AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON OCTOBER 25, 2000

REGISTRATION STATEMENT NO. 333-45996

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SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 1
TO
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

HARVARD BIOSCIENCE, INC.
(Exact Name of Registrant as Specified in its Charter)

DELAWARE	3826	04-3306140
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

84 OCTOBER HILL ROAD
HOLLISTON, MASSACHUSETTS 01746-1371
(508) 893-8066
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive office)

CHANE GRAZIANO
CHIEF EXECUTIVE OFFICER
HARVARD BIOSCIENCE, INC.
84 OCTOBER HILL ROAD
HOLLISTON, MASSACHUSETTS 01746-1371
(508) 893-8066
(Name, address, including zip code, and telephone number, including area code, of agent for service)

COPIES TO:

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GOODWIN, PROCTER & HOAR LLP	JOHN J. CHENEY, ESQ.
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BOSTON, MASSACHUSETTS 02109-2881	ONE FINANCIAL CENTER
(617) 570-1000	BOSTON, MASSACHUSETTS 02111
	(617) 542-6000

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after this Registration Statement becomes effective.

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

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

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

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

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

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED(1)	PROPOSED MAXIMUM OFFERING PRICE PER SHARE(2)	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(2)	AMOUNT OF REGISTRATION FEE(3)
Common Stock, par value $0.01 per share.....	7,359,950	$13.00	$95,679,350	$25,260

(1) Includes 937,500 shares of Common Stock which the underwriters have the option to purchase solely to cover over-allotments, if any.

(2) Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933.

(3) Includes $19,800 paid prior to the initial filing of this registration statement and $5,460 being paid in connection with this pre-effective amendment.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE SEC, ACTING PURSUANT TO SECTION 8(a), MAY DETERMINE.

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THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. WE MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES, AND IT IS NOT SOLICITING OFFERS TO BUY THESE SECURITIES IN ANY STATE IN WHICH THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION, DATED OCTOBER 25, 2000

PROSPECTUS

[THOMAS WEISEL PARTNERS LLC LOGO]

[HARVARD BIOSCIENCE LOGO]

6,422,450 SHARES
COMMON STOCK

- ---

We are selling 6,250,000 shares of our common stock and the selling stockholder identified in this prospectus is offering an additional 172,450 shares. See "Principal and Selling Stockholders." We will not receive any of the proceeds from the sale of shares by the selling stockholder. We have granted the underwriters a 30-day option to purchase up to an additional 937,500 shares to cover over-allotments, if any.

This is an initial public offering of our common stock. We currently expect the initial public offering price to be between $11.00 and $13.00 per share. We have applied for approval for quotation of our common stock on the Nasdaq National Market under the symbol "HBIO."

- ---

INVESTING IN OUR COMMON STOCK INVOLVES RISKS. SEE "RISK FACTORS" ON PAGE 6.

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	PER SHARE	TOTAL
Public offering price	$	$
Underwriting discount	$	$
Proceeds, before expenses, to us	$	$
Proceeds, before expenses, to the selling stockholder	$	$

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

- ---

THOMAS WEISEL PARTNERS LLC

DAIN RAUSCHER WESSELS

ING BARINGS

The date of this prospectus is , 2000

EDGAR GRAPHICS DESCRIPTIONS

INSIDE FRONT COVER-GATEFOLD

Pages 2 and 3: Gatefold has title "Harvard Bioscience Products and the Bottlenecks in Post-Genomics Drug Discovery" at the top. Below these words is a process flow diagram illustrating the drug discovery process and the key bottlenecks within this process. The diagram begins on the upper left portion of the gatefold and flows horizontally to the upper right portion of the gatefold. Below and to the right of the diagram is an orange arrow indicating that orange portions of the diagram represent bottlenecks in the drug discovery process. The diagram is initially split into two parallel tracks which merge into a single track near the middle of the pages as the flow diagram moves to the right. The upper track of the diagram is titled "Compound Development" and includes a green arrow titled "Compound Libraries." Below the arrow is a bullet point followed by the words "Combinatorial Chemistry." The lower track of the diagram is titled "Target Discovery" and includes two arrows. The first arrow is green and is titled "Target Identification." Below this arrow is a bullet point followed by the word "Genomics." The next arrow to the right is orange and is titled "Target Validation." Below this arrow is a bullet point followed by the word "Proteomics." Following the "Compound Libraries" arrow on the upper track and the "Target Validation" arrow on the lower track, the two tracks of the diagram combine and include green and orange arrows to illustrate the remaining stages and key bottlenecks in the drug discovery process. The individual arrows from left to right include an orange arrow titled "Assay Development" followed by a green arrow titled "High Throughput Screening." These two arrows in the diagram appear under the title "Primary Screening." To the right of the "High Throughput Screening" arrow is an orange arrow titled "Lead Optimization" followed by an orange arrow titled "ADMET Screening." These two arrows in the diagram appear under the title "Secondary Screening." To the right of the "ADMET Screening" arrow is a green arrow titled "Clinical Trials," the final arrow in the process flow diagram.

The lower portion of the gatefold consists of product descriptions. The lower left portion begins with the words "Protein Purification" with the following product photos and short descriptions appearing below "Protein Purification." A drawing of a pipette tip is followed by the words "PrepTip-TM Coated pipette tips for the purification of protein samples as small as 1ml." Below this is a photo of spin columns followed by the words "UltraMicro Spin Columns Loaded spin columns for the purification of protein samples as small as 5ml." Below this is a photo of disposable dialyzers followed by the words "Disposable Dialyzers For the purification of protein samples as small as 1ml." Below this are the words "Protein Analysis" with the following product photos and short descriptions appearing below "Protein Analysis." A photo of a DNA/RNA/protein calculator followed by the words "GeneQuant Pro-TM DNA/RNA/Protein calculators." Below this are photos of a purple spectrophotometer, a yellow spectrophotometer and a green spectrophotometer followed by the words "UltroSpec-TM Range of spectrophotometers for molecular biology." Below this is a photo of an amino acid analysis system followed by the words "Biochrom-TM 20 Amino Acid Analysis System."

The lower right portion begins with the word "Absorption." Below this is a photo of an absorption measurement chamber followed by the words "NaviCyte-TM Absorption measurement chambers." Below this is the word "Distribution" with a photo of an equilibrium dialysis plate and followed by the words "96 Well Equilibrium Dialysis Plate Equilibrium dialysis plate for serum protein binding assays." Below this are the words "Metabolism and Elimination" with a photo of an isolated organ system and followed by the words "Isolated Organ Systems Liver and kidney systems are used for studying metabolism and elimination." Below this is the word "Toxicology" with a photo of a desktop computer and the ScanTox product followed by the words "ScanTox-TM In vitro toxicology assay." Below this is a photo of an infusion pump followed by the words "PHD 2000 Infusion pump for toxicology testing."

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PROSPECTUS SUMMARY

THIS SUMMARY HIGHLIGHTS INFORMATION CONTAINED ELSEWHERE IN THIS PROSPECTUS. YOU SHOULD READ THE ENTIRE PROSPECTUS CAREFULLY, INCLUDING THE "RISK FACTORS" SECTION.

OUR COMPANY

We are a global developer, manufacturer and marketer of innovative, enabling tools used in drug discovery research at pharmaceutical and biotechnology companies, universities and government laboratories. We sell approximately 10,000 products to more than 5,000 customers in over 60 countries. Our proprietary products accounted for approximately 82% of our revenues for the nine months ended September 30, 2000. We have designed our tools to accelerate the speed and to reduce the cost at which our customers can discover and commercialize new drugs. By providing research tools, we participate in the revolutions in genomics, the study of genes, and proteomics, the study of proteins, without bearing the risks inherent in attempting to discover new drugs.

Since our reorganization in March 1996, we have focused on developing tools to alleviate two critical bottlenecks in the drug discovery process:

- PROTEIN PURIFICATION, which is the removal of contaminants such as salts, buffers, detergents and cellular debris from a protein sample, and

- ADMET SCREENING, which is the testing of the absorption, distribution, metabolism, elimination and toxicology properties of drug candidates.

Our proteomics products are tools that allow researchers to purify and analyze proteins contained in a sample. Our ADMET screening products are tools that enable researchers to test drug candidates to determine their absorption, distribution, metabolism, elimination and toxicology properties prior to conducting costly clinical trials.

We market our products primarily through our 1,000 page catalog to approximately 100,000 researchers worldwide. Our catalog is also available on our website. We distribute most of our products directly through our operations in the United States, the United Kingdom, Germany, France and Canada. In addition to our catalog distribution channel, we have a long-standing distribution and marketing relationship with Amersham Pharmacia Biotech, or APBiotech, one of the largest companies in the life sciences industry.

OUR OPPORTUNITY

Drug discovery is a time-consuming and costly process. In the pre-genomics era, the compound development, primary screening and clinical trials stages were bottlenecks in this process. The recent successes of genomics, combinatorial chemistry (the automated production of large numbers of chemical compounds) and high throughput screening have alleviated the bottlenecks at the compound development and primary screening stages. However, these bottlenecks have been replaced by bottlenecks at later stages in the drug discovery process. Our opportunity lies in alleviating these bottlenecks with products that increase the productivity and reduce the cost of drug discovery.

OUR PRODUCTS

We have a broad array of established products for proteomics and ADMET screening. We believe our products offer drug discovery researchers the most comprehensive protein purification and

ADMET screening solutions. In the past two years, we have expanded our product base by introducing the following proprietary tools:

PROTEIN PURIFICATION:

- specially coated pipette tips, which are small plastic tubes coated on the inside with a material that selectively extracts proteins but not contaminants,

- micro spin columns, which are small plastic tubes partially filled with a material that selectively extracts proteins but not contaminants, and

- micro dialyzers, which are small plastic tubes each containing a dialysis membrane which allows small molecules to pass through but retains large molecules such as proteins.

ADMET SCREENING:

- NaviCyte diffusion chambers, which measure drug absorption by simulating membranes in the human body,

- small plastic plates with 96 wells, which each contain a dialysis membrane that allows small molecules to pass through but retains large molecules such as proteins, and

- ScanTox instruments, which enable toxicology testing without the use of animals.

In protein purification, these new products increase productivity and reduce cost by avoiding the cumbersome sample handling steps required by current technology and by being compatible with automated liquid-handling robots. Many of the products are available in 96 well plate formats. In ADMET screening, these new products lower cost and increase automation by using molecular, cellular, tissue and organ based assays to reduce the use of live animals.

In addition to our proprietary products, we provide a broad selection of non-proprietary products that are frequently used in conjunction with our proprietary products. We seek to be a single source for our customers' product needs in protein purification and ADMET screening.

OUR STRATEGY

Our goal is to become the leading provider of innovative, enabling technologies and products for proteomics and ADMET research in the drug discovery process. Key elements of our strategy are to:

- establish our new proteomics and ADMET screening products as industry standards,

- launch a broad range of innovative new tools for drug discovery,

- leverage our existing distribution and marketing channels,

- provide a single source of tools for our customers' research needs in proteomics and ADMET screening, and

- acquire complementary technologies.

We organized our company as a Massachusetts corporation on March 7, 1996 in connection with our purchase of a portion of the assets of Harvard Apparatus, a business which, with its predecessors, had been in existence since 1901. We will be reincorporated by merger in Delaware prior to the closing of this offering. In connection with the reincorporation, we will change our corporate name from Harvard Apparatus, Inc. to Harvard Bioscience, Inc. Our principal executive offices are located at 84 October Hill Road, Holliston, Massachusetts 01746. Our telephone number at that location is (508) 893-8066 and our Internet address is www.harvardbioscience.com. The information contained on our website is not part of this prospectus.

We have six wholly-owned subsidiaries, Biochrom Ltd. (United Kingdom), Harvard Apparatus Limited (United Kingdom), Hugo Sachs Elektronik-Harvard Apparatus GmbH (Germany), Harvard Apparatus S.A.R.L. (France), Harvard Apparatus FSC, Inc. (United States) and Ealing Scientific Ltd. (Canada).

The names Harvard Bioscience and Harvard Apparatus and our logo are names and trademarks that belong to us. We have the rights to numerous trademarks and trade names including AmiKa, Biochrom, CPK, GeneQuant, GeneQuantPro, NaviCyte, NovaSpec, PrepTip, PureTip, ScanTox, Stronghold and UltroSpec. This prospectus also contains the trademarks and trade names of other entities that are the property of their respective owners. We have no affiliation with Harvard University.

THE OFFERING

Common stock offered by us	6,250,000 shares
Common stock offered by our president as a selling stockholder	172,450 shares
Common stock outstanding after the offering	24,782,422 shares
Use of proceeds	For payment of existing debt, redemption of our series A redeemable preferred stock, potential acquisitions, working capital and general corporate purposes.
Proposed Nasdaq National Market symbol	HBIO

The above information is based on 18,532,422 shares outstanding as of October 15, 2000 and excludes:

- 599,096 shares issuable upon exercise of options then outstanding at a weighted average exercise price of $1.00 per share.

Unless otherwise noted, this prospectus assumes:

- no exercise of the underwriters' over-allotment,
- an assumed initial offering price of $12.00 per share,
- a 19.71-for-1 stock split of our common stock effected in connection with this offering,
- our reincorporation by merger in Delaware and our related name change prior to the closing of this offering,
- the redemption of our outstanding series A redeemable preferred stock upon the closing of this offering,
- the automatic conversion of our outstanding series B convertible preferred stock into 955,935 shares of our common stock upon the closing of this offering,
- the issuance of 8,509,905 shares of our common stock upon exercise of all outstanding warrants at a weighted average exercise price of $0.0005 per share prior to the closing of this offering, and
- the amendment and restatement of our certificate of incorporation in connection with this offering.

SUMMARY FINANCIAL DATA

	PREDECESSOR COMPANY FISCAL YEAR ENDED DECEMBER 31, 1995	PREDECESSOR COMPANY FOR THE PERIOD FROM JANUARY 1, 1996 TO MARCH 14, 1996	FOR THE PERIOD FROM INCEPTION MARCH 15, 1996 TO DECEMBER 31, 1996
	(UNAUDITED)	(UNAUDITED)	
	(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)		
STATEMENT OF OPERATIONS DATA:			
Net sales	$ 10,032	$ 1,989	$ 8,198
Cost of goods sold	5,286	1,059	4,080
Stock compensation expense	--	--	--
Gross profit	4,746	930	4,118
Other operating expenses	4,252	810	3,141
Stock compensation expense	--	--	--
Operating income (loss)	494	120	977
Other (expense) income:			
Common stock warrant interest expense	--	--	--
Interest expense, net	(472)	(90)	(177)
Amortization of deferred financing costs	--	--	--
Other	(62)	(139)	98
Other expense, net	(534)	(229)	(79)
(Loss) income before income taxes	(40)	(109)	898
Income taxes	85	--	362
Net (loss) income	$ (125)	$ (109)	$ 536
Preferred stock dividends	--	--	(97)
Net (loss) income available to common stockholders	$ (125)	$ (109)	$ 439
(Loss) income per share:			
Basic	$ (0.01)	$ (0.01)	$ 0.04
Diluted	$ (0.01)	$ (0.01)	$ 0.02
Weighted average common shares:			
Basic	10,259,410	10,259,410	10,259,410
Diluted	10,259,410	10,259,410	20,241,145
Pro forma (loss) income per share:			
Basic			
Diluted			
Pro forma weighted average common shares:			
Basic			
Diluted			

	FISCAL YEAR ENDED DECEMBER 31,			NINE MONTHS ENDED SEPTEMBER 30,	
	1997	1998	1999	1999	2000
				(UNAUDITED)	
	(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)				
STATEMENT OF OPERATIONS DATA:					
Net sales	$ 11,464	$ 12,154	$ 26,178	$ 18,470	$ 22,069
Cost of goods sold	5,128	5,351	13,547	9,359	11,462
Stock compensation expense	--	--	--	--	151
Gross profit	6,336	6,803	12,631	9,111	10,456
Other operating expenses	4,217	4,391	8,151	5,862	7,723
Stock compensation expense	--	--	3,284	937	13,181
Operating income (loss)	2,119	2,412	1,196	2,312	(10,448)
Other (expense) income:					
Common stock warrant interest expense	(117)	(1,379)	(29,694)	(7,403)	(70,920)
Interest expense, net	(223)	(210)	(657)	(468)	(655)
Amortization of deferred financing costs	--	--	(63)	(44)	(56)
Other	10	31	(65)	46	(428)
Other expense, net	(330)	(1,558)	(30,479)	(7,869)	(72,059)

(Loss) income before income taxes	1,789	854	(29,283)	(5,557)	(82,507)
Income taxes	682	783	137	649	1,354
Net (loss) income	$ 1,107	$ 71	$ (29,420)	$ (6,206)	$ (83,861)
Preferred stock dividends	(122)	(122)	(157)	(115)	(123)
Net (loss) income available to common stockholders	$ 985	$ (51)	$ (29,577)	$ (6,321)	$ (83,984)
(Loss) income per share:					
Basic	$ 0.13	$ (0.01)	$ (5.28)	$ (1.13)	$ (13.11)
Diluted	$ 0.06	$ (0.01)	$ (5.28)	$ (1.13)	$ (13.11)
Weighted average common shares:					
Basic	7,406,486	5,598,626	5,598,626	5,598,626	6,407,682
Diluted	17,500,194	5,598,626	5,598,626	5,598,626	6,407,682
Pro forma (loss) income per share:					
Basic			$ 0.01		$ (0.82)
Diluted			$ 0.01		$ (0.82)
Pro forma weighted average common shares:					
Basic			14,902,100		15,873,527
Diluted			16,976,735		15,873,527

Pro forma basic and diluted net (loss) income per share have been calculated assuming the conversion of all outstanding shares of convertible preferred stock into common stock and the exercise of all outstanding warrants into common stock as if they had been converted on the dates of issuance. Accordingly, common stock warrant interest expense and dividends associated with convertible preferred shares are excluded from the pro forma per share amounts.

The financial data presented above for the year ended December 31, 1995 and for the period from January 1, 1996 to March 14, 1996 represents the financial data of our predecessor company without any adjustments relating to our purchase of a portion of its assets.

	AS OF SEPTEMBER 30, 2000		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
BALANCE SHEET DATA:			
Cash and cash equivalents	$ 2,149	$ 2,154	$68,904
Working capital	1,025	1,030	67,780
Total assets	23,236	23,241	89,991
Long-term obligations, net of current portion	5,730	5,730	5,730
Preferred stock	2,500	1,500	--
Common stock warrants	102,115	--	--
Stockholders' equity (deficit)	(97,018)	6,102	74,352

The preceding table presents a summary of our balance sheet data as of September 30, 2000:

- on an actual basis assuming the filing of an amended and restated certificate of incorporation to increase the number of authorized shares of common stock,

- on a pro forma basis to give effect to the conversion of all outstanding shares of convertible preferred stock into an aggregate of 955,935 shares of common stock, the exercise of all outstanding warrants for an aggregate of 8,509,905 shares of common stock upon the closing of this offering and the filing of our amended and restated certificate of incorporation prior to the effective date of this offering, and

- on a pro forma as adjusted basis to reflect the sale of 6,250,000 shares of common stock by us in this offering at an assumed initial offering price of $12.00 per share, after deducting estimated underwriting discounts, commissions and offering expense and the redemption of all outstanding shares of redeemable preferred stock upon the closing of this offering.

RISK FACTORS

AN INVESTMENT IN OUR COMMON STOCK INVOLVES SIGNIFICANT RISKS. YOU SHOULD CAREFULLY CONSIDER THE FOLLOWING RISKS BEFORE YOU DECIDE TO BUY OUR COMMON STOCK.

IF WE ARE UNABLE TO ACHIEVE AND SUSTAIN MARKET ACCEPTANCE OF OUR NEW PROTEOMICS AND ADMET SCREENING PRODUCTS ACROSS THEIR BROAD INTENDED RANGE OF APPLICATIONS, WE WILL NOT GENERATE EXPECTED REVENUE GROWTH.

Our business strategy depends on our successfully developing and commercializing our new proteomics and ADMET screening technologies to meet our customers' expanding needs and demands. For example, our recent acquisition of AmiKa Corporation involved the purchase of the technology that we are using to develop our 96 well plate for serum protein binding analysis. 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 and products that are available now or may become available in the future. If our new products do not gain market acceptance, it could materially adversely affect our business and future growth prospects.

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 our existing products and develop new products. To meet the evolving needs of our customers, we must continually enhance our current and planned products and develop and introduce new products. However, we may experience difficulties which 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 which 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 their often significant 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 HAVE LIMITED EXPERIENCE IN MANUFACTURING SOME OF OUR PRODUCTS WHICH COULD CAUSE PROBLEMS OR DELAYS RESULTING IN LOST REVENUE.

We have only recently begun to manufacture and therefore currently have limited manufacturing capacity for some of our products, such as our PrepTip protein purification pipette tips. If we fail to manufacture and deliver products in a timely manner, our relationships with our customers could be seriously harmed, and our revenue could decline. To achieve the production levels necessary for successful commercialization, we will need to scale-up our manufacturing facilities and establish automated manufacturing methods and quality control procedures. We cannot assure you that manufacturing or quality control problems will not arise as we attempt to scale-up our production or that we can scale-up manufacturing and quality control in a timely manner or at commercially

reasonable costs. If we are unable to manufacture these products consistently on a timely basis because of these or other factors, we may not achieve the level of sales from these products that we otherwise anticipate.

IF AMERSHAM PHARMACIA BIOTECH TERMINATES ITS DISTRIBUTION AGREEMENT WITH US OR FAILS TO PERFORM ITS OBLIGATIONS UNDER OUR DISTRIBUTION AGREEMENT, IT COULD IMPAIR THE MARKETING AND DISTRIBUTION EFFORTS FOR SOME OF OUR PRODUCTS AND RESULT IN LOST REVENUES.

For the nine months ended September 30, 2000, approximately 39% of our revenues were generated through an agreement with Amersham Pharmacia Biotech, or APBiotech, under which APBiotech acts as our primary marketing and distribution channel for the products of our Biochrom subsidiary. Under the terms of this agreement, 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 APBiotech or its authorized subdistributors. We have little or no control over APBiotech's marketing and sales activities or the use of its resources. APBiotech may fail to purchase sufficient quantities of products from us or perform appropriate marketing and sales activities. The failure by APBiotech 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 APBiotech for product distribution, could materially impede the growth of our business and our ability to generate sufficient revenue. Our agreement with APBiotech may be terminated early under some circumstances, including in the event of a breach of a material term by us. In addition, this agreement may be terminated by either party upon 18 months' prior written notice. While we believe our relationship with APBiotech is good, we cannot guarantee that the contract will be renewed or that APBiotech will aggressively market our products in the future.

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 our 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, and
- companies developing drug discovery technologies.

Currently, our principal competition comes from established companies that provide products which 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 our field. We may not have the financial resources, technical expertise or marketing, distribution or support capabilities to compete successfully in the future.

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 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 ten U.S. patents and have four 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 with us. However, we may not obtain these agreements in all circumstances. In the event of unauthorized use or disclosure of this information, these agreements, even if obtained, may not provide meaningful protection for our trade secrets or other confidential information. In addition, adequate remedies may not exist in the event of unauthorized use or disclosure of this information. The loss or exposure of our trade secrets and other proprietary information would impair our competitive advantages and could have a material adverse effect on our operating results, financial condition and future growth prospects.

WE MAY BE INVOLVED IN LAWSUITS TO PROTECT OR ENFORCE OUR PATENTS WHICH 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 which are closely surrounded by patents held by competitors or potential competitors. As a result, we believe there is a greater likelihood of a patent dispute than would be expected if our patents were not closely surrounded by other patents. The defense and prosecution, if necessary, of intellectual property suits, interference proceedings and related legal and administrative proceedings would be costly and divert our technical and management personnel from their normal responsibilities. We may not prevail in any of these suits. An adverse determination of any litigation or defense proceedings could put our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

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

OUR SUCCESS WILL DEPEND PARTLY ON OUR ABILITY TO OPERATE WITHOUT INFRINGING ON OR MISAPPROPRIATING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS.

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

on acceptable terms, or are unable to design around any third party patent, we may be unable to sell some of our products and services, which could result in reduced revenue.

AmiKa Corporation, whose assets we purchased in July 2000, has received and responded to correspondence from counsel to a third party competitor regarding the possible infringement by it of a patent and other pending patent applications held by such third party. Because this competitor has not pursued this matter since AmiKa's initial reply, we believe that this matter has been concluded. However, we cannot assure you that this third party competitor will not assert these or similar claims in the future. We do not currently derive a significant portion of our revenue from products which depend on the intellectual property related to this alleged infringement.

CHANGES IN ACCOUNTING FOR GOODWILL AMORTIZATION MAY HAVE A MATERIAL ADVERSE AFFECT ON US.

We currently amortize goodwill purchased in our acquisitions on a straight line basis ranging from 5 to 15 years. At September 30, 2000, we had unamortized goodwill of $9.1 million. Any changes in accounting rules under generally accepted accounting principles that reduce the period over which we may amortize goodwill may have an adverse effect on our ability to consummate future acquisitions and our financial results. A shorter goodwill amortization period would increase annual amortization expense and reduce our net income over the amortization period.

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. If these 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. 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 our customers purchasing fewer products from us as they reduce their research and development expenditures.

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 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 our 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.

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 69% of our total revenues for the nine months ended September 30, 2000. We anticipate that revenue from international operations will continue to represent a substantial portion of our 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 have affected our operating results in the past,

- changes in a specific country's or region's political or economic conditions,

- trade protection measures and import or export licensing requirements or other restrictive actions by foreign governments,

- potentially negative consequences from changes in tax laws affecting our ability to expatriate profits,

- difficulty in staffing and managing widespread operations, and

- more stringent labor regulations applicable to our European operations.

WE MAY LOSE MONEY WHEN WE EXCHANGE FOREIGN CURRENCY RECEIVED FROM INTERNATIONAL REVENUES INTO U.S. DOLLARS.

For the nine months ended September 30, 2000, approximately 69% of our business was conducted in 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.

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. We currently have no commitments or agreements with respect to any material acquisitions. If we do 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. Future acquisitions could reduce your ownership and could cause us to incur debt, expose us to future liabilities and result in amortization expenses related to goodwill and other intangible assets.

IF WE FAIL TO RETAIN OUR KEY PERSONNEL AND HIRE, TRAIN AND RETAIN QUALIFIED EMPLOYEES, WE MAY NOT BE ABLE TO COMPETE EFFECTIVELY, WHICH COULD RESULT IN REDUCED REVENUE.

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 with us at any time upon short notice. The loss of the services of any member of our senior management team, including our Chief Executive Officer, Chane Graziano, and our President, David Green, or any of our 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 information technology, engineering and science and the process of hiring suitably qualified personnel is often lengthy. 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.

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. Effective growth management will place increased demands on our management, operational and financial resources. To manage our growth, we must expand our facilities, augment our operational, financial and management systems, and hire and train additional qualified personnel. Our 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.

OUR EXISTING STOCKHOLDERS WILL HAVE SUBSTANTIAL INFLUENCE OVER MATTERS REQUIRING A STOCKHOLDER VOTE.

Following the completion of this offering, our current stockholders will beneficially own or control approximately 74% of the outstanding shares of our common stock. If all of these stockholders were to vote together as a group, they would have the ability to elect our board of directors and control the outcome of stockholder votes, including votes concerning by-law amendments and possible mergers, corporate control contests and other significant corporate transactions. In addition, this concentration of ownership may delay or prevent a change of control of our company at a premium price if these stockholders oppose it. The interests of these stockholders may not always coincide with our interests as a company or the interests of other stockholders.

BECAUSE OUR STOCK PRICE IS LIKELY TO BE HIGHLY VOLATILE, OUR STOCK PRICE COULD EXPERIENCE SUBSTANTIAL DECLINES AND OUR MANAGEMENT'S ATTENTION MAY BE DIVERTED FROM MORE PRODUCTIVE TASKS.

The market price of our common stock is likely to be volatile and could decline, perhaps substantially, following this offering 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 failing to meet the expectations of securities analysts or investors in any quarter,
- downward revisions in securities analysts' estimates,
- conditions or trends in the biotechnology and pharmaceutical industries,

- announcements by us 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 in general, and the Nasdaq National Market and the biotechnology industry market in particular, have experienced significant price and volume fluctuations that at times 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 our management's attention and resources.

PROVISIONS OF DELAWARE LAW AND OF OUR CHARTER AND BY-LAWS MAY MAKE A TAKEOVER MORE DIFFICULT WHICH COULD CAUSE OUR STOCK PRICE TO DECLINE.

Provisions in our certificate of incorporation and by-laws 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 our management and 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 which 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.

FAILURE TO RAISE ADDITIONAL CAPITAL OR GENERATE THE SIGNIFICANT CAPITAL NECESSARY TO EXPAND OUR OPERATIONS AND INVEST IN NEW PRODUCTS COULD REDUCE OUR ABILITY TO COMPETE AND RESULT IN LOWER REVENUE.

We anticipate that our existing capital resources and the net proceeds from this offering will enable us to maintain currently planned operations for at least the next two years. However, we premise this expectation on our current operating plan, which may change as a result of many factors, including market acceptance of our 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 efforts.

If we raise additional funds through the sale of equity or convertible debt or equity-linked securities, your percentage ownership in the company will be reduced. In addition, these transactions may dilute the value of our outstanding 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 to us. We may be unable to raise additional funds on terms acceptable to us. If future financing is not available to us or is not available on terms acceptable to us, we may have to curtail or cease operations.

SHARES ELIGIBLE FOR PUBLIC SALE AFTER THIS OFFERING COULD ADVERSELY AFFECT OUR STOCK PRICE.

The market price of our common stock could decline as a result of sales of shares by our existing stockholders after this offering, or the perception that such sales will occur. These sales also might make it difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. After this offering, we will have 24,782,422 shares of common stock outstanding. Of these shares, all of the shares sold in this offering will be freely tradeable. All of our existing stockholders have executed lock-up agreements. Those lock-up agreements restrict all of our existing stockholders from selling, pledging or otherwise disposing of their shares for a period of 180 days after the date of

this prospectus without the prior written consent of Thomas Weisel Partners LLC. However, Thomas Weisel Partners LLC may, in its sole discretion, release all or any portion of the common stock from the restrictions of the lock-up agreements. In addition, after this offering, we also intend to register 1,250,000 shares of common stock for issuance under our 2000 Stock Option and Incentive Plan and 500,000 shares under our Employee Stock Purchase Plan.

