED MATERIAL]
80637203	RK VP200 FLANGE NW16	[OMITTED MATERIAL]
80637222	RK VP200 CLAMP RING NW10/16	[OMITTED MATERIAL]
80637241	RK VP200 CENTERNG RING NW10/16	[OMITTED MATERIAL]
80637260	RK HE950 PWR SUPPLY MOD 115V	[OMITTED MATERIAL]
80637355	RK HE950 PWR SUPPLY MOD 230V	[OMITTED MATERIAL]
80637393	RK MC200 MOTOR 230V	[OMITTED MATERIAL]
80637412	CABLE SERIAL 6 DB9F/DB9F"	[OMITTED MATERIAL]
80637450	TRANS OPTICAL DENSITY SAMPLES	[OMITTED MATERIAL]

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		TRANSFER PRICE USD\$
80637469	RK TE50X PCB ASSY 230V	[OMITTED MATERIAL]
80637488	RK TE50X METER REPLACEMENT	[OMITTED MATERIAL]
80637507	RK TE50X WIRE SET	[OMITTED MATERIAL]
80637735	RK EPS2A200 PCB POWER	[OMITTED MATERIAL]
80637754	RK EPS2A200 PCB CONTROL	[OMITTED MATERIAL]
80637773	RK EPS2A200 CONTROL IC	[OMITTED MATERIAL]
80637792	RK EPS2A200 FAN ASSY	[OMITTED MATERIAL]
80637811	RK EPS2A200 WIRE SET	[OMITTED MATERIAL]
80637830	RK EPS2A200 LINE FILTER ASSY	[OMITTED MATERIAL]
80637849	RK EPS2A200 HARDWARE	[OMITTED MATERIAL]
80637887	SERVICE MANUAL EPS2A200	[OMITTED MATERIAL]
80638077	RK EPS2A200 FUSES	[OMITTED MATERIAL]
80638153	RK VP200 FLANGE/FLASK CLP BLCK	[OMITTED MATERIAL]
80638172	RK VP200 FLANGE/FLASK CLP ORNG	[OMITTED MATERIAL]
80639483	INSTRUCTIONS PSA240	[OMITTED MATERIAL]
80639521	STAINING TRAY 19X29 CM COMPLTE	[OMITTED MATERIAL]
80639559	RK PC500 PROGRAM IC	[OMITTED MATERIAL]
80639635	STAINING TRAY 29X35CM COMPLETE	[OMITTED MATERIAL]
80639673	RK PC500 MICRO-PROCESSOR IC	[OMITTED MATERIAL]
80639977	SERVICE MANUAL - TE80	[OMITTED MATERIAL]
80640015	INSTRUCTIONS PTFE TRAYS	[OMITTED MATERIAL]
80640224	RK GS365/GS370 PWR SUPPLY 115V	[OMITTED MATERIAL]
80640509	PR55 TRAY 50X50 CM	[OMITTED MATERIAL]
80640566	FUSE 1.5A/250V SB 2AG (3)	[OMITTED MATERIAL]
80640680	DQ200 DYNAQUANT FLUROMETER	[OMITTED MATERIAL]
80640699	EPS2A/200 POWER SUPPLY	[OMITTED MATERIAL]
80641231	RK HE33 RUBBER PLUG PK/4	[OMITTED MATERIAL]
80641269	RK PS500X WIRE SET ADAPTER	[OMITTED MATERIAL]
80641288	INSTRUCTIONS RK PS500X ADAPTER	[OMITTED MATERIAL]
80641459	INSTRUCTIONS - FH125	[OMITTED MATERIAL]
80641554	RK PR50/70 PWER ENTRY MODULE	[OMITTED MATERIAL]

80641763	RK THIMBLE KIT, PR70	[OMITTED MATERIAL]
80641877	MINIVE COMPLETE	[OMITTED MATERIAL]
80641896	MINIVE BLOTTER	[OMITTED MATERIAL]
80641915	RK PR70 POST KIT	[OMITTED MATERIAL]
80641972	RK LINE FILTER, PR70	[OMITTED MATERIAL]
80642067	RK COUNTER WEIGHT, PR70	[OMITTED MATERIAL]
80642086	INSTRUCTIONS MINIVE	[OMITTED MATERIAL]
80642162	SPONGE DACRON 4.03 X3.48 PK/3	[OMITTED MATERIAL]
80642428	SERVICE MANUAL-MINIVE	[OMITTED MATERIAL]
80642466	RK MINIVE LID ASSY	[OMITTED MATERIAL]
80642485	RK MINIVE LID HARDWARE	[OMITTED MATERIAL]
80642504	RK MINIVE TANK (LBC)	[OMITTED MATERIAL]
80642523	RK MINIVE UBC ASSY	[OMITTED MATERIAL]

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		<u>TRANSFER PRICE USDS</u>
80642542	RK MINIVE CLAMP ASSY (1)	[OMITTED MATERIAL]
80642561	RK MINIVE CLAMP SCREWS PK/5	[OMITTED MATERIAL]
80642580	RK MINIVE SEALING PLATE ASSY	[OMITTED MATERIAL]
80642599	RK MINIVE SEALING GASKET	[OMITTED MATERIAL]
80642618	RK MINIVE BANANA PLUG KIT (PR)	[OMITTED MATERIAL]
80642637	RK MINIVE UBC WIRING SET	[OMITTED MATERIAL]
80642656	RK MINIVE CATHODE ASSY (BLK)	[OMITTED MATERIAL]
80642675	RK MINIVE ANODE ASSY (RED)	[OMITTED MATERIAL]
80642865	INSTRUCTIONS GD2000	[OMITTED MATERIAL]
80642884	GD2000 GEL DRYING SYSTEM 115V	[OMITTED MATERIAL]
80642903	GD2000 GEL DRYING SYSTEM 230V	[OMITTED MATERIAL]
80642922	GEL DRYER FRAME LARGE ASSY	[OMITTED MATERIAL]
80642941	GEL LOADING PLATFORM LARGE	[OMITTED MATERIAL]
80643036	O-RING SEAL 20 25 CM FRAME	[OMITTED MATERIAL]
80643055	INNER FRAME 20 X25 CM W/O-RING	[OMITTED MATERIAL]
80643074	OUTER FRAME 20X25 CM W/8 KNOBS	[OMITTED MATERIAL]
80643093	SERVICE MANUAL GD2000	[OMITTED MATERIAL]
80643473	RK GD2000 PCB ASSY	[OMITTED MATERIAL]
80643492	RK GD2000 IC PROGRAM	[OMITTED MATERIAL]
80643511	RK GD2000 HEATER PAD	[OMITTED MATERIAL]
80643530	RK GS2000 TEMP SENSORS	[OMITTED MATERIAL]
80643549	RK GD2000 KEYPAD ASSY 115V	[OMITTED MATERIAL]
80643568	RK GD2000 KEYPAD ASSY 230V	[OMITTED MATERIAL]
80643587	RK GD2000 RELAY	[OMITTED MATERIAL]
80643606	RK GD2000 ELECTRICAL KIT	[OMITTED MATERIAL]
80643625	RK GD2000 HARDWARE KIT	[OMITTED MATERIAL]
80643891	RK BALLAST 14W 115V	[OMITTED MATERIAL]
80643948	RK SWITCH HI/LO (R)	[OMITTED MATERIAL]
80644024	RK FILTER ASSY UVTM19R	[OMITTED MATERIAL]
80644043	RK FILTER ASSY UVTM25R	[OMITTED MATERIAL]
80644138	RK FILTER ASSY UVVIS20W,UVIS20	[OMITTED MATERIAL]
80644157	RK FILTER ONLY PH90R	[OMITTED MATERIAL]
80644171	SERVICE MANUAL TRANSILLUMINATR	[OMITTED MATERIAL]
80644214	GLASS PLT LF SE600 18X16CM 2PK	[OMITTED MATERIAL]
80644233	GLASS PLATES, LOFLUOR,18X24CM	[OMITTED MATERIAL]
80644252	GLASS PLATES,LOWFLUOR,28X23CM	[OMITTED MATERIAL]
80644594	APPL NOTE MULTI MINI 2D SE600	[OMITTED MATERIAL]
80644613	WIRE PLATINUM .02 DIA 12 PK “	[OMITTED MATERIAL]
80644632	WIRE PLATINUM .02 DIA 24 PK “	[OMITTED MATERIAL]
80644651	WIRE PLATINUM .02 DIA 36 PK “	[OMITTED MATERIAL]
80644670	WIRE PLATINUM .02 DIA 72 PK “	[OMITTED MATERIAL]
80644765	RK PROC PLUS HARDWARE	[OMITTED MATERIAL]
80644784	RK PROC PLUS PUMP DAMPNER	[OMITTED MATERIAL]
80645506	RK PROC PLUS REAGENT LABEL	[OMITTED MATERIAL]

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		<u>TRANSFER PRICE USDS</u>
80646038	COMB HE99X 14WELL 1.0MM	[OMITTED MATERIAL]
80646057	COMB HE99X 14WELL 1.5MM	[OMITTED MATERIAL]
80646095	READY TO RUN SEPARATION UNIT	[OMITTED MATERIAL]
80646114	READY TO RUN SATELLITE UNIT	[OMITTED MATERIAL]
80646133	READY TO RUN 96 WELL GEL PK/10	[OMITTED MATERIAL]
80646171	READY TO RUN 48 WELL GEL PK/10	[OMITTED MATERIAL]
80646209	READY TO RUN LOAD GUIDES	[OMITTED MATERIAL]
80646418	RK DALT MANIFOLD	[OMITTED MATERIAL]

80646608	BROCHURE READY TO RUN	[OMITTED MATERIAL]
80646855	INSTRUCTIONS RTR SATELLITE	[OMITTED MATERIAL]
80646874	INSTRUCTIONS RTR BASE	[OMITTED MATERIAL]
80646893	PRODUCT SHT RTR SALES AID	[OMITTED MATERIAL]
80646969	INSTRUCTIONS RTR LOAD GUIDE	[OMITTED MATERIAL]
80647045	RK RTR INTERCONNECT KIT	[OMITTED MATERIAL]
80647064	RK RTR LID KIT	[OMITTED MATERIAL]
80647083	RK RTR BEZEL & ELECTRODES	[OMITTED MATERIAL]
80647102	RK RTR PCB DISPLAY	[OMITTED MATERIAL]
80647121	RK RTR PCB CONTROL SEP UNIT	[OMITTED MATERIAL]
80647140	RK RTR PCB CONTROL SATELLITE	[OMITTED MATERIAL]
80647159	RK RTR FASTENER KIT	[OMITTED MATERIAL]
80647178	RK RTR FUSE KIT	[OMITTED MATERIAL]
80647254	SERVICE MANUAL READY TO RUN	[OMITTED MATERIAL]
80647273	INSTRUCTIONS SE600 RUBY	[OMITTED MATERIAL]
80647292	QUICK REF CARD SE600 RUBY	[OMITTED MATERIAL]
80647520	SERVICE MANUAL ID440	[OMITTED MATERIAL]
80647577	GLASS PLT LF SE640 18X8CM 2/PK	[OMITTED MATERIAL]
80647615	LBC SE600 RUBY	[OMITTED MATERIAL]
80647634	LID SE600 RUBY W/CABLES	[OMITTED MATERIAL]
80647672	BROCHURE SE 600 RUBY	[OMITTED MATERIAL]
80647748	RK DALT II HV RECEPTACLE	[OMITTED MATERIAL]
80647767	RK DALT II CONTROL IC	[OMITTED MATERIAL]
80647957	SE600 RUBY COMPLETE	[OMITTED MATERIAL]
80648014	DALT II CORD 10A CEE7	[OMITTED MATERIAL]
80648033	RK DALT II CORD 10A USA	[OMITTED MATERIAL]
80648261	RTR TEST LOAD KIT	[OMITTED MATERIAL]
80648280	READY TO RUN 96WELL 2.2% PK/10	[OMITTED MATERIAL]
80648299	READY TO RUN 48WELL 2.2% PK/10	[OMITTED MATERIAL]
80648565	RTR DNA MARKER	[OMITTED MATERIAL]
80648584	APPL NOTE RTR RAPID INSERT	[OMITTED MATERIAL]
80648983	READY-TO-RUN DNA MARKER FLYER	[OMITTED MATERIAL]
80649192	RK TUBE FITTING Y-DALTSIX	[OMITTED MATERIAL]
80649211	RK TUBE RECIRCULATION KT DALT6	[OMITTED MATERIAL]
80649230	WEBSITE LAUNCH FLYER	[OMITTED MATERIAL]
80649439	SERVICE MANUAL ETTAN DALTSIX	[OMITTED MATERIAL]

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**Notes:**

These product numbers represent the main items that Hoefer will be selling via Amersham Biosciences. Where prices are provided, these are firm and based on material and labor costs provided by Amersham Biosciences. Other prices will be determined by the end of November 2003. Any product numbers omitted in error at this time will be added by the end of November.

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Schedule 2  
"Minimum Purchases"

(a) For Contract Year One, the minimum Aggregate Purchase Price for Products purchased during Contract Year One shall be [OMITTED MATERIAL] (the "Initial Contract Year One Purchase Minimum") reduced by (i) [OMITTED MATERIAL] multiplied by the number of business days between September 30, 2003 and the Effective Date and (ii) the aggregate sales by Hoefer of Equivalent Products during Contract Year One in accordance with Section 2.4 of the Agreement (this calculation to be based on units of Equivalent Products sold by Hoefer during Contract Year One (excluding any and all returned units) multiplied by the transfer price applicable to the corresponding equivalent Products in effect under this Agreement during Contract Year One) (the "Adjusted Contract Year One Purchase Minimum").

Example (Assumes Hoefer's sales of Equivalent Products in Contract Year One equal [OMITTED MATERIAL] and that September 30, 2003 is the Effective Date)

Initial Contract Year One Purchase Minimum	[OMITTED MATERIAL]
Hoefer Sales of Equivalent Products in Contract Year One	[OMITTED MATERIAL]
Adjusted Contract Year One Purchase Minimum	[OMITTED MATERIAL]

(b) For Contract Year Two, the minimum Aggregate Purchase Price for Products purchased during Contract Year Two shall be [OMITTED MATERIAL] (the "Initial Contract Year Two Purchase Minimum"), reduced by (i) the aggregate sales by Hoefer of Equivalent Products during Contract Year Two in accordance with Section 2.4 of the Agreement (this calculation to be based on units of Equivalent Products sold by Hoefer during Contract Year Two (excluding any and all returned units) multiplied by the transfer price applicable to the corresponding equivalent Products in effect under this Agreement during Contract Year Two) and (ii) the dollar value amount, if any, of the Aggregate Purchase Price of Products purchased by AB during Contract One in excess of the Adjusted Contract Year One Purchase Minimum (the "Contract Year Two Adjusted Purchase Minimum").

Example (Assumes Hoefer's sales of Equivalent Products in Contract Year Two equal [OMITTED MATERIAL])

and the Aggregate Purchase Price of Products purchased by AB during Contract Year One in excess of Adjusted Contract Year One Purchase Minimum equals [OMITTED MATERIAL])  
 Initial Contract Year Two Purchase Minimum [OMITTED MATERIAL]  
 Hoefer Sales of Equivalent Products in Contract Year Two [OMITTED MATERIAL]  
 Aggregate Purchase Price of Products purchased by AB during Contract Year One in excess of Adjusted Contract Year One Purchase Minimum [OMITTED MATERIAL]  
 Adjusted Contract Year Two Purchase Minimum [OMITTED MATERIAL]

(c) For Contract Year Three, Aggregate Purchase Price for Products purchased during Contract Three shall be [OMITTED MATERIAL] (the “Initial Contract Year Three Purchase Minimum,” each of the Initial Contract Year One Purchase Minimum, the Initial Contract Year Two Purchase Minimum, and the Initial Contract Year Three Purchase Minimum may be referred to herein as an “Initial Contract Year Purchase Minimum”) reduced by (i) the aggregate sales by Hoefer of Equivalent Products during Contract Year Three in accordance with Section 2.4 of the Agreement (this calculation to be based on units of Equivalent Products sold by Hoefer during Contract Year Three (excluding any and all returned units) multiplied by the transfer price applicable to the corresponding equivalent Products in effect under this Agreement during Contract Year Three) and (ii) the dollar value amount, if any, of the Aggregate Purchase Price of Products purchased by AB during Contract Two in excess of the Adjusted Contract Year Two Purchase Minimum (the “Contract Year Three Adjusted Purchase Minimum”).

Example Assumes Hoefer’s sales of Equivalent Products in Contract Year Three equal [OMITTED MATERIAL] and the Aggregate Purchase Price of Products purchased by AB during Contract Year Two in excess of Adjusted Contract Year Two Purchase Minimum equals [OMITTED MATERIAL]  
 Initial Contract Year Three Purchase Minimum [OMITTED MATERIAL]  
 Hoefer Sales of Equivalent Products in Contract Year Three [OMITTED MATERIAL]  
 Aggregate Purchase Price of Products purchased by AB during Contract Year Two in excess of Adjusted Contract Year Two Purchase Minimum [OMITTED MATERIAL]  
 Adjusted Contract Year Three Purchase Minimum [OMITTED MATERIAL]

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Schedule 3  
Examples of Minimums Mechanisms

Assumptions:

Adjusted Contract Year 3 Purchase Minimum [OMITTED MATERIAL]  
  
 AB Purchases in Contract Year 3 [OMITTED MATERIAL]  
 The Starting Inventory Value [OMITTED MATERIAL]  
 The Ending Inventory Value [OMITTED MATERIAL]  
 [OMITTED MATERIAL] of the ACY3PM [OMITTED MATERIAL]

No Make Good Purchase Order or Margin Payment is required b/c AB has made purchases in excess of ACY3PM equal to [OMITTED MATERIAL]

No Inventory Over-Stocking Payment is required

AB have fulfilled their obligations

Assumptions:

Adjusted Contract Year 3 Purchase Minimum [OMITTED MATERIAL]  
  
 AB Purchases in Contract Year 3 [OMITTED MATERIAL]  
 The Starting Inventory Value [OMITTED MATERIAL]  
 The Ending Inventory Value [OMITTED MATERIAL]  
 [OMITTED MATERIAL] of the ACY3PM [OMITTED MATERIAL]

No Make Good Purchase Order or Margin Payment is required b/c AB have made purchases in excess of ACY3PM equal to [OMITTED MATERIAL]

AB have not fulfilled their obligations  
 Whilst they have made the required purchases, this has only been achieved by over-stocking the warehouses.

AB will need to make an Inventory Over-Stocking Payment of [OMITTED MATERIAL]

Assumptions:

Adjusted Contract Year 3 Purchase Minimum [OMITTED MATERIAL]  
  
 AB Purchases in Contract Year 3 [OMITTED MATERIAL]  
  
 So Make Good Purchase Order Required is [OMITTED MATERIAL]  
 The Starting Inventory Value [OMITTED MATERIAL]  
 The Ending Inventory Value [OMITTED MATERIAL]  
 [OMITTED MATERIAL] of the ACY3PM [OMITTED MATERIAL]

AB has not met its minimum purchase requirements for CY3 and will need to either submit a MGPO and/or make a Margin Payment  
 The Section 7.1(b) Inventory Restriction cap on amount of MGPO is [OMITTED MATERIAL]

As Inventory Restriction cap of [OMITTED MATERIAL]



In lieu of submitting a MGPO, AB may submit a Margin Payment equal to **[OMITTED MATERIAL]**

No Inventory Over-Stocking Payment is required

**Assumptions:**

Adjusted Contract Year 3 Purchase Minimum **[OMITTED MATERIAL]**

AB Purchases in Contract Year 3 **[OMITTED MATERIAL]**

So Make Good Purchase Order Required is **[OMITTED MATERIAL]**  
The Starting Inventory Value **[OMITTED MATERIAL]**

The Ending Inventory Value **[OMITTED MATERIAL]**

**[OMITTED MATERIAL]** of the ACY3PM **[OMITTED MATERIAL]**

AB has not met its minimum purchase requirements for CY3 and will need to either submit a MGPO and/or make a Margin Payment

The Section 7.1(b) Inventory Restriction cap on amount of MGPO is **[OMITTED MATERIAL]**

As Inventory Restriction cap of **[OMITTED MATERIAL]**

AB must make up the remainder of the shortfall b/n actual purchases during CY3 and ACY3PM by making a Margin Payment equal to **[OMITTED MATERIAL]**

In lieu of submitting a MGPO, AB may make a Margin Payment equal to **[OMITTED MATERIAL]**

No Inventory Over-Stocking Payment is required.