WE WILL HAVE BROAD DISCRETION AS TO THE USE OF THE PROCEEDS FROM THIS OFFERING AND MAY USE THE PROCEEDS IN A MANNER WITH WHICH YOU DISAGREE.

Our board of directors and our management will have broad discretion over the use of the net proceeds of this offering. You may disagree with the judgment of our board of directors and our management regarding the application of the proceeds of this offering. We intend to use a majority of the proceeds from this offering for payment of existing debt, redemption of our series A preferred stock, working capital and general corporate purposes and to fund potential acquisitions, if any. Because of the number and variability of factors that determine our use of the net proceeds from this offering, we cannot assure you that our actual use will not vary substantially from our currently planned uses. Initially, we intend to invest the net proceeds from this offering in income producing, investment grade securities.

FUTURE ISSUANCE OF OUR 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 our stockholders. The rights of the holders of common stock may be adversely affected by the rights of future holders of our preferred stock.

YOU WILL NOT RECEIVE CASH DIVIDENDS ON YOUR INVESTMENT IN OUR COMMON STOCK.

We intend to retain all of our earnings to finance the development and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Moreover, our ability to declare and pay cash dividends on our common stock is restricted by covenants in our senior credit facility and in the indenture governing our senior subordinated notes. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

AN ACTIVE TRADING MARKET FOR OUR COMMON STOCK MAY NOT DEVELOP.

Prior to this offering, there has been no public market for our common stock. Although we expect our common stock to be quoted on the Nasdaq National Market, an active trading market for our shares may not develop or be sustained following this offering. You may not be able to resell your shares at prices equal to or greater than the initial public offering price. The initial public offering price will be determined through negotiations between us and the underwriters and may not be indicative of the market price for these shares following this offering. You should read "Underwriting" for a discussion of the factors to be considered in determining the initial public offering price.

INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. The forward-looking statements are principally contained in the sections on "Prospectus Summary," "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." These statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performances 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:

- our business strategy,
- the market opportunity for our products, including the willingness of our customers to expand proteomics and ADMET investments,
- our plans for hiring additional personnel,
- our estimates regarding our capital requirements and our needs for additional financing, and
- our plans, objectives, expectations and intentions contained in this prospectus 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 greater detail under the heading "Risk Factors." Also, these forward-looking statements represent our estimates and assumptions only as of the date of this prospectus.

You should read this prospectus completely and with the understanding that our actual future results may be materially different from what we expect. 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. We qualify all of our forward-looking statements by these cautionary statements.

USE OF PROCEEDS

We estimate that the net proceeds we will receive from the sale of 6,250,000 shares of common stock will be approximately $68.3 million, or approximately $78.7 million if the underwriters fully exercise their over-allotment option, at the assumed offering price of $12.00 per share, in each case after deducting estimated underwriting discounts, commissions and offering expenses payable by us. We will not receive any proceeds from the sale of shares by our president as a selling stockholder in this offering.

The principal purposes of this offering are as follows:

- to permit us to repay approximately $665,000 in subordinated debt and $9.6 million under our credit facility,

- to permit us to redeem our series A redeemable preferred stock at a cost of approximately $1.5 million,

- to provide us with funds to complete potential acquisitions and enhance our ability to use our common stock as consideration for potential acquisitions,

- to increase our equity capital and facilitate our future access to public equity markets,

- to increase our working capital, and

- to increase funds available for general corporate purposes.

Except for the payment of existing debt and the redemption of preferred stock listed above, the use of proceeds has not been specifically identified or allocated due to the flexible nature of our planning process and the constantly changing nature of our industry. We will retain broad discretion in the allocation and use of the net proceeds of this offering. Pending the uses described above, we intend to invest the remaining net proceeds from this offering in short-term, investment grade, interest-bearing securities.

Our subordinated debt bears interest at an annual rate of 13.0% and matures upon the consummation of this offering. All of the subordinated debt will be retired out of the proceeds of this offering.

Our credit facility consists of two term loans and a revolving credit line. One term loan and the revolving line of credit mature in January 2002. The other term loan matures in June 2004. The interest rate for the credit facility is equal to our lender's base rate plus 1.0%. This interest rate was 10.5% at October 15, 2000. In July 2000, we increased our borrowings under our credit facility by $2.5 million to finance the acquisition of AmiKa Corporation. All of our outstanding indebtedness under our credit facility will be repaid out of the proceeds of this offering.

DIVIDEND POLICY

We have never declared or paid dividends on our common stock in the past and do not intend to pay dividends on our common stock 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. In addition, our existing credit facility does not permit us to pay cash dividends, and any future credit facilities may not permit us to pay cash dividends.

CAPITALIZATION

The following table describes our capitalization as of September 30, 2000:

- on an actual basis assuming the filing of an amended certificate of incorporation to increase the number of authorized shares of common stock,

- on a pro forma basis to give effect to the conversion of all outstanding shares of convertible preferred stock into an aggregate of 955,935 shares of common stock, the exercise of all outstanding warrants for an aggregate of 8,509,905 shares of common stock upon the closing of this offering and the filing of our amended and restated certificate of incorporation prior to the effective date of this offering, and

- on a pro forma as adjusted basis to reflect the sale of 6,250,000 shares of common stock by us in this offering at an assumed initial offering price of $12.00 per share, after deducting estimated underwriting discounts, commissions and offering expenses payable by us and the application of the net proceeds therefrom.

	AS OF SEPTEMBER 30, 2000		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
	(IN THOUSANDS, EXCEPT SHARE DATA)		
Series A redeemable preferred stock, par value $0.01 per share; 469,300 shares authorized, issued and outstanding, actual; 469,300 shares authorized, issued and outstanding, pro forma and no shares issued and outstanding pro forma as adjusted	$ 1,500	$ 1,500	$ --
Series B convertible preferred stock, par value $0.01 per share; 48,500 shares authorized, issued and outstanding, actual; no shares authorized, issued and outstanding, pro forma and pro forma as adjusted	1,000	--	--
Total preferred stock	$ 2,500	$ 1,500	--
Common stock warrants	102,115	--	--
Undesignated preferred stock, par value $0.01 per share; 82,200 shares authorized, no shares issued and outstanding, actual; 5,000,000 shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted	--	--	--
Common stock, par value $0.01 per share; 80,000,000 shares authorized, 13,727,365 shares issued and outstanding, actual; 80,000,000 shares authorized, 23,193,210 shares issued and outstanding pro forma; 80,000,000 shares authorized, 29,443,210 shares issued and outstanding, pro forma as adjusted	137	232	294
Additional paid-in capital	18,132	121,157	189,345
Treasury stock	(668)	(668)	(668)
Notes receivable	(1,548)	(1,548)	(1,548)
Retained earnings (accumulated deficit)	(112,358)	(112,358)	(112,358)
Accumulated other comprehensive income (loss)	(713)	(713)	(713)
Total stockholders' equity	(97,018)	6,102	74,352
Total capitalization	$ 7,597	$ 7,602	$ 74,352

The above table excludes 598,612 shares of common stock issuable upon exercise of stock options outstanding as of September 30, 2000 at a weighted average exercise price of $1.00 per share. The above table also assumes no exercise of the underwriters' over-allotment option.

DILUTION

Our pro forma net tangible book value as of September 30, 2000, was approximately $(3.0) million, or $(0.19) per share of common stock. Pro forma net tangible book value per share represents the amount of our total pro forma tangible assets less total liabilities divided by the pro forma number of shares of common stock outstanding. After giving effect to the issuance and sale by us of 6,250,000 shares of common stock offered by this prospectus at an assumed initial offering price of $12.00 per share and after deducting estimated underwriting discounts, commissions and offering expenses payable by us, our pro forma net tangible book value as of September 30, 2000 would have been $65 million, or $2.63 per share. This represents an immediate increase in the pro forma net tangible book value of $2.82 per share to existing stockholders and an immediate dilution of $9.37 per share to new stockholders in this offering illustrated by the following table:

Assumed initial public offering price per share.....		$ 12.00
Pro forma net tangible book value per share before this offering.....	$(0.19)	
Increase per share attributable to new stockholders.....	2.82	
Pro forma net tangible book value per share after the offering.....		2.63
Dilution per share to new investors.....		$ 9.37

The following table sets forth on a pro forma basis as of September 30, 2000, the number of shares of common stock purchased from us, the total consideration paid and the average price per share paid by existing and new stockholders before deducting underwriting discounts, commissions and offering expenses payable by us:

	SHARES PURCHASED		TOTAL CONSIDERATION		AVERAGE PRICE PER SHARE
	NUMBER	PERCENT	AMOUNT	PERCENT	
Existing stockholders.....	18,532,422	74.8%	$ 2,558,106	3.3%	$ 0.14
New stockholders.....	6,250,000	25.2	75,000,000	96.7	12.00
Total.....	24,782,422	100.0%	$77,558,106	100.0%	

The foregoing discussion and tables assume no issuance of shares by us pursuant to the underwriters' over-allotment option and no exercise of any stock options outstanding. As of September 30, 2000, there were options outstanding to purchase a total of approximately 598,612 shares of common stock with a weighted average exercise price of $1.00 per share. To the extent that any of these options are exercised, your investment will be further diluted. In addition, we may grant more options in the future under our stock plans.

SELECTED FINANCIAL DATA

You should read the following selected consolidated financial data in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere in this prospectus. The statement of operations data for the years ended December 31, 1997, 1998 and 1999 and for the nine-month period ended September 30, 2000 and the balance sheet data at December 31, 1998 and 1999 and September 30, 2000 are derived from our audited consolidated financial statements appearing elsewhere in this prospectus. The balance sheet data at December 31, 1997 and 1996, and the statement of operations data for the period from March 15, 1996 to December 31, 1996 are derived from our audited consolidated financial statements not included in this prospectus. The statement of operations data for the year ended December 31, 1995 and for the period from January 1, 1996 to March 14, 1996 and the balance sheet data at December 31, 1995 represents data of a predecessor company and are derived from their unaudited consolidated financial statements not included in this prospectus. The interim statement of operations data for the nine-month period ended September 30, 1999 are derived from our unaudited consolidated interim financial statements appearing elsewhere in this prospectus which, in the opinion of management, have been prepared on the same basis as the audited consolidated financial statements and reflect all adjustments necessary for a fair presentation of that data. The data for the nine-month period ended September 30, 2000 are not necessarily indicative of results for the year ending December 31, 2000 or any future period.

	PREDECESSOR COMPANY FISCAL YEAR ENDED DECEMBER 31, 1995	PREDECESSOR COMPANY FOR THE PERIOD FROM JANUARY 1, 1996 TO MARCH 14, 1996	FOR THE PERIOD FROM INCEPTION MARCH 15, 1996 TO DECEMBER 31, 1996
	(UNAUDITED)	(UNAUDITED)	
	(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)		
STATEMENT OF OPERATIONS DATA:			
Net sales	$ 10,032	$ 1,989	$ 8,198
Cost of goods sold	5,286	1,059	4,080
Stock compensation expense	--	--	--
Gross profit	4,746	930	4,118
General and administrative expense	2,435	487	1,834
Marketing and selling expense	1,469	232	1,058
Research and development	348	91	249
Amortization of goodwill	--	--	--
Stock compensation expense	--	--	--
Operating income (loss)	494	120	977
Other (expense) income:			
Foreign currency (loss) gain	23	(4)	108
Common stock warrant interest expense	--	--	--
Interest expense, net	(472)	(90)	(177)
Amortization of deferred financing costs	--	--	--
Other	(85)	(135)	(10)
Other expense, net	(534)	(229)	(79)
(Loss) income before income taxes	(40)	(109)	898
Income taxes	85	--	362
Net (loss) income	$ (125)	$ (109)	$ 536
Preferred stock dividends	--	--	(97)
Net (loss) income available to common shareholders	$ (125)	$ (109)	$ 439
(Loss) income per share:			
Basic	$ (0.01)	$ (0.01)	$ 0.04
Diluted	$ (0.01)	$ (0.01)	$ 0.02
Weighted average common shares:			
Basic	10,259,410	10,259,410	10,259,410
Diluted	10,259,410	10,259,410	20,241,145

FISCAL YEAR ENDED DECEMBER 31, NINE MONTHS ENDED SEPTEMBER 30,

	1997	1998	1999	1999 (UNAUDITED)	2000
	(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)				
STATEMENT OF OPERATIONS DATA:					
Net sales	$ 11,464	$ 12,154	$ 26,178	$ 18,470	$ 22,069
Cost of goods sold	5,128	5,351	13,547	9,359	11,462
Stock compensation expense	--	--	--	--	151
Gross profit	6,336	6,803	12,631	9,111	10,456
General and administrative expense	2,338	2,317	4,147	2,927	3,733
Marketing and selling expense	1,672	1,722	2,448	1,842	2,359
Research and development	207	325	1,188	841	1,208
Amortization of goodwill	--	27	368	252	423
Stock compensation expense	--	--	3,284	937	13,181
Operating income (loss)	2,119	2,412	1,196	2,312	(10,448)
Other (expense) income:					
Foreign currency (loss) gain	(96)	21	(48)	61	(456)
Common stock warrant interest expense	(117)	(1,379)	(29,694)	(7,403)	(70,920)
Interest expense, net	(223)	(210)	(657)	(468)	(655)
Amortization of deferred financing costs	--	--	(63)	(44)	(56)
Other	106	10	(17)	(15)	28
Other expense, net	(330)	(1,558)	(30,479)	(7,869)	(72,059)
(Loss) income before income taxes	1,789	854	(29,283)	(5,557)	(82,507)
Income taxes	682	783	137	649	1,354
Net (loss) income	$ 1,107	$ 71	$ (29,420)	$ (6,206)	$ (83,861)
Preferred stock dividends	(122)	(122)	(157)	(115)	(123)
Net (loss) income available to common shareholders	$ 985	$ (51)	$ (29,577)	$ (6,321)	$ (83,984)
(Loss) income per share:					
Basic	$ 0.13	$ (0.01)	$ (5.28)	$ (1.13)	$ (13.11)
Diluted	$ 0.06	$ (0.01)	$ (5.28)	$ (1.13)	$ (13.11)
Weighted average common share					
Basic	7,406,486	5,598,626	5,598,626	5,598,626	6,407,682
Diluted	17,500,194	5,598,626	5,598,626	5,598,626	6,407,682

	AS OF DECEMBER 31,					AS OF
	1995	1996	1997	1998	1999	SEPTEMBER 30, 2000
	(UNAUDITED)					
	(IN THOUSANDS)					
BALANCE SHEET DATA:						
Cash and cash equivalents	$ 1,043	$1,088	$ 707	$ 957	$ 2,396	$ 2,149
Working capital	(4,910)	1,677	1,698	2,205	3,783	1,025
Total assets	11,204	6,397	6,161	7,220	20,610	23,236
Long-term obligations, net of current portion	498	1,112	829	638	5,073	5,730
Preferred stock	--	1,504	1,621	1,500	2,500	2,500
Common stock warrants	--	--	--	1,500	31,194	102,115
Stockholders' equity (deficit)	1,203	516	737	678	(25,711)	(97,018)

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

YOU SHOULD READ THE FOLLOWING DISCUSSION IN CONJUNCTION WITH OUR CONSOLIDATED FINANCIAL STATEMENTS, THE RELATED NOTES AND OTHER FINANCIAL INFORMATION APPEARING ELSEWHERE IN THIS PROSPECTUS.

OVERVIEW

We are a provider of innovative, enabling tools for drug discovery research at pharmaceutical and biotechnology companies, universities and government research laboratories. We focus on two critical bottlenecks in the drug discovery process, proteomics during the target validation stage of the drug discovery process and ADMET screening during the secondary screening stage of the drug discovery process. Our proteomics products consist of tools that allow our customers to purify and analyze proteins. Our ADMET screening products are tools that enable our customers to test drug candidates to determine their absorption, distribution, metabolism, elimination and toxicology properties prior to conducting costly clinical trials.

In providing tools for drug discovery generally, we have established a significant base business and have achieved brand recognition through our sale of precision pumps, ventilators and tissue/organ systems. Since our reorganization in 1996, we have built upon our base business and brand recognition by adding new technologies within the areas of proteomics and ADMET screening. Specifically, we have acquired the following product lines, businesses and technologies:

- In June 1998, we acquired products for cell injection systems from Medical Systems Corporation for $1.0 million in cash,

- In March 1999, we acquired Biochrom, which develops and manufactures DNA/RNA/protein calculators, spectrophotometers, amino acid analyzers and related consumables in the United Kingdom, from Pharmacia Biotech (Biochrom) Ltd for $7.0 million in cash,

- In March 1999, we entered into an exclusive license for the technology underlying our ScanTox in vitro toxicology testing product for $25,000 in cash and ongoing royalties and licensing fee payments,

- In September 1999, we acquired products for intracellular research from Clark Electromedical Instruments for $349,000 in cash,

- In November 1999, we acquired our NaviCyte diffusion chamber systems product for drug absorption testing from a subsidiary of Trega Biosciences for $390,000 in cash and future royalties,

- In November 1999, we acquired substantially all the assets and certain liabilities of Hugo Sachs Elektronik, consisting primarily of products for organ testing, for $568,000 in cash,

- In May 2000, we acquired certain assets of Biotronik, consisting primarily of products for amino acid analysis, for $469,000 in cash, and

- In July 2000, we acquired substantially all the assets of AmiKa Corporation consisting of purification tips, spin columns, a 96 well drug binding assay and related technology and intellectual property for $3.1 million in cash.

REVENUES. We generate revenues by selling instruments, devices and consumables through our catalog, our distributors and our website. 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. Catalog sales tend to increase immediately following a mailing and level off or decline slightly from the increased level until the next mailing, which repeats the cycle. For the nine months ended September 30, 2000, approximately 82% of our revenues were derived from

products we manufacture. The remaining 18% of our revenues were derived from complementary products we distribute in order to provide researchers with a single source for all equipment needed to conduct a particular experiment. Approximately one-half of our revenues are derived through catalog sales and through reference to our website, which is an electronic version of our catalog. We do not currently have the capability to accept purchase orders through our website. For the nine months ended September 30, 2000, approximately 69% of our revenues were derived from sales made by our non-U.S. operations. A majority of our international sales during this period consisted of sales to Amersham Pharmacia Biotech, the distributor for our spectrophotometers and amino acid analyzers. Amersham Pharmacia Biotech distributes these products to customers around the world from its distribution center in Upsalla, Sweden, including to many customers located in the United States. As a result, we believe our international sales would have been less as a percentage of our revenues for the nine months ended September 30, 2000 than indicated above if we had shipped our products directly to their end users.

COST OF GOODS SOLD. Cost of goods sold includes material, labor and manufacturing overhead costs, obsolescence charges, packaging costs, warranty costs, shipping charges and royalties. Our costs of goods sold 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 lower margins because the profit is effectively shared with the original manufacturer. For the nine months ended September 30, 2000, our manufactured products had lower cost of goods sold. We anticipate that our manufactured products will continue to have a lower cost of goods sold for the forseeable future.

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, 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 trade shows, demonstration equipment, public relations and marketing materials, consisting primarily of the printing and distribution of our 1,000 page catalog and the maintenance of our web site. We may from time to time in the future expand our marketing efforts by employing additional technical marketing specialists in an effort to increase sales of selected categories of products in our catalog.

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. 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 this investment in order to realize the potential of our new technologies for proteomics and ADMET.

STOCK COMPENSATION EXPENSE. Stock compensation 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 date the stock options were granted for those options that are considered fixed awards. Stock compensation expense is also recorded for stock option grants that were considered variable awards as the number of shares to be acquired by employees was indeterminable at the date of grant. Deferred compensation on fixed awards is amortized as a charge to operations over the vesting period of the options. Based on grants in 2000, we incurred deferred compensation of $9.9 million and recognized deferred compensation expense of $3.3 million for the nine months ended September 30, 2000.

Since our reorganization in 1996, we have experienced substantial revenue growth. In the future we intend to introduce new products for proteomics and ADMET research that support emerging and potentially large markets. In order to support the anticipated growth of these new products, we may expand our product development and sales and marketing activities. In the event we pursue activities which increase our product development and sales and marketing expenses, operating results will be adversely affected if revenues do not increase proportionately. If revenues are below expectations, our business, operating results and financial condition are likely to be materially and adversely affected. Net income may be disproportionately affected by a reduction in revenues as a relatively smaller amount of our expenses vary with changes in our revenues. As a result, we believe that period-to-period comparisons of our results of operations are not necessarily meaningful and should not be relied upon as indications of future performance.

NINE MONTHS ENDED SEPTEMBER 30, 2000 COMPARED TO NINE MONTHS ENDED SEPTEMBER 30, 1999

REVENUES. Revenues increased $3.6 million, or 20%, to $22.1 million in 2000 from $18.5 million in 1999. Excluding the impact of changes in foreign currency exchange rates, revenues based on 1999 rates would have been approximately $22.8 million in 2000. Approximately $1.1 million of the $3.6 million increase, or 31%, was attributable to the full period effect of revenues from the acquisition of our Biochrom subsidiary in March 1999 net of exchange rate effects of $508,000. The balance of the increase was attributable to $2.5 million of revenue from product line acquisitions made in the second half of 1999 partially offset by the cyclical nature of catalog sales.

COST OF GOODS SOLD. Cost of goods sold increased $2.1 million, or 23%, to $11.5 million in 2000 from $9.4 million in 1999. The increase in cost of goods sold as a percentage of revenues was due to slightly higher cost of goods sold on acquired product lines and for our Biochrom subsidiary acquired in March 1999. Our Biochrom subsidiary experiences lower revenues and correspondingly lower general and administration and sales and marketing expenses relative to cost of goods sold as a consequence of marketing its products primarily through a distributor.

GENERAL AND ADMINISTRATIVE EXPENSE. General and administrative expense increased $807,000, or 28%, to $3.7 million in 2000 from $2.9 million in 1999 due primarily to the full period effect of Biochrom as well as increased support for operations.

SALES AND MARKETING EXPENSE. Sales and marketing expense increased $517,000, or 28%, to $2.4 million in 2000 from $1.8 million in 1999. The increase was primarily due to expenses of acquisitions as well as the addition of marketing personnel and additional catalog costs. As a percentage of revenues, marketing and sales expense was 11% in 2000 and 10% in 1999. This increasing percentage reflects the addition of marketing personnel to promote newly acquired technology. In the future we may add employees to expand selected categories of our catalog as well as to expand the capabilities of our web site and integrate it into our business planning and processes.

RESEARCH AND DEVELOPMENT EXPENSE. Research and development spending increased $367,000, or 44%, to $1.2 million in 2000 from $841,000 in 1999. The increase in research and development expense resulted from expenses of acquisitions, spending on product enhancement and new product development, primarily on ScanTox in vitro toxicology testing and other core technology. As a percentage of revenues, research and development expense was 6% in 2000 and 5% in 1999. This increasing percentage reflects expanded efforts on ADMET testing products.

STOCK COMPENSATION EXPENSE. We recorded $13.3 million of stock compensation expense in the nine months ended September 30, 2000. In connection with the grant of stock options to employees in 2000, we recorded deferred compensation of approximately $3.3 million and will recognize approximately $6.6 million of additional expense over the remaining vesting life of the options. In addition, in the third quarter of 2000, we also recorded $10.0 million of stock compensation expense in

connection with options granted in 1996 and 1999. In 1999, we recorded $937,000 of stock compensation expense related to these 1996 and 1999 option grants.

AMORTIZATION OF GOODWILL. Amortization of goodwill was $423,000 in 2000 and $252,000 in 1999. The increase is the result of amortizing additional goodwill incurred in connection with our acquisitions in 2000.

OTHER EXPENSE, NET. Other expense, net, was $72.1 million in 2000 compared to $7.9 million in 1999. Other expense, net, included a non-cash charge for common stock warrant interest expense of $70.9 million in 2000 and $7.4 million in 1999. This amount represents the difference between the fair value of the warrant for financial reporting purposes and its exercise price. This liability represents the right of warrant holders to require us to pay cash equal to the fair market value of the warrants in exchange for the warrants, or any common stock from the exercise of the warrants, beginning March 15, 2002. Effective with this offering, the warrants will be exercised for common stock and the right to be paid cash will terminate. The liability previously recorded will become part of common stock and additional-paid-in capital, and no additional liability will be incurred with respect to these warrants. Net interest expense increased $186,000, or 40%, to $655,000 in 2000 from $468,000 in 1999. The increase resulted primarily from higher debt balances in 2000, which were incurred to finance acquisitions.

INCOME TAXES. The Company's effective income tax rates have been established at 39% for 2000 and 29% for 1999 notwithstanding the impacts for common stock warrant interest expense and stock compensation expense in excess of allowable tax benefits on exercise of options, which are not deductible for income tax purposes. The increase in the rate is principally due to certain blended higher foreign statutory jurisdiction income tax rates. The effective income tax rates may change compared to the remainder of each respective calendar year if operating results differ significantly from the interim results.

YEAR ENDED DECEMBER 31, 1999 COMPARED TO YEAR ENDED DECEMBER 31, 1998

REVENUES. Revenues increased $14.0 million, or 115%, to $26.2 million in 1999 from $12.2 million in 1998. Approximately $12.2 million, or 87%, of the increase was derived from the March 1999 acquisition of Biochrom. Excluding the impact of changes in foreign currency exchange rates, revenues based on 1998 rates would have been approximately $26.3 million in 1999. Revenues from our existing business increased $1.8 million, or 15%, to $14.0 million in 1999 from $12.2 million in 1998. The increase was attributable to full year revenues of $570,000 from the products acquired from Medical Systems in June 1998, increased sales resulting from our expanded direct marketing efforts on traditional products of $884,000, which included hiring additional marketing staff, producing a CD-ROM of our catalog, and creating and installing an electronic version of our catalog on our website, with the balance due to revenues from product lines acquired in the second half of 1999.

COST OF GOODS SOLD. Cost of goods sold increased $8.2 million, or 153%, to $13.5 million in 1999 from $5.4 million in 1998. As a percentage of revenues, cost of goods sold increased to 52% in 1999 from 44% in 1998. The increase in cost of goods sold in 1999 was primarily the result of the acquisition of Biochrom. The percentage increase was also the result of Biochrom, which experiences higher costs of goods sold as a percentage of revenues due to the marketing of its products primarily through a distributor, which receives a discount to the list price that is calculated to cover the distributor's costs and profits.

GENERAL AND ADMINISTRATIVE EXPENSE. General and administration expense increased $5.1 million, or 221%, to $7.4 million in 1999 from $2.3 million in 1998. Biochrom accounted for $1.1 million, or 22%, of the increase. Also in 1999, $3.3 million was recorded as non-cash compensation expense from options granted in 1996. Excluding the Biochrom acquisition and the compensation expense, expenses

increased $800,000, or 35%, to $3.1 million in 1999 from $2.3 million in 1998. The increase was due to the need to support expanding operations. As a percentage of revenues, general and administration expense increased to 28% in 1999 from 19% in 1998.

SALES AND MARKETING EXPENSE. Sales and marketing expense increased $727,000, or 42%, to $2.4 million in 1999 from $1.7 million in 1998. Biochrom accounted for $608,000, or 84%, of the increase. Excluding the Biochrom acquisition, expenses increased $119,000, or 7%, to $1.8 million in 1999 from $1.7 million in 1998. The increase was due to expanded direct marketing efforts and the full year effect of support for the products acquired in June 1998. As a percentage of revenues, sales and marketing expense decreased to 9% in 1999 from 14% in 1998. The decrease in sales and marketing expense as a percentage of revenues was primarily due to the acquisition of Biochrom, which has lower sales and marketing expense because those expenses are primarily borne by its distributor.

RESEARCH AND DEVELOPMENT EXPENSE. Research and development spending increased $863,000 in 1999, or 266%, to $1.2 million from $325,000 in 1998. The acquisition of Biochrom contributed $577,000 to the increase. The balance of the increase was spending for development of our newly licensed ScanTox technology and expansion of our core drug screening products. As a percentage of revenues, research and development expense increased to 5% in 1999 from 3% in 1998. The increase in research and development expense as a percentage of revenues was primarily due to Biochrom, our employment of additional engineers and increased charges for outside services.

AMORTIZATION OF GOODWILL. Amortization of goodwill was $368,000 in 1999 and $28,000 in 1998. The increase is the result of amortizing additional goodwill incurred in connection with our acquisitions in 1999 and the full year effect of the acquisition of the Medical Systems products in June 1998.

OTHER EXPENSE, NET. Other expense, net was $30.5 million in 1999 compared to $1.6 million in 1998. Other expense, net, included a non-cash charge for common stock warrant interest expense of $29.7 million in 1999 and $1.4 million in 1998. Net interest expense increased $447,000, or 214%, to $656,000 in 1999 from $209,000 in 1999. The increase resulted primarily from higher debt balances in 1999, which were incurred to finance acquisitions.

INCOME TAXES. The Company's effective income tax rates have been established at 33% for 1999 and 35% for 1998 notwithstanding the impact for common stock warrant interest expense which is not deductible for income tax purposes. The decrease in the rate is principally due to certain lower foreign statutory jurisdiction income tax rates, specifically the result of the acquisition of a United Kingdom subsidiary.

YEAR ENDED DECEMBER 31, 1998 COMPARED TO YEAR ENDED DECEMBER 31, 1997

REVENUES. Revenues increased $690,000, or 6%, to $12.2 million in 1998, from $11.5 million in 1997. The increase was due to the introduction of new products from the acquisition of Medical Systems in June 1998, which accounted for $510,000 of the increase, as well as growth in sales of existing products, primarily due to the issuance of two catalog supplements in 1998 compared to one supplement issued in 1997, and price increases.

COST OF GOODS SOLD. Cost of goods sold increased approximately $224,000, or 4%, to $5.4 million in 1998 from $5.1 million in 1997. As a percentage of revenues, cost of goods sold decreased to 44% in 1998 from 45% in 1997. The decrease was due to spreading manufacturing overhead across increased production relating to the products acquired with the purchase of Medical Systems.

GENERAL AND ADMINISTRATIVE EXPENSE. General and administrative expense remained constant at $2.3 million from 1997 to 1998. As a percentage of revenues, general and administrative expense decreased to 19% in 1998 from 20% in 1997. The decrease in general and administrative expense as a

percentage of revenues was primarily due to spreading general and administrative costs over a greater revenue base.

SALES AND MARKETING EXPENSE. Sales and marketing expense increased $49,000, or 3%, to $1.7 million in 1998 from $1.7 million in 1997. As a percentage of revenues, sales and marketing expense decreased to 14% in 1998 from 15% in 1997. The decrease in sales and marketing expense as a percentage of revenues was primarily due to spreading sales and marketing costs over a greater revenue base.

RESEARCH AND DEVELOPMENT EXPENSE. Research and development spending increased $118,000, or 57%, to $325,000 in 1998 from $206,000 in 1997. The increase in spending represented investments in product development and enhancement of the existing family of products. As a percentage of revenues, research and development expense increased to 3% in 1998 from 2% in 1997.

AMORTIZATION OF GOODWILL. Amortization of goodwill consisted of a charge of $28,000 in 1998 resulting from the acquisition of Medical Systems. There was no corresponding charge in 1997.

OTHER EXPENSES, NET. Other expenses, net were $1.6 million in 1998 compared to $330,000 in 1997. The increase was due primarily to a charge of $1.4 million for common stock warrant interest expense.

INCOME TAXES. The Company's effective income tax rates have been established at 35% for 1998 and 36% for 1997 notwithstanding the impact for common stock warrant interest expense which is not deductible for income tax purposes.

LIQUIDITY AND CAPITAL RESOURCES

Historically, we have financed our business through cash provided by operating activities, the issuance of common and preferred stock, and bank borrowings. Our liquidity requirements have arisen primarily from investing activities, including funding of acquisitions, payments on outstanding indebtedness, research and development expenditures, and capital expenditures. As of September 30, 2000, we had cash of $2.1 million. Since our reorganization in March 1996, we have raised $14.2 million, consisting of $2.5 million of preferred and common stock and $11.7 million of debt. As of September 30, 2000, we had $6.8 million in debt under a bank term loan, $478,000 in subordinated debt and $3.1 million outstanding under a $3.8 million revolving credit facility.

Our operating activities generated cash of $2.0 million in the first nine months of 2000, $2.9 million in fiscal 1999, $1.8 million in fiscal 1998 and $1.1 million in fiscal 1997. 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. Working capital requirements were affected by acquisitions, which increased accounts receivable and inventory carrying amounts partially offset by increased amounts in accounts payable and accrued expenses.

Our investing activities used cash of $4.7 million in the first nine months of 2000, $8.5 million in fiscal 1999, $1.4 million in fiscal 1998 and $653,000 in fiscal 1997. Cash has been used in the following technology and business acquisitions:

- $469,000 for Biotronik's amino acid analysis systems business in May 2000,

- $390,000 for the NaviCyte diffusion chamber systems product line in November 1999,

- $568,000 for Hugo Sachs Elektronik in November 1999,

- $349,000 for intracellular research products from Clark Electromedical Instruments in September 1999,

- $7.0 million for Biochrom in March 1999,

- $1.0 million for Medical Systems Corporation's cell injection systems business in June 1998, and

- $3.1 million for substantially all the assets of AmiKa Corporation in July 2000.

Our financing activities provided cash of $2.5 million for the first nine months of 2000 and $6.9 million in fiscal 1999, and used cash of $105,000 in fiscal 1998 and $874,000 in fiscal 1997. Financing cash flows consisted of borrowings under a revolving credit facility, long-term debt and the issuance of preferred stock. As of September 30, 2000, we had approximately $600,000 available under our revolving credit facility, subject to our ability to maintain compliance with all of the covenants contained in our revolving credit agreement. We were not in compliance with certain covenants as of September 30, 2000 due to non-cash stock compensation and variable accounting charges. We have received waivers from our banks addressing our noncompliance.

Prior to 1999, we had historically generated sufficient cash flow from operations to fund expenditures on capital equipment, debt service, equity transactions, stock repurchases and preferred dividend payments. In 1999, in connection with the acquisition of Biochrom, we increased our long-term indebtedness by approximately $5.5 million and issued approximately $1.0 million in convertible preferred stock. As a result, the level of debt service required increased substantially compared to historical levels. Upon completion of the offering, we intend to use a portion of the proceeds to redeem our series A redeemable preferred stock in the amount of $1.5 million, and to repay the bank term loan, the subordinated debt and the revolving credit facility.

Based on our operating plans, we expect that proceeds from this offering, available cash, cash generated from operations, and cash available from our revolving credit facility will be sufficient to finance operations and capital expenditures for at least two years from the date of this prospectus. However, we may use a substantial portion of the proceeds from this offering to accelerate product development, expand our sales and marketing activities or consummate acquisitions, although we have no current plans in this regard. Therefore, we may need to raise additional capital, which may be dilutive to existing stockholders. The additional capital may not be available on acceptable terms or at all. Accordingly, there can be no assurance that we will be successful in raising additional capital.

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. In the first nine months of 2000 and in 1999, the U.S. dollar strengthened against these currencies resulting in reduced consolidated revenue growth, as expressed in U.S. dollars. In addition, the currency fluctuations resulted in foreign currency losses of approximately $48,000 in 1999 and $456,000 in the first nine months of 2000.

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 $2.7 million as of September 30, 2000 and $2.1 million as of September 30, 1999. We include in backlog only those orders for which we have received valid purchase orders. Purchase orders may be cancelled at any time prior to shipment. Our backlog as of any particular date may not be representative of actual sales for any succeeding period. We expect to ship substantially all of the September 30, 2000 backlog by December 31, 2000.

ACCOUNTING PRONOUNCEMENTS

In June 1998, the Financial Accounting Standard Board issued Statement of Financial Accounting Standards (SFAS) No. 133, "Accounting for Derivative Instruments and Hedging Activities." SFAS 133 establishes accounting and reporting standards requiring that every derivative instrument be recorded in the balance sheet as either an asset or liability measured at its fair value. SFAS 133, as amended by SFAS 137 and SFAS 138, is effective for years beginning after June 15, 2000. SFAS 133 will be adopted on January 1, 2001. We believe the adoption of this statement will not have a significant impact on our financial position, results of operations or cash flows.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest rate risk and foreign currency rate risk are the primary sources of market risk to our operations. As of September 30, 2000, we had aggregate variable rate long-term debt of $6.8 million and revolving credit facility debt of $3.2 million. A 10% change in interest rates would change the annual interest expense on our long-term debt by approximately $68,000 and on our revolving credit facility by approximately $32,000.

OVERVIEW

We are a global provider of innovative, research enabling tools for drug discovery. We provide a broad array of tools designed to accelerate the speed and to reduce the cost at which our customers can introduce new drugs. Since our 1996 reorganization, we have focused on alleviating the protein purification and ADMET screening bottlenecks in drug discovery.

To address these two critical bottlenecks in protein purification and ADMET screening, we recently introduced several new proprietary tools. For protein purification, these tools include specially treated pipette tips, spin columns and micro-dialyzers. For ADMET screening, these tools include NaviCyte diffusion chambers for drug absorption testing, 96 well equilibrium dialysis plates for drug distribution testing and ScanTox in vitro toxicology screening instruments.

We also have an established product base in proteomics, which is the study of gene function through the analysis of protein interactions. This product base consists of DNA/RNA/protein calculators, life science spectrophotometers and amino acid analysis systems, as well as precision infusion pumps, organ testing systems and ventilators used in ADMET screening.

OUR HISTORY

Our business began in 1901 and has grown over the intervening years with the development and evolution of modern drug discovery tools. Our past 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 our strategy to focus on high growth areas within drug discovery by acquiring innovative technologies through strategic acquisitions and licensing while continuing to grow our existing business through internal product development and marketing. We have completed five business acquisitions, including Biochrom, the licensing of key new technology for in vitro toxicology assays and drug absorption measurement chambers, the internal development of new product lines, including new generation syringe pumps and DNA/RNA/protein calculators and the mailing of expanded new catalogs.

INDUSTRY OVERVIEW

The life sciences research industry is undergoing fundamental change and growth resulting principally from the explosive growth in gene discovery and the demand for greater efficiency in the drug discovery process. Industry experts estimate that in 2000, the life sciences research industry will spend more than $50 billion on drug discovery research and development. The goal of drug discovery is to find compounds that will bind specifically to a given target without significantly affecting any other molecules in the body. Traditionally, chemists have laboriously synthesized new compounds with potential therapeutic activity one at a time or painstakingly isolated them from natural resources. Today, combinatorial chemistry techniques are used to greatly increase the supply and diversity of such compounds. Libraries of hundreds of thousands, or even millions, of compounds are now available for testing in biological assays against targets.

Until recently, life sciences researchers had identified only a few hundred targets against which to test these compounds. Driven by large-scale DNA sequencing projects, such as the Human Genome Project, life sciences researchers expect to identify tens of thousands of new genes as they decipher the genomes of both humans and disease-causing organisms. When a gene, which is a segment of DNA, is expressed, a copy of the gene sequence is carried in messenger RNA, or mRNA, which is used to direct the manufacture of a protein. Although genes, DNA, mRNA and proteins are all targets for

drug discovery, proteins are by far the most common. Proteins are the molecular machines of the cell that are responsible for performing the majority of cellular functions. Once proteins are identified and validated as potential targets, they need to be screened against hundreds of thousands, if not millions, of compounds in a process known as primary screening.

Drug discovery is a time-consuming and costly process. In the pre-genomics era, the compound development, primary screening and clinical trials stages were bottlenecks in this process. The successes of genomics, combinatorial chemistry and high throughput screening in recent years have alleviated the bottlenecks at the compound development and primary screening stages. However, these bottlenecks have been replaced by bottlenecks at the target validation, assay development and absorption, distribution, metabolism, elimination and toxicology, or ADMET, testing stages. The revolution in genomics is expected to increase the number of targets from 500 to 10,000, which will consequently greatly increase the need for protein purification and analysis. The increase in the number of compounds in libraries from tens of thousands to millions together with the increase in the number of targets is greatly increasing the number of leads requiring ADMET screening.

THE DRUG DISCOVERY PROCESS

The drug discovery process consists of several steps, which are illustrated below.

The diagram that illustrates the drug discovery process is initially split into two parallel tracks which merge into a single track as the diagram moves to the right. The upper track of the diagram is titled "Compound Development" and includes an arrow titled "Compound Libraries." Below the arrow are the words "Combinatorial Chemistry." The lower track of the diagram is titled "Target Discovery" and includes two arrows. The first arrow is titled "Target Identification." Below this arrow is the word "Genomics." The next arrow to the right is titled "Target Validation." Below this arrow is the word "Proteomics." Following the "Compound Libraries" arrow on the upper track and the "Target Validation" arrow on the lower track, the two tracks of the diagram combine and include arrows to illustrate the remaining stages and key bottlenecks in the drug discovery process. The individual arrows from left to right include an arrow titled "Assay Development" followed by an arrow titled "High Throughput Screening." These two arrows in the diagram appear under the title "Primary Screening." To the right of the "High Throughput Screening" arrow is an arrow titled "Lead Optimization" followed by an arrow titled "ADMET Screening." These two arrows in the diagram appear under the title "Secondary Screening." To the right of the "ADMET Screening" arrow is an arrow titled "Clinical Trials," the final arrow in the process flow diagram.

TARGET IDENTIFICATION involves isolating a particular molecule, typically a protein, and evaluating the role that it plays in the body to determine whether it might be a viable target for further investigation. Today, this activity is most often initiated by genomics studies, including DNA sequencing, RNA analysis and genetic mapping.

TARGET VALIDATION involves demonstrating that affecting the function of a particular target has a positive effect on the course of a disease. Target validation employs a variety of methods including RNA analysis, protein analysis and cell biology. Target validation is a more time-consuming process than target identification.

PRIMARY SCREENING involves the large-scale testing of collections of chemical compounds, known as compound libraries, against validated targets. These libraries are tested using high throughput assays. The goal is to find individual compounds that bind to and inhibit or activate a particular target, commonly referred to as a hit. An assay, in the context of screening compounds against a new target, refers to a test a researcher must develop for measuring whether particular compounds in a library interact with the target in a certain manner. An assay must be developed for each target to be screened. The major pharmaceutical companies are moving towards screening up to 100 targets annually with libraries of up to one million compounds each.

SECONDARY SCREENING involves the refinement of hits into leads that can be used in clinical trials. This step consists of lead optimization and ADMET testing. Lead optimization involves conducting successive rounds of chemical alterations and biological tests to find compounds similar to the original compound identified in primary screening which have improved drug properties over the initial compound, particularly efficacy. ADMET testing involves the conducting of various tests on compounds

to ensure that they are safe and have good pharmacological properties such as high adsorption into the blood from the digestive tract and good distribution to the site of the target molecule in the body. This stage also involves the testing of compounds to determine therapeutic activity in animal models of disease and to ensure that the compounds can be manufactured with consistent quality.

CLINICAL TRIALS involve the testing of pharmaceutical compounds in humans to demonstrate their safety and efficacy. Because clinical trials are by far the most expensive part of drug discovery, and undesirable ADMET properties are the most common reasons for failure, pharmaceutical and biotechnology companies can achieve substantial cost savings by identifying drug candidates with poor ADMET properties as early in the drug discovery process as possible. Drugs with successful clinical trials are almost always commercialized.

PROTEOMICS

Proteomics involves the large-scale purification, identification and analysis of proteins. Proteins are manufactured in the body's cells according to the code contained in DNA and are the molecular machines of the cell that are responsible for performing the majority of cellular functions. Proteins are the most common targets in the field of drug discovery because proteins tend to be far more accessible to drugs than either DNA or mRNA which are located in the nucleus of the cell.

Every protein that is identified as a potential target must be analyzed. The trend in protein analysis currently is moving towards the use of mass spectrometry, which is the fastest and most accurate technique for protein analysis. Because mass spectrometers are highly sensitive, they require the use of pure samples in order to properly analyze the protein. Thus, protein purification, the removal of reagents such as salts, detergents and buffers, is essential to target discovery.

In the last few years the revolution in genomics and the completion of the Human Genome Project has vastly increased the number of known targets. Before the Human Genome Project there were only approximately 500 known targets. Some experts believe that the sequencing of the human genome will ultimately lead to the identification of 50,000 to 100,000 genes and over 1,000,000 proteins. Many scientists expect that this will in turn lead to the identification of up to 10,000 targets. Each of these targets, many of which will be proteins, will need to be purified and analyzed many times prior to becoming a validated target for primary screening. As a result of the recent and projected increases in the number of known drug targets, purifying protein samples has been and will continue to be a significant bottleneck in the drug discovery process.

ADMET SCREENING

The goal of ADMET screening is to identify compounds that have toxic side effects or undesirable pharmacological properties. These compounds are then either eliminated or further chemically modified and re-screened. While ADMET screening is traditionally conducted late in the drug discovery process, early application of ADMET screening can be highly beneficial. This is because more than half of the 90% of lead compounds which fail in the costly clinical trial stage of drug discovery fail due to poor pharmacological properties. These important pharmacological properties consist of absorption, distribution, metabolism and elimination which, together with toxicology, are described below:

ABSORPTION. Absorption describes the ability of a drug to pass through the wall of the digestive tract and enter the blood stream. Absorption is an important property of an effective drug because adequate absorption allows a drug to be administered orally rather than by direct injection into the blood. If a lead candidate cannot be absorbed easily from the digestive tract into the blood, its commercial viability will be adversely impacted even if it effectively acts against the target.

DISTRIBUTION. Distribution describes the amount of a drug that different tissues in the body take in from the blood. Distribution of the drug to the tissue containing the target molecule is necessary for the drug to have the desired effect. Moreover, undesirable side effects may occur if the drug is distributed to tissues other than the one containing the target molecule. Effective distribution requires the drug to be transported around the body and released into the tissue containing the target molecule at an appropriate rate. The flow of blood alone is often an effective distribution method. However, while the binding of a drug to blood proteins can increase the proper distribution of a drug, it can cause toxic problems if the bond formed is too strong.

METABOLISM. Metabolism describes the chemical changes that the body makes to a drug. This is an important property of an effective drug for three reasons. First, some drugs must be metabolized in order to become effective. Second, some drugs may have no toxic side effects, but the byproducts of their metabolism, known as metabolites, may be toxic. Third, metabolism usually makes drugs more soluble in water, which in turn makes it easier for the body to eliminate them in the urine.

ELIMINATION. Elimination describes the process by which the body expels a drug. If the blood absorbs a drug, it will be primarily eliminated in the urine either in its native or metabolized forms. Elimination is important because toxicity is primarily a matter of concentration--even common compounds such as aspirin and caffeine are toxic at high enough concentrations. If the body does not eliminate a drug, the drug's concentration will build up with every dose taken, eventually reaching toxic levels.

TOXICOLOGY. Toxicology describes the adverse effects a drug has on the body. These range from nausea to death. All drugs must be shown to be safe to the satisfaction of regulatory authorities prior to commercialization. Toxicology consists of tests designed to determine the likelihood that a drug will cause death or the growth of tumors, disrupt normal reproductive function or the immune system or mutate DNA.

For every 1,000 hits identified through primary screening, only about ten survive secondary screening and make it into clinical trials, the final stage of drug discovery. Of those ten, only one, on average, survives the regulatory process to be commercialized as a new drug.

CURRENT TECHNOLOGIES FOR PROTEIN PURIFICATION AND ADMET SCREENING

PROTEIN PURIFICATION. Protein purification is an essential step in proteomics. Researchers must remove any salts, buffers, detergents and cellular debris prior to analyzing a protein sample. Current technologies for protein purification include packed bed columns and dialysis. In order to isolate a specific protein, two-dimensional gel electrophoresis, or 2DGE, is typically used in advance of running a sample through a packed bed column or dialysis. Two-dimensional gel electrophoresis isolates different types of proteins in a two-stage process using electric currents passed through gels. Each protein migrates to a specific location in the gel. The protein can then be separated from the gel residue using packed bed columns or dialysis.

PACKED BED COLUMNS are small disposable plastic tubes containing chromatography media. A protein sample is typically pipetted into the top of the column, which is then placed in a centrifuge or vacuum manifold to draw the sample through the media. These columns will remove salts, detergents, buffers and 2DGE gel residue, but may retain some of the protein in the media.

DIALYSIS involves the use of a porous membrane which allows small molecules such as salts, detergents, buffers and 2DGE gel residue to pass through but blocks larger molecules such as proteins from passing through. Dialysis involves pipetting the protein sample into a device which consists of a chamber with the porous membrane covering one otherwise open end. The chamber is then placed in a large volume of pure water and stirred for a period of time, which may be minutes or hours.

ADMET SCREENING. ADMET testing at the secondary screening stage has traditionally relied almost exclusively on live animal testing instead of tools. The most common animals used in drug discovery studies are laboratory rats and mice. As a drug compound moves closer to human clinical trials, the United States Food and Drug Administration requires that studies be performed using larger animals, such as rabbits and dogs.

LIMITATIONS OF CURRENT TECHNOLOGIES

PROTEIN PURIFICATION. Current technologies for protein purification in proteomics have the following limitations:

- LOW PRODUCTIVITY. Neither packed bed columns nor dialyzers are easily capable of automated sample handling. Using packed bed columns, either alone or in connection with two-dimensional gel electrophoresis, requires centrifugation or the use of a vacuum to move the sample through the purification media. This means the sample must be physically moved to the centrifuge or vacuum pump, left to run--typically for several minutes--then removed, washed and the protein eluted.

- LOSS OF PROTEIN SAMPLE. Packed bed columns consume a portion of the sample leading to sample loss. The amount of sample lost in the purification process may only be microliters. This is not a significant problem if several milliliters of sample are available, as is common in DNA purification. However, if only a few microliters of sample are available, as is common in protein purification, the loss of even one microliter may be a large percentage of the total. In addition, protein samples are typically expensive and thus sample loss must be minimized.

ADMET SCREENING. Current technologies for ADMET screening have the following limitations:

- HIGH COST. Animal assays are costly because all animals have to be housed and cared for under strict government regulations often in clean room environments and with a significant staff to care for the animals. A standard 14-day range finding study performed using laboratory rats costs approximately $75,000, and a two-year carcinogenicity study carried out with laboratory rats costs approximately $1 million. A later stage 90-day study carried out using dogs typically costs almost twice as much as the same test performed using laboratory rats.

- LABOR INTENSITY. By their nature, animal assays cannot be automated and thus require the time of highly skilled research scientists, such as surgeons and pathologists.

- ETHICAL CONSIDERATIONS. Even though researchers must use the lowest number of the least sentient animals to achieve the scientifically needed information, avoid pain and consider alternatives to the use of live animals, the large number of animals used still creates ethical considerations.

OUR SOLUTIONS

We overcome the limitations of current technologies by providing innovative, enabling tools for protein purification and ADMET screening.

PROTEIN PURIFICATION

Our protein purification technologies are designed to be quick to use and to reduce sample loss.

- HIGHER PRODUCTIVITY. Our purification pipette tips are quicker to use than packed bed columns because a centrifugation or vacuuming step is not necessary. This avoids both the moving of the sample to and from the centrifuge or vacuum pump and the run time in the centrifuge or vacuum pump. We believe our protein purification pipette tips are the only pipette tips capable of being fitted to standard pipetting workstations and thus being used for automated protein

purification. This automation increases our customers' productivity. In addition, our 96 well plate versions of dialyzers and spin columns can be used directly in automated equipment, again increasing our customers' productivity.

- REDUCED SAMPLE LOSS. Our miniaturization of dialyzers and spin columns reduces sample loss in the membrane or column material. Our purification pipette tips contain smaller volumes of material than packed bed columns and thus less sample is retained in the material.

ADMET SCREENING

Our ADMET screening technologies employ novel approaches to obtaining ADMET data while reducing the use of large numbers of live animals.

- LOWER COST. Most of our ADMET screening products use organs, tissue or blood proteins rather than live animals. For example, our in vitro toxicology assay uses the lenses of cows' eyes obtained as a by-product of the beef industry, and our 96 well plate for serum protein binding uses blood proteins in vitro rather than in the bloodstream of live laboratory animals.

- IMPROVED AUTOMATION. Our in vitro toxicology assay can be run in a few minutes of instrument time and a few hours of elapsed time. By contrast, basic toxicology tests in animals typically take days of elapsed time and more advanced tests take weeks or months. Our 96 well plate for serum protein binding, for instance, can be run on automated liquid handling equipment.

- REDUCED ANIMAL USAGE. Our in vitro toxicology assay uses cow eye lenses instead of live animals to detect toxic effects of compounds. Our drug absorption chamber uses cultured human colon cells instead of animal intestinal tissue to simulate the absorption of a drug into the blood from the digestive tract. Our 96 well plate for serum protein binding tests the binding ability of compounds on extracted blood proteins instead of infusing the compounds into the bloodstreams of live test animals.

OUR STRATEGY

Our goal is to become the leading provider of innovative, enabling technologies and products for proteomics and ADMET research in the drug discovery process. Key elements of our strategy are to:

ESTABLISH OUR PROTEOMICS AND ADMET SCREENING PRODUCTS AS INDUSTRY STANDARDS

In order to establish our products as industry standards, we intend to provide a broad selection of products focused on the target validation and ADMET screening stages of the drug discovery process. We have recently introduced several new innovative products designed to reduce the cost and time associated with protein purification and ADMET screening in drug discovery. We have already begun to realize revenue from the sales of our products, including purification pipette tips, spin columns, dialyzers, in vitro toxicology assays and equilibrium dialysis plates. We intend to rapidly increase the market acceptance of these products through the development of new uses for these products, focused, direct marketing campaigns to our extensive customer base and promotions at scientific exhibitions.

LAUNCH A BROAD RANGE OF INNOVATIVE NEW TOOLS FOR DRUG DISCOVERY

Since our reorganization in 1996, we have focused on becoming a leading provider of tools for proteomics and ADMET screening. We believe that our customers are eager to acquire new and innovative tools that reduce drug discovery time and expense. Since 1996, we have introduced several new tools for proteomics and ADMET screening such as our protein and DNA purification pipette tips, protein purification dialyzers, ScanTox in vitro toxicology assay and NaviCyte diffusion chambers. We intend to continue to identify, develop and introduce new tools to alleviate bottlenecks in all stages of the drug discovery process.

LEVERAGE OUR EXISTING DISTRIBUTION AND MARKETING CHANNELS

We intend to leverage the strength of our existing distribution channels to launch new products. Our 1,000 page catalog is currently distributed worldwide to approximately 100,000 researchers engaged in drug discovery and is also accessible on our website. Our customer list consists primarily of research personnel, who are the end-users of our products and largely responsible for initiating the purchase of our products. We also have wholly-owned subsidiaries in the United Kingdom, Germany, France and Canada providing us with an international market presence. In addition, some of our products are sold through a distribution arrangement with Amersham Pharmacia Biotech, or APBiotech, providing us with access to APBiotech's extensive customer base, reputation and support infrastructure. We believe that our extensive existing distribution channels, when combined with our strong reputation for high quality, reliable and durable tools, provides us with a competitive advantage in bringing new products to market quickly and cost effectively.

PROVIDE A SINGLE SOURCE OF TOOLS FOR OUR CUSTOMERS' RESEARCH NEEDS IN PROTEOMICS AND ADMET SCREENING

We seek to provide our customers with all of the tools necessary to conduct a wide variety of proteomic and ADMET experiments that are crucial to the drug discovery process. We believe that being a single source sets us apart from our competitors by increasing the likelihood that our customers will turn to our catalog or website first when looking for help with a particular experiment. Currently, our catalog and website include approximately 10,000 products. In addition, our extensive product selection allows us to leverage the sales of our proprietary products through the simultaneous sale of complementary products.

ACQUIRE COMPLEMENTARY TECHNOLOGIES

We intend to selectively acquire companies and technologies which we believe will strengthen our portfolio of tools for drug discovery, particularly in the areas of proteomics and ADMET screening. Since 1996, we have completed the acquisition of Biochrom, four other acquisitions involving the integration of acquired products and technology into our existing manufacturing base and distribution channel, and three technology acquisition or licensing transactions. In the future, we may pursue acquisitions of new products and technologies through business acquisitions, partnerships or licensing arrangements.

OUR PRODUCTS

Our broad array of products includes the following:

PRODUCT CATEGORY	REPRESENTATIVE PRODUCT AREAS	DESCRIPTION	NUMBER OF PRODUCTS	YEAR OF INTRODUCTION FOR PRODUCT CATEGORY
PROTEOMICS				
Protein Purification	Purification Pipette Tips	Disposable pipette tips - coated with purification media - loaded with purification media	50	1999 (coated) Est. Q4 2000 (loaded)
	Macro Spin Columns	Disposable tubes containing purification media	20	1998
	Ultra Micro Spin Columns	Disposable tubes containing purification media	20	1998
	Dialyzers	Membrane capped plastic chambers - reusable - disposable - plates with 96 wells	45	1996 and prior
	Equilibrium Dialyzers	Membrane separating two plastic chambers - disposable - plates with 96 wells	9	1996-1999
Protein Analysis	Molecular Biology Spectrophotometers	Range of spectrophotometers	6	1970s (initial) 2000 (latest)
	DNA/RNA/Protein Calculators	Spectrophotometers with application software	2	1993 (initial) 2000 (latest)
	Multi-Well Plate Readers	Range of automated readers - absorbance - luminescence - fluorescence	3	Est. Q4 2000 (absorbance) Est. 2001 (luminescence) Est. 2001 (fluorescence)
	Amino Acid Analysis Systems	Ninhydrin-based amino acid detection systems	2	1970s (initial) 2000 (latest)
ADMET SCREENING				
Absorption	NaviCyte Diffusion Chambers	Simulated digestive tract/ blood stream interfaces	6	1995
Distribution	Equilibrium Dialysis Plate	Membrane separating two chambers	9	1996-1999
Metabolism/ Elimination	Organ Testing Systems	Chambers with stimulators, perfusion and recording devices	8	1970s-1999
Toxicology	ScanTox Assay	In vitro toxicology assay	1	2000
	Precision Infusion Pumps	Microprocessor controlled syringe pumps	80	1952 (mechanical) 1986 (microprocessor) 1998 (latest)

PROTEOMICS PRODUCTS--PROTEIN PURIFICATION

PREPTIP PROTEIN PURIFICATION PIPETTE TIPS

Our proprietary PrepTip pipette tips consist of a standard disposable pipette tip coated on the inside with the same chromatography media used in packed bed columns. This coating selectively binds proteins, but not the salts, detergents, electrophoresis gels, buffers and cellular debris that are often mixed in with the proteins. Our PrepTip pipette tip enables customers to rapidly purify proteins by avoiding the time-consuming usage of a centrifuge required when using spin columns. In addition, it is easy to use because the protein solution is handled entirely within the pipette tip and does not have to

be moved through a separate device like a packed bed column or dialyzer. Because our PrepTip pipette tips use the same chromatography media as packed bed columns, they can take advantage of the wide range of existing purification protocols using these media.

PURETIP DNA PURIFICATION PIPETTE TIPS

PureTip pipette tip uses a pipette tip that is similar to the PrepTip pipette tip, but is loaded with a gel rather than coated. This is well suited for performing DNA purification. PureTip pipette tips are more adaptable to automation than spin columns because they fit onto automated pipetting workstations. We expect to launch the PureTip pipette tip later this year.

SPIN COLUMNS

Spin columns are short plastic tubes that contain purification media. Once a sample is placed in the tube, it is typically spun in a centrifuge to move the sample through the media and separate the proteins from the other cellular debris. Our Ultra Micro spin columns, which we provide in both single and 96 well plate versions, contain chromatography media for use in purifying sample volumes as small as five microliters. This is significantly smaller than the sample volume required by columns produced by our largest competitors.