**Assumptions:**

Adjusted Contract Year 3 Purchase Minimum **[OMITTED MATERIAL]**

AB Purchases in Contract Year 3 **[OMITTED MATERIAL]**

So Make Good Purchase Order Required is **[OMITTED MATERIAL]**  
**[OMITTED MATERIAL]** of the ACY3PM **[OMITTED MATERIAL]**

The Ending Inventory Value **[OMITTED MATERIAL]**

The Starting Inventory Value **[OMITTED MATERIAL]**

AB has not met its minimum purchase requirements for CY3 and will need to either submit a MGPO and/or make a Margin Payment

The Section 7.1(b) Inventory Restriction cap on amount of MGPO is **[OMITTED MATERIAL]**

AB must make up the shortfall b/n actual purchases in CY3 and ACY3PM with a Margin Payment equal to **[OMITTED MATERIAL]**

AB will need to make an Inventory Over-Stocking Payment of **[OMITTED MATERIAL]**

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Schedule 4

DVD Copy of AB Web Site As Of Effective Date

[See attached DVD]

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Schedule 5

Units of Starting Inventory

**SEPTEMBER 30, 2003 SALES REGION INVENTORY DATA  
FOR HOEFER PRODUCTS TRANSFERRED TO HARVARD**

<u>Article Description</u>	<u>Sales inventory</u>
80600001 - LAMP TKO	10
80600989 - TECHNICAL BULLETIN 116	0
80601008 - TECHNICAL BULLETIN 117	0
80601388 - 1D PROTEIN ELPHO MANUAL REV B	0
80601825 - GEL TUBES,13CM L,5MM ID (PKG/24)	0
80601844 - GEL TUBES,10CM L,5MM ID (PKG/24)	0
80602091 - MEMBRANES FOR EMD,12-14 KD(PKG/24)	0
80602186 - DELRIN NUT, 1	0
80602300 - DOT SEALING EMD RED, 3 SHEETS	0
80602357 - SINGLE FILTER HOLDER, 25MM	0
80602376 - 3/16" DIA FOAM GASKET 100 CM	11
80602414 - 10 PLC FLTR HLDR W/VALVES 25MM	0

80602452 - UNIVERSAL RACK	5
80602471 - PVC COLLECTION BOX	1
80602528 - WEIGHT FOR 25MM RECT FLTR HLDR	0
80602566 - VALVE, RECT FH, PINHOLE, LONG	2
80602623 - VACUUM GAUGE	1
80602642 - HOSE CONNECTOR	1
80602984 - SIXPAC GEL ELUTER	0
80603003 - SIXPAC GEL ELUTER	1
80603022 - ELECTRODE CAP REPLACEMENT	4
80603060 - STAINLESS STEEL PACKING ROD	0
80603079 - PORUS POLYETHYLNE.PLUG(PKG/100)	7
80603098 - BLOTTING PAPER DISKS (PKG/100)	9
80603117 - DISPOSABLE ELUTION TUBE (PKG/100)	5
80603592 - TUBE,1.5MM ID,7MM OD,15CM (PKG/24)	0
80603611 - TUBE, 3MM ID, 5MM OD,15CM (PKG/24)	0
80603630 - GROMMETS FOR 5MM OD TUBES (PKG/24)	0

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Article Description	Sales inventory
80603649 - STOPPERS FOR 3MM ID TUBES (PKG/24)	0
80603668 - GEL TUBES,5MMID,7MMOD,15CM (PKG/24)	3
80603687 - GROMMETS FOR 7MM OD TUBES (PKG/24)	0
80603706 - STOPPERS/5&6MM ID TUBES (PKG/24)	0
80603801 - TUBE GEL ELECTROPHORESIS UNIT	0
80603953 - LG.HYB.TUBE W/END CAPS 7.3 ID	5
80604029 - SEALING O-RINGS (100C)	2
80604067 - SMALL HYB TUBE W/CAPS 3.7CM ID	3
80604352 - 4-PLACE 32MM TUBE CARRIER	2
80604371 - SUPERSUB, 20 WELL 1MM 20X25CM	1
80604390 - SUPERSUB W/O ACCESSORIES	1
80604409 - BUFFER CHAMBER ASSEMBLY ONLY	0
80604447 - COMB, 12 WELL, BACKLESS, 1.0MM	9
80604466 - COMB, 12 WELL, BACKLESS, 1.5MM	9
80604485 - COMB, 12 WELL, BACKLESS, 3.0MM	8
80604504 - COMB, 20 WELL, BACKLESS, 1.0MM	14
80604523 - COMB, 20 WELL, BACKLESS, 1.5MM	15
80604542 - COMB, 20 WELL, BACKLESS, 3.0MM	4
80604561 - COMB, 30 WELL, BACKLESS, 1.0MM	12
80604580 - COMB, 30 WELL, BACKLESS, 3.0MM	10
80604599 - COMB, 36 WELL, BACKLESS, 1.0MM	17
80604618 - COMB, 36 WELL, BACKLESS, 1.5MM	13
80604637 - COMB, 36 WELL, BACKLESS, 3.0MM	6
80604656 - BACK & 3 SCREWS FOR HE111 COMB	15
80604751 - UVT GEL RUNNING TRAY 15X20CM	6
80604770 - UVT GEL RUNNING TRAY 20X20CM	2
80604789 - UVT GEL RUNNING TRAY 20X25CM	1
80604827 - CASTING TRAY, 20X20CM	2
80604846 - CASTING TRAY20X25CM	1
80604865 - LID ASSEMBLY WITH POWER CABLES	0
80604884 - GEL CASTING KIT, 15X20CM	5
80604903 - GEL CASTING KIT, 20X20CM	3
80604922 - GEL CASTING KIT, 20X25CM	6
80605017 - CHAMBER ASSBLY	10

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Article Description	Sales inventory
80605036 - BACK & 2 SCREWS FOR HE31 COMB	94
80605055 - SCREWS FOR HE31/91 COMB(PKG/12)	3
80605074 - COMB, 12 WELL, BACKLESS, 1.0MM	34
80605093 - COMB, 12 WELL, BACKLESS, 1.5MM	79
80605112 - COMB, 16 WELL, BACKLESS, 1.0MM	23
80605131 - COMB, 16 WELL, BACKLESS, 1.5MM	28
80605150 - COMB, 8 WELL, BACKLESS, 1.0MM	30
80605169 - COMB, 8-WELL, BACKLESS, 1.5MM	41
80605188 - COMB, PREP, BACKLESS, 1.0MM	4
80605207 - COMB, PREP, BACKLESS, 1.5MM	2
80605245 - MINNIE GEL UNIT, 8 WELL 7X10CM	71
80605264 - MINNIE GEL UNIT WITHOUT COMB	35
80605283 - LID ASSEMBLY	5
80605302 - BOTTOM FILL PLUG/FOR HE33 (H)	13
80605321 - ELECTRODE REPLACE KIT FOR HE33	28

80605340 - GEL RUNNING TRAY, UVT, 7X10 CM	84
80605359 - GEL CASTING TRAY, 7X10 CM	23
80605378 - GEL CASTING KIT, 7X10 CM	64
80605397 - FOAM GASKET(HE47-10 CAST.KIT)(PKG4)	9
80605416 - CHAMBER ASSEMBLY FOR HE99X	4
80605435 - BACK & 2 SCREWS FOR HE91 COMBS	80
80605568 - COMB,10 WELLS, BACKLESS, 1.5MM	9
80605587 - COMB,10 WELLS, BACKLESS, 3.0MM	6
80605606 - COMB,15 WELLS, BACKLESS, 1.0MM	19
80605625 - COMB,15 WELLS, BACKLESS, 1.5MM	38
80605644 - COMB, 15 WELL, BACKLESS, 3.0MM	14
80605663 - COMB,20 WELLS, BACKLESS, 1.0MM	25
80605682 - COMB,20 WELLS, BACKLESS, 1.5MM	44
80605701 - COMB,20 WELLS, BACKLESS, 3.0MM	15
80605720 - COMB,30 WELLS, BACKLESS, 1.0MM	27
80605758 - PREP COMB, BACKLESS, 1.5MM	4
80605777 - PREP COMB, BACKLESS, 3.0MM	0
80605815 - RUNNING TRAY,NEW STYLE,15 X 10	6
80605834 - RUNNING TRAY,NEW STYLE,15 X 15	7

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Article Description	Sales inventory
80605853 - RUNNING TRAY,NEW STYLE,15 X 20	8
80605986 - CASTING TRAY,NEW STYLE,15 X 10	7
80606005 - CASTING TRAY,NEW STYLE,15 X 15	1
80606024 - CASTING TRAY,NEW STYLE,15 X 20	8
80606043 - LID ASSEMBLY/CABLES FO HE99X	5
80606062 - CASTING KIT,NEW STYLE,15 X 10	15
80606081 - CASTING KIT,NEW STYLE,15 X15	10
80606100 - CASTING KIT,NEW STYLE,15 X 20	20
80606119 - FOAM SEALING GASKETS (PKG/4)	4
80606138 - MAX HORIZ SUB UNIT-NEW VERSION	13
80606157 - MAX HORIZ SUB W/CAST KIT/COMB	27
80606537 - LID WITH POWER CABLES	0
80607069 - NANOFUGE (230V)	1
80607392 - SWITCHBACK PULSE CONTRLLR.115V	0
80607411 - SWITCHBACK PULSE CONTRLLR.230V	2
80607544 - ADAPTOR FOR PG235-4 CUVETTES	0
80607563 - ELECTRODE CUVETTES,4MM GAP(PKG/40)	0
80607639 - MACROVUE VIS-45, 115V TRANSILLUM	0
80607658 - MACROVUE VIS-45, 230V TRANSILLUM	0
80607734 - PHOTOMAN DIRECT COPY CAMERA	8
80607753 - HOOD ONLY, 8X10 (UVTM: 10-40)	4
80607772 - HOOD & LARGE SHIELD 8X10CM	4
80607829 - HOOD/SHIELD 10X12 (UVTM:10-15)	4
80607848 - HOOD ONLY 10X12 (UVTM: 10-40)	3
80607905 - HOOD/SHIELD 15/20 (UVTM:19-40)	4
80607924 - HOOD ONLY 15X20CM	1
80607981 - HOOD/SHIELD 17X23 (UVTM:25-40)	3
80608000 - HOOD ONLY 17X23 (UVTM: 25-40)	0
80608038 - HOOD/SHIELD 23/30 (UVTM:25-40)	4
80608057 - HOOD ONLY 23/30 (UVTM:25-40)	1
80608114 - FILM B&W 3X4 3000/36, 36 (PKG/20)	49
80608133 - TIFFIN#15 FILTR DNA/RNA(PHC34)	10
80608152 - TIFFIN#9 FILTER PROTEIN(PHC34)	4
80608171 - TIFFIN#58 FILTER SILVER STAIN	2

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Article Description	Sales inventory
80608190 - ISOPRIME PREP IEF UNIT 115V	0
80608247 - ISOPRIME- PREP IEF UNIT 230V	1
80608304 - PUMP TUBING 2.79 MM ID (8)	4
80608361 - FILTERS GFID, 4.7 CM, 100/BOX	1
80608760 - SPIRIT LEVEL	5
80608798 - MGTY SML DECAPROBE UNIT	6
80608817 - SILICONE SEAL GASKET, SLOTTED	4
80608836 - SILICONE SEAL GASKET , SOLID	4
80608855 - TEFLON SCREWS (PKG/4)	1
80608874 - DECA-PROBE INCUBATION UNIT	2
80608893 - SIL CHMBR SEAL O-RING/SHORT(PKG/4)	0
80608912 - SIL SUPP PL SEAL O-RING/LG (PKG/2)	0

80608931 - TEFLON SCREWS (PKG/4)	0
80608950 - 5/16 HEX DRIVER	0
80608969 - SILICONE SEALING GASKET	0
80609064 - DRIVE BELT(PR70)RED ROTOR REPL	41
80609083 - MOTOR FOR PR70 (BODINE)	0
80609102 - BRUSHES, FOR PR50/70 SINCE 1988	27
80609140 - BRUSHES, FOR PR50/55 PRE 9/88	5
80609159 - MOTOR FOR PR50 (BODINE)	3
80609178 - 115V CIRCUIT BOARD, REPLCMNT	2
80609197 - 230V CIRCUIT BOARD, REPLCMNT	3
80609273 - COMB/DECA-PROBE/10W/1.5MM	0
80609330 - MOTOR BRUSHES, OLD(SER # HSIJ)	6
80609349 - SNAP RINGS	9
80609425 - HOEFER SLOTBLOT	0
80609558 - SLOTBLOT, 48 SLOTS	1
80609634 - O-RING, RPLCMNT FOR PR648	1
80609653 - SCREWS, RPLCMNT FOR PR648 (6)	0
80609748 - TRAY LINER, 25X35CM RPLCMNT	5
80609767 - TRAY, RED ROTOR SHAKER, 50X50	2
80609786 - TRAY LINER, 50X50CM RPLCMNT	4
80609805 - RED ROTR ORBITL SHKR 50X50	0
80610299 - PWR SPLY, TIMR 500VDC,400MA, 115V	0

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Article Description	Sales inventory
80610508 - ADAPTOR,SLEEVED 2MM M/4MM F(PKG/2)	22
80610527 - ADAPTER KIT 4MM FIXED SLEEVE	118
80610546 - ADAPTER RED SLK/4 MM 2/PKG	34
80610584 - ADAPTOR, 4MM M/ 2MM RMVBL (PKG/2)	9
80610603 - POWER CORD,DETACHABLE,10A,115V	2
80610660 - FUSE .1A/250V SB 3AG (PKG/3)	0
80610736 - FUSE .375A/250V SB 2AG (PKG/3)	7
80610774 - FUSE .5A/250V FB 3AG (PKG/5)	1
80610793 - FUSE .5A/250V SB 3AG (PKG/5)	0
80610869 - FUSE 1.6A/250V SB 5X20 (5)	0
80610926 - FUSE 12A/250V FB 3AG (5)	14
80610964 - FUSE 1A/250V SB 3AG (5)	1
80610983 - FUSE 1A/250V SB 15X20 (5)	1
80611021 - FUSE 2.5A/250V SB 5X20 (5)	4
80611040 - FUSE 2A/250V F 5X20 (5/PK)	0
80611059 - FUSE 3A/250V FB 3AG (5)	1
80611116 - FUSE 3A 250V 5X20 MM SB 5PK(PKG/5)	1
80611211 - FUSE 5A/250V SB 3AG (5)	0
80611230 - FUSE 5A/250V SB 5x20 (PKG/5)	4
80611420 - PUMP HEAD/DIAPHRAM, PV100	4
80611515 - QUICKFIT FEMALE CONNECTOR,3/8	11
80611553 - QUICKFIT MALE CONNECTOR, 3/8	11
80611629 - PLATE MATE WASH SYS	10
80611648 - LONG PLATE ADAPTOR FOR SE100	1
80611667 - PLATE HOLDER W/HANDLE	8
80611686 - PLATE HOLDERS/SET 4	0
80611705 - POLYPROP WASHING TANK W/LID	0
80611743 - THERMOSTAT SE1140/SE540/LKB	0
80611762 - FILTER PAPER,35x44CM (PKG/25)	5
80611781 - POROUS CELLOPHANE (PKG/50)	6
80611800 - SILICONE RUBBER SHEET	3
80611819 - MYLAR SHEET	11
80611838 - POROUS POLYETHYLENE SHEET	5
80611857 - STAINLESS SCREEN	0

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Article Description	Sales inventory
80611971 - PCB ASSY,SE1160-115V 1990 MODELS	3
80611990 - PCB ASSY, SE1160-230V 1990 MODELS	5
80612085 - REPAIR KIT 115V: SE1150,SE1160	5
80612161 - EASY BREEZE GEL DRYER 115V	1
80612180 - EASY BREEZE GEL DRYER 230V	2
80612199 - PRECUT CELLOPHAN SHEET(PKG/50)	112
80612218 - PRECUT MYLAR SHEETS (PKG/25)	5
80612237 - GEL DRYING FRAME ASSEMBLY	5
80612275 - BLACK QUARTER TURN KNOB (PKG/10)	2

80612294 - GEL LOADING PLATFORM	2
80612313 - OUTER FRAME W/ 1/4 TURN CLAMPS	0
80612332 - INNER FRAME WITH O-RING SEAL	0
80612465 - MYLAR SEALING TAPE - 216 FT	15
80612503 - COMB, 20 WELL, .35MM	3
80612560 - COMB, 32 WELL, .25MM	1
80612579 - COMB, 32 WELL, .35MM	2
80612674 - SHARKSTOOTH COMB KIT, .25MM	4
80612750 - FOAM TABS (PKG/20)	1
80612769 - BULLDOG BINDER CLIPS (12)	5
80612788 - WONDER WEDGE PLASTIC WEDGE	77
80612940 - GLASS PLATE SET FOR SE1600	4
80612997 - CLAMP ASSEMBLIES (PKG 2)	0
80613073 - LID W/ CABLES & CONNECTORS	0
80613434 - GLASS PLATE, LONG	0
80613453 - GLASS PLATE, SHORT	1
80613548 - CASTMASTER SEQ.GEL CAST STAND	3
80613567 - WAX PAPER FOR SE215/275 (PKG/100)	46
80613605 - NOTCHED GLASS PLATE,10X8CM (PKG/5)	2
80613624 - ALUMINA PLATE, 10 X 8 CM	5
80613643 - ALUMINA PLATES, 10 X 8 CM (PKG/10)	120
80613662 - RECTANGULAR GLASS PLATE 10X8CM	2
80613681 - RECTGLR.GLASS PLTS 10X8CM (PKG/10)	922
80613700 - POLYPR CLMPS W/SCR SE200(PKG/2)	0
80613719 - FOAM GASKET, 61CM X 4.5MM OD	56

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Article Description	Sales inventory
80613738 - FILLER PLUG SET FOR SE215	5
80613757 - SMALL FLLR PLUGS FOR SE215 (PKG/4)	0
80613795 - T SPACERS 8CM X .75MM (PKG 2)	238
80613814 - T SPACERS 8CM X 1.0MM (PKG 2)	229
80613833 - T SPACERS 8CM X 1.5MM (PKG 2)	246
80613871 - COMB, SPINELESS, 10 WELL, .75	169
80613890 - COMB, SPINELESS, 10 WELL,1.0MM	215
80613909 - COMB, SPINELESS, 10 WELL, 1.5	206
80613947 - COMB, SPINELESS,15 W,0.75	140
80613966 - COMB, SPINELESS, 15 WELL,1.0MM	130
80613985 - COMB, SPINELESS, 15 WELL, 1.5	126
80614004 - MICROTITER COMB,18 WELL,1.0 MM	35
80614023 - COMB, SPINELESS, 5 WELL, .75MM	19
80614042 - COMB, SPINELESS, 5 WELL, 1.0MM	29
80614061 - COMB, SPINELESS,5 W.,1.5MM	30
80614080 - MICROTITER COMB,9 WELL,1.0 MM	8
80614156 - COMB, SPINELESS REFERENCE, .75	17
80614175 - COMB,SPINELESS REFERENCE,1.0MM	37
80614194 - COMB, SPINELESS REFERENCE, 1.5	20
80614213 - WELL-LOCATING DECAL (PKG 2)	5
80614232 - FILLER SHEETS SE215/275 (PKG/5)	11
80614251 - 10-PLACE CASTER FOR SE250 GELS	13
80614270 - LWR BUFF CHMBR SE200/280	5
80614289 - UPR BUF CHM/NEW SPR CL MDL	0
80614308 - LID W/CABLES FOR SE200	0
80614346 - SPACE-SAVER FOR SE215 & SE275	9
80614365 - FACE PLATE FOR SE215/275	0
80614384 - MIGHTY SMALL SPACER-MATE (PKG/3)	0
80614403 - MTY SMALL TUBE GEL ADAPTOR KIT	1
80614422 - GEL TUBES,1.5MM ID,7.5CM L(PKG/24)	0
80614441 - RED O-RING GASKET (PKG/12)	0
80614498 - MIGHTY SMALL TUBE GEL CASTER	1
80614536 - CASTING CUP WITH SUPPORT ROD	0
80614555 - WAX PAPER FOR SE235 (PKG/100)	21

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Article Description	Sales inventory
80614574 - CLIPS WITH SCREWS (PKG 2)	7
80614593 - FILLER SHEETS FOR SE235 (PKG/5)	1
80614612 - 4-PLACE CASTER FOR SE260 GELS	19
80614631 - SPACE-SAVER FOR SE235 GEL CSTR	1
80614650 - MIGHTY SMALL DUAL GEL CASTER	30
80614669 - SEALING GASKET SET (PKG/4)	12

80614707 - CASTING CLAMP ASSEMBLY	15
80614726 - MIGHTY SMALL BASIC UNIT,8X7 CM	0
80614745 - MIGHTY SMALL II FOR 10X8CM GEL	53
80614783 - LONG RED SPRINGCLAMP (PKG/4)	46
80614802 - SHORT RED SPRINGCLAMPS (PKG/4)	12
80614840 - UPR BUFR CHMBR (NEW TYPE)SE250	9
80614859 - LOWER BUFFER CHAMBER FOR SE250	11
80614878 - DEEP LOWER BUFFER CHAMBER	21
80614897 - PRECAST GEL KIT (SE252,SE25)	0
80614916 - LID W/CABLES FOR SE 250	6
80614935 - MIGHTY SMALL II FOR 8X9CM GELS	52
80614973 - BASIC UNIT FOR 8 X 9 CM GELS	0
80614992 - T SPACER PVC GRAY .75x105MM(PKG/2)	79
80615011 - T SPACERS PVC WHITE 1x105MM(PKG/2)	152
80615030 - T SPACER PVC GRAY 1.5x105MM(PKG/2)	116
80615049 - NOTCHD GLASS PLATS 10x10CM (PKG/5)	79
80615068 - NOTCHD ALUMINA PLT 10X10CM (PKG/5)	74
80615087 - RECT. GLASS PLATES 10x10CM (5)	533
80615106 - 4-PLACE CASTER FOR SE250 GELS	19
80615144 - FILLER PLUG SET SE235/275/295	8
80615163 - SMALL PLUGS, SE235/275/295 (PKG/4)	37
80615182 - TALL MIGHTY SMALL, 8X11CM GELS	2
80615220 - SPACERS T-SHAPE 12CM X.75MM (PKG 2)	18
80615239 - SPACERS T-SHAPE 12CM X1.0MM (PKG 2)	22
80615258 - SPACERS T-SHAPE 12CM X1.5MM (PKG 2)	32
80615296 - NOTCHD GLASS PLATE,10X12CM (PKG/2)	0
80615315 - NTCHD ALUMNA PLATE 10X12CM (PKG/2)	30
80615334 - RCTNGLR GLSS PLATE,10X12CM (PKG/5)	121