PROTEIN PURIFICATION DIALYZERS

Dialyzers are small chambers with an open end covered with a membrane. The membrane allows small molecules to pass through but not large molecules. Because proteins are large molecules and most contaminants are small molecules, this is an effective way to purify proteins. We make single- and double-sided reusable and disposable dialyzers.

DISPOSABLE EQUILIBRIUM DIALYZERS

Our proprietary disposable equilibrium dialyzers are effective cost-efficient products for protein binding studies and can handle sample sizes as small as 75 microliters. These disposable products are particularly useful for binding studies involving radioactively labeled compounds because the dialyzer does not require cleaning after use.

PROTEOMICS PRODUCTS--PROTEIN ANALYSIS

MOLECULAR BIOLOGY SPECTROPHOTOMETERS

A spectrophotometer is an instrument widely used in molecular biology and cell biology to quantify the amount of a compound in a sample by shining a beam of white light through a prism or grating to divide it into component wavelengths. Each wavelength in turn is shone through a liquid sample and the spectrophotometer measures the amount of light absorbed at each wavelength. This enables the quantification of the amount of a compound in a sample. We sell a wide range of spectrophotometers under the names UltroSpec and NovaSpec. These products are manufactured by our Biochrom subsidiary and sold primarily through our distribution arrangement with Amersham Pharmacia Biotech.

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 GeneQuantPro. Launched in 1993, we believe that we were the first company to sell such an instrument and we believe that we are a leader in this product line. These products are manufactured by our Biochrom subsidiary and sold primarily through Amersham Pharmacia Biotech.

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. They use light to detect chemical interactions. We plan

to introduce a range of these products beginning with absorbance readers in the fourth quarter of 2000 and luminescence and fluorescence readers in 2001 primarily for distribution through Amersham Pharmacia Biotech.

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.

ADMET SCREENING PRODUCTS

We have traditionally sold products for ADMET testing that are based upon animal models. However, as a result of a series of acquisitions and licensing transactions, we have begun to develop and manufacture organ testing systems, tissue testing systems and serum protein binding assays for early toxicology testing.

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.

96 WELL EQUILIBRIUM DIALYSIS PLATE FOR SERUM PROTEIN BINDING ASSAYS

Our 96 well equilibrium dialysis plate operates in a similar way to the equilibrium dialyzers for target validation described above. The difference is that both chambers on either side of the membrane are capped. 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 an equilibrium is established. Thus, measuring the drug concentration determines the strength of 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.

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. We have sold basic versions of these systems for many years, but have significantly expanded our product offerings through our November 1999 acquisition of Hugo Sachs Elektronik. Studies on isolated livers are useful in determining metabolism and studies on kidneys are useful in determining elimination.

SCANTOX IN VITRO TOXICOLOGY SCREENING

Our proprietary ScanTox in vitro toxicology screening system uses a living organ system, a bovine eye lens, to detect the toxic effect of compounds by measuring the refraction of laser light passing through the eye lens. A healthy lens focuses light to a point, but when a toxic compound is added to

the lens environment, the lens reacts by defocusing. The extent of defocusing is measured and analyzed by the instrument. Its advantages include:

- higher relevance to whole body toxicology than a cell-based assay, without the complicated support and measurement apparatus needed for other organs such as hearts or lungs,

- higher sensitivity and reproducibility than live animal assays,

- higher sensitivity than other tissue assays, and

- easier operation than other animal or tissue assays because the data is collected and analyzed automatically.

PRECISION INFUSION PUMPS

Infusion pumps, typically syringe pumps, are used to accurately infuse very small quantities of liquid, commonly drugs. Infusion pumps are typically used for long-term toxicology testing of drugs by infusion into animals, typically laboratory rats. We sell 80 types of syringe pumps.

OTHER PRODUCTS

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.

VENTILATORS

Ventilators use a piston driven air pump to inflate the lungs of an anesthestised 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, not found on other ventilators.

CPK ATOMIC MODELS

CPK atomic models use colored plastic parts to accurately model molecular structures, such as DNA. We offer a wide range of components and assembled models.

STRONGHOLD LABORATORY CLAMPS

Stronghold laboratory clamps are made from glass reinforced nylon. Our clamps resist rusting which is a common problem with steel clamps. We provide a wide variety of clamps, stands and lattices.

OEM PRODUCTS

Our reputation for quality, durability and reliability has led to the formation of a number of original equipment manufacturer, or OEM, relationships with major life science instrument companies. A good example of these relationships is with respect to our syringe pumps. Our syringe pumps are capable of delivering flow rates as low as 0.001 microliters per hour while maintaining high accuracy. We have adapted, in conjunction with our OEMs, the core technology embodied in our syringe pumps to make specialized sample injectors for many of the major mass spectrometry manufacturers.

DISTRIBUTED PRODUCTS

In addition to the manufactured products described above, we buy and resell through our catalog products 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. None of these agreements represents more than two percent of our revenues. Distributed products accounted for approximately 18% of our revenues for the nine months ended September 30, 2000. 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 animals and biological tissue in the fields of proteomics, physiology, pharmacology, neuroscience, cell biology, molecular biology and toxicology. Our manufactured products are often leaders in their fields, but researchers often need complementary products in order to conduct their particular experiments. Most of these complementary products come from small companies without our extensive distribution and marketing channel.

OUR CUSTOMERS

Our customers are primarily end user research scientists at pharmaceutical and biotechnology companies, universities and government laboratories, such as the U.S. National Institutes of Health, or NIH. Our largest customers in the United States include Baylor College of Medicine, Bristol-Myers Squibb Company, Eli Lilly and Company, Johns Hopkins University, Merck & Co., Inc., NIH, Parke-Davis, Pfizer Inc., Schering-Plough Corporation, SmithKline Beecham plc and the University of California.

We conduct direct sales in the United States, the United Kingdom, Germany, France and Canada. We also maintain distributors in other countries. Aggregate sales to our largest customer, Amersham Pharmacia Biotech, as a distributor with end users similar to ours, accounted for approximately 39% of our revenue for the nine months ended September 30, 2000, and 44% of our revenue for the fiscal year ended December 31, 1999. We have several thousand customers worldwide and no other customer accounted for more than five percent of our revenue for such periods.

SALES AND MARKETING

DIRECT SALES

We periodically produce and mail approximately 100,000 copies of our 1,000-page catalog, which contains approximately 10,000 items. We distribute the majority of our products through our worldwide subsidiaries. Our manufactured products accounted for approximately 82% of our revenues for the nine months ended September 30, 2000. The complete catalog is also available as a CD-ROM and can be accessed on our website, www.harvardbioscience.com. Our significant positions in many of our manufactured products create traffic to the catalog and web site which enables cross-selling and facilitates the introduction of new products. In addition to the comprehensive catalog, we create and mail abridged catalogs which focus on specific product areas along with direct mailers which introduce or promote new products.

AMERSHAM PHARMACIA BIOTECH DISTRIBUTOR

Since the 1970s, our Biochrom subsidiary has used Amersham Pharmacia Biotech, or APBiotech, and its predecessors as its primary marketing and distribution channel. When we acquired Biochrom from Pharmacia and Upjohn in 1999, we signed a distribution, marketing and new product development agreement with APBiotech. Under the terms of this agreement, APBiotech serves as the exclusive distributor, marketer and seller of a majority of the products of our Biochrom subsidiary. During the term of this agreement, APBiotech has agreed to purchase at least a minimum number of our products

equal to a specified aggregate dollar value. We have certain affirmative duties under the agreement to assist APBiotech in the sale of our products. For example, we have agreed to cooperate with APBiotech in its sales and marketing program and to provide sales, demonstration and support training for APBiotech. This agreement may be terminated early under specified circumstances. For example, if we breach the exclusivity, pricing or shipping provisions of the agreement and fail to remedy the breach within 30 days of receiving written notice of the breach from APBiotech, then the agreement may be terminated. In addition, we may terminate the agreement under specified circumstances. For example, failure by APBiotech to place certain information in escrow, to pay for products or to purchase a minimum number of products each year enables us to terminate the agreement unless APBiotech remedies the breach within 30 days of receiving written notice of the breach from us. This agreement may be terminated by either party upon 18 months' prior written notice.

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 proteomics and ADMET.

Our development expenditures were $206,000 in 1997, $325,000 in 1998 and $1.2 million in 1999. We anticipate that we will continue to make significant development expenditures. We plan to continue to pursue a balanced development portfolio strategy of originating new products from internal research and development programs and business and technology acquisitions.

We maintain development staff in each of our manufacturing facilities to design and develop new products. In-house development is focused on our current technologies. For new technologies, our strategy has been to license or acquire proven technology from universities and biotechnology companies and then develop the technology into commercially viable products.

MANUFACTURING

We manufacture and test the majority of our products in our four principal manufacturing facilities located in the United States, the United Kingdom 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.

Our manufacturing operations are essentially to assemble and test. Our manufacturing of syringe pumps, ventilators, cell injectors and protein purification products takes place in Holliston, Massachusetts. Our manufacturing of spectrophotometers and amino acid analysis systems takes place in Cambridge, England. Our manufacturing of surgery-related products and teaching products takes place in Edenbridge, England. Our manufacturing of complete organ testing systems takes place in March-Hugstetten, Germany. Our Cambridge, England facility is certified to ISO 9001.

COMPETITION

The markets into which we sell our products are highly competitive, and we expect the intensity of competition to 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, 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 or 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 protein purification and ADMET technologies to companies engaged in drug discovery. We are not aware of any competitor which offers a product line of comparable breadth within the protein purification and ADMET product 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 proteomics and ADMET screening. In the DNA/RNA/protein calculator area, we compete with PerkinElmer Instruments, Inc. and Bio-Rad Laboratories, Inc. In the molecular biology spectrophotometer area, we compete with Beckman Coulter, Inc. and PerkinElmer Instruments, Inc. In the protein sample preparation area, we compete with Millipore Corporation, Pierce Chemical Company and Spectrum Medical. In the ADMET screening area, we compete with KD Scientific, Razel Scientific Instruments, Inc., Experimetria Ltd., Kent Scientific Corporation, Warner Instruments, General Valve Company, Eppendorf-Netheler-Hinz GmbH, Ugo Basile and Becton, Dickinson and Company. In the area of OEM products, we face competition primarily from the in-house engineering teams of our OEM customers.

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. Most of our new technology is covered by patents or patent applications. Most of our base business is 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 ten issued U.S. patents and have four pending applications. We also hold exclusive licenses for the technologies used in our ScanTox in vitro toxicology products, our NaviCyte drug absorption products and our PureTip pipette tip products. In addition to these licenses, our principal technologies are covered by issued patents for our dialyzers and our ultramicro spin columns and by pending applications for our PrepTip pipette tips. Furthermore, international patent applications are pending in connection with one of our U.S. patent applications and one of our licensed patents.

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 2018. 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. 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. However, 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. 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 issue 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.

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 September 15, 2000, we had 122 full-time employees and 5 part-time employees, 35 of whom resided in the United States, 73 of whom resided in the United Kingdom, 12 of whom resided in Germany, 3 of whom resided in France and 4 of whom resided in Canada. None of our employees is subject to any collective bargaining agreement. We believe that our relationship with our employees is good.

FACILITIES

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

- a leased 20,000 square foot facility in Holliston, Massachusetts, which is our corporate headquarters,
- a leased 28,000 square foot facility in Cambridge, England,
- an owned 15,500 square foot facility in Edenbridge, England, and
- a leased 9,000 square foot facility in March-Hugstetten, Germany.

We lease additional facilities for sales and administrative support in Les Ulix, Paris France and Montreal, Quebec Canada.

LEGAL PROCEEDINGS

From time to time, we may be involved in various claims and legal proceedings arising in the ordinary course of business. We are not currently a party to any claims or proceedings which, we believe, 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.

EXECUTIVE OFFICERS AND DIRECTORS

The following table shows information about our executive officers and directors as of October 15, 2000.

NAME	AGE	POSITION
Chane Graziano	62	Chief Executive Officer and Director
David Green	36	President and Director
James Warren	55	Chief Financial Officer
Mark Norige	46	Chief Operating Officer
John House	56	Managing Director, Biochrom Ltd
Susan Luscinski	44	Vice President of Finance and Administration
Christopher W. Dick	46	Director
Robert Dishman*	56	Director
Richard C. Klaffky, Jr	54	Director
Earl R. Lewis*	56	Director

Messrs. Dick and Klaffky will be the members of our compensation committee following the consummation of this offering.

Messrs. Dishman, Klaffky and Lewis will be the members of our audit committee following the consummation of this offering.

* To join our board of directors prior to the consummation of this offering.

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 36 years experience in the laboratory products and analytical instruments industry.

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

JAMES WARREN has served as our Chief Financial Officer since July 2000. Prior to joining Harvard Bioscience, Mr. Warren served as the Chief Financial Officer of Aquila Biopharmaceuticals, Inc., a life sciences company, from January 1998 until July 2000 and as the Corporate Controller of Genzyme Corporation, a biotechnology company, from 1991 until January 1998. Mr. Warren holds a M.B.A. degree from Boston University.

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.

JOHN HOUSE has served as Managing Director of our Biochrom Ltd subsidiary since July 2000. Prior to joining Biochrom, Mr. House was retired from January 1995 until July 2000 and engaged during that period primarily in charitable activities. Mr. House served in various positions with, and most recently as a Managing Director of, Unicam Ltd., a manufacturer of analytical instruments, from 1987 until January 1995.

SUSAN LUSCINKSI has served as our Vice President of Finance and Administration since May 1999. 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.

CHRISTOPHER W. DICK has served as a director of Harvard Bioscience since March 1996. Mr. Dick has served as Managing Director of Ascent Venture Management, Inc., a private equity firm, since March 1999. Mr. Dick has served as a Managing Member or General Partner of Ascent Venture Partners, L.P. fund and Ascent Venture Partners II, L.P. fund since 1999. Prior to joining Ascent Venture Management, Inc., Mr. Dick served as General Partner of Pioneer Capital Corporation, a private equity management firm, from 1991 until March 1999. Mr. Dick is a graduate of Cornell University and holds a M.B.A. degree from Babson College.

ROBERT DISHMAN has agreed to join our board of directors prior to the consummation of this offering. Since 1994, Mr. Dishman has served in various positions with, and most recently as an Executive Vice President and Director of Dyax Corp. (formerly Biotage, Inc.), a commercial physical and biological research company. Mr. Dishman holds a Ph.D. in Analytical Chemistry from the University of Massachusetts-Amherst.

RICHARD C. KLAFFKY, JR. has served as a director of Harvard Bioscience since March 1996. Since 1987, Mr. Klaffky has served as President of FINEC Corp., the corporate general partner of two private equity partnerships, First New England Capital L.P. and First New England Capital 2 L.P., based in Hartford, Connecticut. Mr. Klaffky also serves as a director of Centrum Industries, a manufacturing company in the metal forming, material handling and motor production industries. Mr. Klaffky is a graduate of Brown University and holds a M.B.A. degree from Columbia University.

EARL R. LEWIS has agreed to join our board of directors prior to the consummation of this offering. Mr. Lewis has served in various capacities with Thermo Instrument Systems (now merged into Thermo Electron Corporation) since 1986 and was subsequently named President in 1997 and Chief Executive Officer in 1998. ThermoElectron Corporation develops, manufactures and markets measuring and controlling devices. Mr. Lewis is Chairman of Thermo BioAnalysis Corporation, Thermo Vision Corporation, Thermo Optek Corporation, ThermoQuest Corporation, each of which is a developer of laboratory analytical instruments, and ONIX Systems, Inc., a developer of measuring and controlling devices. Mr. Lewis is a director of SpectRx, Inc., an electromedical and electrotherapeutic company, Metrika Systems Corporation, a developer of industrial instruments for measurement, display and control, and ThermoSpectra Corporation, a developer of instruments for measuring and testing of electricity and electric signals.

BOARD COMPOSITION

Following the closing of this offering, our board of directors will be divided into three classes, each of whose members will serve for a staggered three-year term. Our board of directors will consist of Messrs. Dick and Klaffky as Class I directors, whose term of office will continue until the 2001 annual meeting of stockholders, Messrs. Green and Dishman as Class II directors, whose term of office will continue until the 2002 annual meeting of stockholders, and Messrs. Graziano and Lewis as Class III

directors, whose term of office will continue until the 2003 annual meeting of stockholders. At each annual meeting of stockholders, a class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring.

BOARD COMMITTEES

Effective upon the closing of this offering, our board of directors will reconstitute the audit committee and compensation committee.

AUDIT COMMITTEE. The members of the audit committee will be responsible for recommending to the board of directors the engagement of our outside auditors and reviewing our accounting controls and the results and scope of audits and other services provided by our auditors. Our audit committee will consist of three independent directors.

COMPENSATION COMMITTEE. The members of the compensation committee, a majority of whom will be independent directors, will be responsible for approving or recommending to the board of directors the amount and type of consideration to be paid to senior management, administering our stock option plans and establishing and reviewing general policies relating to compensation and benefits of employees.

DIRECTOR COMPENSATION

We reimburse our non-employee directors for their expenses incurred in connection with attending board and committee meetings but do not provide cash compensation for their services as board or committee members. Directors are eligible to participate in our 2000 Stock Option and Incentive Plan. Each of our non-employee directors, other than Messrs. Dick and Klaffky, will receive a one-time option grant of 10,000 shares vesting annually over four years upon joining the board and an annual option grant of 2,500 shares vesting annually over four years on the date of each annual meeting of stockholders following the closing of this offering. The exercise price for each of these option grants will be equal to the fair market value of the underlying shares of our common stock on the date of grant.

EXECUTIVE COMPENSATION

The following table sets forth the total compensation paid or accrued in the fiscal year ended December 31, 1999 to our Chief Executive Officer and the three other executive officers whose aggregate compensation exceeded $100,000.

SUMMARY COMPENSATION TABLE

NAME AND POSITION	ANNUAL COMPENSATION SALARY	ANNUAL COMPENSATION BONUS	LONG-TERM COMPENSATION NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED	ALL OTHER COMPENSATION
Chane Graziano ..... Chief Executive Officer	$219,000	$232,000	458,257	$19,592(1)
David Green ..... President	175,000	186,000	458,257	15,507(2)
Mark A. Norige ..... Chief Operating Officer	108,000	35,000	--	5,447(3)
Susan M. Luscinski ..... Vice President of Finance and Administration	95,000	47,500	--	4,832(3)

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(1) Includes $7,357 in automobile lease payments, $7,520 in contributions by us to Mr. Graziano's 401(k) account and $4,715 representing life insurance purchased for Mr. Graziano's benefit.

(2) Includes $7,687 in automobile lease payments, $7,165 in contributions by us to Mr. Green's 401(k) account and $655 representing life insurance purchased for Mr. Green's benefit.

(3) Represents contributions by us to the executive officers' 401(k) accounts.

OPTION GRANTS IN LAST FISCAL YEAR AND OPTION VALUES AT FISCAL YEAR END

The following table provides information regarding stock options granted to the named executive officers during the fiscal year ended December 31, 1999.

OPTION GRANTS IN FISCAL YEAR 1999

	INDIVIDUAL GRANTS					POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATE OF STOCK PRICE APPRECIATION FOR OPTION TERM(3)	
NAME	DATE OF GRANT	NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED(1)	PERCENT OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN FISCAL YEAR(2)	EXERCISE PRICE PER SHARE	EXPIRATION DATE	5%	10%
Chane Graziano.....	3/2/1999	458,257	50%	$1.0461	3/2/2009	$301,480	$764,009
David Green.....	3/2/1999	458,257	50%	1.0461	3/2/2009	301,480	764,009

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(1) The options, as amended in September 2000, vest upon the sale of all or substantially all of our assets or capital stock for a price per share of common stock of at least $2.09, or if our fair market value at any time prior to December 31, 2000 results in a per share valuation, on a fully-diluted basis, of not less than $2.09 per share. The exercise price of the options is equal to the fair market value of our common stock on the date of grant.

(2) Based on an aggregate of 916,514 options granted in fiscal 1999.

(3) The amounts shown as potential realizable value illustrate what might be realized upon exercise immediately prior to expiration of the option term using the 5% and 10% appreciation rates compounded annually as established in regulations of the Securities and Exchange Commission.

The following table sets forth the potential realizable value of the options granted to the listed executive officers using our assumed initial public offering price of $12.00 per share:

	NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED	POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM	
		5%	10%
Chane Graziano	458,257	$8,478,047	$13,783,827
David Green	458,257	$8,478,047	$13,783,827

The potential realizable value is not intended to predict future appreciation of the price of our common stock. The values shown do not consider non-transferability, vesting or termination of the options upon termination of the employee's employment relationship with us.

FISCAL YEAR-END OPTION VALUES

The following table sets forth information concerning the number and value of unexercised options to purchase common stock held as of December 31, 1999 by the executive officers listed in the Summary Compensation Table. There was no public trading market for our common stock as of December 31, 1999. Accordingly, the values of the unexercised in-the-money options have been calculated on the basis of the estimated fair value of our common stock at December 31, 1999 of $3.67, less the applicable exercise price multiplied by the number of shares which may be acquired on exercise. None of the executive officers listed in the Summary Compensation Table exercised any stock options in fiscal 1999.

AGGREGATE OPTION AMOUNTS AND FISCAL YEAR-END OPTION VALUES

	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FISCAL YEAR-END		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FISCAL YEAR-END	
NAME	EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
Chane Graziano	783,808	570,229	$2,872,746	$1,610,825
David Green	783,808	570,229	2,872,746	1,610,825
Mark A. Norige	55,976	55,996	204,366	204,438
Susan M. Luscinski	83,965	28,007	307,742	102,653

BENEFIT PLANS

2000 STOCK OPTION AND INCENTIVE PLAN. Our board of directors will adopt the 2000 Stock Option and Incentive Plan, subject to stockholder approval. The 2000 Stock Option and Incentive Plan will be submitted to our stockholders for approval in October 2000. The 2000 Stock Option and Incentive Plan allows for the issuance of up to 1,250,000 shares of common stock plus an additional amount equal to 5% of any net increase in the total number of shares of common stock outstanding after this offering. Our compensation committee will administer the 2000 Stock Option and Incentive Plan.

Under the 2000 Stock Option and Incentive Plan, our compensation committee may:

- grant incentive stock options,
- grant non-qualified stock options,
- grant stock appreciation rights,
- issue or sell common stock with vesting or other restrictions, or without restrictions,

- grant rights to receive common stock in the future with or without vesting,

- grant common stock upon the attainment of specified performance goals, and

- grant dividend rights in respect of common stock.

These grants and issuances may be made to our officers, employees, directors, consultants, advisors and other key persons.

Our compensation committee has the right, in its discretion, to select the individuals eligible to receive awards, determine the terms and conditions of the awards granted, accelerate the vesting schedule of any award and generally administer and interpret the plan.

The exercise price of options granted under the 2000 Stock Option and Incentive Plan is determined by our compensation committee. Under present law, incentive stock options and options intended to qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code of 1986 may not be granted at an exercise price less than the fair market value of the common stock on the date of grant, or less than 110% of the fair market value in the case of incentive stock options granted to optionees holding more than 10% of the voting power.

Non-qualified stock options may be granted at prices which are less than the fair market value of the underlying shares on the date granted. Options are typically subject to vesting schedules, terminate 10 years from the date of grant and may be exercised for specified periods after the termination of the optionee's employment or other service relationship with us. Upon the exercise of options, the option exercise price must be paid in full either in cash or by certified or bank check or other instrument acceptable to the committee or, in the sole discretion of the committee, by delivery of shares of common stock that have been owned by the optionee free of restrictions for at least six months.

The 2000 Stock Option and Incentive Plan and all awards issued under the plan will terminate upon a merger, reorganization or consolidation, the sale of all or substantially all of our assets or all of our outstanding capital stock or a liquidation or other similar transaction, unless Harvard Bioscience and the other parties to such transactions have agreed otherwise. All participants under the 2000 Stock Option and Incentive Plan will be permitted to exercise for a period of 30 days before any such termination all awards held by them which are then exercisable or will become exercisable upon the closing of the transaction.

EMPLOYEE STOCK PURCHASE PLAN. The Employee Stock Purchase Plan will be adopted by our board of directors in October 2000 subject to stockholder approval. The Employee Stock Purchase Plan will be submitted to stockholders in October 2000. Up to 500,000 shares of our common stock may be issued under the Employee Stock Purchase Plan. The Employee Stock Purchase Plan is administered by our compensation committee.

The first offering under the Employee Stock Purchase Plan will commence on January 1, 2001 and end on June 30, 2001. Subsequent offerings will commence on each January 1 and July 1 thereafter and will have a duration of six months. Generally, all employees who are customarily employed for more than 20 hours per week as of the first day of the applicable offering period are eligible to participate in the Employee Stock Purchase Plan. Any employee who owns or is deemed to own shares of stock representing in excess of 5% of the combined voting power of all classes of our stock may not participate in the Employee Stock Purchase Plan.

During each offering, an employee may purchase shares under the Employee Stock Purchase Plan by authorizing payroll deductions of up to 10% of his cash compensation during the offering period. Unless the employee has previously withdrawn from the offering, his accumulated payroll deductions will be used to purchase shares of our common stock on the last business day of the period at a price equal to 85% of the fair market value of our common stock on the first or last day of the offering period, whichever is lower. Under applicable tax rules, an employee may purchase no more than

$25,000 worth of our common stock in any calendar year under the Employee Stock Purchase Plan. We have not issued any shares to date under the Employee Stock Purchase Plan.

1996 STOCK OPTION AND GRANT PLAN. Our 1996 Stock Option and Grant Plan was initially approved by our board of directors and was approved by our stockholders in March 1996. Our 1996 Stock Option and Grant Plan provides for the issuance of 4,072,480 shares of our common stock. As of October 15, 2000, options to purchase 599,096 shares of our common stock were outstanding under our 1996 Stock Option and Grant Plan. Options granted under our 1996 Stock Option and Grant Plan generally vest over four years and terminate on the tenth anniversary of the date of grant. We will not make any additional grants under our 1996 Stock Option and Grant Plan after the completion of this offering.

EMPLOYMENT ARRANGEMENTS

We anticipate entering into employment agreements with each of Messrs. Graziano, Green and Warren. Each proposed agreement is for a period of two years, other than Mr. Warren's agreement which is for one year. Each agreement automatically extends for one additional year on the anniversary date unless either party has given notice that it does not wish to extend the agreement. Each agreement provides for the payment of base salary and incentive compensation and for the provision of certain fringe benefits to the executive. Under their respective employment agreements, the annual salary for Mr. Graziano is $275,000, the annual salary for Mr. Green is $225,000 and the annual salary for Mr. Warren is $185,000. The agreements require our executive officers to refrain from competing with us and from soliciting our employees for a period of 12 months following termination for any reason. Each agreement also provides for certain payments and benefits for an executive officer should his or her employment with us be terminated because of death or disability, by the executive for good reason or by us without cause, as further defined in the agreements. In general, in the case of a termination by the executive officer for good reason, or by us without cause, the executive officer will receive up to two years' salary and bonus in the cases of Messrs. Graziano and Green and one year's salary and bonus in the case of Mr. Warren, an extension of benefits for one year and an acceleration of vesting for stock options and restricted stock which otherwise would vest during the next twelve months. Upon a change of control, as defined in the agreements, the executive officer is eligible for payment of up to three years' salary and bonus in the cases of Messrs. Graziano and Green and one-and-a-half year's salary and bonus in the case of Mr. Warren, an extension of benefits for one year and an acceleration of vesting for all outstanding stock options and restricted stock.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

Messrs. Dick and Klaffky are the members of our compensation committee. Neither Mr. Dick nor Mr. Klaffky is an executive officer of our company or has received any compensation from us within the last three years other than in his capacity as a director.

STOCK REDEMPTIONS AND LOAN REPAYMENTS WITH STOCKHOLDERS

In March 1996, our business was acquired by a group that was led by our current management team of Chane Graziano, our Chief Executive Officer, and David Green, our President, and that also included Paul Grindle, a former member of our board of directors, Ascent Venture Partners, L.P. (formerly known as Pioneer Venture Limited Partnership), Ascent Venture Partners II, L.P. (formerly known as Pioneer Venture Limited Partnership II) and First New England Capital, L.P. In connection with this acquisition, we issued redeemable preferred stock for an aggregate purchase price of $1.5 million and subordinated debentures with an aggregate principal amount of $1.0 million to our investors. The redeemable preferred stock pays cumulative dividends at the rate of $0.26 per share quarterly in arrears and the subordinated debentures bear interest at an annual rate of 13% payable quarterly in arrears. The terms of the redeemable preferred stock and the subordinated debentures require us to redeem or repay these instruments upon the completion of this offering. A portion of the proceeds of this offering will be used to retire the redeemable preferred stock and the subordinated debentures. The redemption of the preferred stock and the retirement of the subordinated debentures will result in payments of approximately $167,000 to Mr. Graziano, our Chief Executive Officer and a member of our board of directors, $500,000 to Ascent Venture Partners, L.P., $1.0 million to Ascent Venture Partners II, L.P. and $500,000 to First New England Capital, L.P. Christopher W. Dick, a member of our board of directors, is a Managing Director of Ascent Venture Management, Inc., the general partner of Ascent Venture Partners, L.P., and Ascent Management SBIC Corp., the general partner of Ascent Venture Partners II, L.P., and Richard C. Klaffky, Jr., a member of our board of directors, is the President of FINEC Corp., the general partner of First New England Capital, L.P.

TRANSACTIONS WITH AN AFFILIATE OF AN EXECUTIVE OFFICER

In March 1996, we acquired our business from a company now known as Harvard Clinical Technology Inc. Following this acquisition, we entered into several transition-related transactions with Harvard Clinical. In 1997, we sold Harvard Clinical several items of furniture, fixtures, appliances and equipment, leased Harvard Clinical office space on the same terms as the underlying lease with the third-party landlord, provided transition support services and assumed Harvard Clinical's obligations to pay specified professional fees in exchange for 1,529,180 shares of our common stock held by a principal stockholder of Harvard Clinical at an agreed upon value of $0.11 per share. The assets purchased by Harvard Clinical had an aggregate purchase price of $122,000, which reflected their estimated fair market value as determined by Mr. Graziano, our Chief Executive Officer. We originally purchased these assets as part of the March 1996 acquisition of our business. We believe that each of these transactions was consummated on terms at least as favorable to us as could have been obtained from unaffiliated parties. Diane Green, who is an officer, director and stockholder of Harvard Clinical, is the spouse of Mr. Green, our President and a member of our board of directors.

LOANS TO OFFICERS IN CONNECTION WITH OPTION EXERCISES

In October 2000, Mr. Graziano, our Chief Executive Officer, and Mr. Green, our President, each exercised options to purchase 740,228 shares of our common stock. Each of these officers paid substantially all of the exercise price for these shares by issuing promissory notes to the Company. The aggregate loans to Mr. Graziano are $774,000 and to Mr. Green are $789,000 pursuant to these promissory notes. Each of these promissory notes is due in October 2003 and bears interest at an annual rate of 10%. These promissory notes are secured by a pledge of all of the shares for which the exercise price was paid with the respective promissory notes as well as additional shares held by each of these officers.

PRINCIPAL AND SELLING STOCKHOLDERS

The following table sets forth information regarding the beneficial ownership of Harvard Bioscience common stock as of October 15, 2000 and on an as adjusted basis to reflect the sale of the common stock offered hereby by:

- all persons known by us to own beneficially 5% or more of the common stock,
- each of our directors,
- the executive officers listed in the summary compensation table,
- the stockholder selling shares in this offering, and
- all of our directors and executive officers as a group.

The number of shares beneficially owned by each stockholder is determined under rules issued by the Securities and Exchange Commission and includes voting or investment power with respect to securities. Under these rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power and includes any shares as to which the individual or entity has the right to acquire beneficial ownership within 60 days after October 15, 2000 through the exercise of any warrant, stock option or other right. The inclusion in this prospectus of such shares, however, does not constitute an admission that the named stockholder is a direct or indirect beneficial owner of such shares. Unless otherwise indicated, the address of all listed stockholders is c/o Harvard Bioscience, Inc., 84 October Hill Road, Holliston, MA 01746-1371.

	BENEFICIAL OWNERSHIP PRIOR TO OFFERING(1)			BENEFICIAL OWNERSHIP AFTER OFFERING(1)	
NAME OF BENEFICIAL OWNER	SHARES	PERCENT	SHARES TO BE SOLD	SHARES	PERCENT
Christopher W. Dick(2) ..... 255 State Street Boston, MA 02109	6,465,037	34.9%	--	6,465,037	26.1%
Chane Graziano(3)	5,089,929	27.5%	--	5,089,929	20.5%
Ascent Venture Partners II, L.P.(4) ..... 255 State Street Boston, MA 02109	3,927,651	21.2%	--	3,927,651	15.8%
David Green	3,479,386	18.8%	172,450	3,306,936	13.3%
Ascent Venture Partners, L.P.(5) ..... 255 State Street Boston, MA 02109	2,537,386	13.7%	--	2,537,386	10.2%
First New England Capital, L.P.(6) ..... 100 Pearl Street Hartford, CT 06103	1,963,825	10.6%	--	1,963,825	7.9%
Richard C. Klaffky(7) ..... 100 Pearl Street Hartford, CT 06103	1,963,825	10.6%	--	1,963,825	7.9%
NEGF, II, L.P.(8) ..... One Boston Place Suite 2100 Boston, MA 02108	955,935	5.2%	--	955,935	3.9%
Susan M. Luscinski	111,972	*	--	111,972	*
Mark A. Norige	83,964	*	--	83,964	*
Robert Dishman	--	*	--	--	*
Earl R. Lewis	--	*	--	--	*
All executive officers and directors, as a group (8 persons)	17,194,113	92.8%	172,450	17,021,663	68.7%

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* Represents less than 1% of the outstanding shares of common stock.

(1) All percentages assume the underwriters do not elect to exercise the over-allotment option to purchase an additional 937,500 shares of common stock. The number of shares of common stock set forth herein includes shares to be issued upon completion of this offering pursuant to the conversion of all outstanding shares of our series B convertible preferred stock into shares of common stock and the exercise of all outstanding warrants to purchase shares of our common stock.

(2) Consists solely of the shares described in notes (4) and (5) below, of which Mr. Dick may be considered the beneficial owner. Mr. Dick disclaims beneficial ownership of such shares, except to the extent of his pecuniary interest therein.

(3) Includes 1,291,004 shares held by two trusts for the benefit of Mr. Graziano's children, of which Mr. Graziano is a trustee.

(4) Ascent Management SBIC Corp. is the general partner of Ascent Venture Management II, L.P., which is the general partner of Ascent Venture Partners II, L.P., which exercises sole voting and investment power with respect to all of the shares held of record by Ascent Venture Partners II, L.P. Mr. Dick, a member of our board of directors, is the Managing Director of Ascent Management SBIC Corp. Mr. Dick disclaims any beneficial ownership of the shares held by Ascent Venture Partners II, L.P., except to the extent of his pecuniary interest therein.

(5) Ascent Venture Management, Inc. is the general partner of Ascent Venture Partners, L.P., which exercises sole voting and investment power with respect to all of the shares held of record by Ascent Venture Partners, L.P. Mr. Dick, a member of our board of directors, is the Managing Director of Ascent Venture Management, Inc. Mr. Dick disclaims any beneficial ownership of the shares held by Ascent Venture Partners, L.P., except to the extent of his pecuniary interest therein.

(6) FINEC Corp. is the general partner of First New England Capital, L.P., which exercises sole voting and investment power with respect to all of the shares held of record by First New England Capital, L.P. Mr. Klaffky, a member of our board of directors, is the President of FINEC Corp. Mr. Klaffky disclaims any beneficial ownership of the shares held by First New England Capital, L.P., except to the extent of his pecuniary interest therein.

(7) Consists solely of the shares described in note (6) above, of which Mr. Klaffky may be considered the beneficial owner. Mr. Klaffky disclaims beneficial ownership of such shares, except to the extent of his pecuniary interest therein.

(8) NEGF Ventures, Inc. is the general partner of New England Partners, II, L.P., which is the general partner of NEGF II, L.P. NEGF Ventures, Inc. exercises sole voting and investment power with respect to all of the shares held of record by NEGF II, L.P. Individually, no stockholder, director or officer of NEGF Ventures, Inc. is deemed to have or share such voting or investment power.

DESCRIPTION OF CAPITAL STOCK

Following this offering, our authorized capital stock will consist of 80,000,000 shares of common stock and 5,000,000 shares of undesignated preferred stock, issuable in one or more series designated by our board of directors. No other class of capital stock will be authorized. Prior to this offering, our common stock was held by seven stockholders of record. The following information relates only to our certificate of incorporation and by-laws, as they will exist after this offering.

COMMON STOCK

VOTING RIGHTS. The holders of our common stock have one vote per share. Holders of our common stock are not entitled to vote cumulatively for the election of directors. Generally, all matters to be voted on by stockholders must be approved by a majority, or, in the case of election of directors, by a plurality, of the votes cast at a meeting at which a quorum is present, voting together as a single class, subject to any voting rights granted to holders of any then outstanding preferred stock.

DIVIDENDS. Holders of common stock will share ratably in any dividends declared by our board of directors, subject to the preferential rights of any preferred stock then outstanding. Dividends consisting of shares of common stock may be paid to holders of shares of common stock.

OTHER RIGHTS. Upon our liquidation, dissolution or winding up, all holders of common stock are entitled to share ratably in any assets available for distribution to holders of shares of common stock. No shares of common stock are subject to redemption or have preemptive rights to purchase additional shares of common stock.

PREFERRED STOCK

Our certificate of incorporation provides that 5,000,000 shares of preferred stock may be issued from time to time in one or more series. Our board of directors is authorized to fix the voting rights, if any, designations, powers, preferences, qualifications, limitations and restrictions thereof, applicable to the shares of each series. Our board of directors may, without stockholder approval, issue preferred stock with voting and other rights that could adversely affect the voting power and other rights of the holders of the common stock and could have anti-takeover effects, including preferred stock or rights to acquire preferred stock in connection with implementing a shareholder rights plan. We have no present plans to issue any shares of preferred stock. The ability of our board of directors to issue preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of control with respect to our company or the removal of existing management.

WARRANTS

As of October 15, 2000, we had outstanding warrants to purchase 8,509,905 shares of common stock at an exercise price of $0.0005 per share. The warrants will expire on March 15, 2003. These warrants will be exercised in connection with this offering.

REGISTRATION RIGHTS

Following this offering, the holders of 17,208,101 shares of our common stock will have rights with respect to registration of these shares under the Securities Act of 1933. These rights are provided under the terms of a securityholders agreement between us and certain of the holders of registrable securities. Under these registration rights, holders of registrable securities holding 30% or more of the then outstanding registrable securities held by all holders of registrable securities may require on two occasions that we register their shares for public resale. In addition, certain holders of registrable securities may require that we register their shares for public resale on Form S-3 or similar short-form registration, if we are eligible to use Form S-3 or similar short form registration, and the value of the

securities to be registered is at least $2,000,000. If we elect to register any of our shares of common stock for any public offering, the holders of registrable securities are entitled to include shares of common stock in the registration. However, we may reduce the number of shares proposed to be registered in view of market conditions. We will pay all expenses in connection with any registration, other than underwriting discounts and commissions.

INDEMNIFICATION MATTERS

Prior to the offering, we will have entered into indemnification agreements with each of our directors. The form of indemnification agreement provides that we will indemnify our directors for expenses incurred because of their status as a director to the fullest extent permitted by Delaware law, our certificate of incorporation and our by-laws.

Our certificate of incorporation contains a provision permitted by Delaware law that generally eliminates the personal liability of directors for monetary damages for breaches of their fiduciary duty, including breaches involving negligence or gross negligence in business combinations, unless the director has breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or a knowing violation of law, paid a dividend or approved a stock repurchase in violation of the Delaware General Corporation Law or obtained in improper personal benefit. This provision does not alter a director's liability under the federal securities laws and does not affect the availability of equitable remedies, such as an injunction or rescission, for breach of fiduciary duty. Our by-laws provide that directors and officers shall be, and in the discretion of our board of directors, non-officer employees may be, indemnified by us to the fullest extent authorized by Delaware law, as it now exists or may in the future be amended, against all expenses and liabilities reasonably incurred in connection with service for or on behalf of us. Our by-laws also provide for the advancement of expenses to directors and, in the discretion of our board of directors, to officers and non-officer employees. In addition, our by-laws provide that the right of directors and officers to indemnification shall be a contract right and shall not be exclusive of any other right now possessed or hereafter acquired under any by-law, agreement, vote of stockholders or otherwise. We also have directors' and officers' insurance against certain liabilities. We believe that the indemnification agreements, together with the limitation of liability and indemnification provisions of our certificate of incorporation and by-laws and directors' and officers' insurance will assist us in attracting and retaining qualified individuals to serve as our directors and officers.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be provided to directors, officers or persons controlling us as described above, we have been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable. At present, there is no pending material litigation or proceeding involving any of our directors, officers, employees or agents in which indemnification will be required or permitted.

PROVISIONS OF OUR CERTIFICATE OF INCORPORATION AND BY-LAWS THAT MAY HAVE ANTI-TAKEOVER EFFECTS

Certain provisions of our certificate of incorporation and by-laws described below, as well as the ability of our board of directors to issue shares of preferred stock and to set the voting rights, preferences and other terms thereof, may be deemed to have an anti-takeover effect and may discourage takeover attempts not first approved by our board of directors, including takeovers which particular stockholders may deem to be in their best interests. These provisions also could have the effect of discouraging open market purchases of our common stock because they may be considered disadvantageous by a stockholder who desires subsequent to such purchases to participate in a business combination transaction with us or to elect a new director to our board.

NO STOCKHOLDER ACTION BY WRITTEN CONSENT

Our certificate of incorporation provides that any action required or permitted to be taken by our stockholders at an annual or special meeting of stockholders must be effected at a duly called meeting and may not be taken or effected by a written consent of stockholders.

SPECIAL MEETINGS OF STOCKHOLDERS

Our certificate of incorporation and by-laws provide that a special meeting of stockholders may be called only by our board of directors. Our by-laws provide that only those matters included in the notice of the special meeting may be considered or acted upon at that special meeting unless otherwise provided by law.

ADVANCE NOTICE OF DIRECTOR NOMINATIONS AND STOCKHOLDER PROPOSALS

Our by-laws include advance notice and informational requirements and time limitations on any director nomination or any new proposal which a stockholder wishes to make at an annual meeting of stockholders. For the first annual meeting following the completion of this offering, a stockholder's notice of a director nomination or proposal will be timely if delivered to our secretary at our principal executive offices not later than the close of business on the later of the 75th day prior to the scheduled date of such annual meeting or the 10th day following the day on which public announcement of the date of such annual meeting is made by us.

AMENDMENT OF THE CERTIFICATE OF INCORPORATION

As required by Delaware law, any amendment to our certificate of incorporation must first be approved by a majority of our board of directors and, if required by law, thereafter approved by a majority of the outstanding shares entitled to vote with respect to such amendment, except that any amendment to the provisions relating to stockholder action by written consent, directors, limitation of liability and the amendment of our certificate of incorporation must be approved by not less than 75% of the outstanding shares entitled to vote with respect to such amendment.

AMENDMENT OF BY-LAWS

Our certificate of incorporation and by-laws provide that our by-laws may be amended or repealed by our board of directors or by the stockholders. Such action by the board of directors requires the affirmative vote of a majority of the directors then in office. Such action by the stockholders requires the affirmative vote of at least 75% of the shares present in person or represented by proxy at an annual meeting of stockholders or a special meeting called for such purpose unless our board of directors recommends that the stockholders approve such amendment or repeal at such meeting, in which case such amendment or repeal only requires the affirmative vote of a majority of the shares present in person or represented by proxy at the meeting.

STATUTORY BUSINESS COMBINATION PROVISION

Following the offering, we will be subject to Section 203 of the Delaware General Corporation Law, which prohibits a publicly-held Delaware corporation from consummating a "business combination," except under certain circumstances, with an "interested stockholder" for a period of three years after the date such person became an "interested stockholder" unless:

- before such person became an interested stockholder, the board of directors of the corporation approved the transaction in which the interested stockholder became an interested stockholder or approved the business combination;

- upon the closing of the transaction that resulted in the interested stockholder becoming such, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding shares held by directors who are also officers of the corporation and shares held by employee stock plans; or

- following the transaction in which such person became an interested stockholder, the business combination is approved by the board of directors of the corporation and authorized at a meeting of stockholders by the affirmative vote of the holders of at least two-thirds of the outstanding voting stock of the corporation not owned by the interested stockholder.

The term "interested stockholder" generally is defined as a person who, together with affiliates and associates, owns, or, within the prior three years, owned, 15% or more of a corporation's outstanding voting stock. The term "business combination" includes mergers, consolidations, asset sales involving 10% or more of a corporation's assets and other similar transactions resulting in a financial benefit to an interested stockholder. Section 203 makes it more difficult for an "interested stockholder" to effect various business combinations with a corporation for a three-year period. A Delaware corporation may "opt out" of Section 203 with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or by-laws resulting from an amendment approved by holders of at least a majority of the outstanding voting stock. Neither our certificate of incorporation nor our by-laws contain any such exclusion.

TRADING ON THE NASDAQ NATIONAL MARKET SYSTEM

We have applied to have our common stock approved for quotation on the Nasdaq National Market under the symbol "HBIO."

NO PREEMPTIVE RIGHTS

No holder of any class of our stock has any preemptive right to purchase any of our securities.

TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for our common stock will be Registrar and Transfer Company.

SHARES ELIGIBLE FOR FUTURE SALE

Upon consummation of the offering, we will have outstanding 24,782,422 shares of common stock or 25,719,922 shares if the underwriters' over-allotment option is exercised in full, in each case excluding shares underlying outstanding options. Of these shares, all of the shares sold in this offering (6,422,450 shares, or 7,359,950 shares if the underwriters' over-allotment option is exercised in full) will be freely tradeable without restriction or further registration under the Securities Act except for any shares purchased by an "affiliate," which will be subject to the limitations of Rule 144 of the Securities Act. As defined in Rule 144, an "affiliate" of an issuer is a person that directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with the issuer. The remaining outstanding shares of common stock will be "restricted securities" as defined in Rule 144 and may not be resold in the absence of registration under the Securities Act or pursuant to an exemption from such registration, including exemptions provided by Rule 144.

In addition, our executive officers, directors, and existing stockholders, who own all of the shares of our capital stock outstanding prior to this offering, have signed lock-up agreements in which they have agreed not to offer, sell, contract to sell or otherwise dispose of any common stock or any securities convertible into or exchangeable for common stock for a period of 180 days after the date of this prospectus without the prior written consent of Thomas Weisel Partners LLC. Immediately following this offering, the shares subject to the lock-up agreements will represent approximately 74% of the then outstanding shares of common stock (71% if the underwriters' over-allotment option is exercised in full). While the underwriters have indicated no present intention to waive these restrictions, were they to do so, up to approximately an additional 18,359,972 shares of our common stock could be available for sale during the period following the offering, which could harm our stock price or make it more difficult to sell our shares. Historically, factors that have led underwriters to waive lock-up restrictions on a case by case basis include bona fide gifts to charitable institutions and other small waivers which underwriters reasonably believe will have minimal effect on the trading price of the common stock of the applicable company.

RULE 144

In general, under Rule 144, beginning 90 days after the date of this prospectus, a person who has beneficially owned restricted shares for at least one year, including persons who are affiliates, would be entitled to sell within any three-month period a number of shares that does not exceed the greater of:

- 1% of the then outstanding shares of our common stock, approximately 247,824 shares immediately after this offering; or

- the reported average weekly trading volume of our common stock during the four calendar weeks preceding a sale by such person.

Sales under Rule 144 are also subject to manner-of-sale provisions, notice requirements and the availability of current public information.

RULE 144(k)

Under Rule 144(k), a person who has not been one of our affiliates during the 90 days preceding a sale, and who has beneficially owned the shares proposed to be sold for at least two years, is free to sell such shares without regard to the volume, manner-of-sale or certain other limitations contained in Rule 144. Upon completion of this offering, no holders of shares of our common stock will be eligible to freely sell shares under Rule 144(k).

Prior to this offering, there has been no public market for our common stock and we can make no predictions about the effect, if any, that market sales of shares or the availability of shares for sale will have on the market price of our common stock prevailing from time to time. Future sales of substantial

amounts of our common stock in the public market, or the perception that such sales may occur, may cause the market prices of our common stock to decline.

REGISTRATION RIGHTS

After the 180-day period following the closing of this offering, the holders of 17,208,101 shares of our common stock will have rights which require us to register their shares for sale. See "Description of Capital Stock--Registration Rights."

OPTIONS

As of October 15, 2000, options to purchase 599,096 shares of our common stock were outstanding. At some time following the effectiveness of the offering chosen by the board of directors in its discretion, we intend to file a registration statement on Form S-8 under the Securities Act to register all of the shares of our common stock reserved for issuance under our 2000 Stock Option and Incentive Plan, our Employee Stock Purchase Plan and our 1996 Stock Option and Grant Plan. The filing of this registration statement will allow these shares, other than those held by members of management who are deemed to be affiliates, to be eligible for resale without restriction, subject to the lock-up period related to this offering, or further registration upon issuance to participants. After the effective date of the registration statement on Form S-8 and, if applicable, the expiration of the lock-up period related to this offering, shares purchased upon exercise of options granted pursuant to these plans, generally will be available for resale in the public market by non-affiliates without restriction. Sales by our affiliates of shares registered on this registration statement are subject to all of the Rule 144 restrictions except for the one-year minimum holding period requirement.

In addition to possibly being able to sell option shares without restriction under a Form S-8 registration statement when effective, persons other than our affiliates are allowed under Rule 701 of the Securities Act to sell shares of our common stock issued upon exercise of stock options beginning 90 days after the date of this prospectus, subject only to the manner of sale provisions of Rule 144 and to the lock-up period related to this offering. Our affiliates may also begin selling option shares beginning 90 days after the date of this prospectus but are subject to all of the Rule 144 restrictions except for the one-year holding period requirement and to the 180-day lock-up period related to this offering.

GENERAL

Subject to the terms and conditions set forth in an agreement among the underwriters and us, each of the underwriters named below, through their representatives, Thomas Weisel Partners LLC, Dain Rauscher Incorporated and ING Barings LLC have severally agreed to purchase from us the aggregate number of shares of common stock set forth opposite its name below:

UNDERWRITERS	NUMBER OF SHARES
Thomas Weisel Partners LLC	
Dain Rauscher Incorporated	
ING Barings LLC	
Total	6,422,450

Of the 6,422,450 shares to be purchased by the underwriters, 6,250,000 shares will be purchased from us and 172,450 shares will be purchased from our president as a selling stockholder.

The underwriting agreement provides that the obligations of the several underwriters are subject to various conditions. The nature of the underwriters' obligations commits them to purchase and pay for all of the shares of common stock listed above if any are purchased.

The underwriting agreement provides that we and the selling stockholder will indemnify the underwriters against liabilities specified in the underwriting agreement under the Securities Act or will contribute to payments that the underwriters may be required to make relating to these liabilities.

Thomas Weisel Partners LLC expects to deliver the shares of common stock to purchasers on , 2000.

OVER-ALLOTMENT OPTION

We have granted a 30-day over-allotment option to the underwriters to purchase up to a total of 937,500 additional shares of our common stock from us at the initial public offering price, less the underwriting discounts and commissions payable by us, as set forth on the cover page of this prospectus. If the underwriters exercise this option in whole or in part, then each of the underwriters will be separately committed, subject to conditions described in the underwriting agreement, to purchase the additional shares of our common stock in proportion to their respective commitments set forth in the table above.

DETERMINATION OF OFFERING PRICE

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price will include:

- the valuation multiples of publicly-traded companies that the representatives believe are comparable to us,
- our financial information,

- our history and prospects and the outlook for our industry,

- an assessment of our management, our past and present operations, and the prospects for, and timing of, our future revenues,

- the present state of our development and the progress of our business plan, and

- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

We cannot assure you that an active or orderly trading market will develop for our common stock or that our common stock will trade in the public markets subsequent to this offering at or above the initial offering price.

COMMISSIONS AND DISCOUNTS

The underwriters propose to offer the shares of common stock directly to the public at the public offering price set forth on the cover page of this prospectus, and at this price less a concession not in excess of $ per share of common stock to other dealers specified in a master agreement among underwriters who are members of the National Association of Securities Dealers, Inc. The underwriters may allow, and the other dealers specified may reallow, concessions, not in excess of $ per share of common stock to these other dealers. After this offering, the offering price, concessions and other selling terms may be changed by the underwriters. Our common stock is offered subject to receipt and acceptance by the underwriters and to other conditions, including the right to reject orders in whole or in part.

The following table summarizes the compensation to be paid to the underwriters by us and the expenses payable by us:

		TOTAL	
	PER SHARE	WITHOUT OVER-ALLOTMENT	WITH OVER-ALLOTMENT
Public offering price	$	$	$
Underwriting discount			
Proceeds, before expenses, to us			
Proceeds, before expenses, to our president as a selling stockholder			

INDEMNIFICATION OF THE UNDERWRITERS

We and the selling stockholder will indemnify the underwriters against some civil liabilities, including liabilities under the Securities Act and liabilities arising from breaches of our representations and warranties contained in the underwriting agreement. If we are unable to provide this indemnification, we will contribute to payments the underwriters may be required to make in respect of those liabilities.

RESERVED SHARES

The underwriters, at our request, have reserved for sale at the initial public offering price up to shares of common stock to be sold in this offering for sale to our employees and other persons designated by us. The number of shares available for sale to the general public will be reduced to the extent that any reserved shares are purchased. Any reserved shares not purchased in this manner will be offered by the underwriters on the same basis as the other shares offered in this offering.

NO SALES OF SIMILAR SECURITIES

Our directors, officers, selling stockholder and other stockholders holding all of the outstanding shares of our capital stock prior to this offering have agreed or have a contractual obligation to agree, subject to specified exceptions, not to offer, sell, agree to sell, directly or indirectly, or otherwise dispose of any shares of common stock or any securities convertible into or exchangeable for shares of common stock without the prior written consent of Thomas Weisel Partners LLC for a period of 180 days after the date of this prospectus.

We have agreed that for a period of 180 days after the date of this prospectus we will not, without the prior written consent of Thomas Weisel Partners LLC, offer, sell, or otherwise dispose of any shares of common stock, except for the shares of common stock offered in the offering and the shares of common stock issuable upon exercise of outstanding options and warrants on the date of this prospectus.

INFORMATION REGARDING THOMAS WEISEL PARTNERS LLC

Thomas Weisel Partners LLC, one of the representatives of the underwriters, was organized and registered as a broker-dealer in December 1998. Since December 1998, Thomas Weisel Partners LLC has been named as a lead or co-manager on 148 completed transactions and has acted as a syndicate member in an additional 129 public offerings of equity securities. Thomas Weisel Partners LLC does not have any material relationship with us or any of our officers, directors or other controlling persons, except with respect to its contractual relationship with us pursuant to the underwriting agreement entered into in connection with this offering.

NASDAQ NATIONAL MARKET LISTING

We have applied to have our common stock approved for quotation on the Nasdaq National Market under the symbol "HBIO."

DISCRETIONARY ACCOUNTS

The underwriters do not expect sales of shares of common stock offered by this prospectus to any accounts over which they exercise discretionary authority to exceed five percent of the shares offered.

SHORT SALES, STABILIZING TRANSACTIONS AND PENALTY BIDS

In order to facilitate this offering, persons participating in this offering may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock during and after this offering. Specifically, the underwriters may engage in the following activities in accordance with the rules of the U.S. Securities and Exchange Commission.

SHORT SALES. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. "Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares from the issuer in the offering. The underwriters may close out any covered short position by either exercising their option to purchase shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. "Naked" short sales are any sales in excess of such over-allotment option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in the offering.

STABILIZING TRANSACTIONS. The underwriters may make bids for or purchases of the shares for the purpose of pegging, fixing or maintaining the price of the shares, so long as stabilizing bids do not exceed a specified maximum.

PENALTY BIDS. If the underwriters purchase shares in the open market in a stabilizing transaction or syndicate covering transaction, they may reclaim a selling concession from the underwriters and selling group members who sold those shares as part of this offering. Stabilization and syndicate covering transactions may cause the price of the shares to be higher than it would be in the absence of these transactions. The imposition of a penalty bid might also have an effect on the price of the shares if it discourages resales of the shares.

The transactions above may occur on the Nasdaq National Market or otherwise. Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of the shares. If these transactions are commenced, they may be discontinued without notice at any time.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Goodwin, Procter & Hoar LLP, Boston, Massachusetts. Various legal matters related to the sale of the common stock offered hereby will be passed upon for the underwriters by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts.

EXPERTS

The consolidated financial statements of Harvard Apparatus, Inc. and subsidiaries as of December 31, 1998, 1999 and September 30, 2000, and for each of the years ended December 31, 1997, 1998 and 1999, and for the nine months ended September 30, 2000, have been included herein and in the registration statement in reliance upon the report of KPMG LLP, independent certified public accountants, appearing elsewhere herein, and the authority of said firm as experts in auditing and accounting.

The audited consolidated financial statements of Pharmacia & Upjohn (Cambridge) Limited as of December 31, 1997 and 1998, and for each of the years ended December 31, 1997 and 1998, have been included herein and in the registration statement in reliance upon the report of PricewaterhouseCoopers, independent chartered accountants, appearing elsewhere herein, and the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the Securities and Exchange Commission, or SEC, a registration statement on Form S-1 (including the exhibits and schedules thereto) under the Securities Act and the rules and regulations thereunder, for the registration of the common stock offered hereby. This prospectus is part of the registration statement. This prospectus does not contain all the information included in the registration statement because we have omitted certain parts of the registration statement as permitted by the SEC rules and regulations. For further information about us and our common stock, you should refer to the registration statement. Statements contained in this prospectus as to any contract, agreement or other document referred to are not necessarily complete. Where the contract or other document is an exhibit to the registration statement, each statement is qualified by the provisions of that exhibit.

You can inspect and copy the registration statement at the public reference facility maintained by the SEC at Room 1024, 450 Fifth Street, N.W., Washington, D.C. 20549, and at the SEC's regional offices at Seven World Trade Center, 13th Floor, New York, New York 10048 and 500 West Madison

Street, Suite 1400, Chicago, Illinois 60661. You may call the SEC at 1-800-732-0330 for further information about the operation of the public reference rooms. Copies of all or any portion of the registration statement can be obtained from the Public Reference Section of the SEC, 450 Fifth Street, N.W., Washington, D.C. 20549, at prescribed rates. In addition, the registration statement is publicly available through the SEC's site on the Internet's World Wide Web, located at http://www.sec.gov.

We will also file annual, quarterly and current reports, proxy statements and other information with the SEC. You can also request copies of these documents, for a copying fee, by writing to the SEC. We intend to furnish to our stockholders annual reports containing audited financial statements for each fiscal year.

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Notes to the Accounts..... F-35

When the stock split referred to in note 20 of the notes to the consolidated financial statements has been consummated, we will be in a position to render the following report:

INDEPENDENT AUDITORS' REPORT

The Board of Directors
Harvard Apparatus, Inc.:

We have audited the accompanying consolidated balance sheets of Harvard Apparatus, Inc. and subsidiaries (the "Company") as of September 30, 2000, December 31, 1999 and 1998, and the related consolidated statements of operations, stockholders' equity (deficit) and comprehensive income (loss), and cash flows for the nine months ended September 30, 2000 and for each of the years in the three-year period ended December 31, 1999. 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 consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated 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 Apparatus, Inc. and subsidiaries at September 30, 2000, December 31, 1999 and 1998, and the results of their operations and their cash flows for the nine months ended September 30, 2000 and for each of the years in the three-year period ended December 31, 1999, in conformity with accounting principles generally accepted in the United States of America.