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Article Description	Sales inventory
80615353 - UPPER BUFFER CHAMBER FOR SE280	6
80615372 - LID WITH CABLES FOR SE280	4
80615391 - WAX PAPER FOR SE295 (PKG/100)	1
80615410 - FILLER SHEETS FOR SE295 (PKG/5)	0
80615429 - 4-PLACE CASTER FOR SE280 GELS	4
80615448 - SPACE-SAVER FOR SE295 GEL CSTR	0
80615467 - FACEPLATE FOR SE295	0
80615486 - STURDIER W/O C&S,14X16 GEL	0
80615524 - STURDIER,15W 1.5MM CMB,SP,	16
80615543 - SLOTTED GASKET GRAY (LONG) (1)	4
80615562 - BLANK GASKET FOR CASTING STAND	14
80615600 - STURDIER,14X24 GEL,W/O C&S	1
80615676 - CAST STND ASEM, LWR BFR CH	1
80615695 - UPPER BUFFER CHAMBER	3
80615714 - LID WITH ELECTRODES	7
80615733 - LID W/ELECTRDS/24CM/FOR SE410	3
80615752 - LID WITH ELECTRODES	0
80615790 - GLASS PLATE SET, 1 RECT, 1 NOTCHED	0
80615866 - GLASS PLATE NOTCHED 14 X 18CM	0
80615999 - COMB, 10 WELL, .75MM	26
80616018 - COMB, 10 WELL, 1.0MM	31
80616037 - COMB, 10 WELL, 1.5MM	36
80616075 - COMB, 12 WELL, .75MM	2
80616094 - COMB, 12 WELL, 1.5MM	3
80616113 - COMB, 15 WELL, .75MM	32
80616132 - COMB, 15WELL, 1.0MM	54
80616151 - COMB, 15 WELL, 1.5MM	64
80616170 - COMB, 20 WELL, .75MM	31
80616189 - COMB, 20WELL, 1.0MM	26
80616208 - COMB, 20 WELL, 1.5MM	41
80616227 - COMB, 28 WELL, .75MM/15MM DEEP	17
80616246 - COMB, 28 WELL, 1.0MM/15MM DEEP	12
80616265 - COMB, 28 WELL, 1.5MM/15MM DEEP	16
80616284 - COMB, 5 WELL, 1.5MM	2

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Article Description	Sales inventory
80616322 - COMB BACK,ADJUST,10&15MM	18
80616341 - COMB W/ADJ BACK/DUAL REF/.75MM	8
80616360 - COMB W/ADJ BACK/DUAL REF.	13

80616379 - COMB W/ADJ BACK/DUAL REF/1.5MM	13
80616417 - COMB W/ADJ BACK/REFERENCE/.75	13
80616436 - COMB W/ADJ BACK/REFERENCE/1.0	14
80616455 - COMB W/ADJ BACK/REFERENCE/1.5	27
80616835 - SLAB HOLDING TUBE W/PERF CAPS	0
80616968 - FILTER PAPER (PKG/25)	17
80616987 - POROUS CELLOPHANE (PKG/50)	6
80617006 - SILICONE RUBBER SHEET	1
80617025 - MYLAR SHEET	0
80617044 - POROUS POLYETHYLENE SHEET	0
80617139 - STAINLESS STEEL SCREEN	0
80617158 - VERT SLAB,W/O CMB&SP,14X16	1
80617196 - VERT SLAB, 15W 1.5 CMB,SP	26
80617329 - CLAMP ASSY UNIVERSAL 16CM (PKG 2)	38
80617348 - CLAMP THUMBSCREW UNIVERSAL(PKG/12)	21
80617367 - UNIVERSAL CLMP(4) & CAM(8) KIT	9
80617405 - CAMS,WHITE (OLD STYLE) (PKG/4)	1
80617424 - CAMS,BLACK,LONG (NEW) (PKG/4)	19
80617443 - SLOTTED GASKET GRAY, LONG (PKG 2)	24
80617462 - BLANK GASKETS (PKG 2)	24
80617500 - GEL CASTING STAND WITH GASKETS	10
80617519 - BUFFER DAM	7
80617538 - TUBE GEL ADAPTOR KIT	1
80617557 - TUBE GEL UPPER BUFFER CHAMBER	0
80617576 - GASKET FOR 1.5MM GEK TUBES	0
80617614 - TUBE GEL RETAINER BAR (PKG 2)	2
80617633 - UPPER BUFFER CHAMBER FOR SE600/660	16
80617652 - LID WITH CABLES	11
80617671 - HGH VOLTG LEAD W/JACKS/BLK0.	0
80617690 - .GH VOLTG LEAD W/JACKS/RED0.	0
80617709 - LEAD SET 4 MM MALE/2 MM FEMALE W/CABLE	11

<u>Article Description</u>	<u>Sales inventory</u>
80617728 - GROMMETS (PKG/4)	3
80617747 - BANANA PLUG 4MM GOLD W/WASHERS	21
80617785 - CELLOSEAL, 1 OZ0.4#	0
80617899 - GLASS PLATES 18X16CM (PKG 2)	892
80617918 - DIVIDER GLASS PLATE,18X16CM(1)	159
80617937 - FRSTED GLASS PLTS 18X16CM (PKG 2)	10
80617975 - SPACERS 1CM X 16CM X .75MM (PKG 2)	0
80617994 - SPAC 1CM X 16CM 1.0MM (PKG 2)	73
80618013 - SPACERS 1CM X 16CM X 1.5MM (PKG 2)	33
80618051 - SPAC 2CM X 16CM X .75MM (PKG 2)	81
80618070 - SPACERS 2CM X 16CM 1.0MM (PKG 2)	103
80618089 - SPACERS 2CM X 16 CM X 1.5MM (PKG 2)	105
80618165 - SPACER-MATE, SE400/600/700 (PKG/3)	8
80618184 - ACRYLIC BLOCK,11MM THICK,18X16	4
80618241 - POLYCARB FILLER SHEETS (PKG/5)	2
80618260 - WAXED PAPER, 100 SHEETS	14
80618279 - MULT CAST, 18X16CM W/GLS PLTS	4
80618298 - LOWER BUFFER CHAMBER	4
80618317 - BUFFER SAVER,SE600	5
80618336 - MULT CAST ST W/O GLASS & SPCRS	0
80618374 - HEAT EXCHANGER FOR SE600,SE660	8
80618393 - GLASS TUBE WITH 2 GROMMETS	0
80618431 - PLUG, FILLER, FOR SE615	0
80618469 - GLASS PLATES 18 X 32CM (PKG 2)	6
80618526 - SPACERS 2CM X 32CM X .75MM (PKG 2)	0
80618564 - SPACERS 2CM X 32CM X 1.5MM (PKG 2)	0
80618659 - GLASS PLATES, 18X8CM (PKG 2)	74
80618678 - DIVIDER PLATE, 18 X 8 CM	14
80618735 - CLAMP ASSY 8CM UNIVERSAL (PKG 2)	16
80618773 - SPACERS 2CM X 8CM X.75MM (PKG 2)	10
80618792 - SPACERS 2CM X 8CM 1.0MM (PKG 2)	11
80618811 - SPACERS 2CM X 8CM X1.5MM (PKG 2)	22
80618906 - LOWER BUFFER CHAMBER FOR SE640	0
80618982 - BASIC SLAB,14X24GEL,NO C&S	6

80619001 - GLASS PLATES 18 X 24CM (PKG 2)	46
80619020 - DIVIDER GLASS PLATE, 18X24CM	19
80619058 - SPACERS 2CM X 24CM X .75MM (PKG 2)	23
80619077 - SPACERS 2CM X 24CM X 1.0MM (PKG 2)	22
80619096 - SPACERS 2CM X 24CM X 1.5MM (PKG 2)	41
80619115 - LOWER BUFFER CHMBR FOR SE660	0
80619134 - GEL CASTER, 1-4 16CM GELS	4
80619191 - SILICONE FILLER PLUG SET/SE675	0
80619267 - GLASS PLATES 18 X 12CM (PKG 2)	1
80619305 - UPPER BUFFER CHAMBER WITH FIN	1
80619419 - LEVEL	7
80619476 - SEALING BAR	0
80619533 - CAM	0
80619609 - GRADIENT MAKER, 100 ML	7
80619628 - STOPCOCK FOR SG5/50/30/15	1
80619647 - STOPCOCK, SHORT FOR SG100	6
80619685 - WHITE OUTLET FITTING,APPRX 4MM	13
80619704 - STOPCOCK, LONG FOR SG100	1
80619723 - PLUNGER FOR SG100	1
80619761 - GRADIENT MAKER, 15 ML	6
80619780 - GRADIENT MAKER, 30 ML	10
80619799 - GRADIENT MAKER, 50 ML	11
80619818 - GRADIENT MAKER, 500 ML	5
80619837 - PUSH-PULL VALVE,RPLMT,500-2000	0
80619856 - PUSH-PULL VALVE,FOR SALT GRDNT	0
80619875 - PLUNGER FOR SG50	1
80619913 - SILICONE TUBING, 1/4" ID, 25FT	1
80619951 - MIGHTY SLIM PS-230V	1
80619970 - 3 UL SEQUENCING SYRINGE PIPET	0
80620426 - MIGHTY SMALL TRANSPHOR	23
80620445 - ELECTRODE PANEL	4
80620464 - GEL CASSETTE W/ FOAM SPONGES	17
80620502 - FOAM SPONGES,1/4 THICK (PK4)	16
80620521 - FOAM SPONGES, 1/8 THICK (PKG/4)	21

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Article Description	Sales inventory
80620540 - BLOTTING PAPER, 9X10.5CM (PKG/50)	64
80620559 - LWR CHAMBER/HEAT EXCHANGER	0
80620578 - LID WITH CABLES	2
80620597 - TRANSPHOR UNIT ,2 CASSETTES	9
80620616 - TE43BK PK ELECTRODE- BLACK	9
80620635 - TE43GY PK ELECTRODE - GREY	6
80620654 - TE44H PK HINGED CASSETTE W/SPO	24
80620673 - DACRON SPONGES (PKG 2)	6
80620692 - FOAM SPONGES, 1/4THICK (PKG/4)	16
80620711 - FOAM SPONGES, 1/8THICK (PKG/4)	7
80620730 - BLOTTER PAPER,14.5x21.5CM (PKG/50)	165
80620749 - HEAT EXCHANGER	6
80620768 - STANDARD PLASTIC LID W/CABLES	3
80620787 - TRANSPHOR POWER LID, 115V	1
80620806 - TRANSPHOR POWER LID,230V	1
80620863 - TRANSPHOR W/2 CASSETTES & LID	0
80620882 - TRANSPHOR W/2 CASSETTES & LID	0
80620939 - BUFFER CHAMBER FOR TE42/TE52	0
80620958 - TRANSPHOR ,4 CASSETTES& COOLER	1
80620977 - TRANSPHOR W/COOLER & LID	0
80621015 - BUFFER CHAMBER W/HEAT EXCHANGR	0
80621034 - SEMIPHOR TRANSPHOR UNIT	17
80621053 - POROUS CELLOPHANE, 50 SHEETS	7
80621072 - SMALL MYLAR MASK, SOLID (PKG/4)	9
80621091 - SMALL MYLAR MASK, 7X8CM GEL(PKG/4)	0
80621110 - SMALL MYLAR MASK,14X16 GEL (PKG/4)	1
80621129 - BLOT.PAPER(TE70)20X25GELS (PKG/25)	61
80621148 - BLOTTER PAPER, 7X8CM (PKG/25)	2
80621167 - BLOTTER PAPER,14X16CM(PKG/25)	78
80621186 - LARGE SEMIPHOR TRANSPHOR UNIT	19
80621205 - MYLAR MASK	7
80621224 - MYLAR MASK FOR TE77,14X16CM(PKG/4)	1
80621243 - TRANSVAC VACUUM BLOTTER	2
80621281 - VACUUM SEAL, SOLID	4

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Article Description	Sales inventory
80621300 - VACUUM SEAL, FOR 7X10CM GELS	1
80621357 - VACUUM SEAL, FOR 20X15CM GELS	0
80621395 - TRANSVAC BLOTTER PAPER (PKG/25)	0
80621509 - GENESWEEP BLOTTING PAPER (PKG/25)	1
80621623 - DISTRIBUTORS ONLY/CALIBRATED PCA	1
80621832 - SEALING COMPOUND/CAP TUBES (6)	0
80621965 - BLOT PAPER 20X20CM (PKG 50)	0
80622231 - MINI UV CROSSLINKER 115V	7
80622250 - MINI UV CROSSLINKER 230V	9
80622288 - UV LAMP 300NM 15 WATT (UVTM)	14
80622307 - UV LAMP 300NM 6 WATT,UVTM-10	0
80622326 - UV LAMP 300 NM 8W T5	59
80622345 - UV LAMP 254NM 15 WATT (UVTS)	9
80622364 - UV LAMP 254 NM 8 WATT	29
80622383 - UV RULER SET,14CM & 24CM	4
80622402 - SAFETY SHIELD,UVTM-19,20,25,40	1
80622421 - WORK SURFACE UV TRANSPARENT	2
80622478 - MACROVUE UV-25, 115V TRANSILLUM	3
80622497 - MACROVUE UV-25, 230V TRANSILLUM	3
80622516 - MACROVUE UVIS-20, 115V TRANSILLUM	3
80622535 - MACROVUE UVIS-20, 230V TRANSILLUM	3
80622554 - VACUUBRAND PUMP, 115V	1
80622573 - VACUUBRAND PUMP,230V	0
80622592 - MAINTENANCE KIT FOR MZ2C PUMP	0
80622611 - VACUUM TUBING 8mm ID 3 METERS	5
80622630 - RED OUTLET FITTINGS (PKG 4)	1
80622687 - HOECHST 33258 DYE	37
80622706 - CALF THYMUS DNA, 250 UG	55
80622725 - 4-MU Standard, 100mg	11
80622744 - Glass Cuvette	76
80622763 - Capillary Adaptor Kit	8
80622782 - Capillary Tube, 10 uL	6
80622801 - Capillary Tube. 100 uL	7
80622820 - Capillary Tube 50 uL	17

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Article Description	Sales inventory
80622839 - Capillary Cuvette	3
80622858 - Capillary Tubes, Glass	7
80622896 - Lamp Replacement Assy	12
80622915 - PCB Assy	12
80622934 - Optics Replacement Assy	7
80622953 - Lid Replacement Assy	5
80623010 - CORD 10A/250V CEE7 IEC320	0
80623124 - DYNA QUANT 200 INSTRUCTION MANUAL	0
80623257 - WIRE, PLATINUM, 72 INCHES	3
80623276 - WIRE, PLATINUM, 36 INCHES	9
80623295 - WIRE, PLATINUM, 24 INCHES	1
80623314 - WIRE, PLATINUM, 12 INCHES	24
80623447 - ADAPTER,SLEVD SET,2MM/4MM (PKG 2)	67
80624074 - APPL NOTE DYNAQUANT DQ6	0
80624511 - MACROVUE UV-20, 115V TRANSILLUM	3
80624530 - MACROVUE UV-20, 230V TRANSILLUM	9
80625252 - DQ210 PERFORMANCE VALIDATION KIT	16
80625537 - RK SE400 LVL/FSTNR KIT	1
80625575 - RK HE100/120 ELECTRODE HDWR	0
80625632 - INSTRUCTION MANUAL UVC500/1000	0
80625746 - RK TKO100 ELECTRONIC HDWR KIT	1
80625803 - STARTER FS-11 230V/8-15W	1
80625898 - RK UVC500 BALLAST, 230V/60HZ	0
80625917 - RK SWITH, POWER ULTRALUM	0
80625936 - STARTER FS-5 115V/8W	12
80626354 - RK TE70 TOP ASSY	0
80626373 - RK TE70 BASE ASSY	0
80626392 - RK TE77 TOP ASSY	0
80626411 - RK TE77 BASE ASSY	1
80626449 - LEAD SET 4 MM MALE/NO FEMALE W/CABLE	2
80626715 - RK HE99X ELECTRODE ASSY	4
80627342 - INSTRUCTIONS HE33	0
80627380 - RK PR50/70 PEG	7
80627399 - RK TE22 FTINGS & HDWR	0

Article Description	Sales inventory
80627475 - PCB ASSY TESTED TE50X	2
80627513 - HARDWARE KIT TE50X	0
80627570 - RK PR50/70 SWITCH 115V	3
80627589 - RK PR50/70 GROMMET	5
80627874 - RK HB1100D TRANSFORMER	0
80627950 - RK HB1100D FAN MOTOR 120V	0
80628159 - RK POT,10K	0
80628178 - RK POT,2K	2
80628197 - RK PS250/500XT METER	2
80628235 - RK FUSE HOLDERS	2
80628425 - RK PS500/250/3000 TIMER-230V	1
80628444 - RK PS3000/500/250 TIMER 115V	2
80628463 - RK TRANSISTOR BLOCK ASSEMBLY	3
80628862 - RK SE1160 ELEC. RPR.-115V	3
80628881 - RK SE1160 ELEC. RPR -230V	2
80628976 - RK SE1200 HTR/FAN KIT-115V	4
80629109 - RK LBC RPR KIT	4
80629128 - INSTRUCTION MANUAL SE280	0
80629166 - RK SE250/260 HDWR KIT	0
80629185 - INSTRUCTION MANUAL SE250/260	0
80629470 - RK SE400 ELECTRODE KIT	2
80629565 - RK PR648 QCK CONN RPLCMNT	0
80629679 - RK HE100 PUMP HDWR	1
80629698 - RK HE100 PUMP COOLING ASSY	0
80629717 - RK HE100 IMPELLER	7
80629774 - RK PS500 PCB ASSY -115V	4
80629793 - RK PS500 PCB ASSY -230V	4
80629964 - RK PS500/3000 FAN ASSY	2
80630116 - HOEFER SQ3 SEQUENCER	0
80630135 - SQ3 GLASS PLATES	28
80630154 - TEMPERATURE MONITOR	6
80630173 - 0.2MM SPACER SET	7
80630192 - 0.4MM SPACER SET	14
80630211 - 1.0MM SPACER SET	4

Article Description	Sales inventory
80630230 - 0.2MM 32-WELL SHARKSTOOTH COMB	3
80630249 - 0.2MM 64-WELL SHARKSTOOTH COMB	10
80630268 - 0.2MM 96-WELL SHARKSTOOTH COMB	4
80630287 - 0.4MM 32-WELL SHARKSTOOTH COMB	6
80630306 - 0.4MM 64-WELL SHARKSTOOTH COMB	19
80630325 - 0.4MM 96-WELL SHARKSTOOTH COMB	7
80630344 - 0.20MM TO 0.5MM WEDGE SPACER SET	3
80630363 - STANDARD COMB, 32 WELL, 0.4MM	10
80630382 - STANDARD COMB, 32 WELL, 1.0 MM	3
80630515 - RK PR70 SHAFT SET	4
80630534 - RK PR70 BEARING HOUSING	8
80630572 - RK PR70 PULLEY SET	2
80630591 - RK PR70 PULLEY DRIVE WEIGHT	0
80630610 - RK PR70 BEARING DRIVE PLATE	5
80630724 - 0.20MM TO 0.75MM WEDGE SPACER SET	3
80630762 - REPLACEMENT STEP GASKET	4
80630781 - DRAIN TUBING 18 INCHES	1
80630819 - LOWER BUFFER CHAMBER	0
80630838 - HIGH VOLTAGE LEADS	3
80630857 - SAFETY SHIELD	1
80630876 - WASTE COLLECTION BOTTLE	0
80630895 - UPPER ELECTRODE REPLACEMENT KIT	0
80630914 - LOWER ELECTRODE REPLACEMENT KIT	1
80631212 - SERVICE MANUAL HE100	0
80631370 - TEFLON TUBING 24" PK	0
80631712 - SERVICE MANUAL PR70/75	0
80632149 - RK HB400/1100D TRIAC 10A	5
80632301 - RK TE62/62X FITTINGS KIT	0
80632472 - RK HINGE UV SERIES	0
80632510 - RK CVR ASSY UV20/25,UVTM19/25	3
80632529 - RK CVR ASSY UVIS20, UVVIS20	0

80632681 - RK HB400 PCB ASSY 120/240V	0
80633175 - RK UV20/25 SWITCH ILLUM ON/OFF	1
80633251 - LAMP FL COOL WHITE 8W T5	10

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Article Description	Sales inventory
80633517 - RK PH90 LAMP, 14W COOL WHITE	1
80633574 - FUSE .5A 250V 5X20MM FB 5PK	0
80633650 - RK PS250 ELECTRONIC REPAIR 115	0
80633745 - RK PS250 POWER TRANSFORMER	0
80635607 - FLANGE O-RING, VP200 GLASS TRAP	1
80637127 - TUBE ADAPTOR WITH O-RINGS	0
80637469 - RK TE50X PCB ASSY 230V	0
80637488 - RK TE50X METER REPLACEMENT	1
80637507 - RK TE50X WIRE SET	0
80637735 - RK EPS2A200 PCB POWER	5
80637754 - RK EPS2A200 PCB CONTROL	5
80637830 - RK EPS2A200 LINE FILTER ASSY	0
80637887 - SERVICE MANUAL EPS2A200	0
80638077 - RK EPS2A200 FUSES	12
80638153 - RK VP200 FLANGE/FLASK CLP BLCK	0
80638286 - DNA SUBMARINE FAMILY DATA FILE	0
80638856 - RK IM VDS MAGNET SET	4
80639711 - INSTRUCTIONS PI8	0
80639730 - INSTRUCTION DR PH PI8	0
80640680 - DYNAQUANT DQ200	20
80640699 - EPS2A200 PWR SPLY,200V,2000MA	9
80641231 - RK HE33 RUBBER PLUG PK/4	0
80641269 - RK PS500X WIRE SET ADAPTER	1
80641554 - RK PR50/70 POWER ENTRY MODULE	0
80641763 - RK THIMBLE KIT, PR70	7
80641858 - HOEFER MINIVE BASIC UNIT	5
80641877 - HOEFER MINIVE COMPLETE UNIT	66
80641896 - HOEFER MINIVE BLOT MODULE	41
80641915 - RK POST KIT, PR70	1
80641991 - BROCHURE HOEFER MINIVE	0
80642010 - BROCHURE POWER SUPPLY FAMILY	0
80642067 - RK COUNTER WEIGHT, PR70	0
80642143 - GELSEAL 1/4 OZ. TUBE	162
80642162 - SPONGE DACRON,4.03X3.48,3/PK	15

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Article Description	Sales inventory
80642466 - RK MINIVE LID ASSY	0
80642504 - RK MINIVE TANK (LBC)	0
80642523 - RK MINIVE UBC ASSY	13
80642542 - RK MINIVE CLAMP ASSY (1)	6
80642561 - RK MINIVECLAMP SCREW PK/5	0
80642580 - RK MINIVE SEALING PLATE ASSY	9
80642599 - RK MINIVE SEALING GASKET	1
80642618 - RK MINIVE BANANA PLUG KIT (PR)	7
80642637 - RK MINIVE UBC WIRING SET	0
80642656 - RK MINIVE CATHODE ASSY (BLK)	1
80642675 - RK MINIVE ANODE ASSY (RED)	0
80642827 - GD2000 VACUUM GEL DRYER 115V	1
80642846 - GD2000 VACUUM GEL DRYER 230V	0
80642884 - GD2000 GEL DRYING SYSTEM 115V	7
80642903 - GD2000 GEL DRYING SYSTEM 230V	5
80642922 - GEL DRYER FRAME LARGE ASSY	12
80642941 - GEL LOADING PLATFORM LARGE	4
80642998 - MYLAR SHEETS 33X38 CM 25/PK	1
80643017 - CELLOPHANE SHEETS 33X38 CM 50	1
80643036 - O-RING SEAL 20X25 CM FRAME	0
80643055 - INNER FRAME 20X25 CM W/ O-RING	0
80643074 - OUTER FRAME 20X25 CM W/ 8 KNOB	2
80643131 - MINIVE STEP GASKET/BIORAD PREC	0
80643511 - RK GD2000 HEATER PAD	0
80643530 - RK GD2000 TEMP SENSORS	0
80643777 - BROCHURE GEL DRYERS	0
80643948 - RK SWITCH HI/LO (R)	2
80644214 - GLASS PLATES,LOFLUOR,18X16CM	87

80644233 - GLASS PLATES,LOFLUOR,18X24CM	4
80644252 - GLASS PLATES,LOWFLUOR,28X23CM	2
80644309 - SPACER PVC 8X1CM,1.0MM,2/P	0
80644328 - SPACER PVC 8X1CM,1.5MM,2/P	26
80644594 - AN MINI 2D SE 600	0
80644613 - WIRE PLATINUM .02 DIA 12" PK	1

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<u>Article Description</u>	<u>Sales inventory</u>
80644651 - WIRE PLATINUM .02 DIA 36" PK	1
80644670 - WIRE PLATINUM .02 DIA 72" PK	0
80644993 - APPL NOTE ALKPHOS DIRECT	0
80645924 - COMB TEFLON 12WELL 1.0MM	8
80646000 - SE600 MULTCHANL COMB,14W,1.0MM	2
80646019 - SE600 MULTCHANL COMB,14W,1.5MM	0
80646038 - HE99X MULTCHANL COMB,14W,1.0MM	12
80646057 - HE99X MULTCHANL COMB,14W,1.5MM	4
80646095 - READY TO RUN SEPARATION UNIT	35
80646114 - READY TO RUN SATELITE UNIT	6
80646133 - READY TO RUN 1.2%AGAROSE GEL96	212
80646171 - READY TO RUN 1.2%AGAROSE GEL48	33
80646209 - READY TO RUN LOADING GUIDE	20
80647102 - RK RTR PCB DISPLAY	1
80647121 - RK RTR PCB CONTROL SEP UNIT	3
80647501 - RTR NUC ACID AMPL & ANALYSIS	0
80647577 - LF GLASS PLATES, 18 X 8 CM	2
80647615 - SE600 RUBY LOW BUFFER CHAMBER	0
80647634 - SE600 RUBY LID WITH CABLES	1
80647672 - SE600 RUBY BROCHURE	0
80647938 - SE 600 RUBY, BASIC	2
80647957 - SE 600 RUBY, COMPLETE	18
80648280 - READY TO RUN 2.2% GELS,96	59
80648299 - READY TO RUN 2.2% GEL,48	21
80648565 - READY-TO-RUN DNA MARKERS	37
80649401 - ELECTROPHORESIS MINI CATALOG	874
<b>TOTAL UNITS</b>	<b>12,898</b>

**Assumptions**

1. Includes inventory of products held in all Hoefer sites other than San Francisco.
2. Includes all finished goods as reported by each region in the monthly REPOR files and loaded in SCOPE.
3. Fixed Asset demo units are not included. Demo units that exceed 6 months are transferred from inventory to fixed assets.

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Schedule 6  
Product Trademarks

**DyNA Quant**

**Ready-to-Run**

**Ruby**

**SemiPhor**

**TransPhor**

6-i

**STANDARD INDUSTRIAL/COMMERCIAL SINGLE-TENANT LEASE — GROSS  
(DO NOT USE THIS FORM FOR MULTI-TENANT BUILDINGS)**

**1. Basic Provisions (“Basic Provisions”).**

- 1.1 **Parties:** This Lease (“Lease”), dated for reference purposes only, February 23, 2004, is made by and between William Cash Forman, a married man (“Lessor”) and Hoefer, Inc., a Delaware corporation (“Lessee”), (collectively the “Parties,” or individually a “Party”).
- 1.2 **Premises:** That certain real property, including all improvements therein or to be provided by Lessor under the terms of this Lease, and commonly known as 953 Indiana Street, located in the County of San Francisco, State of California, and generally described as (describe briefly the nature of the property and, if applicable, the “Project”, if the property is located within a Project) a concrete industrial building (“Premises”). (See also Paragraph 2)
- 1.3 **Term:** 10 years and 0 months (“Original Term”) commencing March 1, 2004 (“Commencement Date”) and ending February 28, 2014 (“Expiration Date”). (See also Paragraph 3)
- 1.4 **Early Possession:** February 24, 2004 (“Early Possession Date”). (See also Paragraphs 3.2 and 3.3 and Addendum Paragraph #52 Prior Occupancy)
- 1.5 **Base Rent:** \$ 16,995.00 per month (“Base Rent”) commencing May 23, 2004, and thereafter payable on the first (1st) day of each month. (See also Paragraph 4)

If this box is checked, there are provisions in this Lease for the Base Rent to be adjusted.

1.6 **Base Rent and Other Monies Paid Upon Execution:**

- (a) **Base Rent:** \$ 16,995.00 monthly for the period May 23, 2004 through February 28, 2005. (See also Paragraph 51)
- (b) **Security Deposit:** \$ 20,000.00 (“Security Deposit”). (See also Paragraph 5)
- (c) **Association Fees:** \$ n/a for the period n/a
- (d) **Other:** \$ n/a for n/a.
- (e) **Total Due Upon Execution of this Lease:** \$ 36,995.00.

1.7 **Agreed Use:** Development, light manufacturing and distribution of electrophoresis equipment and supplies (See also Paragraph 6)

1.8 **Insuring Party:** Lessor is the “Insuring Party”. The annual “Base Premium” is \$ 6,612.00 (See also Paragraph 8)

1.9 **Real Estate Brokers:** (See also Paragraph 15)

(a) **Representation:** The following real estate brokers (the “Brokers”) and brokerage relationships exist in this transaction (check applicable boxes):

HC&M Commercial Properties, Inc. represents Lessor exclusively (“Lessor’s Broker”);

Whitney Cressman represents Lessee exclusively (“Lessee’s Broker”); or

represents both Lessor and Lessee (“Dual Agency”).

(b) **Payment to Brokers:** Upon execution and delivery of this Lease by both Parties, Lessor shall pay to the Broker the fee agreed to in their separate written agreement for the brokerage services rendered by the Brokers. See addendum Paragraphs #54 and #55.

1.10 Intentionally Omitted.

1.11 **Attachments.** Attached hereto are the following, all of which constitute a part of this Lease:

an Addendum consisting of Paragraphs 51 through 56

a plot plan depicting the Premises;

a current set of the Rules and Regulations;

a Work Letter;

other (specify): Addenda Paragraphs 57 and 58.

**2. Premises.**

2.1 **Letting.** Lessor hereby leases to Lessee, and Lessee hereby leases from Lessor, the Premises, for the term, at the rental, and upon all of the terms, covenants and conditions set forth in this Lease. Unless otherwise provided herein, any statement of size set forth in this Lease, or that may have been used in calculating Rent, is an approximation which the Parties agree is reasonable and any payments based thereon are not subject to revision whether or not the actual size is more or less. **Note: Lessee is advised to verify the actual size prior to executing this Lease.**

2.2 **Condition.** Lessor shall deliver the Premises to Lessee broom clean and free of debris on the Commencement Date or the Early Possession Date, whichever first occurs (“Start Date”), and warrants that the surface and structural elements of the roof, bearing walls and foundation of any buildings on the Premises (the “Building”) shall be free of material defects as of the Start Date. If a non-compliance with said warranty exists as of the Start Date, Lessor shall, as Lessor’s sole obligation with respect to such matter, except as otherwise provided in this Lease, promptly after receipt of written notice from Lessee setting forth with specificity the nature and extent of such non-compliance, malfunction or failure, rectify same at Lessor’s expense. Notwithstanding anything contained herein to the contrary, Seller has not received any written notice and has no current actual knowledge that any government agency or any employee or official considers the construction of the Premises or its operation or use to have failed to comply with any Applicable Requirement, as defined in Paragraph 2.3 below, or that any investigation has been commenced or is contemplated respecting any such possible failure of compliance.

2.3 **Acknowledgements.** Lessee acknowledges that: (a) it has been advised by Lessor and/or Brokers to satisfy itself with respect to the condition of the Premises (including but not limited to the electrical, HVAC and fire sprinkler systems, security, and compliance with the building codes, applicable laws, covenants or restrictions of record, regulations, and ordinances (“Applicable Requirements”) and the Americans with Disabilities Act), and their suitability for Lessee’s intended use, (b) Lessee has made such investigation as it deems necessary with reference to such matters and assumes all responsibility therefor as the same relate to its occupancy of the Premises, and (c) neither Lessor, Lessor’s agents, nor Brokers have made any oral or written representations or warranties with respect to said matters other than as set forth in this Lease. In addition, Lessor acknowledges that: (i) Brokers have made no representations, promises or warranties concerning Lessee’s ability to honor the Lease or suitability to occupy the Premises, and (ii) it is Lessor’s sole responsibility to investigate the financial capability and/or suitability of all proposed tenants.

**3. Term.**

3.1 **Term.** The Commencement Date, Expiration Date and Original Term of this Lease are as specified in Paragraph 1.3.

3.2 **Early Possession.** Lessee shall be permitted to occupy the Premises prior to the Commencement Date, and the obligation to pay Base Rent shall be abated for the period of such early possession. All other terms of this Lease (including but not limited to the obligations to pay insurance premiums and to maintain the Premises) shall, however, be in effect during such period. Any such early possession shall not affect the Expiration Date.

Initials

Initials

3.3 **Delay In Possession.** Lessor agrees to use its best commercially reasonable efforts to deliver possession of the Premises to Lessee by the Commencement Date. If, despite said efforts, Lessor is unable to deliver possession by such date, Lessor shall not be subject to any liability therefore, nor shall such failure affect the validity of this Lease. Lessee shall not, however, be obligated to pay Rent or perform its other obligations until Lessor delivers possession of the Premises and any period of rent abatement that Lessee would otherwise have enjoyed shall run from the date of delivery of possession and continue for a period equal to what Lessee would otherwise have enjoyed under the terms hereof, but minus any days of delay caused by the acts or omissions of Lessee. If possession is not delivered within 60 days after the Commencement Date, Lessee may, at its option, by notice in writing within 10 days after the end of such 60 day period, cancel this Lease, in which event the Parties shall be discharged from all obligations hereunder. If such written notice is not received by Lessor within said 10-day period, Lessee's right to cancel shall terminate. If possession of the Premises is not delivered within 120 days after the Commencement Date, this Lease shall terminate unless other agreements are reached between Lessor and Lessee, in writing.

3.4 **Lessee Compliance.** Lessor shall not be required to deliver possession of the Premises to Lessee until Lessee complies with its obligation to provide evidence of insurance (Paragraph 8.5). Pending delivery of such evidence, Lessee shall be required to perform all of its obligations under this Lease from and after the Start Date, including the payment of Rent, notwithstanding Lessor's election to withhold possession pending receipt of such evidence of insurance. Further, if Lessee is required to perform any other conditions prior to or concurrent with the Start Date, the Start Date shall occur but Lessor may elect to withhold possession until such conditions are satisfied.

#### 4. **Rent.**

4.1 **Rent Defined.** All monetary obligations of Lessee to Lessor under the terms of this Lease (except for the Security Deposit) are deemed to be rent ("**Rent**").

4.2 **Payment.** Lessee shall cause payment of Rent to be received by Lessor in lawful money of the United States on or before the day on which it is due, without offset or deduction (except as specifically permitted in this Lease). Rent for any period during the term hereof which is for less than one full calendar month shall be prorated based upon the actual number of days of said month. Payment of Rent shall be made to Lessor at its address stated herein or to such other persons or place as Lessor may from time to time designate in writing. Acceptance of a payment which is less than the amount then due shall not be a waiver of Lessor's rights to the balance of such Rent, regardless of Lessor's endorsement of any check so stating. In the event that any check, draft, or other instrument of payment given by Lessee to Lessor is dishonored for any reason, Lessee agrees to pay to Lessor the sum of \$25 in addition to any Late Charge and Lessor, at its option, may require all future payments to be made by Lessee to be by cashier's check. Payments will be applied first to accrued late charges and attorney's fees, second to accrued interest, then to Base Rent and Operating Expense Increase, and any remaining amount to any other outstanding charges or costs.

5. **Security Deposit.** Lessee shall deposit with Lessor upon execution hereof the Security Deposit as security for Lessee's faithful performance of its obligations under this Lease. If Lessee fails to pay Rent, or otherwise Defaults under this Lease, Lessor may use, apply or retain all or any portion of said Security Deposit for the payment of any amount due Lessor or to reimburse or compensate Lessor for any liability, expense, loss or damage which Lessor may suffer or incur by reason thereof. If Lessor uses or applies all or any portion of the Security Deposit, Lessee shall within 10 days after written request therefore deposit monies with Lessor sufficient to restore said Security Deposit to the full amount required by this Lease. Lessor shall not be required to keep the Security Deposit separate from its general accounts. Within 14 days after the expiration or termination of this Lease, if Lessor elects to apply the Security Deposit only to unpaid Rent, and otherwise within 30 days after the Premises have been vacated pursuant to Paragraph 7.4(c) below, Lessor shall return that portion of the Security Deposit not used or applied by Lessor. No part of the Security Deposit shall be considered to be held in trust, to bear interest or to be prepayment for any monies to be paid by Lessee under this Lease.

#### 6. **Use.**

6.1 **Use.** Lessee shall use and occupy the Premises only for the Agreed Use, or any other legal use which is reasonably comparable thereto, and for no other purpose. Lessee shall not use or permit the use of the Premises in a manner that is unlawful, creates damage, waste or a nuisance, or that disturbs occupants of or causes damage to neighboring premises or properties. Lessor shall not unreasonably withhold or delay its consent to any written request for a modification of the Agreed Use, so long as the same will not impair the structural integrity of the improvements on the Premises or the mechanical or electrical systems therein, and/or is not significantly more burdensome to the Premises. If Lessor elects to withhold consent, Lessor shall within 7 days after such request give written notification of same, which notice shall include an explanation of Lessor's objections to the change in the Agreed Use.

##### 6.2 **Hazardous Substances.**

(a) **Reportable Uses/Compliance.** The term "**Hazardous Substance**" as used in this Lease shall mean any product, substance, or waste whose presence, use, manufacture, disposal, transportation, or release, either by itself or in combination with other materials expected to be on the Premises, is either: (i) potentially injurious to the public health, safety or welfare, the environment or the Premises, (ii) regulated or monitored by any governmental authority, or (iii) a basis for potential liability of Lessor to any governmental agency or third party under any applicable statute or common law theory. Hazardous Substances shall include, but not be limited to, hydrocarbons, petroleum, gasoline, and/or crude oil or any products, by-products or fractions thereof. Lessee shall not engage in any activity in or on the Premises which constitutes a Reportable Use of Hazardous Substances fully complying with all Applicable Requirements. "**Reportable Use**" shall mean (i) the installation or use of any above or below ground storage tank, (ii) the generation, possession, storage, use, transportation, or disposal of a Hazardous Substance that requires a permit from, or with respect to which a report, notice, registration or business plan is required to be filed with, any governmental authority, and/or (iii) the presence at the Premises of a Hazardous Substance with respect to which any Applicable Requirements requires that a notice be given to persons entering or occupying the Premises or neighboring properties. Notwithstanding the foregoing, Lessee may use any ordinary and customary materials reasonably required to be used in the normal course of the Agreed Use, ordinary office supplies (copier toner, liquid paper, glue, etc.) and common household cleaning materials, so long as such use is in compliance with all Applicable Requirements, is not a Reportable Use, and does not expose the Premises or neighboring property to any meaningful risk of contamination or damage or expose Lessor to any liability therefore. In addition, Lessor may condition its consent to any Reportable Use upon receiving such additional assurances as Lessor reasonably deems necessary to protect itself, the public, the Premises and/or the environment against damage, contamination, injury and/or liability, including, but not limited to, the installation (and removal on or before Lease expiration or termination) of protective modifications (such as concrete encasements) and/or increasing the Security Deposit.

(b) **Duty to Inform Lessor.** If Lessee knows, or has reasonable cause to believe, that a Hazardous Substance has come to be located in, on, under or about the Premises, other than in compliance with all Applicable Requirements, Lessee shall immediately give written notice of such fact to Lessor, and provide Lessor with a copy of any report, notice, claim or other documentation which it has concerning the presence of such Hazardous Substance in violation of Applicable Requirements.

(c) **Lessee Remediation.** Lessee shall not cause or permit any Hazardous Substance to be spilled or released in, on, under, or about the Premises (including through the plumbing or sanitary sewer system) and shall promptly, at Lessee's expense, comply with all Applicable Requirements and take all investigatory and/or remedial action reasonably recommended, whether or not formally ordered or required, for the cleanup of any contamination of, and for the maintenance, security and/or monitoring of the Premises or neighboring properties, that was caused or materially contributed to by Lessee, or pertaining to or involving any Hazardous Substance brought onto the Premises during the term of this Lease, by or for Lessee, or any third party.

(d) **Lessee Indemnification.** Lessee shall indemnify, defend and hold Lessor, its agents, employees, lenders and ground lessor, if any, harmless from and against any and all loss of rents and/or damages, liabilities, judgments, claims, expenses, penalties, and attorneys' and consultants' fees

arising out of or involving any Hazardous Substance brought onto the Premises by or for Lessee, or any third party (provided, however, that Lessee shall have no liability under this Lease with respect to underground migration of any Hazardous Substance under the Premises from adjacent properties not caused or contributed to by Lessee). Lessee's obligations shall include, but not be limited to, the effects of any contamination or injury to person, property or the environment created or suffered by Lessee, and the cost of investigation, removal, remediation, restoration and/or abatement, and shall survive the expiration or termination of this Lease. **No termination, cancellation or release**

**agreement entered into by Lessor and Lessee shall release Lessee from its obligations under this Lease with respect to Hazardous Substances, unless specifically so agreed by Lessor in writing at the time of such agreement.**

(e) **Lessor Indemnification.** Lessor and its successors and assigns shall indemnify, defend, reimburse and hold Lessee, its employees and lenders, harmless from and against any and all environmental damages, including the cost of remediation, which result from Hazardous Substances which existed on the Premises prior to Lessee's occupancy or which are caused by the gross negligence or willful misconduct of Lessor, its agents or employees. Lessor's obligations, as and when required by the Applicable Requirements, shall include, but not be limited to, the cost of investigation, removal, remediation, restoration and/or abatement, and shall survive the expiration or termination of this Lease.

(f) **Investigations and Remediations.** Lessor shall retain the responsibility and pay for any investigations or remediation measures required by governmental entities having jurisdiction with respect to the existence of Hazardous Substances on the Premises prior to Lessee's occupancy, unless such remediation measure is required as a result of Lessee's use (including "Alterations", as defined in Paragraph 7.3(a) below) of the Premises, in which event Lessee shall be responsible for such payment. Lessee shall cooperate fully in any such activities at the request of Lessor, including allowing Lessor and Lessor's agents to have reasonable access to the Premises at reasonable times in order to carry out Lessor's investigative and remedial responsibilities.

(g) **Lessor Termination Option.** If a Hazardous Substance Condition (see Paragraph 9.1(e)) occurs during the term of this Lease, unless Lessee is legally responsible therefore (in which case Lessee shall make the investigation and remediation thereof required by the Applicable Requirements and this Lease shall continue in full force and effect, but subject to Lessor's rights under Paragraph 6.2(d) and Paragraph 13), Lessor may, at Lessor's option, either (i) investigate and remediate such Hazardous Substance Condition, if required, as soon as reasonably possible at Lessor's expense, in which event this Lease shall continue in full force and effect, or (ii) if the estimated cost to remediate such condition exceeds 12 times the then monthly Base Rent or \$100,000, whichever is greater, give written notice to Lessee, within 30 days after receipt by Lessor of knowledge of the occurrence of such Hazardous Substance Condition, of Lessor's desire to terminate this Lease as of the date 60 days following the date of such notice. In the event Lessor elects to give a termination notice, Lessee may, within 10 days thereafter, give written notice to Lessor of Lessee's commitment to pay the amount by which the cost of the remediation of such Hazardous Substance Condition exceeds an amount equal to 12 times the then monthly Base Rent or \$100,000, whichever is greater. Lessee shall provide Lessor with said funds or satisfactory assurance thereof within 30 days following such commitment. In such event, this Lease shall continue in full force and effect, and Lessor shall proceed to make such remediation as soon as reasonably possible after the required funds are available. If Lessee does not give such notice and provide the required funds or assurance thereof within the time provided, this Lease shall terminate as of the date specified in Lessor's notice of termination.

6.3 **Lessee's Compliance with Applicable Requirements.** Except as otherwise provided in this Lease, Lessee shall, at Lessee's sole expense, fully, diligently and in a timely manner, materially comply with all Applicable Requirements, the requirements of any applicable fire insurance underwriter or rating bureau, and the recommendations of Lessor's engineers and/or consultants which relate in any manner to the such Requirements, without regard to whether such Requirements are now in effect or become effective after the Start Date. Lessee shall, within 10 days after receipt of Lessor's written request, provide Lessor with copies of all permits and other documents, and other information evidencing Lessee's compliance with any Applicable Requirements specified by Lessor, and shall immediately upon receipt, notify Lessor in writing (with copies of any documents involved) of any threatened or actual claim, notice, citation, warning, complaint or report pertaining to or involving the failure of Lessee or the Premises to comply with any Applicable Requirements.