KPMG LLP
October 19, 2000, except as to
note 20 which is
as of October 25, 2000
Boston, Massachusetts

HARVARD APPARATUS, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	DECEMBER 31, 1998	DECEMBER 31, 1999	SEPTEMBER 30, 2000
ASSETS (NOTES 6 AND 7)			
Current assets:			
Cash and cash equivalents	$ 956,771	$ 2,396,053	$ 2,148,880
Trade accounts receivable, net of reserve for uncollectible accounts of $61,004 and $87,642 at December 31, 1998 and 1999, respectively, and $88,648 at September 30, 2000	1,659,766	4,191,850	3,878,152
Other receivables and other assets	49,716	201,946	223,090
Inventories (note 4)	1,656,318	2,849,670	3,679,735
Catalog costs	450,087	66,829	394,558
Prepaid expenses	202,916	593,348	265,340
Deferred tax asset (note 13)	96,736	987,853	344,714
Total current assets	5,072,310	11,287,549	10,934,469
Property, plant and equipment, net (notes 5 and 10)	969,905	1,559,922	1,513,098
Other assets:			
Catalog costs, less current portion	163,497	165,419	193,712
Deferred tax asset (note 13)	28,182	432,797	344,304
Deferred initial public offering costs	--	--	596,365
Goodwill, net of accumulated amortization of $27,661, $395,896 and $902,891 at December 31, 1998 and 1999 and September 30, 2000, respectively (note 3)	925,973	6,583,354	9,148,744
Other assets (notes 3 and 12)	60,626	580,829	505,387
Total other assets	$1,178,278	$ 7,762,399	$10,788,512
	$7,220,493	$20,609,870	$23,236,079

See accompanying notes to consolidated financial statements.

HARVARD APPARATUS, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	DECEMBER 31, 1998	DECEMBER 31, 1999	SEPTEMBER 30, 2000
Current liabilities:			
Short-term debt (note 6)	$1,050,000	$ 2,200,000	$ 3,150,000
Current installments of long-term debt (note 7)	190,389	794,173	1,556,618
Trade accounts payable	751,338	1,880,246	2,107,838
Accrued income taxes payable (note 13)	162,726	957,834	638,862
Accrued expenses (note 17)	586,289	1,399,523	2,266,547
Other liabilities	101,271	272,731	183,478
Current deferred income tax liability	24,524	--	6,011
Total current liabilities	2,866,537	7,504,507	9,909,354
Long-term debt, less current installments (note 7)	638,466	5,072,941	5,730,313
Deferred income tax liability (note 13)	37,601	48,649	--
Total long-term liabilities	676,067	5,121,590	5,730,313
Commitments and contingencies (notes 8, 9, 10, 11, and 18)			
Preferred stock, 600,000 shares authorized (note 8);			
Redeemable series "A" 469,300 shares issued and outstanding	1,500,000	1,500,000	1,500,000
Convertible and redeemable series "B" 48,500 shares issued and outstanding	--	1,000,000	1,000,000
Common stock warrants (note 9)	1,500,352	31,194,371	102,114,613
Total redeemable preferred stock and common stock warrants	3,000,352	33,694,371	104,614,613
Stockholders' equity (deficit) (notes 9 and 14):			
Common stock, par value $.01 per share, 80,000,000 shares authorized; 10,259,410 shares issued and outstanding at December 31, 1998 and 1999, 13,727,365 shares issued and outstanding at September 30, 2000	102,604	102,604	137,274
Accumulated other comprehensive loss	(34,720)	(54,690)	(713,265)
Additional paid-in capital--stock options	--	3,283,164	3,292,593
Additional paid-in capital--common stock	--	--	14,838,792
Retained earnings (accumulated deficit)	1,277,398	(28,373,931)	(112,357,900)
Notes receiveable	--	--	(1,547,950)
Treasury stock, 4,660,784 common shares, at cost	(667,745)	(667,745)	(667,745)
Total stockholders' equity (deficit)	677,537	(25,710,598)	(97,018,201)
	$7,220,493	$ 20,609,870	$ 23,236,079

See accompanying notes to financial statements.

HARVARD APPARATUS, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

	YEARS ENDED DECEMBER 31,			NINE MONTHS ENDED SEPTEMBER 30,	
	1997	1998	1999	1999	2000
				(UNAUDITED)	
Revenues (notes 15 and 19)	$11,464,157	$12,154,025	$ 26,177,814	$18,469,913	$ 22,069,026
Cost of goods sold	5,127,709	5,351,271	13,546,933	9,359,160	11,461,610
Stock compensation expense (note 14)	--	--	--	--	151,200
Gross profit	6,336,448	6,802,754	12,630,881	9,110,753	10,456,216
General and administrative expense	2,338,423	2,317,021	4,146,564	2,926,818	3,733,613
Sales and marketing expense	1,672,388	1,721,606	2,448,505	1,841,771	2,358,965
Research and development	206,497	324,792	1,187,584	840,767	1,207,522
Stock compensation expense (note 14)	--	--	3,283,164	937,138	13,180,743
Amortization of goodwill (note 3)	--	27,661	368,235	251,843	423,126
Operating (loss) income	2,119,140	2,411,674	1,196,829	2,312,416	(10,447,753)
Other (expense) income:					
Foreign currency (loss) gain	(96,549)	21,418	(47,982)	60,967	(456,393)
Common stock warrant interest expense (note 9)	(116,574)	(1,379,460)	(29,694,019)	(7,402,457)	(70,920,242)
Interest expense	(238,669)	(221,932)	(679,122)	(484,330)	(689,066)
Interest income	16,176	12,567	22,767	16,159	34,536
Amortization of deferred financing costs	--	--	(63,442)	(44,437)	(56,102)
Other	106,013	10,067	(17,468)	(14,813)	27,830
Other expense, net	(329,603)	(1,557,340)	(30,479,266)	(7,868,911)	(72,059,437)
(Loss) income before income taxes	1,789,537	854,334	(29,282,437)	(5,556,495)	(82,507,190)
Income taxes (note 13)	682,329	783,192	137,480	649,392	1,354,351
Net (loss) income	1,107,208	71,142	(29,419,917)	(6,205,887)	(83,861,541)
Preferred stock dividends	(121,668)	(121,666)	(156,586)	(115,444)	(122,428)
Net (loss) income available to common shareholders	$ 985,540	$ (50,524)	$(29,576,503)	$(6,321,331)	$(83,983,969)
(Loss) income per share (note 16):					
Basic	$ 0.13	$ (0.01)	$ (5.28)	$ (1.13)	$ (13.11)
Diluted	$ 0.06	$ (0.01)	$ (5.28)	$ (1.13)	$ (13.11)
Weighted average common shares:					
Basic	7,406,486	5,598,626	5,598,626	5,598,626	6,407,682
Diluted	17,500,194	5,598,626	5,598,626	5,598,626	6,407,682

See accompanying notes to consolidated financial statements.

HARVARD APPARATUS, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT) AND COMPREHENSIVE INCOME (LOSS)

	COMMON STOCK	ACCUMULATED OTHER COMPREHENSIVE LOSS	ADDITIONAL PAID-IN CAPITAL--STOCK OPTIONS	ADDITIONAL PAID-IN CAPITAL--COMMON STOCK	RETAINED EARNINGS (ACCUMULATED DEFICIT)	NOTES RECEIVABLE
Balance at December 31, 1996	$102,604	$ 71,183	$ --	$ --	$ 342,382	$ --
Preferred stock dividends	--	--	--	--	(121,668)	--
Purchase of treasury stock	--	--		--	--	--
Comprehensive income (loss):						
Net income	--	--	--	--	1,107,208	--
Translation adjustments	--	(97,444)	--	--	--	--
Total comprehensive income						
Balance at December 31, 1997	102,604	(26,261)	--	--	1,327,922	--
Preferred stock dividends	--	--	--	--	(121,666)	--
Comprehensive income (loss):						
Net income	--	--	--	--	71,142	--
Translation adjustments	--	(8,459)	--	--	--	--
Total comprehensive income						
Balance at December 31, 1998	102,604	(34,720)	--	--	1,277,398	--
Preferred stock dividends	--	--	--	--	(156,586)	--
Preferred stock issuance costs	--	--	--	--	(74,826)	--
Stock compensation expense	--	--	3,283,164	--	--	--
Comprehensive income (loss):						
Net loss	--	--	--	--	(29,419,917)	--
Translation adjustments	--	(19,970)	--	--	--	--
Total comprehensive income (loss)						
Balance at December 31, 1999	102,604	(54,690)	3,283,164	--	(28,373,931)	--
Preferred stock dividends	--	--	--	--	(122,428)	--
Issuance of common stock	34,670	--	(13,322,514)	14,838,792	--	(1,547,950)
Stock compensation expense	--	--	13,331,943	--	--	--
Comprehensive income (loss):						
Net loss	--	--	--	--	(83,861,541)	--
Translation adjustments	--	(658,575)	--	--	--	--
Total comprehensive income (loss)						
Balance at September 30, 2000	$137,274	$(713,265)	$ 3,292,593	$14,838,792	$(112,357,900)	$(1,547,950)

	TREASURY STOCK	TOTAL STOCKHOLDERS' EQUITY (DEFICIT)
Balance at December 31, 1996	$ --	$ 516,169
Preferred stock dividends	--	(121,668)
Purchase of treasury stock	(667,745)	(667,745)
Comprehensive income (loss):		
Net income	--	1,107,208
Translation adjustments	--	(97,444)
Total comprehensive income		1,009,764
Balance at December 31, 1997	(667,745)	736,520
Preferred stock dividends	--	(121,666)
Comprehensive income (loss):		
Net income	--	71,142
Translation adjustments	--	(8,459)
Total comprehensive income		62,683
Balance at December 31, 1998	(667,745)	677,537

Preferred stock dividends.....	--	(156,586)
Preferred stock issuance costs.....	--	(74,826)
Stock compensation expense.....	--	3,283,164
Comprehensive income (loss):		
Net loss.....	--	(29,419,917)
Translation adjustments.....	--	(19,970)
Total comprehensive income (loss).....		(29,439,887)
Balance at December 31, 1999.....	(667,745)	(25,710,598)
Preferred stock dividends.....		(122,428)
Issuance of common stock.....	--	2,998
Stock compensation expense.....	--	13,331,943
Comprehensive income (loss):		
Net loss.....	--	(83,861,541)
Translation adjustments.....	--	(658,575)
Total comprehensive income (loss).....		(84,520,116)
Balance at September 30, 2000.....	$ (667,745)	$(97,018,201)

See accompanying notes to consolidated financial statements.

HARVARD APPARATUS, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

	YEARS ENDED DECEMBER 31,			NINE MONTHS ENDED SEPTEMBER 30,	
	1997	1998	1999	1999	2000
				(UNAUDITED)	
Cash flows from operating activities:					
Net (loss) income	$1,107,208	$ 71,142	$(29,419,917)	$(6,205,887)	$(83,861,541)
Adjustments to reconcile net (loss) income to net cash provided by operating activities:					
Common stock warrant interest expense	116,574	1,379,460	29,694,019	7,402,457	70,920,242
Stock compensation expense	--	--	3,283,164	937,138	13,331,943
Depreciation	127,555	154,776	331,822	219,965	284,747
Amortization of catalog costs	328,713	525,600	493,428	481,488	228,978
Loss (gain) on sale of fixed assets	(33,980)	(4,075)	7,584	(7,584)	--
Provision for bad debts	14,321	(41,388)	26,877	2,901	2,480
Amortization of goodwill	--	27,661	368,235	226,250	423,126
Amortization of deferred financing costs	--	--	63,442	44,437	56,102
Deferred income taxes	(106,321)	(16,277)	(1,310,325)	(504,188)	669,584
Changes in operating assets and liabilities, net of effects of business acquisition:					
(Increase) decrease in accounts receivable	(193,547)	46,214	(2,282,344)	(1,758,222)	22,884
(Increase) decrease in other receivables	(2,741)	57,711	(113,949)	(134,915)	(40,785)
(Increase) decrease in inventories	58,631	80,430	215,152	165,203	(777,071)
(Increase) decrease in prepaid expenses and other assets	(19,306)	(5,514)	(260,285)	(115,048)	304,718
(Increase) decrease in other assets	112,716	(184,534)	(202,460)	(162,220)	74,237
Increase (decrease) in trade accounts payable	(211,303)	(115,065)	541,065	371,739	351,636
Increase (decrease) in accrued income taxes payable	27,247	(191,013)	797,633	488,632	(224,673)
Increase (decrease) in accrued expense	(178,965)	19,874	666,637	406,952	366,788
Increase (decrease) in other liabilities	(30,881)	1,388	26,663	(23,912)	(106,253)
Net cash provided by operating activities	1,115,921	1,806,390	2,926,441	1,835,186	2,027,142
Cash flows from investing activities:					
Additions to property, plant and equipment	(389,543)	(87,405)	(332,474)	(247,748)	(363,716)
Additions to catalog costs	(429,207)	(250,183)	(121,644)	(73,853)	(606,069)
Proceeds from sales of fixed assets	165,528	8,173	34,566	41,946	--
Acquisition of businesses, net of cash acquired	--	(1,090,553)	(8,126,656)	(7,164,454)	(3,682,482)
Net cash used in investing activities	(653,222)	(1,419,968)	(8,546,208)	(7,444,109)	(4,652,267)
Cash flows from financing activities:					
Proceeds from short-term debt	275,000	600,000	2,300,000	1,050,000	1,350,000
Repayments of short-term debt	--	(300,000)	(1,150,000)	(650,000)	(400,000)
Proceeds from long-term debt	--	--	5,500,000	5,500,000	2,000,000
Repayments of long-term debt	(263,050)	(283,433)	(460,663)	(336,313)	(282,778)
Dividends paid	(218,667)	(121,666)	(121,666)	(91,000)	(91,000)
Net proceeds from issuance of preferred stock	--	--	925,174	925,174	--
Treasury stock purchase	(667,745)	--	--	--	--
Issuance of common stock	--	--	--	--	2,998
Deferred initial public offering costs paid	--	--	--	--	(63,905)
Net cash provided by (used in) financing activities	(874,462)	(105,099)	6,992,845	6,397,861	2,515,315
Effect of exchange rate changes on cash	30,572	(31,505)	66,204	(57,867)	(137,363)
Increase (decrease) in cash and cash equivalents	(381,191)	249,818	1,439,282	731,071	(247,173)
Cash and cash equivalents at beginning of period	1,088,144	706,953	956,771	956,771	2,396,053
Cash and cash equivalents at end of period	$ 706,953	$ 956,771	$ 2,396,053	$1,687,842	$ 2,148,880
Supplemental disclosures of cash flow information:					
Cash paid for interest	$ 227,747	$ 241,002	$ 671,452	$ 392,414	$ 634,089
Cash paid for income taxes	$ 761,251	$ 1,128,929	$ 686,675	$ 617,076	$ 697,049

See accompanying notes to consolidated financial statements.

HARVARD APPARATUS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

SEPTEMBER 30, 2000, DECEMBER 31, 1999 AND 1998

(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). The costs of the acquisition were allocated based on the fair market value of the assets acquired. The assets acquired consisted principally of cash of $441,000, accounts receivable of $1,397,000, inventories of $1,661,000, miscellaneous prepaid assets of $241,000, fixed assets of $846,000, and catalog costs of $366,000. The Company assumed liabilities of approximately $1,605,000. The acquisition was financed principally by issuing preferred stock of $1,500,000 and debt of $1,750,000. Assets acquired at the time of the purchase included 79% of the capital stock of Ealing Scientific Ltd. (Canada) and Ealing S.A.R.L., now Harvard Apparatus S.A.R.L. (France). The remainder of the capital stock of Ealing Scientific Ltd. and Ealing S.A.R.L. was also acquired directly from the stockholder at the time of the Purchase. 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.

The Company manufactures and distributes syringe pumps, ventilators, cell injectors, diffusion chambers and other products principally used in the toxicology, metabolism and efficacy testing of new drugs, as well as spectrophotometers and amino acid analyzers primarily used in molecular biology which are manufactured by Biochrom Ltd., a wholly owned subsidiary acquired during 1999.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(A) PRINCIPLES OF CONSOLIDATION

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

(B) INTERIM CONSOLIDATED FINANCIAL STATEMENTS

The interim consolidated financial statements for the nine months ended September 30, 1999 are unaudited. In the opinion of management, all adjustments, consisting only of normal recurring adjustments, necessary for the fair presentation of the financial position and results of operations have been included in such unaudited consolidated financial statements. The results of operations for the nine months ended September 30, 2000 are not necessarily indicative of the results to be expected for the entire year.

(C) CASH AND CASH EQUIVALENTS

For purposes of the consolidated 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 a standard costing system which approximates the first-in, first-out (FIFO) method.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

(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

(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 two to three years). Costs of drawings and design that were acquired at the purchase on March 15, 1996 are being amortized over their estimated useful life of six 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 other comprehensive income.

(I) STOCK OPTIONS

The Company accounts for stock options granted to employees in accordance with the requirements of Statement of Financial Accounting Standards (SFAS) No. 123, ACCOUNTING FOR STOCK-BASED COMPENSATION. As is permitted by this Statement, the Company has elected to account for stock options in accordance with the provisions of APB Opinion No. 25, ACCOUNTING FOR STOCK ISSUED TO EMPLOYEES and provide the additional disclosures that are required by SFAS No. 123.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

(J) USE OF ESTIMATES

The preparation of financial statements in conformity with generally accepted accounting principles 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 and reserves for bad debts. Actual results could differ from those estimates.

(K) REVENUE RECOGNITION

The Company recognizes revenue from product sales at the time of shipment. Product returns are estimated and provided for based on historical experience.

(L) GOODWILL

Goodwill, which represents the excess of purchase price over fair value of net assets acquired, is amortized on a straight-line basis over the expected periods to be benefited, ranging from 5 to 15 years. The Company continually evaluates whether events or circumstances have occurred that indicate that the remaining useful life of goodwill may warrant revision or that the remaining balance may not be recoverable. When factors indicate that goodwill should be evaluated for possible impairment, the Company estimates the undiscounted cash flow of the business segment, net of tax, over the remaining life of the asset in determining whether the asset is recoverable. Charges for impairment of goodwill would be recorded to the extent unamortized book value exceeds the related future discounted cash flow, net of tax. The discount factor would be the long-term debt rate currently obtainable by the Company.

(M) IMPAIRMENT OF LONG-LIVED ASSETS AND LONG-LIVED ASSETS TO BE DISPOSED OF

The Company uses the provisions of SFAS No. 121, ACCOUNTING FOR THE IMPAIRMENT OF LONG-LIVED ASSETS AND FOR LONG-LIVED ASSETS TO BE DISPOSED OF. This statement requires that long-lived assets and certain identifiable intangibles be 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 undiscounted future net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount 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 sell.

(N) EFFECT OF ACCOUNTING CHANGES

In 1998, the Financial Accounting Standards Board issued SFAS 133, ACCOUNTING FOR DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES. SFAS 133, which was deferred through the issuance of SFAS 137 and subsequently amended by SFAS 138, is effective for fiscal years beginning after June 15, 2000. SFAS 133 will be adopted on January 1, 2001. Its impact on the consolidated financial statements is still being evaluated, but is not expected to be material.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

(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 carrying value of the Company's debt approximates its fair value because of the short maturities and/or interest rates which are comparable to those available to the Company on similar terms.

(3) ACQUISITION OF BUSINESSES

On June 30, 1998, the Company acquired certain assets of Medical Systems Corporation, a manufacturer and product developer of research medical equipment. Cash consideration of approximately $1,000,000 plus certain acquisition costs was paid for the assets. The costs of the acquisition were allocated on the basis of the estimated fair market value of the assets acquired. The net purchase price resulted in an allocation of $784,047 to goodwill and $281,506 to tangible net assets.

On February 26, 1999, the Company acquired substantially all of the assets and certain liabilities of Pharmacia Biotech (Biochrom) Ltd. ("Biochrom"), a UK manufacturer and developer of spectrophotometers, amino acid analyzers and other related research equipment. Cash consideration of approximately $6,981,000 (including $502,000 of acquisition related expenses) was paid for the assets. The costs of the acquisition allocated on the basis of estimated fair market value of the assets acquired using the purchase method of accounting resulted in an allocation of $5,446,000 to goodwill and other intangibles. The assets acquired consisted of approximately $61,000 of accounts receivable, $1,039,000 of inventory, $100,000 of prepaid expenses, $612,000 of fixed assets, $372,000 of pension assets and liabilities assumed totaled approximately $649,000.

On September 10, 1999, the Company acquired certain assets of Clark Electromedical Instruments, a manufacturer of glass capillaries and distributor of research equipment. Cash consideration of approximately $349,000 was paid for the assets. The costs of the acquisition allocated on the basis of estimated fair market value of the assets acquired using the purchase method of accounting resulted in an allocation of $288,000 to goodwill and other intangibles.

On November 19, 1999, the Company acquired the NaviCyte diffusion chamber systems product line from NaviCyte, a wholly-owned subsidiary of Trega Biosciences, Inc. Cash consideration of approximately $390,000 (including $33,000 of acquisition related expenses) was paid for the assets. The costs of the acquisition allocated on the basis of estimated fair market value of the assets acquired and the purchase method of accounting resulted in an allocation of $333,000 to goodwill and other intangibles.

On November 30, 1999, the Company acquired substantially all of the assets and certain liabilities of Hugo Sachs Elektronik a developer and manufacturer of perfusion systems for research. Cash consideration of approximately $568,000 was paid for the assets, net of cash acquired of $31,000. The costs of the acquisition allocated on the basis of estimated fair market value of the assets acquired and the purchase method of accounting resulted in an allocation of $89,000 to goodwill and other intangibles.

(3) ACQUISITION OF BUSINESSES (CONTINUED)

On May 19, 2000, the Company acquired substantially all of the assets of Biotronik, a manufacturer of Amino Acid Analyzers. Cash consideration of approximately $469,000 was paid for the assets (including approximately $12,000 of acquisition related expenses). The cost of the acquisition was allocated on the basis of fair market value of the assets acquired and the purchase method of accounting resulted in an allocation of $335,000 to goodwill.

On July 14, 2000, the Company acquired substantially all of the assets of Amika Corporation, a manufacturer and distributor of sample preparation devices and consumables. Cash consideration of $3,096,000 was paid for the assets including approximately $61,000 of acquisition related expenses. The cost of the acquisition allocated on the basis of fair market value of the assets acquired and the purchase method of accounting resulted in an allocation of $3,011,000 to goodwill and other intangibles. The assets acquired consisted of approximately $85,000 of inventory. In addition, the Company acquired the right of first refusal to all new technologies developed and offered for sale by the predecessor Company for a period of four years on a fair value licensing arrangement.

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.

The following unaudited pro forma results of operations gives effect to the acquisition of Biochrom as if it had occurred at the beginning of fiscal 1998 (the effect of the other acquisitions are considered insignificant). Such pro forma information reflects certain adjustments including amortization of goodwill, interest expense, income tax effect and an increase in the number of weighted average shares outstanding. The pro forma information does not necessarily reflect the results of operations that would have occurred had the acquisition taken place as described and is not necessarily indicative of results that may be obtained in the future.

	YEARS ENDED DECEMBER 31,	
	1998	1999
	(UNAUDITED)	
Pro forma revenues	$23,942,973	$ 27,590,714
Pro forma net earnings (loss)	$ (120,186)	$(29,415,046)
Pro forma basic net earnings (loss) per share:		
Basic	$ (0.04)	$ (5.25)
Diluted	$ (0.04)	$ (5.25)
Pro forma weighted average common shares:		
Basic	5,598,626	5,598,626
Diluted	5,598,626	5,598,626

(4) INVENTORIES

Inventories consist of the following:

	DECEMBER 31,		SEPTEMBER 30,
	1998	1999	2000
Finished goods	$ 686,555	$ 857,202	$1,194,810
Work in process	335,150	359,505	448,744
Raw materials	634,613	1,632,963	2,036,181
	$1,656,318	$2,849,670	$3,679,735

(5) PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consists of the following:

	DECEMBER 31,		SEPTEMBER 30,
	1998	1999	2000
Land and buildings	$ 654,172	$ 636,250	$ 576,366
Machinery and equipment	126,891	726,933	913,617
Computer equipment	103,218	378,400	398,639
Furniture and fixtures	234,882	326,978	348,022
Automobiles	190,354	326,978	122,051
	1,309,517	2,191,674	2,358,695
Less accumulated depreciation	(339,612)	(632,752)	(845,597)
	$ 969,905	$1,559,922	$1,513,098

(6) SHORT-TERM DEBT

At September 30, 2000, December 31, 1999 and 1998, short-term debt consisted of an amount outstanding under a bank line of credit that is secured by a first priority security interest in all assets of the Company and a pledge of 65% of the capital stock of the Company's subsidiaries. Interest on the line of credit is payable monthly, in arrears, at the related bank's "base rate" plus 1% (10.5%, 9.5% and 8.75% at September 30, 2000, December 31, 1999 and 1998, respectively). Borrowings under the line of credit are limited to an available amount determined by an accounts receivable and inventory based formula, $3,750,000, $3,750,000 and $2,000,000 at September 30, 2000, December 31, 1999 and 1998, respectively. This line of credit is due to mature on January 29, 2002. At September 30, 2000, December 31, 1999 and 1998, borrowings under the line of credit were $3,150,000, $2,200,000 and $700,000, respectively.

At December 31, 1998, short-term debt also included a note from the same bank in the amount of $350,000 with interest payable monthly, in arrears at the bank's "base rate" plus 1.5% (9.25%). This debt was rolled into long-term debt on March 2, 1999 as part of the financing arrangement to acquire Biochrom in March 1999, (see notes 3 and 7).

(7) LONG-TERM DEBT

Long-term debt consists of the following:

	DECEMBER 31,		SEPTEMBER 30,
	1998	1999	2000
Subordinated debentures, at 13%, payable in quarterly installments through March 15, 2003	$787,500	$ 727,500	$ 477,500
Notes payable	--	5,125,000	6,800,000
Capital lease obligations (note 10)	41,355	14,614	9,431
	828,855	5,867,114	7,286,931
Less current installments	190,389	794,173	1,556,618
	$638,466	$5,072,941	$ 5,730,313

On March 2, 1999, the Company entered into two loan agreements with two banks to borrow up to $5.5 million. The purpose of the loan agreements was to partially finance the acquisition of Biochrom (see note 3). Principal and interest are being paid in quarterly installments, with the final payment due in January 2002. The interest rate is determined by one of the banks base rate plus 1%, (10.5% and 9.5% at September 30, 2000 and December 31, 1999, respectively). The loans are secured by substantially all of the Company's assets. The loan agreements contain covenants relating to net income, debt service coverage and cash flow coverage. At September 30, 2000 and December 31, 1999, the Company was not in compliance with certain of its covenants. The Company has received waivers from its banks.

Financing costs of $221,074 were incurred in 1999. These costs were capitalized and are being amortized over the term of the loans. Amortization expense was $56,102 for the nine months ended September 30, 2000 and $63,442 for the year ended December 31, 1999.

Aggregate annual principal payments on all long-term debt, excluding capital lease obligations, for the next five years and thereafter at September 30, 2000 are as follows:

2001	$ 1,550,004
2002	4,449,996
2003	777,500
2004	500,000
Thereafter	--
	$ 7,277,500

(8) CONVERTIBLE AND REDEEMABLE PREFERRED STOCK

During 1999, 48,500 shares of Series B convertible and redeemable preferred stock were issued to partially finance the acquisition of Biochrom (note 3). The net proceeds from this issuance were $925,174. The Company's Series B convertible redeemable preferred stock has a dividend preference over the Series A preferred stock, and as a result, no dividends shall be paid in respect of shares of

(8) CONVERTIBLE AND REDEEMABLE PREFERRED STOCK (CONTINUED)

Series A preferred stock unless all accrued dividends that become payable in respect of Series B preferred stock have been paid. The Series B redeemable convertible preferred stock is convertible at the option of the holder, at any time, into shares of common stock of the Company at a conversion rate of 19.71 shares of common stock for each share of Series B redeemable convertible preferred stock, subject to adjustment for subdivision of Series B preferred stock or any issuance of additional shares of Series B preferred stock.

Redeemable preferred Series A stock pays quarterly cumulative dividends in arrears at a rate of approximately $0.26 per share. On March 3, 2000, convertible and redeemable preferred "B" stock started to accrue dividends at a rate of $1.44 that will be payable a year in arrears on March 3, 2001, and thereafter quarterly in arrears.

In the event of any liquidation of the Company, the holders of the Company's redeemable preferred stock are entitled to be paid from the assets available for distribution to holders of the Company's capital stock $2,500,000, plus any related dividends that are accrued but unpaid at such time, prior to other stock distributions.

Mandatory redemption requirements for the preferred stock are as follows:

	SERIES "A"	SERIES "B"
March 15, 2002	$ 500,000	$ 333,320
March 15, 2003	500,000	333,320
March 15, 2004	500,000	333,320
	$1,500,000	$1,000,000

(9) COMMON STOCK WARRANTS

At September 30, 2000, December 31, 1999 and 1998, there were outstanding 8,509,905 warrants, which enable the holders to purchase a like amount of the Company's common stock for $0.0005 per share. The warrants were issued in connection with the issuance of Series A redeemable preferred stock (6,046,510 warrants) and subordinated debentures (2,463,395 warrants) that occurred on March 15, 1996.

Commencing on March 15, 2002, the holders of the warrants may at any time require the Company to repurchase the warrants, or any common shares previously acquired from exercise of the warrants, for their fair market value as determined in good faith by the Company's board of directors. Such repurchase price would be repaid in 12 equal quarterly installments beginning on the first business day of the month following the surrender of the warrants or applicable shares of common stock. In 1999, 1998 and 1997 and for the nine months ended September 30, 2000 and 1999, $29,694,019, $1,379,460, $116,574, $70,920,242 and $7,402,457, respectively, has been recorded as interest expense to accrue the estimated amount of this potential liability in accordance with EITF 96-13, ACCOUNTING FOR DERIVATIVE FINANCIAL INSTRUMENTS INDEXED TO AND POTENTIALLY SETTLED IN, A COMPANY'S OWN STOCK. Future changes in the fair value of common stock warrants will also be recorded as interest expense.