6.4 **Inspection; Compliance.** Lessor and Lessor's "Lender" (as defined in Paragraph 30) and consultants shall have the right to enter into Premises at any time, in the case of an emergency, and otherwise at reasonable times after reasonable notice, for the purpose of inspecting the condition of the Premises and for verifying compliance by Lessee with this Lease. The cost of any such inspections shall be paid by Lessor, unless a violation of Applicable Requirements, or a Hazardous Substance Condition (see Paragraph 9.1) is found to exist or be imminent, or the inspection is requested or ordered by a governmental authority. In such case, Lessee shall upon request reimburse Lessor for the cost of such inspection, so long as such inspection is reasonably related to the violation or contamination. In addition, Lessee shall provide copies of all relevant material safety data sheets ("MSDS") to Lessor within 10 days of the receipt of a written request therefor.

## 7. **Maintenance; Repairs; Utility Installations; Trade Fixtures and Alterations.**

### 7.1 **Lessee's Obligations.**

(a) **In General.** Subject to the provisions of Paragraph 2.2 (Condition), 2.3 (Compliance), 6.3 (Lessee's Compliance with Applicable Requirements), 7.2 (Lessor's Obligations), 9 (Damage or Destruction), and 14 (Condemnation), Lessee shall, at Lessee's sole expense, keep the Premises, "Utility Installations" (as defined in Paragraph 7.3(a)) (intended for Lessee's exclusive use, no matter where located), and "Alterations" (as defined in Paragraph 7.3(a)) in good order, condition and repair (whether or not the portion of the Premises requiring repairs, or the means of repairing the same, are reasonably or readily accessible to Lessee, and whether or not the need for such repairs occurs as a result of Lessee's use, any prior use, the elements or the age of such portion of the Premises), including, but not limited to, all equipment or facilities, such as plumbing, HVAC equipment, electrical, lighting facilities, boilers, pressure vessels, fire protection system, fixtures, walls (non-bearing), ceilings, floors, windows, doors, plate glass, skylights, landscaping, driveways, parking lots, fences, retaining walls, signs, Premises. Lessee is also responsible for keeping the roof and roof drainage clean and free of debris. Lessor shall keep the surface and structural elements of the roof, foundations, and bearing walls in good repair (see Paragraph 7.2). Lessee, in keeping the Premises in good order, condition and repair, shall exercise and perform good maintenance practices. Lessee's obligations shall include restorations, replacements or renewals when necessary to keep the Premises and all improvements thereon or a part thereof in good order, condition and state of repair. Lessee shall, during the term of this Lease, keep the exterior appearance of the Building in a first-class condition (including, e.g. graffiti removal) consistent with the exterior appearance of other similar facilities of comparable age and size in the vicinity, including, when necessary, the exterior repainting of the Building. Notwithstanding anything contained herein to the contrary, Lessee shall not be required to replace the HVAC system or any other building system during the last two (2) years of the term hereof and same shall be Lessor's responsibility (except that Lessor shall not have any obligation to replace the HVAC system), provided however that in the event Lessee exercises its right to terminate pursuant to Paragraph 55 below, the "last two (2) years of the term" shall not include the sixth and seventh years of the term.

(b) **Failure to Perform.** If Lessee fails to perform Lessee's obligations under this Paragraph 7.1, Lessor may enter upon the Premises after 20 days' prior written notice to Lessee (except in the case of an emergency, in which case no notice shall be required), perform such obligations on Lessee's behalf, and put the Premises in good order, condition and repair, and Lessee shall promptly pay to Lessor a sum equal to 115% of the cost thereof.

7.2 **Lessor's Obligations.** Subject to the provisions of Paragraphs 2.2 (Condition), 2.3 (Compliance), 9 (Damage or Destruction) and 14 (Condemnation), it is intended by the Parties hereto that Lessor have no obligation, in any manner whatsoever, to repair and maintain the Premises, or the equipment therein, all of which obligations are intended to be that of the Lessee, except for the surface and structural elements of the roof, foundations and bearing walls, the repair of which shall be the responsibility of Lessor upon receipt of written notice that such a repair is necessary. It is the intention of the

Parties that the terms of this Lease govern the respective obligations of the Parties as to maintenance and repair of the Premises, and they expressly waive the benefit of any statute now or hereafter in effect to the extent it is inconsistent with the terms of this Lease.

### 7.3 **Utility Installations; Trade Fixtures; Alterations.**

(a) **Definitions.** The term “**Utility Installations**” refers to all floor and window coverings, air and/or vacuum lines, power panels, electrical distribution, security and fire protection systems, communication cabling, lighting fixtures, HVAC equipment, plumbing, and fencing in or on the Premises. The term “**Trade Fixtures**” shall mean Lessee’s machinery and equipment that can be removed without doing material damage to the Premises. The term “**Alterations**” shall mean any modification of the improvements, other than Utility Installations or Trade Fixtures, whether by addition or deletion. “**Lessee Owned Alterations and/or Utility Installations**” are defined as Alterations and/or Utility Installations made by Lessee that are not yet owned by Lessor pursuant to Paragraph 7.4(a).

(b) **Consent.** Lessee shall not make any Alterations or Utility Installations to the Premises without Lessor’s prior written consent. Lessee may, however, make non-structural Utility Installations to the interior of the Premises (excluding the roof) without such consent

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but upon notice to Lessor, as long as they are not visible from the outside, do not involve puncturing, relocating or removing the roof or any existing walls, will not affect the electrical, plumbing, HVAC, and/or life safety systems, and the cumulative cost thereof during this Lease as extended does not exceed a sum equal to 3 month’s Base Rent in the aggregate or a sum equal to one month’s Base Rent in any one year. Notwithstanding the foregoing, Lessee shall not make or permit any roof penetrations and/or install anything on the roof without the prior written approval of Lessor. Lessor may, as a precondition to granting such approval, require Lessee to utilize a contractor chosen and/or approved by Lessor. Any Alterations or Utility Installations that Lessee shall desire to make and which require the consent of the Lessor shall be presented to Lessor in written form with detailed plans. Consent shall be deemed conditioned upon Lessee’s: (i) acquiring all applicable governmental permits, (ii) furnishing Lessor with copies of both the permits and the plans and specifications prior to commencement of the work, and (iii) compliance with all conditions of said permits and other Applicable Requirements in a prompt and expeditious manner. Any Alterations or Utility Installations shall be performed in a workmanlike manner with good and sufficient materials. Lessee shall promptly upon completion furnish Lessor with as-built plans and specifications. For work which costs an amount in excess of one month’s Base Rent, Lessor may condition its consent upon Lessee providing a lien and completion bond in an amount equal to 150% of the estimated cost of such Alteration or Utility Installation and/or upon Lessee’s posting an additional Security Deposit with Lessor. Notwithstanding anything contained herein to the contrary, Lessor has consented to the initial Alterations to the Premises being undertaken by Lessee as described in Paragraph 53 of the Addendum.

(c) **Liens; Bonds.** Lessee shall pay, when due, all claims for labor or materials furnished or alleged to have been furnished to or for Lessee at or for use on the Premises, which claims are or may be secured by any mechanic’s or materialmen’s lien against the Premises or any interest therein. Lessee shall give Lessor not less than 10 days notice prior to the commencement of any work in, on or about the Premises, and Lessor shall have the right to post notices of non-responsibility. If Lessee shall contest the validity of any such lien, claim or demand, then Lessee shall, at its sole expense defend and protect itself, Lessor and the Premises against the same and shall pay and satisfy any such adverse judgment that may be rendered thereon before the enforcement thereof. If Lessor shall require, Lessee shall furnish a surety bond in an amount equal to 150% of the amount of such contested lien, claim or demand, indemnifying Lessor against liability for the same. If Lessor elects to participate in any such action, Lessee shall pay Lessor’s attorneys’ fees and costs.

### 7.4 **Ownership; Removal; Surrender; and Restoration.**

(a) **Ownership.** Subject to Lessor’s right to require removal or elect ownership as hereinafter provided, all Alterations and Utility Installations made by Lessee shall be the property of Lessee, but considered a part of the Premises. Unless otherwise instructed per Paragraph 7.4(b) hereof, and except for the items described in Exhibit A which items must be removed prior to the expiration of this Lease by Lessee, all Lessee Owned Alterations and Utility Installations shall, at the expiration or termination of this Lease, become the property of Lessor and be surrendered by Lessee with the Premises.

(b) **Removal.** By delivery to Lessee of written notice from Lessor not earlier than 90 and not later than 30 days prior to the end of the term of this Lease, Lessor may require that any or all Lessee Owned Alterations or Utility Installations be removed by the expiration or termination of this Lease. Lessor may require the removal at any time of all or any part of any Lessee Owned Alterations or Utility Installations made without the required consent.

(c) **Surrender; Restoration.** Lessee shall surrender the Premises by the Expiration Date or any earlier termination date, with all of the improvements, parts and surfaces thereof broom clean and free of debris, and in good operating order, condition and state of repair, ordinary wear and tear excepted. “Ordinary wear and tear” shall not include any damage or deterioration that would have been prevented by good maintenance practice. Notwithstanding the foregoing, if this Lease is for 12 months or less, then Lessee shall surrender the Premises in the same condition as delivered to Lessee on the Start Date with NO allowance for ordinary wear and tear. Lessee shall repair any damage occasioned by the installation, maintenance or removal of Trade Fixtures, Lessee owned Alterations and/or Utility Installations, furnishings, and equipment as well as the removal of any storage tank installed by or for Lessee. Lessee shall completely remove from the Premises any and all Hazardous Substances brought onto the Premises by or for Lessee, or any third party (except Hazardous Substances which were deposited via underground migration from areas outside of the Premises, or if applicable, the Project) even if such removal would require Lessee to perform or pay for work that exceeds statutory requirements. Trade Fixtures shall remain the property of Lessee and shall be removed by Lessee. Any personal property of Lessee not removed on or before the Expiration Date or any earlier termination date shall be deemed to have been abandoned by Lessee and may be disposed of or retained by Lessor as Lessor may desire. The failure by Lessee to timely vacate the Premises pursuant to this Paragraph 7.4(c) without the express written consent of Lessor shall constitute a holdover under the provisions of Paragraph 26 below.

## 8. **Insurance; Indemnity.**

### 8.1 **Payment of Premium Increases.**

(a) Commencing on the first (1st) day of the second (2nd) year of the Term of the Lease, Lessee shall pay to Lessor any insurance cost increase (“**Insurance Cost Increase**”) occurring during the term of this Lease. Insurance Cost Increase is defined as any increase in the actual cost of the insurance required under Paragraph 8.3(a) and 8.3(b) (“**Required Insurance**”), over and above the Base Premium as hereinafter defined calculated on an annual basis. Insurance Cost Increase shall include but not be limited to increases resulting from the nature of Lessee’s occupancy, any act or omission of Lessee, requirements of the holder of mortgage or deed of trust covering the Premises, increased valuation of the Premises and/or a premium rate increase. The Parties are encouraged to fill in the Base Premium in Paragraph 1.8 with a reasonable premium for the Required Insurance based on the Agreed Use of the Premises. If the Parties fail to insert a dollar amount in Paragraph 1.8, then the Base Premium shall be the lowest annual premium reasonably obtainable for the Required Insurance as of the commencement of the Original Term for the Agreed Use of the Premises

(b) Lessee shall pay any such Insurance Cost Increase to Lessor within 30 days after receipt by Lessee of a copy of the premium statement or other reasonable evidence of the amount due. If the insurance policies maintained hereunder cover other property besides the Premises, Lessor shall also deliver to Lessee a statement of the amount of such Insurance Cost Increase attributable only to the Premises showing in reasonable detail the manner in which such amount was computed. Premiums for policy periods commencing prior to, or extending beyond the term of this Lease, shall be prorated to correspond to the term of this Lease.

### 8.2 **Liability Insurance.**

(a) **Carried by Lessee.** Lessee shall obtain and keep in force a Commercial General Liability policy of insurance protecting Lessee and Lessor as an additional insured against claims for bodily injury, personal injury and property damage based upon or arising out of the ownership, use, occupancy or maintenance of the Premises and all areas appurtenant thereto. Such insurance shall be on an occurrence basis providing single limit coverage in



an amount not less than \$2,000,000 per occurrence with an annual aggregate of not less than \$5,000,000, an "Additional Insured-Managers or Lessors of Premises Endorsement" and contain the "Amendment of the Pollution Exclusion Endorsement" for damage caused by heat, smoke or fumes from a hostile fire. The policy shall not contain any intra-insured exclusions as between insured persons or organizations, but shall include coverage for liability assumed under this Lease as an "insured contract" for the performance of Lessee's indemnity obligations under this Lease. The limits of said insurance shall not, however, limit the liability of Lessee nor relieve Lessee of any obligation hereunder. All insurance carried by Lessee shall be primary to and not contributory with any similar insurance carried by Lessor, whose insurance shall be considered excess insurance only.

### 8.3 **Property Insurance - Building, Improvements and Rental Value.**

(a) **Building and Improvements.** The Insuring Party shall obtain and keep in force a policy or policies in the name of Lessor, with loss payable to Lessor, any ground-lessor, and to any Lender insuring loss or damage to the Premises. The amount of such insurance shall be equal to the full replacement cost of the Premises, as the same shall exist from time to time, or the amount required by any Lender, but in no event more than the commercially reasonable and available insurable value thereof. If Lessor is the Insuring Party, however, Lessee Owned Alterations and Utility Installations, Trade Fixtures, and Lessee's personal property shall be insured by Lessee under Paragraph 8.4 rather than by Lessor. If the coverage is available and commercially appropriate, such policy or policies shall insure against all risks of direct physical loss or damage (except the perils of flood and/or earthquake unless required by a Lender or included in the Base Premium), including coverage for debris removal and the enforcement of any Applicable Requirements requiring the upgrading, demolition, reconstruction or replacement of any portion of the Premises as the result of a covered loss. Said policy or policies shall also contain an agreed valuation provision in lieu of any coinsurance clause, waiver of subrogation, and inflation guard protection causing an increase in the annual property insurance coverage amount by a factor of not less than the adjusted U.S. Department of Labor Consumer Price Index for All Urban Consumers for the city nearest to where the Premises

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are located. If such insurance coverage has a deductible clause, the deductible amount shall not exceed \$1,000 per occurrence, and Lessee shall be liable for such deductible amount in the event of an Insured Loss.

(b) **Rental Value.** The Insuring Party shall obtain and keep in force a policy or policies in the name of Lessor with loss payable to Lessor and any Lender, insuring the loss of the full Rent for one year with an extended period of indemnity for an additional 180 days ("**Rental Value Insurance**"). Said Rental Value Insurance shall contain an agreed valuation provision in lieu of any coinsurance clause, and the amount of coverage shall be adjusted annually to reflect the projected Rent otherwise payable by Lessee, for the next 12 month period. Lessee shall be liable for any deductible amount in the event of such loss.

### 8.4 **Lessee's Property; Business Interruption Insurance.**

(a) **Property Damage.** Lessee shall obtain and maintain insurance coverage on all of Lessee's personal property, Trade Fixtures, and Lessee Owned Alterations and Utility Installations. Such insurance shall be full replacement cost coverage with a deductible to be at reasonable market level. The proceeds from any such insurance shall be used by Lessee for the replacement of personal property, Trade Fixtures and Lessee Owned Alterations and Utility Installations. Lessee shall provide Lessor with written evidence that such insurance is in force.

(b) **Business Interruption.** Lessee shall obtain and maintain loss of income and extra expense insurance in amounts as will reimburse Lessee for direct or indirect loss of earnings attributable to all perils commonly insured against by prudent lessees in the business of Lessee or attributable to prevention of access to the Premises as a result of such perils.

(c) **No Representation of Adequate Coverage.** Lessor makes no representation that the limits or forms of coverage of insurance specified herein are adequate to cover Lessee's property, business operations or obligations under this Lease.

8.5 **Insurance Policies.** Insurance required herein shall be by companies duly licensed or admitted to transact business in the state where the Premises are located, and maintaining during the policy term a "General Policyholders Rating" of at least B+, V, as set forth in the most current issue of "Best's Insurance Guide", or such other rating as may be required by a Lender. Lessee shall not do or permit to be done anything which invalidates the required insurance policies. Lessee shall, prior to the Start Date, deliver to Lessor certified copies of policies of such insurance or certificates evidencing the existence and amounts of the required insurance. No such policy shall be cancelable or subject to modification except after 30 days prior written notice to Lessor. Lessee shall, at least 30 days prior to the expiration of such policies, furnish Lessor with evidence of renewals or "insurance binders" evidencing renewal thereof, or Lessor may order such insurance and charge the cost thereof to Lessee, which amount shall be payable by Lessee to Lessor upon demand. Such policies shall be for a term of at least one year, or the length of the remaining term of this Lease, whichever is less. If either Party shall fail to procure and maintain the insurance required to be carried by it, the other Party may, but shall not be required to, procure and maintain the same.

8.6 **Waiver of Subrogation.** Without affecting any other rights or remedies, Lessee and Lessor each hereby release and relieve the other, and waive their entire right to recover damages against the other, for loss of or damage to its property arising out of or incident to the perils required to be insured against herein. The effect of such releases and waivers is not limited by the amount of insurance carried or required, or by any deductibles applicable hereto. The Parties agree to have their respective property damage insurance carriers waive any right to subrogation that such companies may have against Lessor or Lessee, as the case may be, so long as the insurance is not invalidated thereby.

8.7 **Indemnity.** Except for Lessor's gross negligence or willful misconduct, Lessee shall indemnify, protect, defend and hold harmless the Premises, Lessor and its agents, Lessor's master or ground lessor, partners and Lenders, from and against any and all claims, loss of rents and/or damages, liens, judgments, penalties, attorneys' and consultants' fees, expenses and/or liabilities arising out of, involving, or in connection with, the use and/or occupancy of the Premises by Lessee. If any action or proceeding is brought against Lessor by reason of any of the foregoing matters, Lessee shall upon notice defend the same at Lessee's expense by counsel reasonably satisfactory to Lessor and Lessor shall cooperate with Lessee in such defense. Lessor need not have first paid any such claim in order to be defended or indemnified.

8.8 **Exemption of Lessor from Liability.** Lessor shall not be liable for injury or damage to the person or goods, wares, merchandise or other property of Lessee, Lessee's employees, contractors, invitees, customers, or any other person in or about the Premises, whether such damage or injury is caused by or results from fire, steam, electricity, gas, water or rain, or from the breakage, leakage, obstruction or other defects of pipes, fire sprinklers, wires, appliances, plumbing, HVAC or lighting fixtures, or from any other cause, whether the said injury or damage results from conditions arising upon the Premises or upon other portions of the building of which the Premises are a part, or from other sources or places, unless same was caused by Landlord's gross negligence or willful misconduct. Notwithstanding Lessor's negligence or breach of this Lease, Lessor shall under no circumstances be liable for injury to Lessee's business or for any loss of income or profit therefrom.

8.9 **Failure to Provide Insurance.** Lessee acknowledges that any failure on its part to obtain or maintain the insurance required herein will expose Lessor to risks and potentially cause Lessor to incur costs not contemplated by this Lease, the extent of which will be extremely difficult to ascertain. Accordingly, for any month or portion thereof that Lessee does not maintain the required insurance and/or does not provide Lessor with the required binders or certificates evidencing the existence of the required insurance, and the failure to cure such default after ten (10) days' notice, the Base Rent shall be automatically increased, without any requirement for further notice to Lessee, by an amount equal to 10% of the then existing Base Rent or \$100, whichever is greater. The Parties agree that such increase in Base Rent represents fair and reasonable compensation for the additional risk/costs that Lessor will incur by reason of Lessee's failure to maintain the required insurance. Such increase in Base Rent shall in no event constitute a waiver of Lessee's Default or Breach with respect to the failure to maintain such insurance, prevent the exercise of any of the other rights and remedies granted hereunder, nor relieve Lessee of its obligation to maintain the insurance specified in this Lease.

9. **Damage or Destruction.**

9.1 **Definitions.**

(a) **“Premises Partial Damage”** shall mean damage or destruction to the improvements on the Premises, other than Lessee Owned Alterations and Utility Installations, which can reasonably be repaired in 6 months or less from the date of the damage or destruction. Lessor shall notify Lessee in writing within 30 days from the date of the damage or destruction as to whether or not the damage is Partial or Total.

(b) **“Premises Total Destruction”** shall mean damage or destruction to the Premises, other than Lessee Owned Alterations and Utility Installations and Trade Fixtures, which cannot reasonably be repaired in 6 months or less from the date of the damage or destruction. Lessor shall notify Lessee in writing within 30 days from the date of the damage or destruction as to whether or not the damage is Partial or Total.

(c) **“Insured Loss”** shall mean damage or destruction to improvements on the Premises, other than Lessee Owned Alterations and Utility Installations and Trade Fixtures, which was caused by an event required to be covered by the insurance described in Paragraph 8.3(a), irrespective of any deductible amounts or coverage limits involved.

(d) **“Replacement Cost”** shall mean the cost to repair or rebuild the improvements owned by Lessor at the time of the occurrence to their condition existing immediately prior thereto, including demolition, debris removal and upgrading required by the operation of Applicable Requirements, and without deduction for depreciation.

(e) **“Hazardous Substance Condition”** shall mean the occurrence or discovery of a condition involving the presence of, or a contamination by, a Hazardous Substance as defined in Paragraph 6.2(a), in, on, or under the Premises which requires repair, remediation, or restoration.

9.2 **Partial Damage - Insured Loss.** If a Premises Partial Damage that is an Insured Loss occurs, then Lessor shall, at Lessor’s expense, repair such damage (but not Lessee’s Trade Fixtures or Lessee Owned Alterations and Utility Installations) as soon as reasonably possible and this Lease shall continue in full force and effect; provided, however, that Lessee shall, at Lessor’s election, make the repair of any damage or destruction the total cost to repair of which is \$10,000 or less, and, in such event, Lessor shall make any applicable insurance proceeds available to Lessee on a reasonable basis for that purpose. Notwithstanding the foregoing, if the required insurance was not in force or the insurance proceeds are not sufficient to effect such repair, the Insuring Party shall promptly contribute the shortage in proceeds (except as to the deductible which is Lessee’s responsibility) as and when required to complete said repairs. In the event, however, such shortage was due to the fact that, by reason of the unique nature of the improvements, full replacement cost insurance coverage was not commercially reasonable and available, Lessor shall have no obligation to pay for the shortage in insurance proceeds or to fully restore the unique aspects of the Premises unless Lessee provides Lessor with the funds to cover same, or adequate assurance thereof, within 10 days following receipt of written notice of such shortage and request therefor. If Lessor receives said funds or adequate assurance thereof within said 10 day period, the Party responsible

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for making the repairs shall complete them as soon as reasonably possible and this Lease shall remain in full force and effect. If such funds or assurance are not received, Lessor may nevertheless elect by written notice to Lessee within 10 days thereafter to: (i) make such restoration and repair as is commercially reasonable with Lessor paying any shortage in proceeds, in which case this Lease shall remain in full force and effect, or (ii) have this Lease terminate 30 days thereafter. Lessee shall not be entitled to reimbursement of any funds contributed by Lessee to repair any such damage or destruction. Premises Partial Damage due to flood or earthquake shall be subject to Paragraph 9.3, notwithstanding that there may be some insurance coverage, but the net proceeds of any such insurance shall be made available for the repairs if made by either Party.

9.3 **Partial Damage - Uninsured Loss.** If a Premises Partial Damage that is not an Insured Loss occurs, unless caused by a negligent or willful act of Lessee (in which event Lessee shall make the repairs at Lessee’s expense), Lessor may either: (i) repair such damage as soon as reasonably possible at Lessor’s expense, in which event this Lease shall continue in full force and effect, or (ii) terminate this Lease by giving written notice to Lessee within 30 days after receipt by Lessor of knowledge of the occurrence of such damage. Such termination shall be effective 60 days following the date of such notice. In the event Lessor elects to terminate this Lease, Lessee shall have the right within 10 days after receipt of the termination notice to give written notice to Lessor of Lessee’s commitment to pay for the repair of such damage without reimbursement from Lessor. Lessee shall provide Lessor with said funds or satisfactory assurance thereof within 30 days after making such commitment. In such event this Lease shall continue in full force and effect, and Lessor shall proceed to make such repairs as soon as reasonably possible after the required funds are available. If Lessee does not make the required commitment, this Lease shall terminate as of the date specified in the termination notice.

9.4 **Total Destruction.** Notwithstanding any other provision hereof, if a Premises Total Destruction occurs, this Lease shall terminate 60 days following such Destruction. If the damage or destruction was caused by the gross negligence or willful misconduct of Lessee, Lessor shall have the right to recover Lessor’s damages from Lessee, except as provided in Paragraph 8.6.

9.5 **Damage Near End of Term.** If at any time during the last 6 months of this Lease there is damage for which the cost to repair exceeds one month’s Base Rent, whether or not an Insured Loss, Lessor may terminate this Lease effective 60 days following the date of occurrence of such damage by giving a written termination notice to Lessee within 30 days after the date of occurrence of such damage. Notwithstanding the foregoing, if Lessee at that time has an exercisable option to extend this Lease or to purchase the Premises, then Lessee may preserve this Lease by (a) exercising such option and (b) providing Lessor with any shortage in insurance proceeds (or adequate assurance thereof) needed to make the repairs on or before the earlier of (i) the date which is 10 days after Lessee’s receipt of Lessor’s written notice purporting to terminate this Lease, or (ii) the day prior to the date upon which such option expires. If Lessee duly exercises such option during such period and provides Lessor with funds (or adequate assurance thereof) to cover any shortage in insurance proceeds, Lessor shall, at Lessor’s commercially reasonable expense, repair such damage as soon as reasonably possible and this Lease shall continue in full force and effect. If Lessee fails to exercise such option and provide such funds or assurance during such period, then this Lease shall terminate on the date specified in the termination notice and Lessee’s option shall be extinguished.

9.6 **Abatement of Rent; Lessee’s Remedies.**

(a) **Abatement.** In the event of Premises Partial Damage or Premises Total Destruction or a Hazardous Substance Condition for which Lessee is not responsible under this Lease, the Rent payable by Lessee for the period required for the repair, remediation or restoration of such damage shall be abated in proportion to the degree to which Lessee’s use of the Premises is impaired, but not to exceed the proceeds received from the Rental Value insurance. All other obligations of Lessee hereunder shall be performed by Lessee, and Lessor shall have no liability for any such damage, destruction, remediation, repair or restoration except as provided herein.

(b) **Remedies.** If Lessor shall be obligated to repair or restore the Premises and does not commence, in a substantial and meaningful way, such repair or restoration within 90 days after such obligation shall accrue, Lessee may, at any time prior to the commencement of such repair or restoration, give written notice to Lessor and to any Lenders of which Lessee has actual notice, of Lessee’s election to terminate this Lease on a date not less than 60 days following the giving of such notice. If Lessee gives such notice and such repair or restoration is not commenced within 30 days thereafter, this Lease shall terminate as of the date specified in said notice. If the repair or restoration is commenced within such 30 days, this Lease shall continue in full force and effect. “Commence” shall mean either the unconditional authorization of the preparation of the required plans, or the beginning of the actual work on the Premises, whichever first occurs.

9.7 **Termination; Advance Payments.** Upon termination of this Lease pursuant to Paragraph 6.2(g) or Paragraph 9, an equitable adjustment shall be made concerning advance Base Rent and any other advance payments made by Lessee to Lessor. Lessor shall, in addition, return to Lessee so much

of Lessee's Security Deposit as has not been, or is not then required to be, used by Lessor.

9.8 **Waive Statutes.** Lessor and Lessee agree that the terms of this Lease shall govern the effect of any damage to or destruction of the Premises with respect to the termination of this Lease and hereby waive the provisions of any present or future statute to the extent inconsistent herewith.

10. **Real Property Taxes.**

10.1 **Definition.** As used herein, the term "**Real Property Taxes**" shall include any form of assessment; real estate, general, special, ordinary or extraordinary, or rental levy or tax (other than inheritance, personal income or estate taxes); improvement bond; and/or license fee imposed upon or levied against any legal or equitable interest of Lessor in the Premises or the Project, Lessor's right to other income therefrom, and/or Lessor's business of leasing, by any authority having the direct or indirect power to tax and where the funds are generated with reference to the Building address and where the proceeds so generated are to be applied by the city, county or other local taxing authority of a jurisdiction within which the Premises are located. Real Property Taxes shall also include any tax, fee, levy, assessment or charge, or any increase therein: (i) imposed by reason of events occurring during the term of this Lease, including but not limited to, a change in the ownership of the Premises, and (ii) levied or assessed on machinery or equipment provided by Lessor to Lessee pursuant to this Lease.

10.2

(a) **Payment of Taxes.** Lessor shall pay the Real Property Taxes applicable to the Premises provided, however, that commencing on the first (1st) day of the second (2nd) year of the Term of this Lease, Lessee shall pay to Lessor the amount, if any, by which Real Property Taxes applicable to the Premises have increased over the fiscal tax year during which the Commencement Date occurs ("**Tax Increase**"). Payment of any such Tax Increase shall be made by Lessee to Lessor within 30 days after receipt of Lessor's written statement setting forth the amount due and computation thereof. If any such taxes shall cover any period of time prior to or after the expiration or termination of this Lease, Lessee's share of such taxes shall be prorated to cover only that portion of the tax bill applicable to the period that this Lease is in effect. In the event lessee incurs a late charge on any Rent payment, Lessor may estimate the current Real Property Taxes, and require that the Tax Increase be paid in advance to Lessor by Lessee monthly in advance with the payment of the Base Rent. Such monthly payment shall be an amount equal to the amount of the estimated installment of the Tax Increase divided by the number of months remaining before the month in which said installment becomes delinquent. When the actual amount of the applicable Tax Increase is known, the amount of such equal monthly advance payments shall be adjusted as required to provide the funds needed to pay the applicable Tax Increase. If the amount collected by Lessor is insufficient to pay the Tax Increase when due, Lessee shall pay Lessor, upon demand, such additional sums as are necessary to pay such obligations. Advance payments may be intermingled with other moneys of Lessor and shall not bear interest. In the event of a Breach by Lessee in the performance of its obligations under this Lease, then any such advance payments may be treated by Lessor as an additional Security Deposit.

(b) **Additional Improvements.** Notwithstanding anything to the contrary in this Paragraph 10.2, Lessee shall pay to Lessor upon demand therefor the entirety of any increase in Real Property Taxes assessed by reason of Alterations or Utility Installations placed upon the Premises by Lessee or at Lessee's request.

10.3 **Personal Property Taxes.** Lessee shall pay, prior to delinquency, all taxes assessed against and levied upon Lessee Owned Alterations, Utility Installations, Trade Fixtures, furnishings, equipment and all personal property of Lessee. When possible, Lessee shall cause its Lessee Owned Alterations and Utility Installations, Trade Fixtures, furnishings, equipment and all other personal property to be assessed and billed separately from the real property of Lessor. If any of Lessee's said property shall be assessed with Lessor's real property, Lessee shall pay Lessor the taxes attributable to Lessee's property within 10 days after receipt of a written statement setting forth the taxes applicable to Lessee's property.

11. **Utilities and Services.** Lessee shall pay for all water, gas, heat, light, power, telephone, trash disposal and other utilities and services supplied to the Premises, together with any taxes thereon. If any such services are not separately metered or billed to Lessee, Lessee shall pay a reasonable proportion, to be determined by Lessor, of all charges jointly metered or billed. There shall be no abatement of rent and Lessor shall not be liable in any respect whatsoever for the inadequacy, stoppage, interruption or discontinuance of any utility or service due to riot, strike, labor dispute, breakdown, accident, repair or other cause beyond Lessor's reasonable control or in cooperation with governmental request or directions.

12. **Assignment and Subletting.**

12.1 **Lessor's Consent Required.**

(a) Lessee shall not voluntarily or by operation of law assign, transfer, mortgage or encumber (collectively, "**assign**" or "**assignment**") or sublet all or any part of Lessee's interest in this Lease or in the Premises without Lessor's prior written consent, which shall not be unreasonably withheld or delayed. It shall be reasonable to withhold consent if the proposed assignee or sublessee has a net worth at the time of the proposed assignment that is less than the "**Net Worth of Lessee**" as defined in Paragraph 12.1(c) at the time of execution of the Lease. In addition, assignment of the Lease to an affiliate, parent, or subsidiary shall be permitted without Landlord's consent, provided Lessee remains liable hereunder.

(b) Unless Lessee is a corporation and its stock is publicly traded on a national stock exchange, a change in the control of Lessee shall constitute an assignment requiring consent. The transfer, on a cumulative basis, of 30% or more of the voting control of Lessee shall constitute a change in control for this purpose.

(c) The involvement of Lessee or its assets in any transaction, or series of transactions (by way of merger, sale, acquisition, financing, transfer, leveraged buy-out or otherwise), whether or not a formal assignment or hypothecation of this Lease or Lessee's assets occurs, which results or will result in a reduction of the Net Worth of Lessee by an amount greater than 25% of such Net Worth as it was represented at the time of the execution of this Lease or at the time of the most recent assignment to which Lessor has consented, or as it exists immediately prior to said transaction or transactions constituting such reduction, whichever was or is greater, shall be considered an assignment of this Lease to which Lessor may withhold its consent. "**Net Worth of Lessee**" shall mean the net worth of Lessee (excluding any guarantors) established under generally accepted accounting principles.

(d) An assignment or subletting without consent shall, at Lessor's option, be a Default curable after notice per Paragraph 13.1(c), or a noncurable Breach without the necessity of any notice and grace period. If Lessor elects to treat such unapproved assignment or subletting as a noncurable Breach, Lessor may either: (i) terminate this Lease, or (ii) upon 30 days written notice, increase the monthly Base Rent to 110% of the Base Rent then in effect. Further, in the event of such Breach and rental adjustment, (i) the purchase price of any option to purchase the Premises held by Lessee shall be subject to similar adjustment to 110% of the price previously in effect, and (ii) all fixed and non-fixed rental adjustments scheduled during the remainder of the Lease term shall be increased to 110% of the scheduled adjusted rent.

(e) Lessee's remedy for any breach of Paragraph 12.1 by Lessor shall be limited to compensatory damages and/or injunctive relief.

12.2 **Terms and Conditions Applicable to Assignment and Subletting.**

(a) Regardless of Lessor's consent, no assignment or subletting shall: (i) be effective without the express written assumption by such assignee or sublessee of the obligations of Lessee under this Lease, (ii) release Lessee of any obligations hereunder, or (iii) alter the primary liability of Lessee for the payment of Rent or for the performance of any other obligations to be performed by Lessee.

(b) Lessor may accept Rent or performance of Lessee's obligations from any person other than Lessee pending approval or disapproval of an assignment. Neither a delay in the approval or disapproval of such assignment nor the acceptance of Rent or performance shall constitute a waiver or estoppel of Lessor's right to exercise its remedies for Lessee's Default or Breach.

(c) Lessor's consent to any assignment or subletting shall not constitute a consent to any subsequent assignment or subletting.

(d) In the event of any Default or Breach by Lessee, Lessor may proceed directly against Lessee, any Guarantors or anyone else responsible for the performance of Lessee's obligations under this Lease, including any assignee or sublessee, without first exhausting Lessor's remedies against any other person or entity responsible therefor to Lessor, or any security held by Lessor.

(e) Each request for consent to an assignment or subletting shall be in writing, accompanied by information relevant to Lessor's determination as to the financial and operational responsibility and appropriateness of the proposed assignee or sublessee, including but not limited to the intended use and/or required modification of the Premises, if any, together with a fee of \$500 as consideration for Lessor's considering and processing said request. Lessee agrees to provide Lessor with such other or additional information and/or documentation as may be reasonably requested. (See also Paragraph 36)

(f) Any assignee of, or sublessee under, this Lease shall, by reason of accepting such assignment or entering into such sublease, be deemed to have assumed and agreed to conform and comply with each and every term, covenant, condition and obligation herein to be observed or performed by Lessee during the term of said assignment or sublease, other than such obligations as are contrary to or inconsistent with provisions of an assignment or sublease to which Lessor has specifically consented to in writing.

(g) Lessor's consent to any assignment or subletting shall not transfer to the assignee or sublessee any Option granted to the original Lessee by this Lease unless such transfer is specifically consented to by Lessor in writing. (See Paragraph 39.2)

12.3 **Additional Terms and Conditions Applicable to Subletting.** The following terms and conditions shall apply to any subletting by Lessee of all or any part of the Premises and shall be deemed included in all subleases under this Lease whether or not expressly incorporated therein:

(a) Lessee hereby assigns and transfers to Lessor all of Lessee's interest in all Rent payable on any sublease, and Lessor may collect such Rent and apply same toward Lessee's obligations under this Lease; provided, however, that until a Breach shall occur in the performance of Lessee's obligations, Lessee may collect said Rent. In the event that the amount collected by Lessor exceeds Lessee's obligations any such excess shall be refunded to Lessee. Lessor shall not, by reason of the foregoing or any assignment of such sublease, nor by reason of the collection of Rent, be deemed liable to the sublessee for any failure of Lessee to perform and comply with any of Lessee's obligations to such sublessee. Lessee hereby irrevocably authorizes and directs any such sublessee, upon receipt of a written notice from Lessor stating that a Breach exists in the performance of Lessee's obligations under this Lease, to pay to Lessor all Rent due and to become due under the sublease. Sublessee shall rely upon any such notice from Lessor and shall pay all Rents to Lessor without any obligation or right to inquire as to whether such Breach exists, notwithstanding any claim from Lessee to the contrary.

(b) In the event of a Breach by Lessee, Lessor may, at its option, require sublessee to attorn to Lessor, in which event Lessor shall undertake the obligations of the sublessor under such sublease from the time of the exercise of said option to the expiration of such sublease; provided, however, Lessor shall not be liable for any prepaid rents or security deposit paid by such sublessee to such sublessor or for any prior Defaults or Breaches of such sublessor.

(c) Any matter requiring the consent of the sublessor under a sublease shall also require the consent of Lessor.

(d) No sublessee shall further assign or sublet all or any part of the Premises without Lessor's prior written consent.

(e) Lessor shall deliver a copy of any notice of Default or Breach by Lessee to the sublessee, who shall have the right to cure the Default of Lessee within the grace period, if any, specified in such notice. The sublessee shall have a right of reimbursement and offset from and against Lessee for any such Defaults cured by the sublessee.

### 13. **Default; Breach; Remedies.**

13.1 **Default; Breach.** A "**Default**" is defined as a failure by the Lessee to comply with or perform any of the terms, covenants, conditions or Rules and Regulations under this Lease. A "**Breach**" is defined as the occurrence of one or more of the following Defaults, and the failure of Lessee to cure such Default within any applicable grace period:

(a) The abandonment of the Premises; or the vacating of the Premises without providing a commercially reasonable level of security, or where the coverage of the property insurance described in Paragraph 8.3 is jeopardized as a result thereof, or without providing reasonable assurances to minimize potential vandalism.

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(b) The failure of Lessee to make any payment of Rent or any Security Deposit required to be made by Lessee hereunder, whether to Lessor or to a third party, when due, to provide reasonable evidence of insurance or surety bond, or to fulfill any obligation under this Lease which endangers or threatens life or property, where such failure continues for a period of 3 business days following written notice to Lessee.

(c) The failure by Lessee to provide (i) reasonable written evidence of compliance with Applicable Requirements, (ii) the rescission of an unauthorized assignment or subletting, (iii) an Estoppel Certificate, (iv) a requested subordination, (v) evidence concerning any guaranty and/or Guarantor, (vi) any document requested under Paragraph 42, or (vii) any other documentation or information which Lessor may reasonably require of Lessee under the terms of this Lease, where any such failure continues for a period of 10 days following written notice to Lessee.

(d) A Default by Lessee as to the terms, covenants, conditions or provisions of this Lease, or of the rules adopted under Paragraph 40 hereof, other than those described in subparagraphs 13.1(a), (b) or (c), above, where such Default continues for a period of 30 days after written notice; provided, however, that if the nature of Lessee's Default is such that more than 30 days are reasonably required for its cure, then it shall not be deemed to be a Breach if Lessee commences such cure within said 30 day period and thereafter diligently prosecutes such cure to completion.

(e) The occurrence of any of the following events: (i) the making of any general arrangement or assignment for the benefit of creditors; (ii) becoming a "**debtor**" as defined in 11 U.S.C. §101 or any successor statute thereto (unless, in the case of a petition filed against Lessee, the same is dismissed within 60 days); (iii) the appointment of a trustee or receiver to take possession of substantially all of Lessee's assets located at the Premises or of Lessee's interest in this Lease, where possession is not restored to Lessee within 30 days; or (iv) the attachment, execution or other judicial seizure of substantially all of Lessee's assets located at the Premises or of Lessee's interest in this Lease, where such seizure is not discharged within 30 days; provided, however, in the event that any provision of this subparagraph (e) is contrary to any applicable law, such provision shall be of no force or effect, and not affect the validity of the remaining provisions.

(f) The discovery that any financial statement of Lessee or of any Guarantor given to Lessor was materially false.

13.2 **Remedies.** If Lessee fails to perform any of its affirmative duties or obligations, within 10 days after written notice (or in case of an emergency, without notice), Lessor may, at its option, perform such duty or obligation on Lessee's behalf, including but not limited to the obtaining of reasonably required bonds, insurance policies, or governmental licenses, permits or approvals. Lessee shall pay to Lessor an amount equal to 115% of the costs and expenses incurred by Lessor in such performance upon receipt of an invoice therefor. In the event of a Breach, Lessor may, with or without further notice or demand, and without limiting Lessor in the exercise of any right or remedy which Lessor may have by reason of such Breach:

(a) Terminate Lessee's right to possession of the Premises by any lawful means, in which case this Lease shall terminate and Lessee shall immediately surrender possession to Lessor. In such event Lessor shall be entitled to recover from Lessee: (i) the unpaid Rent which had been earned at the time of termination; (ii) the worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that the Lessee proves could have been reasonably avoided; (iii) the worth at the time of award of the amount by which the unpaid rent for the balance of the term after the time of award exceeds the amount of such rental loss that the Lessee proves could be reasonably avoided; and (iv) any other amount necessary to compensate Lessor for all the detriment proximately caused by the Lessee's failure to perform its obligations

under this Lease or which in the ordinary course of things would be likely to result therefrom, including but not limited to the cost of recovering possession of the Premises, expenses of reletting, including necessary renovation and alteration of the Premises, reasonable attorneys' fees, and that portion of any leasing commission paid by Lessor in connection with this Lease applicable to the unexpired term of this Lease. The worth at the time of award of the amount referred to in provision (iii) of the immediately preceding sentence shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of the District within which the Premises are located at the time of award plus one percent. Efforts by Lessor to mitigate damages caused by Lessee's Breach of this Lease shall not waive Lessor's right to recover damages under Paragraph 12. If termination of this Lease is obtained through the provisional remedy of unlawful detainer, Lessor shall have the right to recover in such proceeding any unpaid Rent and damages as are recoverable therein, or Lessor may reserve the right to recover all or any part thereof in a separate suit. If a notice and grace period required under Paragraph 13.1 was not previously given, a notice to pay rent or quit, or to perform or quit given to Lessee under the unlawful detainer statute shall also constitute the notice required by Paragraph 13.1. In such case, the applicable grace period required by Paragraph 13.1 and the unlawful detainer statute shall run concurrently, and the failure of Lessee to cure the Default within the greater of the two such grace periods shall constitute both an unlawful detainer and a Breach of this Lease entitling Lessor to the remedies provided for in this Lease and/or by said statute.

(b) Continue the Lease and Lessee's right to possession and recover the Rent as it becomes due, in which event Lessee may sublet or assign, subject only to reasonable limitations. Acts of maintenance, efforts to relet, and/or the appointment of a receiver to protect the Lessor's interests, shall not constitute a termination of the Lessee's right to possession.

(c) Pursue any other remedy now or hereafter available under the laws or judicial decisions of the state wherein the Premises are located. The expiration or termination of this Lease and/or the termination of Lessee's right to possession shall not relieve Lessee from liability under any indemnity provisions of this Lease as to matters occurring or accruing during the term hereof or by reason of Lessee's occupancy of the Premises.