In September 2000, the holders of the warrants agreed to automatically terminate the requirement of the Company to repurchase the warrants in the event of an initial public offering of the Company's Common Stock.

(10) LEASES

The Company leases automobiles under various leases that are classified as capital leases. The carrying value of automobiles under capital leases at September 30, 2000, December 31, 1999 and 1998 was $9,502, $14,532 and $40,795, respectively, which is net of $48,871, $68,602 and $76,352, 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 nine months ended September 30, 2000 and for the years ended December 31, 1999, 1998 and 1997 was approximately $439,000, $484,000, $134,000 and $151,262, respectively.

Future minimum lease payments for both capital and operating leases, with initial or remaining terms in excess of one year at September 30, 2000, are as follows:

	CAPITAL LEASES	OPERATING LEASES
2001	$ 9,116	$ 660,861
2002	1,157	417,710
2003	--	372,238
2004	--	352,806
2005 and thereafter	--	--
Net minimum lease payments	10,273	$1,803,615
Less amount representing interest	842	
Present value of net minimum lease payments	$ 9,431	

(11) RELATED PARTY TRANSACTIONS

The Company paid an annual consulting fee to a former stockholder who formerly served on its board of directors and, by written agreement, provided no less than five days of consulting services each month. The agreement was scheduled to expire on March 15, 2001 or at the time of any initial public offering of the Company's stock or other sale of a material portion of the Company's stock or assets, if such a transaction occurred before that date. As of September 30, 2000, the agreement with the former stockholder was rescinded. The related consulting expense amounted to $294,583 for the nine months ended September 30, 2000 and $258,437, $262,040 and $268,030 for the years ended December 31, 1999, 1998 and 1997, respectively.

(12) EMPLOYEE BENEFIT PLANS

The Company sponsors a profit sharing retirement plan for its U.S. employees, which includes an employee savings plan established under Section 401(k) of the U.S. Internal Revenue Code. The 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 nine months ended September 30, 2000 and for the years ended December 31, 1999, 1998 and 1997, the Company contributed approximately $60,000, $67,000, $41,000 and $27,000, respectively, to the plan.

(12) EMPLOYEE BENEFIT PLANS (CONTINUED)

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, primarily for Biochrom, for the nine months ended September 30, 2000 and for the year ended December 31, 1999 follow:

	DECEMBER 31, 1999	SEPTEMBER 30, 2000
Components of net periodic benefit cost:		
Service cost	$ 288,640	$ 182,376
Interest cost	250,437	197,263
Expected return on plan assets	(364,684)	(291,771)
Net amortization gain	6,965	(9,364)
Net periodic benefit cost	$ 181,358	$ 78,504

(12) EMPLOYEE BENEFIT PLANS (CONTINUED)

The funded status of the Company's defined benefit pension plans and the amount recognized in the balance sheet at September 30, 2000 and December 31, 1999 follow:

	DECEMBER 31, 1999	SEPTEMBER 30, 2000
Change in benefit obligation:		
Balance at beginning of period	$1,215,000	$5,829,403
Acquisitions	4,848,552	--
Service cost	288,640	182,376
Interest cost	250,437	197,263
Participants' contributions	60,745	45,931
Actuarial (gain)/loss	(824,672)	571,532
Benefits paid	(9,299)	(42,993)
Currency translation adjustment	--	(594,437)
Balance at end of period	5,829,403	6,189,075
Change in fair value of plan assets:		
Balance at beginning of period	1,158,138	7,062,645
Acquisitions	5,231,470	--
Actual return on plan assets	440,606	(39,627)
Participants' contributions	60,745	45,931
Employer contributions	180,985	153,275
Benefits paid	(9,299)	(42,993)
Currency translation adjustment	--	(673,592)
Balance at end of period	7,062,645	6,505,639
Funded status:		
Plan assets greater than benefit obligation	1,233,242	316,564
Unrecognized (gain) loss	(881,299)	73,808
Prepaid pension expense in consolidated balance sheet	$ 351,943	$ 390,372

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

	DECEMBER 31, 1999	SEPTEMBER 30, 2000
Weighted average assumptions:		
Discount rate	5.5%	6.5-8.5%
Expected return on assets	7.0-8.0%	7.0-8.0%
Rate of compensation increase	3.8-4.0%	4.5%

(13) INCOME TAXES

The significant components of the Company's deferred tax assets and liabilities at September 30, 2000, December 31, 1999 and 1998 are as follows:

	DECEMBER 31,		SEPTEMBER 30,
	1998	1999	2000
Deferred tax assets:			
Accounts receivable	$ --	$ 31,755	$ 31,755
Inventory	111,676	129,097	141,113
Operating loss carryforward	28,182	34,417	387,188
Accrued expenses	(14,940)	1,196,338	135,398
Goodwill	--	37,679	46,567
Catalog costs	--	8,503	--
Total deferred tax assets	124,918	1,437,789	742,021
Deferred tax liabilities:			
Catalog costs	24,524	--	6,011
Pension fund asset	15,051	18,461	16,725
Property, plant and equipment	22,053	42,632	36,278
Other	497	4,695	--
Total deferred tax liabilities	62,125	65,788	59,014
Net deferred tax assets	$ 62,793	$1,372,001	$ 683,007

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. Based upon the level of historical taxable income and projections for future taxable income over the periods during which deferred tax assets are deductible, management believes it is more likely than not that the Company will realize the benefits of these deductible differences.

Income tax expense is based on the following pre-tax income (loss) for the nine months ended September 30, 2000 and for the years ended December 31, 1999, 1998 and 1997:

	DECEMBER 31,			SEPTEMBER 30,
	1997	1998	1999	2000
Domestic	$1,253,916	$115,418	$(32,040,219)	$(83,771,998)
Foreign	535,621	738,916	2,757,782	1,264,808
	$1,789,537	$854,334	$(29,282,437)	(82,507,190)

(13) INCOME TAXES (CONTINUED)

Income tax expense (benefit) for the nine months ended September 30, 2000 and for the years ended December 31, 1999, 1998 and 1997 consisted of:

	DECEMBER 31,			SEPTEMBER 30,
	1997	1998	1999	2000
Current income tax expense:				
Federal and state	$ 584,239	$579,152	$ 403,149	$ --
Foreign	208,103	214,112	1,043,539	506,532
	792,342	793,264	1,446,688	506,532
Deferred income tax (benefit) expense:				
Federal and state	(56,939)	(19,380)	(1,239,119)	840,106
Foreign	(53,074)	9,308	(70,809)	7,713
	(110,013)	(10,072)	(1,309,208)	847,819
Total income tax expense	$ 682,329	$783,192	$ 137,480	$ 1,354,351

(13) INCOME TAXES (CONTINUED)

Income tax expense for the nine months ended September 30, 2000 and for the years ended December 31, 1999, 1998 and 1997 differed from the amount computed by applying the U.S. federal income tax rate of 34% to pretax income as a result of the following:

	DECEMBER 31,			SEPTEMBER 30,
	1997	1998	1999	2000
Computed "expected" income tax (benefit) expense.....	$608,443	$ 290,474	$ (9,956,029)	$(28,052,445)
Increase (decrease) in income taxes resulting from:				
Foreign tax rate and regulation differential.....	(3,625)	(27,811)	35,804	85,909
State income taxes, net of federal income tax benefit.....	73,757	86,068	(154,569)	130,804
Interest expense (common stock warrants).....	39,564	(469,002)	10,254,946	24,177,992
Foreign Subsidiary Corporation tax benefits.....	--	(27,804)	(28,761)	(32,876)
Other.....	9,220	(6,737)	(13,911)	7,698
Stock compensation expense in excess of allowable tax benefits on exercise of options.....	--	--	--	5,037,269
Decrease in deferred tax valuation allowance.....	(45,030)	--	--	--
Total.....	$682,329	$ 783,192	$ 137,480	$ 1,354,351

Undistributed earnings of the Company's foreign subsidiaries amounted to approximately $4,013,000, $3,185,000 and $1,565,000 at September 30, 2000, December 31, 1999 and 1998, respectively. Those earnings are considered to be 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 (subject to an adjustment for foreign tax credits) and withholding taxes in the various foreign countries.

(14) STOCK OPTION PLAN

The Company has adopted a stock option plan (the "Plan") pursuant to which the Company's Board of Directors may grant stock options to employees. The Plan authorizes grants of options to purchase up to 4,072,480 shares of authorized but unissued stock.

For the nine months ended September 30, 2000, and for the years ended December 31, 1999 and 1998, 2,254,272, 1,119,725 and 1,119,725 "Incentive Stock Options," and 1,812,295, 1,812,295 and 895,780 "Non-qualified Stock Options," respectively, had been granted to employees. The Incentive Stock Options become fully vested over a four year period, on a pro rata basis. The Non-qualified

(14) STOCK OPTION PLAN (CONTINUED)

Stock Options granted prior to 1999 only become vested if, prior to the end of the year 2000: a sale of substantially all of the Company's assets or capital stock occurs; or an initial public offering of the Company's common stock at a net price of not less than $1.42 per share; or the fair market value of the Company's common stock is otherwise determined to be, on a fully diluted basis, not less than $1.42 per common share. For non-qualified options granted under the plan during 1999, prior to an amendment to the plan dated September 29, 2000, the options were deemed to be vested and exercisable upon either (i) the sale of all or substantially all of the assets or capital stock of the Company for an actual or implied price per share of not less than $2.09 or (ii) an initial public offering of the Company's stock with a price per share of not less than $2.09 and gross proceeds to the Company of at least $15 million. On September 29, 2000, the vesting schedule was amended so that the options are vested and exercisable upon either (i) a sale of all or substantially all of the assets or capital stock of the Company for an actual or implied net price per share of Common Stock of not less than $2.09 or (ii) if the fair market value of the Company at any time prior to December 31, 2000 results in a per share valuation, on a fully diluted basis, of not less than $2.09 per share. As a result of the Plan amendment, the related options vested immediately as a per share valuation of $2.09 was attained.

The Company applies APB Opinion No. 25 in accounting for the Plan. 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 nine months ended September 30, 2000, 1,134,547 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, compensation expense of $3,292,593 was recognized on these stock option grants. Additional compensation expense will be recognized in future periods over the four year vesting period of the options. The Company's 1996 and 1999 Non-qualified Stock Option awards are considered variable awards as the number of shares to be acquired by the employees is indeterminable at the date of grant. Accordingly, in 1999 and for the nine months ended September 30, 1999, the Company recognized compensation expense of $3,283,164 and $937,138, respectively, on the non-qualified Stock Options granted in 1996. At December 31, 1999, all non-qualified stock options granted in 1996 were fully vested because a per share valuation of $1.42 was attained. For the nine months ended September 30, 2000, the Company recognized compensation expense of $10,039,350 on the non-qualified options granted in 1999.

On September 29, 2000, two employees 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 have a three-year maturity and a fixed interest rate of 10% per annum, compounded annually. The restricted stock becomes fully vested over a four-year period, on a pro rata basis. 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 $6,767,310 of which $2,412,865 has been recognized as stock compensation expense for the nine months ended September 30, 2000. The remaining unearned compensation is being amortized to expense over the four year vesting period. Also on September 29, 2000, two employees 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 have a three-year maturity and a fixed interest rate of 10% per annum, compounded annually.

(14) STOCK OPTION PLAN (CONTINUED)

The following is a summary of stock option activity.

	EMPLOYEE STOCK OPTIONS	
	OPTIONS OUTSTANDING	WEIGHTED AVERAGE EXERCISE PRICE
Balance at December 31, 1996	1,903,533	$0.0005
Options granted	111,972	0.0147
Balance at December 31, 1997	2,015,505	0.0152
Options granted	--	--
Balance at December 31, 1998	2,015,505	0.0152
Options granted	916,515	1.0462
Balance at December 31, 1999	2,932,020	0.3278
Options exercised	(3,467,955)	0.4475
Options granted	1,134,547	1.0462
Balance at September 30, 2000	598,612	$0.9980

During 1999, 1998 and 1997 and the first nine months of 2000, there were no other additional options exercised, canceled, expired or forfeited, or changes in any option terms, including exercise prices.

(14) STOCK OPTION PLAN (CONTINUED)

The weighted-average fair value of options granted during the nine months ended September 30, 2000 and fiscal 1999 and 1997 was $9.73, $1.05 and $0.01, respectively. No options were granted during 1998.

The following is a summary of information relating to stock options outstanding at September 30, 2000 (no options were exercisable at September 30, 2000):

	OPTIONS OUTSTANDING		
RANGE OF EXERCISE PRICE	NUMBER OUTSTANDING AT SEPTEMBER 30, 2000	WEIGHTED-AVERAGE REMAINING CONTRACTUAL LIFE	WEIGHTED AVERAGE EXERCISE PRICE
$ 0.01	28,008	6.3 years	$ 0.01
$ 1.05	570,605	9.5 years	1.05
$ 0.01-$1.05	598,613	9.4 years	$ 1.00

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 would have been as follows:

	YEARS ENDED DECEMBER 31,			NINE MONTHS ENDED SEPTEMBER 30,
	1997	1998	1999	2000
Net income (loss) as reported	$1,107,208	$71,142	$(29,419,917)	$(83,861,541)
Pro forma net income (loss)	$1,106,988	$70,922	$(29,420,033)	$(83,926,155)
Basic net income (loss) per share	$ 0.13	$ (0.01)	$ (5.28)	$ (13.11)
Pro forma basic net income (loss) per share	$ 0.13	$ (0.01)	$ (5.28)	$ (13.12)
Diluted net income (loss) per share	$ 0.06	$ (0.01)	$ (5.28)	$ (13.11)
Diluted pro forma net income (loss) per share	$ 0.06	$ (0.01)	$ (5.28)	$ (13.12)

The fair value of each option grant for the Company's plans is estimated on the date of the grant using the minimum value pricing model, with the following weighted average assumptions used for grants in 2000, 1999 and 1997. There were no grants of options in 1998.

	DECEMBER 31,		SEPTEMBER 30,
	1997	1999	2000
Risk free interest rates	6.4%	5.6%	6.1%

Expected option lives.....	7 years	7 years	2 years
Expected dividend yields.....	0%	0%	0%

(15) SEGMENT AND RELATED INFORMATION

The Company operates in one significant business segment.

Revenues by geographic area consists of the following:

	YEARS ENDED			NINE MONTHS ENDED	
	DECEMBER 31, 1997	DECEMBER 31, 1998	DECEMBER 31, 1999	SEPTEMBER 30, 1999	SEPTEMBER 30, 2000
				(UNAUDITED)	
United States	$ 6,263,264	$ 7,347,907	$ 8,169,470	$ 6,266,260	$ 6,867,515
United Kingdom	2,668,300	2,458,772	15,353,761	10,344,187	11,549,083
Canada and Europe	2,532,593	2,347,346	2,654,583	1,859,106	3,652,428
	$11,464,157	$12,154,025	$26,177,814	$18,469,913	$22,069,026

Long lived assets by geographic area consists of the following:

	DECEMBER 31, 1998	DECEMBER 31, 1999	SEPTEMBER 30, 2000
United States	$260,977	$ 307,286	$ 259,430
United Kingdom	677,889	1,189,269	1,197,896
Canada and Europe	31,039	63,367	55,772
	$969,905	$1,559,922	$1,513,098

(16) INCOME (LOSS) PER SHARE

Basic income (loss) per share is based upon net income less dividends on preferred stock divided by the weighted average common shares outstanding during each year. The calculation of diluted net income (loss) per share assumes conversion of convertible preferred stock, stock options and common stock warrants into common stock, and also adjusts net income (loss) for the effect of converting

(16) INCOME (LOSS) PER SHARE (CONTINUED)

convertible preferred stock and common stock warrants into common stock. Net income (loss) and shares used to compute net income per share, basic and diluted, are reconciled below:

	YEARS ENDED			NINE MONTHS ENDED	
	DECEMBER 31, 1997	DECEMBER 31, 1998	DECEMBER 31, 1999	SEPTEMBER 30, 1999	SEPTEMBER 30, 2000
				(UNAUDITED)	
Net income (loss) available to common shareholders.....	$ 985,540	$ (50,524)	$(29,576,503)	$(6,321,331)	$(83,983,969)
Effect of dilutive securities:					
Common stock warrants.....	116,574	--	--	--	--
Net income (loss), assuming dilution.....	$1,102,114	$ (50,524)	$(29,576,503)	$(6,321,331)	$(83,983,969)
Weighted average common shares outstanding during the year.....	7,406,486	5,598,626	5,598,626	5,598,626	6,407,682
Effect of dilutive securities:					
Common stock warrants.....	8,509,911	--	--	--	--
Common stock options.....	1,583,797	--	--	--	--
	17,500,194	5,598,626	5,598,626	5,598,626	6,407,682

For the years ended December 31, 1999 and 1998, and for the nine months ended September 30, 2000 and 1999, common equivalent shares of 11,378,110, 9,688,766, 10,628,401 and 11,446,996, respectively, resulting from stock options, warrants and restricted stock were not included in the computation of diluted earnings per share because to do so would have been antidilutive.

(17) ACCRUED EXPENSES

Accrued expenses consist of:

	DECEMBER 31,		SEPTEMBER 30,
	1998	1999	2000
Accrued compensation and payroll.....	$392,066	$ 736,021	$ 955,543
Accrued interest.....	8,062	158,101	153,682
Accrued legal and professional fees.....	128,812	251,926	720,599
Other.....	57,349	253,475	436,723
	$586,289	$1,399,523	$2,266,547

(18) 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.

(19) CONCENTRATION OF CREDIT RISK

One commercial customer accounted for 44% of revenues for the year ended December 31, 1999 and 39% and 41% for the nine months ended September 30, 2000 and 1999, respectively. At September 30, 2000 and 1999, and December 31, 1999, one customer accounted for 41%, 46% and 48% of accounts receivable, respectively. Except as noted above, no other individual customer accounted for more than 10% of revenues for the nine months ended September 30, 2000 and 1999 and for the years ended December 31, 1999, 1998, and 1997. In addition, except as noted above, no other individual customer accounted for more than 10% of account receivable at September 30, 2000, December 31, 1999 and December 31, 1998.

(20) STOCK SPLIT

On October 25, 2000, the Board of Directors approved a merger, subject to stockholder approval, of the Company with and into its wholly-owned subsidiary, Harvard Bioscience, Inc., to be effected prior to the consummation of the anticipated initial public offering ("IPO"). In the merger each share of common stock of the Company will be exchanged for one share of Harvard Bioscience, Inc. The Board of Directors of Harvard Bioscience, Inc. has approved a 19.71:1 stock split effective immediately after consummation of the merger. All common stock share and per share data have been restated in these financial statements for all periods presented to reflect this split.

(21) SUBSEQUENT EVENT

Subsequent to September 30, 2000, 5,913 stock options were granted to employees resulting in deferred compensation of approximately $65,000.

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED
FORMERLY
PHARMACIA BIOTECH (BIOCHROM) LIMITED

REPORT OF THE DIRECTORS

FOR THE YEAR ENDED 31ST DECEMBER 1998

The Directors present their report and the audited financial statements for the year ended 31st December 1998.

TRADING RESULTS FOR THE YEAR AND OUTLOOK

The trading results for the year are set out on page F-29 of the accounts. The year was satisfactory.

Following the Company's disposal of the majority of its net assets on the 26th February 1999, (note 23), the Company will cease to trade.

PRINCIPAL ACTIVITIES

During the year the Company developed, manufactured and marketed scientific instruments and associated chemicals.

DIRECTORS

The Directors throughout the year were as listed below. None of the Directors holds any beneficial interest in the share capital of the Company.

W.B. Brown	--	Managing	Resigned	01/03/99
J.G. Lee	--		Joined	23/12/98
K.T. Krzywicki	--		Joined	23/12/98

YEAR 2000 AND EUROPEAN MONETARY UNION

As the Company ceased to trade on the 26th February 1999 the directors are satisfied that there are no risks associated with the impact of the Year 2000 date change or European Monetary Union.

RESEARCH AND DEVELOPMENT

It is the Company's policy to carry out research and development to develop products in the fields of spectrophotometry and amino acid analysis. Our objective is the rapid creation of products utilising Biochrom's strengths in electronic, software, optical and mechanical design plus production skills.

Expenditure on research and development is set out in the profit and loss accounts on page F-29.

CLOSE COMPANY PROVISIONS

As far as the Directors are aware the close company provisions of the Income and Corporation Taxes Act 1988 as amended do not apply to the Company. There has been no change in this respect since the end of the financial year.

POST BALANCE SHEET EVENT

Effective 26th February 1999, the Company sold the majority of its net assets to Biochrom Limited.

(See note 23).

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED
FORMERLY
PHARMACIA BIOTECH (BIOCHROM) LIMITED

REPORT OF THE DIRECTORS

FOR THE YEAR ENDED 31ST DECEMBER 1998

AUDITORS

Our auditors, Coopers & Lybrand, merged with Price Waterhouse on 1 July 1998, following which Coopers & Lybrand resigned and the directors appointed the new firm, PricewaterhouseCoopers, as auditors.

A resolution to reappoint PricewaterhouseCoopers as auditors to the company will be proposed at the annual general meeting.

BY ORDER OF THE BOARD

J.G. LEE
DIRECTOR

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED

FORMERLY

PHARMACIA BIOTECH (BIOCHROM) LIMITED

YEAR ENDED 31ST DECEMBER 1998

STATEMENT OF DIRECTORS' RESPONSIBILITIES

Company law requires the directors to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the company and of the profit or loss of the company for that period. In preparing these financial statements, the directors are required to:

* Select suitable accounting policies and then apply them consistently;

* Make judgements and estimates that are reasonable and prudent;

* State whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;

* Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the company will continue in business.

The directors are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the company and to enable them to ensure that the financial statements comply with the Companies Act 1985. They are also responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

BY ORDER OF THE BOARD

/s/ J.G. Lee
- ---------------------------- Director

9 April 1999
- ---------------------------- Date

REPORT OF THE AUDITORS TO THE MEMBERS OF
PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED

FORMERLY

PHARMACIA BIOTECH (BIOCHROM) LIMITED

REPORT OF INDEPENDENT ACCOUNTANTS

To the Directors of Pharmacia & Upjohn (Cambridge) Limited:

In our opinion, the accompanying balance sheet, profit and loss account and statement of cash flows present fairly, in all material respects, the financial position of Pharmacia & Upjohn (Cambridge) Limited as at 31 December 1997 and 1998 and the profit and loss accounts and cash flows for the years ended 31 December 1997 and 1998 in conformity with generally accepted accounting principles in the United Kingdom, which differ in certain respects from those accepted in the United States (see note 24 to the financial statements).

These financial statements are the responsibility of Pharmacia & Upjohn (Cambridge) Limited's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audit of these statements in accordance with generally accepted auditing standards in the United Kingdom and the United States. These 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, assessing the accounting principles used and significant estimates made by management and evaluating the overall financial statements presentation. We believe that our audit provides a reasonable basis for the opinion expressed above.

PRICEWATERHOUSECOOPERS
Chartered Accountants and Registered Auditors
Cambridge, England
February 26, 1998 (year ended December 31, 1997)
and April 9, 1999 (year ended December 31, 1998),
except for Note 24, which is as of September 15, 2000.

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED
FORMERLY
PHARMACIA BIOTECH (BIOCHROM) LIMITED
PROFIT AND LOSS ACCOUNT
YEAR ENDED 31ST DECEMBER 1998

	NOTES	1998		1997	
		L	L	L	L
TURNOVER	2		7,101,776		8,699,944
Cost of sales			(5,160,296)		(6,252,278)
GROSS PROFIT			1,941,480		2,447,666
Distribution costs		(457,939)		(421,254)	
Administration costs		(604,918)		(493,374)	
Research and Development costs		(395,569)		(418,000)	
		(1,458,426)		(1,332,628)	
Other operating income	4	48,808		61,019	
NET OPERATING EXPENSES			(1,409,618)		(1,271,609)
OPERATING PROFIT	3		531,862		1,176,057
Interest receivable	5		83,095		114,392
PROFIT ON ORDINARY ACTIVITIES BEFORE TAXATION			614,957		1,290,449
Tax on profit on ordinary activities	6		(194,935)		(444,323)
PROFIT FOR THE YEAR			420,022		846,126
Dividend Paid Net			--		(2,349,827)
PROFIT(LOSS) RETAINED FOR THE YEAR			L420,022		L(1,503,701)

Reserves statement see note 15

All activities are discontinued (note 23).

The company has no recognised gains and losses other than those included in the profits above, and therefore no separate statement of total recognised gains and losses has been presented.

There is no difference between the profit on ordinary activities before taxation and the retained profit for the year stated above and historical cost equivalents.

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED

FORMERLY

PHARMACIA BIOTECH (BIOCHROM) LIMITED

BALANCE SHEET

31ST DECEMBER 1998

	NOTES	1998		1997	
		L	L	L	L
FIXED ASSETS					
Tangible assets	9		415,900		455,504
CURRENT ASSETS					
Stock	10	636,556		706,141	
Debtors	11	1,603,559		1,537,499	
Cash at bank and in hand		1,545,230		1,026,766	
		3,785,345		3,270,406	
CREDITORS: Amounts falling due within one year	12	888,747		804,784	
NET CURRENT ASSETS			2,896,598		2,465,622
TOTAL ASSETS LESS CURRENT LIABILITIES			L3,312,498		L2,921,126
PROVISIONS FOR LIABILITIES AND CHARGES	13		46,350		75,000
NET ASSETS			L3,266,148		L2,846,126
CAPITAL AND RESERVES					
Called up share capital	14		2,000,000		2,000,000
Profit and loss account	15		1,266,148		846,126
EQUITY SHAREHOLDERS' FUNDS	16		L3,266,148		L2,846,126

The financial statements on pages F-29 to F-43 were approved by the Board of Directors on 9 April 1999 and were signed on its behalf by:

/s/ J.G. Lee
- ---------- Director

9 April 1999
- ---------- Date

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED

FORMERLY

PHARMACIA BIOTECH (BIOCHROM) LIMITED

CASH FLOW STATEMENT FOR THE YEAR ENDED 31ST DECEMBER 1998

See note 19	1998	1997
	L	L
Operating Activities		
Net cash in flow from operating activities	742,243	1,355,841
RETURNS ON INVESTMENTS AND SERVICING OF FINANCE		
Interest received	81,764	118,918
TAXATION		
UK Corporation Tax paid	(160,915)	(576,323)
Advance Corporation Tax paid	--	(587,457)
	(160,915)	(1,163,780)
CAPITAL EXPENDITURE AND FINANCIAL INVESTMENT		
Purchase of tangible fixed assets	(144,628)	(123,966)
Sale of tangible fixed assets	--	350
	(144,628)	(123,616)
Equity Dividends Paid Net	--	(2,349,827)
INCREASE/(DECREASE) IN CASH IN THE PERIOD	518,464	(2,162,464)

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED

FORMERLY

PHARMACIA BIOTECH (BIOCHROM) LIMITED

NOTES TO THE ACCOUNTS

YEAR ENDED 31ST DECEMBER 1998

1. ACCOUNTING POLICIES

(a) BASIS OF ACCOUNTING

Although it is intended that the Company shall cease to trade following the sale of its net assets on the 26th February 1999 (note 23), the accounts have been prepared on the going concern basis. This is because in the directors' opinion there is no material difference between the recoverable amounts of the assets and liabilities and their values in the balance sheet. The accounts have been prepared on the historical cost basis and in accordance with applicable Accounting Standards in the United Kingdom. A summary of the more important accounting policies which have been applied consistently is set out below:

(b) DEPRECIATION OF TANGIBLE FIXED ASSETS

The cost of fixed assets is their purchase cost, together with any incidental costs of acquisition.

Depreciation is calculated using the straight line method to write off the fixed assets over their estimated useful lives as follows:

Leasehold improvements	--	7 years
Plant, machinery, equipment and tooling	--	3-7 years
Computer equipment	--	5 years

(c) DEFERRED TAXATION

Provision is made using the liability method for the tax effect of all material timing differences between profits computed for taxation purposes and those stated in the accounts, except insofar as the timing differences are expected to continue for the foreseeable future.

(d) FOREIGN CURRENCY

Assets and liabilities in foreign currencies are translated to sterling at the rates of exchange ruling at the end of the financial year. Exchange differences resulting from changes in foreign currency rates are written off to the profit and loss account.

(e) RESEARCH AND DEVELOPMENT EXPENDITURE

Expenditure on research and development is written off to the profit and loss account during the year in which it is incurred.

(f) OPERATING LEASES

Costs in respect of operating leases are charged on a straight line basis in arriving at the operating profit.

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED

FORMERLY

PHARMACIA BIOTECH (BIOCHROM) LIMITED

NOTES TO THE ACCOUNTS

YEAR ENDED 31ST DECEMBER 1998

1. ACCOUNTING POLICIES (CONTINUED)

(g) STOCKS AND WORK IN PROGRESS

Stocks are stated at the lower of cost and net realisable value. Cost in this context includes all attributable costs in getting each item to its present location and condition and, for finished goods and work in progress, a proportion of attributable overheads based on a normal level of activity. Net realisable value is the price at which stock can be sold in the normal course of business after allowing for the costs of realisation, and where appropriate, the costs of conversion from their existing state to a finished condition. Provision is made for obsolete, slow moving and defective stocks.

(h) PENSION COSTS

The Company operates a funded defined benefit pension scheme which is contracted out of the state scheme. The fund is valued every three years by a professionally qualified independent actuary, the rates of contribution payable being determined by the actuary. Pension costs are accounted for on the basis of charging the expected cost of providing pensions over the period during which the company benefits from the employees' services. The effects of variations from regular cost are spread over the expected average remaining service lives of members of the scheme.

2. TURNOVER

Turnover represents the invoiced value of goods and services supplied during the year, less trade discounts and trade commissions, excluding Value Added Tax.