13.3 **Inducement Recapture.** Any agreement for free or abated rent or other charges, or for the giving or paying by Lessor to or for Lessee of any cash or other bonus, inducement or consideration for Lessee's entering into this Lease, all of which concessions are hereinafter referred to as "**Inducement Provisions**," shall be deemed conditioned upon Lessee's full and faithful performance of all of the terms, covenants and conditions of this Lease. Upon Breach of this Lease by Lessee, any such Inducement Provision shall automatically be deemed deleted from this Lease and of no further force or effect, and any rent, other charge, bonus, inducement or consideration theretofore abated, given or paid by Lessor under such an inducement Provision shall be immediately due and payable by Lessee to Lessor, notwithstanding any subsequent cure of said Breach by Lessee. The acceptance by Lessor of rent or the cure of the Breach which initiated the operation of this Paragraph shall not be deemed a waiver by Lessor of the provisions of this Paragraph unless specifically so stated in writing by Lessor at the time of such acceptance.

13.4 **Late Charges.** Lessee hereby acknowledges that late payment by Lessee of Rent will cause Lessor to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult to ascertain. Such costs include, but are not limited to, processing and accounting charges, and late charges which may be imposed upon Lessor by any Lender. Accordingly, if any Rent shall not be received by Lessor within 5 days after such amount shall be due more than twice in any calendar year during the term hereof, then, without any requirement for notice to Lessee, Lessee shall immediately pay to Lessor a one-time late charge equal to 10% of each such overdue amount or \$100, whichever is greater. The Parties hereby agree that such late charge represents a fair and reasonable estimate of the costs Lessor will incur by reason of such late payment. Acceptance of such late charge by Lessor shall in no event constitute a waiver of Lessee's Default or Breach with respect to such overdue amount, nor prevent the exercise of any of the other rights and remedies granted hereunder. In the event that a late charge is payable hereunder, whether or not collected, for 3 consecutive installments of Base Rent, then notwithstanding any provision of this Lease to the contrary, Base Rent shall, at Lessor's option, become due and payable quarterly in advance.

13.5 **Interest.** Any monetary payment due Lessor hereunder, other than late charges, not received by Lessor, when due as to scheduled payments (such as Base Rent) or within 30 days following the date on which it was due for non-scheduled payment, shall bear interest from the date when due, as to scheduled payments, or the 31st day after it was due as to non-scheduled payments. The interest ("**Interest**") charged shall be computed at the rate of 10% per annum but shall not exceed the maximum rate allowed by law. Interest is payable in addition to the potential late charge provided for in Paragraph 13.4.

13.6 **Breach by Lessor.**

(a) **Notice of Breach.** Lessor shall not be deemed in breach of this Lease unless Lessor fails within a reasonable time to perform an obligation required to be performed by Lessor. For purposes of this Paragraph, a reasonable time shall in no event be less than 30 days after receipt by Lessor, and any Lender whose name and address shall have been furnished Lessee in writing for such purpose, of written notice specifying wherein such obligation of Lessor has not been performed; provided, however, that if the nature of Lessor's obligation is such that more than 30 days are reasonably required for its performance, then Lessor shall not be in breach if performance is commenced within such 30 day period and thereafter diligently pursued to completion.

(b) **Performance by Lessee on Behalf of Lessor.** In the event that neither Lessor nor Lender cures said breach within 30 days after receipt of said notice, or if having commenced said cure they do not diligently pursue it to completion, then Lessee may elect to cure said breach at Lessee's expense and offset from Rent the actual and reasonable cost to perform such cure, provided however, that such offset shall not exceed an amount equal to the greater of one month's Base Rent or the Security Deposit, reserving Lessee's right to seek reimbursement from Lessor. Lessee shall document the cost of said cure and supply said documentation to Lessor.

14. **Condemnation.** If the Premises or any portion thereof are taken under the power of eminent domain or sold under the threat of the exercise of said power (collectively "**Condemnation**"), this Lease shall terminate as to the part taken as of the date the condemning authority takes title or possession, whichever first occurs. If more than 10% of the Building, or more than 25% of that portion of the Premises not occupied by any building, is taken by Condemnation, Lessee may, at Lessee's option, to be exercised in writing within 10 days after Lessor shall have given Lessee written notice of such taking (or in the absence of such notice, within 10 days after the condemning authority shall have taken possession) terminate this Lease as of the date the condemning authority takes such possession. If Lessee does not terminate this Lease in accordance with the foregoing, this Lease shall remain in full force and effect as to the portion of the Premises remaining, except that the Base Rent shall be reduced in proportion to the reduction in utility of the Premises caused by such Condemnation. Condemnation awards and/or payments shall be the property of Lessor, whether such award shall be made as compensation for diminution in value of the leasehold, the value of the part taken, or for severance damages; provided, however, that Lessee shall be entitled to any compensation for Lessee's relocation expenses, loss of business goodwill and/or Trade Fixtures, without regard to whether or not this Lease is terminated pursuant to the provisions of this Paragraph. All Alterations and Utility Installations made to the Premises by Lessee, for purposes of Condemnation only, shall be considered the property of the Lessee and Lessee shall be entitled to any and all compensation which is payable therefor. In the event that this Lease is not terminated by reason of the Condemnation, Lessor shall repair any damage to the Premises caused by such Condemnation.

15. **Brokerage Fees.**

15.1 Intentionally Deleted.

15.2 **Assumption of Obligations.** Any buyer or transferee of Lessor's interest in this Lease shall be deemed to have assumed Lessor's obligation hereunder. Brokers shall be third party beneficiaries of the provisions of Paragraphs 1.9, 15, 22 and 31. If Lessor fails to pay to Brokers any amounts due as and for brokerage fees pertaining to this Lease when due, then such amounts shall accrue Interest. In addition, if Lessor fails to pay any amounts to Lessee's Broker when due, Lessee's Broker may send written notice to Lessor and Lessee of such failure and if Lessor fails to pay such amounts

within 10 days after said notice, Lessee shall pay said monies to its Broker and offset such amounts against Rent. In addition, Lessee's Broker shall be deemed to be a third party beneficiary of any commission agreement entered into by and/or between Lessor and Lessor's Broker for the limited purpose of collecting any brokerage fee owed.

15.3 **Representations and Indemnities of Broker Relationships.** Lessee and Lessor each represent and warrant to the other that it has had no dealings with any person, firm, broker or finder (other than the Brokers, if any) in connection with this Lease, and that no one other than said named Brokers is entitled to any commission or finder's fee in connection herewith. Lessee and Lessor do each hereby agree to indemnify, protect, defend and hold the other harmless from and against liability for compensation or charges which may be claimed by any such unnamed broker, finder or other similar party by reason of any dealings or actions of the indemnifying Party, including any costs, expenses, attorneys' fees reasonably incurred with respect thereto.

16. **Estoppel Certificates.**

(a) Each Party (as "**Responding Party**") shall within 10 days after written notice from the other Party (the "**Requesting Party**") execute, acknowledge and deliver to the Requesting Party a statement in writing in form similar to the then most current "**Estoppel Certificate**" form published by the American Industrial Real Estate Association, plus such additional information, confirmation and/or statements as may be reasonably requested by the Requesting Party.

(b) If the Responding Party shall fail to execute or deliver the Estoppel Certificate within such 10 day period, the Requesting Party may execute an Estoppel Certificate stating that: (i) the Lease is in full force and effect without modification except as may be represented by the Requesting Party, (ii) there are no uncured defaults in the Requesting Party's performance, and (iii) if Lessor is the Requesting Party, not more than one month's rent has been paid in advance. Prospective purchasers and encumbrancers may rely upon the Requesting Party's Estoppel Certificate, and the Responding Party shall be estopped from denying the truth of the facts contained in said Certificate.

(c) If Lessor desires to finance, refinance, or sell the Premises, or any part thereof, Lessee and all Guarantors shall deliver to any potential lender or purchaser designated by Lessor such financial statements as may be reasonably required by such lender or purchaser, including but not limited to Lessee's financial statements for the past 3 years. All such financial statements shall be received by Lessor and such lender or purchaser in confidence and shall be used only for the purposes herein set forth.

17. **Definition of Lessor.** The term "**Lessor**" as used herein shall mean the owner or owners at the time in question of the fee title to the Premises, or, if this is a sublease, of the Lessee's interest in the prior lease. In the event of a transfer of Lessor's title or interest in the Premises or this Lease, Lessor shall deliver to the transferee or assignee (in cash or by credit) any unused Security Deposit held by Lessor. Except as provided in Paragraph 15, upon such transfer or assignment and delivery of the Security Deposit, as aforesaid, the prior Lessor shall be relieved of all liability with respect to the obligations and/or covenants under this Lease thereafter to be performed by the Lessor. Subject to the foregoing, the obligations and/or covenants in this Lease to be performed by the Lessor shall be binding only upon the Lessor as hereinabove defined.

18. **Severability.** The invalidity of any provision of this Lease, as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof.

19. **Days.** Unless otherwise specifically indicated to the contrary, the word "days" as used in this Lease shall mean and refer to calendar days.

20. **Limitation on Liability.** The obligations of Lessor under this Lease shall not constitute personal obligations of Lessor or its partners, members, directors, officers or shareholders, and Lessee shall look to the Premises, and to no other assets of Lessor, for the satisfaction of any liability of Lessor with respect to this Lease, and shall not seek recourse against Lessor's partners, members, directors, officers or shareholders, or any of their personal assets for such satisfaction.

21. **Time of Essence.** Time is of the essence with respect to the performance of all obligations to be performed or observed by the Parties under this Lease.

22. **No Prior or Other Agreements; Broker Disclaimer.** This Lease contains all agreements between the Parties with respect to any matter mentioned herein, and no other prior or contemporaneous agreement or understanding shall be effective. Lessor and Lessee each represents and warrants to the Brokers that it has made, and is relying solely upon, its own investigation as to the nature, quality, character and financial responsibility of the other Party to this Lease and as to the use, nature, quality and character of the Premises. Brokers have no responsibility with respect thereto or with respect to any default or breach hereof by either Party. The liability (including court costs and attorneys' fees), of any Broker with respect to negotiation, execution, delivery or performance by either Lessor or Lessee under this Lease or any amendment or modification hereto shall be limited to an amount up to the fee received by such Broker pursuant to this Lease; provided, however, that the foregoing limitation on each Broker's liability shall not be applicable to any gross negligence or willful misconduct of such Broker.

23. **Notices.**

23.1 **Notice Requirements.** All notices required or permitted by this Lease or applicable law shall be in writing and may be delivered in person (by hand or by courier) or may be sent by regular, certified or registered mail or U.S. Postal Service Express Mail, with postage

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prepaid, or by facsimile transmission, and shall be deemed sufficiently given if served in a manner specified in this Paragraph 23. The addresses noted adjacent to a Party's signature on this Lease shall be that Party's address for delivery or mailing of notices. Either Party may by written notice to the other specify a different address for notice, except that upon Lessee's taking possession of the Premises, the Premises shall constitute Lessee's address for notice. A copy of all notices to Lessor shall be concurrently transmitted to such Party or Parties at such addresses as Lessor may from time to time hereafter designate in writing.

23.2 **Date of Notice.** Any notice sent by registered or certified mail, return receipt requested, shall be deemed given on the date of delivery shown on the receipt card, or if no delivery date is shown, the postmark thereon. If sent by regular mail the notice shall be deemed given 48 hours after the same is addressed as required herein and mailed with postage prepaid. Notices delivered by United States Express Mail or overnight courier that guarantee next day delivery shall be deemed given 24 hours after delivery of the same to the Postal Service or courier. Notices transmitted by facsimile transmission or similar means shall be deemed delivered upon telephone confirmation of receipt (confirmation report from fax machine is sufficient), provided a copy is also delivered via delivery or mail. If notice is received on a Saturday, Sunday or legal holiday, it shall be deemed received on the next business day.

24. **Waivers.** No waiver by Lessor of the Default or Breach of any term, covenant or condition hereof by Lessee, shall be deemed a waiver of any other term, covenant or condition hereof, or of any subsequent Default or Breach by Lessee of the same or of any other term, covenant or condition hereof. Lessor's consent to, or approval of, any act shall not be deemed to render unnecessary the obtaining of Lessor's consent to, or approval of, any subsequent or similar

act by Lessee, or be construed as the basis of an estoppel to enforce the provision or provisions of this Lease requiring such consent. The acceptance of Rent by Lessor shall not be a waiver of any Default or Breach by Lessee. Any payment by Lessee may be accepted by Lessor on account of moneys or damages due Lessor, notwithstanding any qualifying statements or conditions made by Lessee in connection therewith, which such statements and/or conditions shall be of no force or effect whatsoever unless specifically agreed to in writing by Lessor at or before the time of deposit of such payment.

25. **Disclosures Regarding The Nature of a Real Estate Agency Relationship.**

(a) When entering into a discussion with a real estate agent regarding a real estate transaction, a Lessor or Lessee should from the outset understand what type of agency relationship or representation it has with the agent or agents in the transaction. Lessor and Lessee acknowledge being advised by the Brokers in this transaction, as follows:

(i) Lessor's Agent. A Lessor's agent under a listing agreement with the Lessor acts as the agent for the Lessor only. A Lessor's agent or subagent has the following affirmative obligations: To the Lessor: A fiduciary duty of utmost care, integrity, honesty, and loyalty in dealings with the Lessor. To the Lessee and the Lessor: a. Diligent exercise of reasonable skills and care in performance of the agent's duties. b. A duty of honest and fair dealing and good faith. c. A duty to disclose all facts known to the agent materially affecting the value or desirability of the property that are not known to, or within the diligent attention and observation of, the Parties. An agent is not obligated to reveal to either Party any confidential information obtained from the other Party which does not involve the affirmative duties set forth above.

(ii) Lessee's Agent. An agent can agree to act as agent for the Lessee only. In these situations, the agent is not the Lessor's agent, even if by agreement the agent may receive compensation for services rendered, either in full or in part from the Lessor. An agent acting only for a Lessee has the following affirmative obligations. To the Lessee: A fiduciary duty of utmost care, integrity, honesty, and loyalty in dealings with the Lessee. To the Lessee and the Lessor: a. Diligent exercise of reasonable skills and care in performance of the agent's duties. b. A duty of honest and fair dealing and good faith. c. A duty to disclose all facts known to the agent materially affecting the value or desirability of the property that are not known to, or within the diligent attention and observation of, the Parties. An agent is not obligated to reveal to either Party any confidential information obtained from the other Party which does not involve the affirmative duties set forth above.

(iii) Agent Representing Both Lessor and Lessee. A real estate agent, either acting directly or through one or more associate licenses, can legally be the agent of both the Lessor and the Lessee in a transaction, but only with the knowledge and consent of both the Lessor and the Lessee. In a dual agency situation, the agent has the following affirmative obligations to both the Lessor and the Lessee: a. A fiduciary duty of utmost care, integrity, honesty and loyalty in the dealings with either Lessor or the Lessee. b. Other duties to the Lessor and the Lessee as stated above in subparagraphs (i) or (ii). In representing both Lessor and Lessee, the agent may not without the express permission of the respective Party, disclose to the other Party that the Lessor will accept rent in an amount less than that indicated in the listing or that the Lessee is willing to pay a higher rent than that offered. The above duties of the agent in a real estate transaction do not relieve a Lessor or Lessee from the responsibility to protect their own interests.

Lessor and Lessee should carefully read all agreements to assure that they adequately express their understanding of the transaction. A real estate agent is a person qualified to advise about real estate. If legal or tax advice is desired, consult a competent professional.

(b) Brokers have no responsibility with respect to any default or breach hereof by either Party. The liability (including court costs and attorneys' fees), of any Broker with respect to any breach of duty, error or omission relating to this Lease shall not exceed the fee received by such Broker pursuant to this Lease; provided, however, that the foregoing limitation on each Broker's liability shall not be applicable to any gross negligence or willful misconduct of such Broker.

(c) Lessor and Lessee agree to identify to Brokers as "Confidential" any communication or information given Brokers that is considered by such Party to be confidential.

26. **No Right To Holdover.** Lessee has no right to retain possession of the Premises or any part thereof beyond the expiration or termination of this Lease. In the event that Lessee holds over, then the Base Rent shall be increased to 150% of the Base Rent applicable immediately preceding the expiration or termination. Nothing contained herein shall be construed as consent by Lessor to any holding over by Lessee.

27. **Cumulative Remedies.** No remedy or election hereunder shall be deemed exclusive but shall, wherever possible, be cumulative with all other remedies at law or in equity.

28. **Covenants and Conditions; Construction of Agreement.** All provisions of this Lease to be observed or performed by Lessee are both covenants and conditions. In construing this Lease, all headings and titles are for the convenience of the Parties only and shall not be considered a part of this Lease. Whenever required by the context, the singular shall include the plural and vice versa. This Lease shall not be construed as if prepared by one of the Parties, but rather according to its fair meaning as a whole, as if both Parties had prepared it.

29. **Binding Effect; Choice of Law.** This Lease shall be binding upon the Parties, their personal representatives, successors and assigns and be governed by the laws of the State in which the Premises are located. Any litigation between the Parties hereto concerning this Lease shall be initiated in the county in which the Premises are located.

30. **Subordination; Attornment; Non-Disturbance.**

30.1 **Subordination.** This Lease and any Option granted hereby shall be subject and subordinate to any ground lease, mortgage, deed of trust, or other hypothecation or security device (collectively, "**Security Device**"), now or hereafter placed upon the Premises, to any and all advances made on the security thereof, and to all renewals, modifications, and extensions thereof. Lessee agrees that the holders of any such Security Devices (in this Lease together referred to as "**Lender**") shall have no liability or obligation to perform any of the obligations of Lessor under this Lease. Any Lender may elect to have this Lease and/or any Option granted hereby superior to the lien of its Security Device by giving written notice thereof to Lessee, whereupon this Lease and such Options shall be deemed prior to such Security Device, notwithstanding the relative dates of the documentation or recordation thereof.

30.2 **Attornment.** In the event that Lessor transfers title to the Premises, or the Premises are acquired by another upon the foreclosure or termination of a Security Device to which this Lease is subordinated (i) Lessee shall, subject to the non-disturbance provisions of

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Paragraph 30.3, attorn to such new owner, and upon request, enter into a new lease, containing all of the terms and provisions of this Lease, with such new owner for the remainder of the term hereof, or, at the election of such new owner, this Lease shall automatically become a new Lease between Lessee and such new owner, upon all of the terms and conditions hereof, for the remainder of the term hereof, and (ii) Lessor shall thereafter be relieved of any further obligations hereunder and such new owner shall assume all of Lessor's obligations hereunder, except that such new owner shall not: (a) be liable for any act or omission of any prior lessor or with respect to events occurring prior to acquisition of ownership; (b) be subject to any offsets or defenses which Lessee might have against any prior lessor, (c) be bound by prepayment of more than one month's rent, or (d) be liable for the return of any security deposit paid to any prior lessor.

30.3 **Non-Disturbance.** With respect to Security Devices entered into by Lessor after the execution of this Lease, Lessee's subordination of this Lease shall be subject to receiving a commercially reasonable non-disturbance agreement (a "**Non-Disturbance Agreement**") from the Lender which Non-Disturbance Agreement provides that Lessee's possession of the Premises, and this Lease, including any options to extend the term hereof, will not be disturbed so long as Lessee is not in Breach hereof and attorns to the record owner of the Premises. Further, within 60 days after the execution of this Lease, Lessor shall use its commercially reasonable efforts to obtain a Non-Disturbance Agreement from the holder of any pre-existing Security Device which is secured by the Premises. In the event that Lessor is unable to provide the Non-Disturbance Agreement within said 60 days, then Lessee may, at Lessee's option, directly contact Lender and attempt to negotiate for the execution and delivery of a Non-Disturbance Agreement.

30.4 **Self-Executing.** The agreements contained in this Paragraph 30 shall be effective without the execution of any further documents; provided, however, that, upon written request from Lessor or a Lender in connection with a sale, financing or refinancing of the Premises, Lessee and Lessor shall execute such further writings as may be reasonably required to separately document any subordination, attornment and/or Non-Disturbance Agreement provided for herein.

31. **Attorneys' Fees.** If any Party or Broker brings an action or proceeding involving the Premises whether founded in tort, contract or equity, or to declare rights hereunder, the Prevailing Party (as hereafter defined) in any such proceeding, action, or appeal thereon, shall be entitled to reasonable attorneys' fees. Such fees may be awarded in the same suit or recovered in a separate suit, whether or not such action or proceeding is pursued to decision or judgment. The term, "**Prevailing Party**" shall include, without limitation, a Party or Broker who substantially obtains or defeats the relief sought, as the case may be, whether by compromise, settlement, judgment, or the abandonment by the other Party or Broker of its claim or defense. The attorneys' fees award shall not be computed in accordance with any court fee schedule, but shall be such as to fully reimburse all attorneys' fees reasonably incurred. In addition, Lessor shall be entitled to attorneys' fees, costs and expenses incurred in the preparation and service of notices of Default and consultations in connection therewith, whether or not a legal action is subsequently commenced in connection with such Default or resulting Breach (\$200 is a reasonable minimum per occurrence for such services and consultation).

32. **Lessor's Access; Showing Premises; Repairs.** Lessor and Lessor's agents shall have the right to enter the Premises at any time, in the case of an emergency, and otherwise at reasonable times after reasonable prior notice for the purpose of showing the same to prospective purchasers, lenders, or tenants, and making such alterations, repairs, improvements or additions to the Premises as Lessor may deem necessary or desirable and the erecting, using and maintaining of utilities, services, pipes and conduits through the Premises and/or other premises as long as there is no material adverse effect to Lessee's use of the Premises. All such activities shall be without abatement of rent or liability to Lessee.

33. **Auctions.** Lessee shall not conduct, nor permit to be conducted, any auction upon the Premises without Lessor's prior written consent. Lessor shall not be obligated to exercise any standard of reasonableness in determining whether to permit an auction.

34. **Signs.** Lessor may place on the Premises ordinary "For Sale" signs at any time and ordinary "For Lease" signs during the last 6 months of the term hereof. Lessee shall have the right to place signs upon the Premises without Lessor's prior written consent, provided such signs comply with all Applicable Requirements.

35. **Termination; Merger.** Unless specifically stated otherwise in writing by Lessor, the voluntary or other surrender of this Lease by Lessee, the mutual termination or cancellation hereof, or a termination hereof by Lessor for Breach by Lessee, shall automatically terminate any sublease or lesser estate in the Premises; provided, however, that Lessor may elect to continue any one or all existing subtenancies. Lessor's failure within 10 days following any such event to elect to the contrary by written notice to the holder of any such lesser interest, shall constitute Lessor's election to have such event constitute the termination of such interest.

36. **Consents.** Except as otherwise provided herein, wherever in this Lease the consent of a Party is required to an act by or for the other Party, such consent shall not be unreasonably withheld or delayed. Lessor's actual reasonable costs and expenses (including but not limited to architects', attorneys', engineers' and other consultants' fees) incurred in the consideration of, or response to, a request by Lessee for any Lessor consent, including but not limited to consents to an assignment, a subletting or the presence or use of a Hazardous Substance, shall be paid by Lessee upon receipt of an invoice and supporting documentation therefor. Lessor's consent to any act, assignment or subletting shall not constitute an acknowledgment that no Default or Breach by Lessee of this Lease exists, nor shall such consent be deemed a waiver of any then existing Default or Breach, except as may be otherwise specifically stated in writing by Lessor at the time of such consent. The failure to specify herein any particular condition to Lessor's consent shall not preclude the imposition by Lessor at the time of consent of such further or other conditions as are then reasonable with reference to the particular matter for which consent is being given. In the event that either Party disagrees with any determination made by the other hereunder and reasonably requests the reasons for such determination, the determining Party shall furnish its reasons in writing and in reasonable detail within 10 business days following such request.

37. **INTENTIONALLY OMITTED.**

38. **Quiet Possession.** Subject to payment by Lessee of the Rent and performance of all of the covenants, conditions and provisions on Lessee's part to be observed and performed under this Lease, Lessee shall have quiet possession and quiet enjoyment of the Premises during the term hereof.

39. **Options.** If Lessee is granted an Option, as defined below, then the following provisions shall apply:

39.1 **Definition. "Option"** shall mean: (a) the right to extend the term of or renew this Lease or to extend or renew any lease that Lessee has on other property of Lessor; (b) the right of first refusal or first offer to lease either the Premises or other property of Lessor; (c) the right to purchase or the right of first refusal to purchase the Premises or other property of Lessor.

39.2 **Multiple Options.** In the event that Lessee has any multiple Options to extend or renew this Lease, a later Option cannot be exercised unless the prior Options have been validly exercised.

39.3 **Effect of Default on Options.**

(a) Lessee shall have no right to exercise an Option: (i) during the period commencing with the giving of any notice of Default and continuing until said Default is cured, (ii) during the period of time any Rent is unpaid (without regard to whether notice thereof is given Lessee), (iii) during the time Lessee is in Breach of this Lease, or (iv) in the event that Lessee has been given 3 or more notices of separate Default, whether or not the Defaults are cured, during the 12 month period immediately preceding the exercise of the Option.

(b) The period of time within which an Option may be exercised shall not be extended or enlarged by reason of Lessee's inability to exercise an Option because of the provisions of Paragraph 39.4(a).

(c) An Option shall terminate and be of no further force or effect, notwithstanding Lessee's due and timely exercise of the Option, if, after such exercise and prior to the commencement of the extended term or completion of the purchase, (i) Lessee fails to pay Rent for a period of 30 days after such Rent becomes due (without any necessity of Lessor to give notice thereof), or (ii) if Lessee commits a Breach of this Lease.



40. **Multiple Buildings.** If the Premises are a part of a group of buildings controlled by Lessor, Lessee agrees that it will abide by and conform to all reasonable rules and regulations which Lessor may make from time to time for the management, safety, and care of said properties, including the care and cleanliness of the grounds and including the parking, loading and unloading of vehicles, and to cause its employees, suppliers, shippers, customers, contractors and invitees to so abide and conform. Lessee also agrees to pay its fair share of common expenses incurred in connection with such rules and regulations.

41. **Security Measures.** Lessee hereby acknowledges that the Rent payable to Lessor hereunder does not include the cost of guard service or other security measures, and that Lessor shall have no obligation whatsoever to provide same. Lessee assumes all responsibility for the protection of the Premises, Lessee, its agents and invitees and their property from the acts of third parties.

42. **Reservations.** Lessor reserves to itself the right, from time to time, to grant, without the consent or joinder of Lessee, such easements, rights and dedications that Lessor deems necessary, and to cause the recordation of parcel maps and restrictions, so long as such easements, rights, dedications, maps and restrictions do not unreasonably interfere with the use of the Premises by Lessee. Lessee agrees to sign any documents reasonably requested by Lessor to effectuate any such easement rights, dedication, map or restrictions.

43. **Performance Under Protest.** If at any time a dispute shall arise as to any amount or sum of money to be paid by one Party to the other under the provisions hereof, the Party against whom the obligation to pay the money is asserted shall have the right to make payment "under protest" and such payment shall not be regarded as a voluntary payment and there shall survive the right on the part of said Party to institute suit for recovery of such sum. If it shall be adjudged that there was no legal obligation on the part of said Party to pay such sum or any part thereof, said Party shall be entitled to recover such sum or so much thereof as it was not legally required to pay.

44. **Authority; Multiple Parties; Execution.**

(a) If either Party hereto is a corporation, trust, limited liability company, partnership, or similar entity, each individual executing this Lease on behalf of such entity represents and warrants that he or she is duly authorized to execute and deliver this Lease on its behalf. Each Party shall, within 30 days after request, deliver to the other Party satisfactory evidence of such authority.

(b) If this Lease is executed by more than one person or entity as "Lessee", each such person or entity shall be jointly and severally liable hereunder. It is agreed that any one of the named Lessees shall be empowered to execute any amendment to this Lease, or other document ancillary thereto and bind all of the named Lessees, and Lessor may rely on the same as if all of the named Lessees had executed such document.

(c) This Lease may be executed by the Parties in counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

45. **Conflict.** Any conflict between the printed provisions of this Lease and typewritten or handwritten provisions shall be controlled by the typewritten or handwritten provisions.

46. **Offer.** Preparation of this Lease by either Party or their agent and submission of same to the other Party shall not be deemed an offer to lease to the other Party. This Lease is not intended to be binding until executed and delivered by all Parties hereto.

47. **Amendments.** This Lease may be modified only in writing, signed by the Parties in interest at the time of the modification. As long as they do not materially change Lessee's obligations hereunder, Lessee agrees to make such reasonable non-monetary modifications to this Lease as may be reasonably required by a Lender in connection with the obtaining of normal financing or refinancing of the Premises.

48. **Waiver of Jury Trial. THE PARTIES HEREBY WAIVE THEIR RESPECTIVE RIGHTS TO TRIAL BY JURY IN ANY ACTION OR PROCEEDING INVOLVING THE PROPERTY OR ARISING OUT OF THIS AGREEMENT. Each Party executing this Agreement has been advised and understands that this provision is not required by law to be a part of the Agreement but is subject to negotiation between the Parties.**

48.1 **Each Party to this Agreement hereby waives his/its right to a jury trial of any controversy, dispute or claim or whatever nature arising out of, in connection with or in relation to the interpretation, performance or breach of this Agreement, including any claim based on contract, tort, or statute.**

48.2 **Notice: By initialing in the space below, you are stating that you have read all of the terms of the "Waiver of Jury Trial" provision of this agreement and that you are agreeing that any dispute arising out of or related to the matters included in the "Waiver of Jury Trial" provision shall be decided by a judge, as provided by California law, and you are giving up any rights you might possess to have the controversy, claim, or dispute litigated in a jury trial; by initialing in the space below, you are giving up your right to a jury trial. Your agreement to this provision is voluntary.**

48.3 **We have read and understand the foregoing and agree to submit all controversies, disputes or claims of, in connection with or in relation to the interpretation, performance, or breach of this Agreement, including any claim based on contract, tort, or statute included in the "Waiver of Jury Trial" provision to a judge.**

Lessee's Initials:

Lessor's Initials:

49. **Mediation and Arbitration of Disputes.** An Addendum requiring the Mediation and/or the Arbitration of all disputes between the Parties and/or Brokers arising out of this Lease  is or is not attached to this Lease. Prior to filing any action or lawsuit, any controversy, dispute or claim of whatever nature arising out of, in connection with or in relation to the interpretation, performance or breach of this Agreement, including any claim based on contract, tort, or statute, a Party to this Agreement must first attempt a good faith mediation before a retired judge or justice from the JAMS panel in accordance with the then existing Rules of Practice and Procedure of JAMS, or as may otherwise be mutually agreed by the Parties. Failure of any Party to participate in the mediation process shall result in a forfeiture of the nonparticipating Party of the right to prosecute or defend the claim which is the subject of the action or lawsuit.

50. **Americans with Disabilities Act.** Since compliance with the Americans with Disabilities Act (ADA) is dependent upon Lessee's specific use of the Premises, Lessor makes no warranty or representation as to whether or not the Premises comply with ADA or any similar legislation. In the event that Lessee's use of the Premises requires modifications or additions to the Premises in order to be in ADA compliance, Lessee agrees to make any such necessary modifications and/or additions at Lessee's expense.

LESSOR AND LESSEE HAVE CAREFULLY READ AND REVIEWED THIS LEASE AND EACH TERM AND PROVISION CONTAINED HEREIN, AND BY THE EXECUTION OF THIS LEASE SHOW THEIR INFORMED AND VOLUNTARY CONSENT THERETO. THE PARTIES HEREBY

AGREE THAT, AT THE TIME THIS LEASE IS EXECUTED, THE TERMS OF THIS LEASE ARE COMMERCIALY REASONABLE AND EFFECTUATE THE INTENT AND PURPOSE OF LESSOR AND LESSEE WITH RESPECT TO THE PREMISES.

**ATTENTION: NO REPRESENTATION OR RECOMMENDATION IS MADE BY THE AMERICAN INDUSTRIAL REAL ESTATE ASSOCIATION OR BY ANY BROKER AS TO THE LEGAL SUFFICIENCY, LEGAL EFFECT, OR TAX CONSEQUENCES OF THIS LEASE OR THE TRANSACTION TO WHICH IT RELATES. THE PARTIES ARE URGED TO:**

1. SEEK ADVICE OF COUNSEL AS TO THE LEGAL AND TAX CONSEQUENCES OF THIS LEASE.

2. RETAIN APPROPRIATE CONSULTANTS TO REVIEW AND INVESTIGATE THE CONDITION OF THE PREMISES. SAID INVESTIGATION SHOULD INCLUDE BUT NOT BE LIMITED TO: THE POSSIBLE PRESENCE OF HAZARDOUS SUBSTANCES, THE ZONING OF THE PREMISES, THE STRUCTURAL INTEGRITY, THE CONDITION OF THE ROOF AND OPERATING SYSTEMS, AND THE SUITABILITY OF THE PREMISES FOR LESSEE'S INTENDED USE.

**WARNING: IF THE PREMISES IS LOCATED IN A STATE OTHER THAN CALIFORNIA, CERTAIN PROVISIONS OF THE LEASE MAY NEED TO BE REVISED TO COMPLY WITH THE LAWS OF THE STATE IN WHICH THE PREMISES IS LOCATED.**

The Parties hereto have executed this Lease at the place and on the dates specified above their respective signatures.

Executed at: San Francisco	Executed at: San Francisco
on: February 23, 2004	on: February 23, 2004
By LESSOR: William Cash Forman	By LESSEE: Hoefler, Inc.
By: /s/ William Cash Forman	By: /s/ Hugh Douglas Jr.
Name Printed: William Cash Forman	Name Printed: Hugh Douglas Jr.
Title: Owner	Title: Managing Director
By:	By:
Name Printed:	Name Printed:
Title:	Title:
Address:	Address:
Telephone/Facsimile: 415 648-2400	Telephone/Facsimile: 415 550-3431
Federal ID No.	Federal ID No. 200277014

BROKER: HC&M Commercial Properties, Inc.	BROKER: GVA Whitney Cressman
Attn: David Becker	Attn: James Bennett
Title:	Title: Senior Advisor
Address: 1234 Mariposa Street	Address: 505 Sansome Street, Suite 300
San Francisco, CA 94107	San Francisco, CA 94111
Telephone/Facsimile: 415-865-3740/415-865-3753	Telephone/Facsimile: 415-229-8948/415-229-8987
Federal ID No.	Federal ID No.

**NOTE:** These forms are often modified to meet the changing requirements of law and industry needs. Always write or call to make sure you are utilizing the most current form: AMERICAN INDUSTRIAL REAL ESTATE ASSOCIATION, 700 So. Flower Street, Suite 600, Los Angeles, California 90017. (213) 687-8777. Fax No. (213) 687-8616

**Addendum to Standard Industrial/Commercial Single-Tenant Lease-Gross Dated October 23, 2003, between William Cash Forman (Lessor) and Hoefler, Inc. (Lessee), For the Premises Known as 953 Indiana Street, San Francisco**

In the event of any conflict or inconsistency between the printed provisions of the Lease Agreement and the provisions of this Addendum, the provisions of this Addendum shall control.

**51. Lease Term Rent Table.**

A base rent of \$16,995.00 paid monthly with three and a half percent (3.5%) annual increases over the ten (10) year term.

Year	Monthly Rent
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5/23/2004 – 2/28/2005:	\$	16,995.00
3/1/2005 – 2/28/2006:	\$	17,590.00
3/1/2006 – 2/28/2007:	\$	18,205.00
3/1/2007 – 2/29/2008:	\$	18,843.00
3/1/2008 – 2/28/2009:	\$	19,502.00
3/1/2009 – 2/28/2010:	\$	20,185.00
3/1/2010 – 2/28/2011:	\$	20,891.00
3/1/2011 – 2/29/2012:	\$	21,622.00
3/1/2012 – 2/28/2013:	\$	22,379.00
3/1/2013 – 2/28/2014:	\$	23,162.00

**52. Prior Occupancy.**

Lessee shall have the right to occupy said Premises as of the date of execution of this Lease by Lessor. Lessee shall pay no base rent prior to May 23, 2004. During this time, all provisions of the Lease (including but not limited to the obligation to pay insurance premiums and to maintain the Premises), except the provisions relating to rent, shall be in full force and effect.

**53. Tenant Improvement Allowance.**

Lessor shall provide Lessee with a base building improvement allowance of Seventy-Five Thousand Dollars (\$75,000.00). Lessee shall undertake and complete the following work ("Lessee's Work"):

- A. Construct a loading dock with new access door
- B. Provide an ADA accessible entrance to building
- C. Provide ADA compliant restrooms
- D. Repair and re-stripe parking area as per their requirements and City code
- E. Provide additional floor load capability
- F. Ensure the operation of all plumbing fixtures as are currently in the premises
- G. Ensure the operation of existing electrical system
- H. Ensure the operation of the HVAC equipment to their satisfaction
- I. Any other improvements which Lessee deems necessary to make the Premises ready for Tenant's occupancy, all as shown on the plans previously submitted to Lessor; provided, however, that such improvements shall be limited in scope so that the improvements shall not trigger any seismic upgrade requirements to the Building pursuant to all Applicable Requirements.

Upon receipt by Lessor of Lessee's demand for reimbursement after substantial completion of all of the above work, Lessor shall have 30 days to make reimbursement payment to Lessee. In the event Lessor fails to make such payment, in addition to any and all other remedies Lessee may have for non-payment thereof, Lessee may deduct and setoff such Tenant Improvement Allowance amount against future Rent and other charges due and owing hereunder.

Notwithstanding anything contained herein to the contrary, any and all seismic improvements to the Premises required by the City of San Francisco prior to Lessee's occupancy or as a result of Lessee's Work or occupancy shall be undertaken by Lessor and completed by Lessor at Lessor's sole cost and expense. In the event Lessee changes its use of the Premises or performs any work after the execution of the Lease that is not a part of Lessee's Work, which change or work triggers any seismic upgrade requirements to the

Building pursuant to all Applicable Requirements, said upgrade requirements shall be performed by Lessee at its sole cost and expense.

**54. Broker Commission.**

Upon mutual execution of a formal Lease, Lessor shall compensate brokers with a commission based on the below listed schedule. The commission shall be split equally (50/50) between Whitney Cressman and HC&M Commercial Properties, Inc.:

Rent	X Months	Total	X%=	Commission
\$16,995.00	12	\$ 203,940	6%	\$ 12,236.40
\$17,590.00	12	\$ 211,077	6%	\$ 12,664.67
\$18,205.00	12	\$ 218,465	5%	\$ 10,923.28
\$18,843.00	12	\$ 226,111	5%	\$ 11,305.60
\$19,502.00	12	\$ 234,025	4%	\$ 9,361.03
\$20,185.00	12	\$ 242,216	3%	\$ 7,266.50
\$20,891.00	12	\$ 250,694	3%	\$ 7,520.83
\$21,622.00	12	\$ 259,468	3%	\$ 7,784.06
\$22,379.00	12	\$ 268,550	3%	\$ 8,056.50
\$23,162.00	12	\$ 277,949	3%	\$ 8,338.48
<b>Total lease consideration:</b>		<b>\$ 2,392,500</b>		
<b>Total commission due:</b>				<b>\$ 95,457.35</b>

Commission fee to be due as follows:

- a) 50% due upon lease signing,
- b) 50% (final) due at the first month of the term (3/1/2004)

Should the option to extend be exercised, Lessor shall compensate above listed brokers with a commission based on the following schedule upon written notice of Lessee exercising said option:

2.5% of the rent for the five-year term.

**55. Termination Right.**

Notwithstanding anything contained in the Lease to the contrary, Lessee shall have the right to terminate this Lease at any time after the seventh (7th) anniversary of the Commencement Date by delivery of written notice to Lessor at least one hundred eighty (180) days prior to the effective date of such termination and the payment of a termination fee equal to the sum of (i) the unamortized portion of the Tenant Improvement Allowance as of the effective date of such termination, plus (ii) the amount of any leasing commission to be paid by Lessor after the date of the lease termination applicable to the then remaining lease term.

**56. Lessor's Work.**

Lessor has notified Lessee that Lessor will perform certain seismic repair work to the Building ("**Lessor's Work**"), in Lessor's sole discretion, commencing on or near the date of the full execution of this Lease, and to be completed within the first year of the term, more or less. Lessor's Work shall generally consist of installing lateral tie-ins along the roof perimeter and shear bolting of ledgers to concrete walls of the Building. As a result, Lessor's Work may be performed simultaneously with the work to be performed by Lessee pursuant to Paragraph 53, above, at the Premises ("**Lessee's Work**"). To the extent commercially reasonable, Lessor's and Lessee's contractors shall perform their respective work in a manner and at times which do not impede or delay the other's contractor in the completion of the Premises as provided in this Lease. Any such delays in the completion of the Premises shall not delay the Commencement Date (Paragraph 1.3) nor the date upon which Base Rent shall commence (Paragraph 1.5), nor any other time for performance by Lessee of any of the provisions of this Lease. Any damage to any of Lessor's Work caused by Lessee's contractor shall be repaired to Lessor's reasonable satisfaction at the sole cost and expense of Lessee.

## SUBSIDIARIES OF THE REGISTRANT

HBIO Securities Corp. (United States)  
Harvard Apparatus FSC, Inc. (U.S. Virgin Islands)  
Warner Instruments LLC (United States)  
Union Biometrica, Inc. (United States)  
Harvard Apparatus, Ltd. (United Kingdom)  
Harvard Apparatus, SARL (France)  
Biochrom Ltd. (United Kingdom)  
Scie-Plas Ltd. (United Kingdom)  
Asys Hitech GmbH (Austria)  
Hugo Sachs Elektronik Harvard Apparatus GmbH (Germany)  
Union Biometrica GmbH (Germany)  
Union Biometrica NV (Belgium)  
Ealing Scientific Ltd. Canada (doing business as Harvard Apparatus, Canada) (Canada)  
Genomic Solutions, Inc. (United States)  
Cartesian Technology, Inc. (United States)  
Genomic Solutions, Ltd. (United Kingdom)  
Genomic Solutions KK (Japan)  
Genomic Solutions Canada Inc. (United States)  
Genomic Solutions (CDN), Inc. (Canada)  
Genomics Solutions Acquisitions Ltd. (doing business as BioRobotics) (United Kingdom)  
Walden Precision Apparatus (United Kingdom)  
Hoefer, Inc. (United States)

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## Independent Auditors' Consent

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

We consent to the incorporation by reference in the registration statements (No.'s 333-53848 and 333-104544) on Form S-8 of Harvard Bioscience Inc., and subsidiaries of our report dated February 13, 2004, except as to Note 19 which is as of March 3, 2004, with respect to the consolidated balance sheets of Harvard Bioscience Inc., and subsidiaries as of December 31, 2003 and 2002, 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, 2003, which report appears in the December 31, 2003, annual report on Form 10-K of Harvard Bioscience Inc., and subsidiaries.

Our report refers to the adoption of Statement of Financial Accounting Standards No. 142, "Goodwill and Other Intangible Assets".

/s/ KPMG LLP

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Boston, Massachusetts  
March 12, 2004

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## Certification

I, Susan Luscinski, certify that:

1. I have reviewed this annual report on Form 10-K 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)) 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. [Omitted pursuant to SEC Release Nos. 33-8238 and 34-47986];
  - 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: March 15, 2004

/s/ Susan Luscinski  
Susan Luscinski  
Chief Financial Officer

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## Certification

I, Chane Graziano, certify that:

1. I have reviewed this annual report on Form 10-K 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)) 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. [Omitted pursuant to SEC Release Nos. 33-8238 and 34-47986];
  - 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: March 15, 2004

/s/ Chane Graziano  
Chane Graziano  
Chief Executive Officer

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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 for the year ended December 31, 2003 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: March 15, 2004

/s/ Susan Luscinski

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Name: Susan Luscinski

Title: Chief Financial Officer

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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 for the year ended December 31, 2003 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: March 15, 2004

/s/ Chane Graziano

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Name: Chane Graziano

Title: Chief Executive Officer

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