Turnover arises from the principal activity of the Company and was derived from the following geographical areas by destination:

	1998	1997
	L	L
Europe	4,519,415	5,280,673
Asia and Australasia	831,277	978,144
The Americas	1,693,897	2,301,527
Middle East and Africa	57,187	139,600
Turnover is all UK by origin	7,101,776	8,699,944

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED

FORMERLY

PHARMACIA BIOTECH (BIOCHROM) LIMITED

NOTES TO THE ACCOUNTS

YEAR ENDED 31ST DECEMBER 1998

3. OPERATING PROFIT

	1998	1997
	L	L
Operating profit has been arrived at after charging:-		
Auditors remuneration--audit services	22,030	19,350
--non audit services	13,325	15,175
Operating lease rentals:-		
Machinery, equipment and vehicles	51,753	58,987
Premises	231,333	227,000
Depreciation	190,915	212,740

4. OTHER OPERATING INCOME

	1998	1997
	L	L
Miscellaneous income	48,808	61,019
	L48,808	L61,019

5. INTEREST RECEIVABLE

	1998	1997
	L	L
On bank current account cash balance	83,095	114,392
	L83,095	L114,392

6. TAXATION

	1998	1997
	L	L
United Kingdom corporation tax at 31%		
Current	193,000	439,000
Under provision in respect of prior years;		
Current	1,935	5,323
	L194,935	L444,323

PHARMACIA & UPJOHN (CAMBRIDGE) LIMITED

FORMERLY

PHARMACIA BIOTECH (BIOCHROM) LIMITED

NOTES TO THE ACCOUNTS

YEAR ENDED 31ST DECEMBER 1998

7. EMPLOYEES

	1998	1997
	NO.	NO.
The average number of employees, (including the executive Director) was made up as follows:		
Manufacturing, production and development	48	48
Distribution	7	8
Administration	5	5
	60	61
	L	L
Staff costs, including full time working Directors amounted to:		
Salaries and bonuses	1,308,728	1,368,189
National insurance	105,959	107,986
Pension costs	127,348	118,317
	L1,542,035	L1,594,492

8. DIRECTORS` EMOLUMENTS

	1998	1997
	L	L
Emoluments of Directors of Pharmacia & Upjohn (Cambridge) Limited		
Fees	--	--
Other emoluments--salary, bonus and benefits in kind	73,705	68,244
	73,705	68,244

Retirement benefits are accruing to one Director under a defined benefit scheme (1997:one).

9. TANGIBLE FIXED ASSETS

	COMPUTER EQUIPMENT	LEASEHOLD BUILDING IMPROVEMENTS	PLANT MACHINERY EQUIPMENT & TOOLING	TOTAL
	L	L	L	L
COST				
At 1st January 1998	428,534	227,692	1,263,370	1,919,596
Disposals during year	(45,949)	--	(12,929)	(58,878)
Additions	42,429	--	108,882	151,311
At 31st December 1998	425,014	227,692	1,359,323	2,012,029
DEPRECIATION				
At 1st January 1998	323,582	203,176	937,334	1,464,092
Disposals during year	(45,949)	--	(12,929)	(58,878)
Charge for the year	43,780	6,475	140,660	190,915
At 31st December 1998	321,413	209,651	1,065,065	1,596,129
NET BOOK VALUE				
At 31st December 1998	103,601	18,041	294,258	415,900
At 31st December 1997	104,952	24,516	326,036	455,504

10. STOCK

	1998	1997
	L	L
Components, materials and supplies	528,408	636,259
Work in progress	32,002	3,053
Finished goods	76,146	66,829
	L636,556	L706,141

The Directors do not believe that the current replacement cost of stock is materially different from its historical cost.

11. DEBTORS

	1998	1997
	L	L
Advance Corporation Tax Recoverable	307,437	306,187
Trade debtors	1,093,118	1,038,502
Amounts owed by holding company and fellow subsidiaries	4,145	2,814
Other debtors and prepayments	198,859	189,996
	L1,603,559	L1,537,499

12. CREDITORS--AMOUNTS FALLING DUE WITHIN ONE YEAR

	1998	1997
	L	L
Trade creditors	484,770	526,387
Other creditors	181,806	86,986
Other taxation and social security	29,171	33,681
Corporation tax	193,000	157,730
	888,747	L804,784

13.(A) PROVISIONS FOR LIABILITIES AND CHARGES

	1998	1997
	L	L
Pension fund liability	46,350	--

Following the net asset sale dated 26th February 1999 a pension fund liability may crystalise when the Company's pension fund transfers scheme assets to Biochrom Limited's new pension scheme in 1999.

	1998	1997
	L	L
Building lease dilapidation provision	--	75,000

The dilapidation provision was released to the Profit and Loss account in the light of the surrender without penalty of the building lease on the sale of net assets of the Company described in note 23.

13.(B) DEFERRED TAXATION

The provision for deferred taxation, and the full potential asset, are made up as follows:-

	1998		1997	
	FULL POTENTIAL (ASSET)/LIABILITY	PROVISION MADE	FULL POTENTIAL (ASSET)/LIABILITY	PROVISION MADE
	L	L	L	L
Accelerated capital allowances.....	(45,713)	--	(43,881)	--
Short term timing differences.....	(738)	--	(22,499)	--
	L(46,451)	L--	L(66,380)	L--

14. CALLED UP SHARE CAPITAL

	1998	1997
AUTHORISED		
Ordinary shares of L1 each.....	L2,000,000	L2,000,000
ALLOTTED, CALLED UP AND FULLY PAID		
Ordinary shares of L1 each.....	L2,000,000	L2,000,000

15. STATEMENT OF RESERVES

	1998	1997
	L	L
At 1st January 1998.....	846,126	2,349,827
Retained Profit/(Loss) for the year.....	420,022	(1,503,701)
At 31st December 1998.....	1,266,148	846,126

16. RECONCILIATION OF MOVEMENTS IN SHAREHOLDERS' FUNDS

	1998	1997
	L	L
Profit for the year.....	420,022	846,126
Appropriation, net dividend on ordinary shares.....	--	(2,349,827)
Net addition/(reduction) to shareholders' funds.....	420,022	(1,503,701)
Opening shareholders' funds.....	2,846,126	4,349,827
Closing shareholders' funds.....	3,266,148	2,846,126

17. CAPITAL COMMITMENTS

	1998	1997
	L	L
Future capital expenditure contracted, but not provided for:	--	--

18. CONTINGENT LIABILITIES AND FINANCIAL COMMITMENTS

	1998	1997
	L	L
Amount of performance bonds	944	944
Guarantee given to H.M. Customs & Excise in respect of import duty & VAT	120,000	120,000
	L120,944	L120,944

a) The Directors do not expect liabilities to arise from the performance bonds issued.

b) The company has entered into a composite accounting agreement with Barclays Bank PLC., along with other members of the Pharmacia & Upjohn Limited group. As a member of the Pharmacia & Upjohn Limited group cash pool, the company has a contingent liability of L10 million (1997 L10 million) in respect of overdrafts of the other members in the group cash pool.

c) At 31st December 1998, the Company had financial commitments in respect of operating leases for vehicles, equipment and premises, terminating in 1999 and thereafter. The total amount payable in the next year under these leases is as follows:-

	1998		1997	
	LAND AND BUILDINGS	OTHER	LAND AND BUILDINGS	OTHER
	L	L	L	L
Leases expiring between				
Less than one year	170,250	3,870	--	2,894
One to two years	--	2,497	227,000	4,992
Two and five years inclusive	--	42,048	--	34,356
	L170,250	L48,415	L227,000	L42,242

19. CASH FLOW STATEMENT

(a) Reconciliation of operating profit to net cash inflow from operating activities:

	1998	1997
	L	L
Operating profit	531,862	1,176,057
Depreciation charges	190,915	212,740
(Gain) on sale of tangible fixed assets	--	(215)
Decrease/(Increase) in stocks	69,585	59,566
(Increase) in debtors	(63,479)	(63,377)
Increase/(Decrease) in creditors	13,360	(28,930)
Net cash inflow from operating activities	L742,243	L1,355,841

(b) Analysis of changes in net funds and movement during the year

	1998	1997
	L	L
Balance at 1st January 1998	1,026,766	3,189,230
Net cash inflow/(outflow)	518,464	(2,162,464)
Balance at 31st December 1998	L1,545,230	L1,026,766

(c) Analysis of the balances of cash shown in the balance sheet

	1998	1997	CHANGE IN YEAR
	L	L	L
Cash at bank and in hand	1,545,230	1,026,766	518,464

20. PENSION OBLIGATIONS

The Company participates in a pension fund operated by Pharmacia Biotech UK, a branch office of Pharmacia Biotech Europe GmbH (previously Pharmacia Limited) providing benefits based on final pensionable pay. The assets of the fund are held separately from those of the Company being invested with investment managers in a managed fund.

20. PENSION OBLIGATIONS (CONTINUED)

The total pension cost for the company is set out in note 7. The pension cost is assessed in accordance with the advice of an independent qualified actuary using the projected unit method. The most recent actuarial valuation adopted by the Trustees of the Pharmacia Limited Staff Superannuation Fund was as at 1 January 1997. The assumptions which had the most significant effect on the results of the valuation were those relating to:

a) the future rate of investment return on the fund;

b) the future rate at which members' salaries would increase;

c) the rate of withdrawal from service.

It was assumed that the long term rate of investment return would be at an average of 9% per annum and the rate of future salary increases would be at 7.5% per annum. The rate of withdrawal from service was selected at a rate slightly less than the rate experienced over the inter-valuation period.

The most recent actuarial valuation adopted by the Trustees showed that the market value of the fund's assets was L5,564,000 and that the actuarial value of those assets represented 112% of the benefits that had accrued to members, after allowing for expected future increases in basic salary.

The existing pension fund was formed in 1986 by the amalgamation of the Pharmacia Biotech Limited and Pharmacia LKB Biochrom Limited schemes. Following the net asset sale on 26 February 1999 (note 23), all Pharmacia Biotech active members (staff formerly employed by Pharmacia Biotech Limited) will transfer into the Nycomed Amersham Scheme. The remaining "Biochrom" active members will have the choice to transfer into the new Biochrom Limited pension scheme. All current and deferred members will remain in the Pharmacia Biotech UK Pension Fund which will be administered by Pharmacia & Upjohn at Milton Keynes.

21. RELATED PARTY TRANSACTIONS

As a wholly owned subsidiary, whose results are included in the consolidated financial statements of Pharmacia & Upjohn, Inc. (see note 22), the company is exempt from the requirement to disclose details of transactions with other group companies.

The Director regards Amersham Pharmacia Biotech AB ("APB") as a related party by virtue of the fact that the company's ultimate parent undertaking Pharmacia & Upjohn Inc. holds a 45% interest in APB and that there are certain common directorships. Sales to APB group companies amounted to L6,608,485 and the company was owed L1,010,761 as at 31 December 1998 in relation to trading balances.

22. ULTIMATE AND IMMEDIATE PARENT UNDERTAKING

The directors regard Pharmacia & Upjohn, Inc, a company incorporated in the USA, as the ultimate parent and controlling undertaking. Copies of the ultimate parent's consolidated financial statements may be obtained from:

Pharmacia & Upjohn, Inc
7000 Portage Road, Kalamazoo
Michigan 49001, USA

According to the register kept by the company, Pharmacia & Upjohn Limited, a company registered in England and Wales, has a 100% interest in the equity capital of the company at 31 December 1998.

23. POST BALANCE SHEET EVENTS

On the 26th February 1999, the Company sold the majority of its net assets to Biochrom Limited for a consideration of US Dollars 6,362,574. Following this, the Company will cease to trade.

24. SUMMARY OF DIFFERENCES BETWEEN UK AND US GENERALLY ACCEPTED ACCOUNTING PRINCIPLES ("GAAP")

The company has prepared financial statements in accordance with UK GAAP. There are no reconciling differences between US and UK GAAP related to the equity shareholders' funds as of 31 December 1997 and 1998 and the net income for the years ended 31 December 1997 and 1998. The financial statements reflect all costs of doing business including costs incurred by other group companies on behalf of the Company. As of 31 December 1997 and 1998 the following other differences exist:

DEFERRED TAXATION

Under UK GAAP, provision for deferred tax is only required to the extent that it is probable that a taxation liability or asset will crystallise, in the foreseeable future, as a result of timing differences between taxable profits and accounting profit, with provision made at the known tax rate.

Under US GAAP, full provision for deferred tax is required to the extent that accounting profit differs from taxable profit due to temporary differences. Provision is made at the tax rate in effect at the time the difference is likely to reverse. A valuation adjustment is made against deferred tax assets when it is more likely than not that a deferred tax asset will not be realised. As such, provision for the taxable losses carried forward of L46,451 would be provided with a valuation allowance for the full amount, resulting in no net impact on the profit and loss account or shareholders' equity, as of 31 December 1998. Provision for the taxable losses carried forward of L66,380 would be provided with a valuation allowance for the full amount, resulting in no net impact on the profit and loss account or shareholders' equity, as of 31 December 1997.

24. SUMMARY OF DIFFERENCES BETWEEN UK AND US GENERALLY ACCEPTED ACCOUNTING PRINCIPLES ("GAAP") (CONTINUED)

CASH FLOW STATEMENTS

The cash flow statement is prepared in accordance with United Kingdom Financial Reporting Standard 1 "FRS 1 (Revised 1996)", whose objective and principles are similar to those set out in SFAS No.95, "Statement of Cash Flows". The principal differences between the standards relate to classification. Under FRS 1 (Revised 1996), the company presents its cash flows for (a) operating activities, (b) returns on investments and servicing of finance, (c) taxation, (d) capital expenditure and financial investment, (e) equity dividends paid, (f) management of liquid resources and (g) financing. SFAS No.95 requires only three categories of cash flow activity being (a) operating, (b) investing and (c) financing.

Cash flows from taxation and returns on investments and servicing of finance under FRS 1 (Revised 1996) would be included as operating activities under SFAS No.95, capital expenditure and financial investment would be included as investing activities, and equity dividends paid would be included as a financing activity under SFAS No.95. Under FRS 1 (Revised 1996) cash comprises cash in hand and deposits repayable on demand, less overdrafts repayable on demand, and liquid resources comprise current asset investments held as readily disposable stores of value. Under SFAS No.95 cash equivalents, comprising short-term highly liquid investments, generally with original maturities of three months or less, are grouped together with cash. Cash equivalents exclude overdrafts. There are no differences between cash as stated under UK GAAP and cash and cash equivalents as stated under US GAAP at 31 December 1997 and 1998.

Set out below, for illustrative purposes, is a summary of cash flows under US GAAP.

	YEAR ENDED 31 DECEMBER	
	1998	1997
	L'000	L'000
Net cash provided by operating activities	663,092	310,979
Net cash used in investing activities	(144,628)	(123,616)
Net cash used in financing activities	--	(2,349,827)
Net increase/(decrease) in cash and cash equivalents	518,464	(2,612,464)
Cash and cash equivalents at beginning of period	1,026,766	3,639,230
Cash and cash equivalents at end of period	1,545,230	1,026,766
Supplement cash flow information:		
Cash paid for interest	--	--
Cash paid for income taxes	(160,915)	(1,163,780)

PROSPECTUS

[THOMAS WEISEL PARTNERS LLC LOGO]

[HARVARD BIOSCIENCE LOGO]

6,422,450 SHARES
COMMON STOCK

THOMAS WEISEL PARTNERS LLC
DAIN RAUSCHER WESSELS
ING BARINGS

- ---

Neither we nor any of the underwriters have authorized anyone to provide information different from that contained in this prospectus. When you make a decision about whether to invest in our common stock, you should not rely upon any information other than the information in this prospectus. Neither the delivery of this prospectus nor the sale of our common stock means that information contained in this prospectus is correct after the date of this prospectus. This prospectus is not an offer to sell or solicitation of an offer to buy these shares of common stock in any circumstances under which the offer or solicitation is unlawful.

Until , 2000 (25 days after commencement of this offering), all dealers that buy, sell or trade these shares of common stock, whether or not participating in this offering, may be required to deliver a prospectus. This is an addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the estimated expenses payable by us in connection with the offering (excluding underwriting discounts and commissions):

NATURE OF EXPENSE	AMOUNT
SEC Registration Fee	$ 25,260
NASD Filing Fee	8,000
Nasdaq National Market Listing Fee	95,000
Accounting Fees and Expenses	550,000
Legal Fees and Expenses	600,000
Printing Expenses	200,000
Blue Sky Qualification Fees and Expenses	5,000
Transfer Agent's Fee	5,000
Miscellaneous	11,740
TOTAL	$1,500,000

The amounts set forth above, except for the Securities and Exchange Commission, National Association of Securities Dealers, Inc. and Nasdaq National Market fees, are in each case estimated.

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS

In accordance with Section 145 of the Delaware General Corporation Law, Article VII of our certificate of incorporation provides that none of our directors will be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (1) for any breach of the director's duty of loyalty to us or our stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) in respect of unlawful dividend payments or stock redemptions or repurchases, or (4) for any transaction from which the director derived an improper personal benefit. In addition, our certificate of incorporation provides that if the Delaware General Corporation Law is amended to authorize the further elimination or limitation of the liability of directors, then the liability of a director of the corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended.

Article V of our by-laws provides for our indemnification of our officers and certain non-officer employees under certain circumstances against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement, reasonably incurred in connection with the defense or settlement of any threatened, pending or completed legal proceeding in which any such person is involved by reason of the fact that such person is or was an officer or employee of the registrant if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to our best interests, and, with respect to criminal actions or proceedings, if such person had no reasonable cause to believe his or her conduct was unlawful.

Prior to the offering, we will have entered into indemnification agreements with each of our directors. The form of indemnification agreement provides that we will indemnify our directors for expenses incurred because of their status as a director to the fullest extent permitted by Delaware law, our certificate of incorporation and our by-laws.

ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES

Set forth in chronological order below is information regarding the number of shares of capital stock issued by us since October 15, 1997. Also included is the consideration, if any, received by us for such shares. There was no public offering in any such transaction and we believe that each transaction

was exempt from the registration requirements of the Securities Act of 1933 by reason of Section 4(2) thereof, based on the private nature of the transactions and the financial sophistication of the purchasers, all of whom had access to complete information concerning us and acquired the securities for investment and not with a view to the distribution thereof. In addition, we believe that the transactions described below with respect to issuances and option grants to our employees and directors were exempt from the registration requirements of said Act by reason of Section 4(2) of said Act or Rule 701 promulgated thereunder.

(a) ISSUANCE OF CAPITAL STOCK

(i) In 1999, we issued an aggregate of 48,500 shares of our series B convertible preferred stock to Ascent Venture Partners, L.P. (formerly known as Pioneer Capital Corp.) and Citizens Capital, Inc. for an aggregate purchase price of $1,000,000.

(ii) In March 2000, we issued 1,091,716 shares of our common stock upon the exercise of previously granted stock options at an aggregate exercise price of $1,792.14.

(iii) In September 2000, we issued 2,376,236 shares of our common stock upon the exercise of previously granted stock options at an aggregate exercise price of $1,549,155.40.

(b) GRANTS OF STOCK OPTIONS

(i) As of October 15, 2000, options to purchase 599,096 shares of common stock were outstanding under our 1996 Stock Option and Grant Plan. None of these options is exercisable within 60 days of such date. All such options were granted between March 1996 and October 2000 to our officers, directors, employees and consultants.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(A) EXHIBITS. The following is a complete list of exhibits filed or incorporated by reference as part of this Registration Statement.

*1.1	Form of Underwriting Agreement.
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. (Excluding schedules and exhibits which Registrant agrees to furnish supplementally to the Commission upon request.)
2.2	Asset Purchase Agreement dated July 14, 2000 by and between Harvard Apparatus, Inc., AmiKa Corporation and Ashok Shukla. (Excluding schedules and exhibits which Registrant agrees to furnish supplementally to the Commission upon request.)
*3.1	Amended and Restated Certificate of Incorporation of the Registrant.
*3.2	Form of Second Amended and Restated Certificate of Incorporation of the Registrant.
*3.3	Amended and Restated By-laws of the Registrant.
*4.1	Specimen certificate for shares of Common Stock, $0.01 par value, of the Registrant.
4.2	Amended and Restated Securityholders' Agreement dated as of March 2, 1999 by and among Harvard Apparatus, Inc., Pioneer Ventures Limited Partnership, Pioneer Ventures Limited Partnership II, Pioneer Capital Corp., First New England Capital, L.P. and Citizens Capital, Inc. and Chane Graziano and David Green.
*5.1	Opinion of Goodwin, Procter & Hoar LLP as to the legality of the securities offered.
10.1	Harvard Apparatus, Inc. 1996 Stock Option and Grant Plan.
*10.2	Harvard Bioscience, Inc. 2000 Stock Option and Incentive Plan.
*10.3	Harvard Bioscience, Inc. Employee Stock Purchase Plan.
+10.4	Distribution Agreement dated March 2, 1999 by and between Biochrom Limited and Amersham Pharmacia Biotech AB.

*10.5	Employment Agreement dated	between Harvard Bioscience and Chane Graziano.
*10.6	Employment Agreement dated	between Harvard Bioscience and David Green.
*10.7	Employment Agreement dated	between Harvard Bioscience and James L. Warren.
10.8	Form of Director Indemnification Agreement.	
21.1	Subsidiaries of the Registrant.	
*23.1	Consent of Goodwin, Procter & Hoar LLP (included in Exhibit 5.1 hereto).	
23.2	Consent of KPMG LLP.	
23.3	Consent of PricewaterhouseCoopers.	
**24.1	Powers of Attorney.	
27.1	Financial Data Schedule.	
99.1	Consent of Robert Dishman to be named as a person to be appointed a director of Registrant in this Registration Statement.	
99.2	Consent of Earl R. Lewis to be named as a person to be appointed a director of Registrant in this Registration Statement.	

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* To be filed by amendment to this registration statement.

** Previously filed.

+ Confidential treatment requested as to this previously filed exhibit.

(B) FINANCIAL STATEMENT SCHEDULES

All schedules have been omitted because they are not required or because the required information is given in the consolidated financial statements or notes to those statements.

ITEM 17. UNDERTAKINGS

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial BONA FIDE offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Boston, on October 25, 2000.

HARVARD BIOSCIENCE, INC.

By: /s/ JAMES WARREN
James Warren
CHIEF FINANCIAL OFFICER

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

SIGNATURE	TITLE	DATE
*	Chief Executive Officer and Director (Principal Executive Officer)	October 25, 2000
Chane Graziano		
/s/ JAMES WARREN	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	October 25, 2000
James Warren		
*	President and Director	October 25, 2000
David Green		
*	Director	October 25, 2000
Christopher W. Dick		
*	Director	October 25, 2000
Richard C. Klaffky, Jr.		

*By: /s/ JAMES WARREN
James Warren
Attorney-in-fact

EXHIBIT INDEX

EXHIBIT NO.	DESCRIPTION
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23.3	Consent of PricewaterhouseCoopers.
**24.1	Powers of Attorney.
27.1	Financial Data Schedule.
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- ------------------------

* To be filed by amendment to this registration statement.

** Previously filed.

+ Confidential treatment requested as to this previously filed exhibit.

EXHIBIT 2.1

PURCHASE AGREEMENT

by and among

BIOCHROM LIMITED
as Buyer

and

PHARMACIA BIOTECH (BIOCHROM) LIMITED
as Seller

and

PHARMACIA & UPJOHN, INC.
as guarantor of Seller's obligations

and

HARVARD APPARATUS, INC.
as guarantor of Buyer's obligations

Dated on March 2, 1999

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ASSET PURCHASE AGREEMENT

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Schedule 3.25	Customers, Distributors and Suppliers
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ASSET PURCHASE AGREEMENT

AGREEMENT entered into on March 2, 1999 by and among Biochrom Limited (a limited liability company incorporated in England with registered number 3526954 whose registered office is at Unit 22 Phase I Cambridge Science Park, Milton Road, Cambridge CB4 4FJ England) ("Buyer") and Pharmacia Biotech (Biochrom) Limited (a limited liability company incorporated in England with registered number 974213 whose registered office is at 22 Cambridge Science Park, Milton Road, Cambridge CB4 4FJ England) ("Seller"), and Pharmacia & Upjohn, Inc. (a company incorporated in the State of Delaware), as guarantor of Seller's obligations hereunder (the "Seller Guarantor"), and Harvard Apparatus, Inc. (a company incorporated in the Commonwealth of Massachusetts), as guarantor of Buyer's obligations hereunder ("HAI" or the "Buyer Guarantor").

W I T N E S S E T H:

WHEREAS, Seller principally carries on the business of manufacturing and selling chemical analysis instruments;

WHEREAS, Seller is empowered by its Memorandum of Association to sell or dispose of its assets and undertaking (wholly or in part) for such consideration and on such terms as it thinks fit and there is nothing in any deed or document restricting or prohibiting the sale of the goodwill or other assets of Seller which are the subject matter of this Agreement;

WHEREAS, subject to the terms and conditions set forth herein, Buyer desires to purchase from Seller, and Seller desires to sell, transfer and assign to Buyer, substantially all of the assets of Seller;

WHEREAS, subject to the terms and conditions hereof, Buyer desires to purchase said assets of Seller for the consideration specified herein and the assumption by Buyer only of certain liabilities and obligations of Seller specified herein; and

WHEREAS, as a condition to the consummation of the transactions contemplated hereby, Buyer will enter into a Distribution Agreement (the "Distribution Agreement") with Amersham Pharmacia Biotech AB, a Swedish corporation ("AP Biotech"), on the Closing Date (as hereinafter defined).

NOW, THEREFORE, in order to consummate said purchase and sale and in consideration of the mutual agreements set forth herein, the parties hereto agree as follows:

1. INTERPRETATION

In the interpretation of this Agreement:

1.1 The headings are for convenience only and shall not affect the interpretation hereof;

1.2 References in this Agreement to Sections, Recitals or Schedules are to sections of and recitals or schedules to this Agreement and all of the foregoing are included in any reference to this Agreement;

1.3 Unless the context otherwise requires the singular shall include the plural and vice versa, and references to persons shall include bodies corporate, unincorporated associates and partnerships;

1.4 References in this Agreement to any statute or statutory provision or EC Directive shall include any statute or statutory provision or EC Directive which amends, extends, consolidates or replaces the same or which has been amended, extended, consolidated or replaced by the same up to the Closing Date and shall include any order, regulation, instrument or other subordinate legislation made under the relevant statute or statutory provision or EC Directive; and

1.5 References to any legal term of the United States or a state therein for any right, action, remedy, method of judicial proceeding, legal document legal status, court, official or any legal concept or thing shall in respect of any jurisdiction other than the United States or a state therein be deemed to include what most nearly approximates in that jurisdiction to the legal term of the United States or a state therein.

1.6 The term "Business" shall refer to the manufacture, design, development and sale of all products sold by Seller prior to the Closing, including without limitation, spectrophotometers and amino acid analyzers and related accessories, chemicals, service support, software and spare parts as conducted by Seller prior to the Closing, with the exception of the Excluded Assets as provided in Section 2.1(d).

1.7 The term "Business Day" shall mean a day, other than Saturday, when banks are open for business in London.

2. PURCHASE AND SALE OF ASSETS

2.1 SALE OF ASSETS

(a) Subject to the provisions of this Agreement, at the Closing (as defined in Section 2.4 hereof) Seller shall sell and transfer free from all liens, charges and encumbrances to Buyer and Buyer shall purchase with effect from the Closing Date all of Seller's Business as a going concern comprising the right, title and interest in all of the properties and assets of Seller (except as hereinafter provided in Sections 2.1(c) and 2.1(d)) of every kind and description, tangible and intangible, real, personal or mixed, and wherever located, including, without limitation, the following:

(i) all inventory, stock in trade, work-in-process, finished goods and raw materials owned by Seller (collectively, the "Inventory"), including, without limitation, such items set forth on SCHEDULE 3.8 attached hereto;

(ii) (A) all assets, including, without limitation, printed circuit board artwork and all patterns, drawings and tooling owned by Seller which are not located on the Leasehold Property (as hereinafter defined) (the "Off-Site Assets"), it being understood by the parties hereto that SCHEDULE 2.1(a)(ii) contains information as to the name, address and telephone number of each third party where such assets are located as well as information identifying the tooling located at each such location;

(B) all printed circuit board artwork and all patterns, drawings and tooling owned by Seller which are located on the Leasehold Property (as defined hereinafter);

(iii) the goodwill of Seller in connection with Seller's Business and the exclusive right to represent itself as carrying on Seller's Business in succession to Seller (the "Goodwill");

(iv) all machinery, equipment and tangible personal property owned by Seller including, without limitation, (A) the machinery, equipment and tangible personal property listed on SCHEDULE 3.4(c) attached hereto, (B) all tooling (including molds), spare parts, fixtures, castings, and other tangible assets related to or used in connection with such scheduled machinery and equipment and all other tools, spare parts, fixtures and other tangible assets and (C) office equipment, telephones, facsimile machines, desks, tables, chairs and file cabinets (all of the foregoing described in clauses (A), (B) and (C) collectively, the "Equipment");

(v) the leases to all machinery, equipment and tangible personal property leased by Seller, including, without limitation, those listed on SCHEDULE 2.1(a)(v) (but excluding leases of vehicles);

(vi) all trade receivables of Seller (other than those representing accounts of AP Biotech or its affiliates and Seller Guarantor or its affiliates) including, without limitation, those listed on SCHEDULE 3.7 attached hereto, but excluding those trade receivables expressly identified on such SCHEDULE 3.7 as being delinquent (the "Delinquent Non-AP Biotech Receivables"), which such Delinquent Non-AP Biotech Receivables will not be conveyed to Buyer pursuant to this Agreement (the "Non-AP Biotech Receivables");

(vii) All contracts of Seller and purchase orders (and the benefits thereunder) issued by Seller in relation to Seller's Business entered into or issued prior to the Closing Date, including without limitation those listed on SCHEDULE 2.1(a)(vii), and under which the obligations of all the parties thereto have not at the Closing Date been fully performed, including, without limitation, Seller's contracts with third party suppliers and

distributors (but excluding contracts with employees, leases and customer purchase orders received by Seller);

(viii) all purchase orders of customers received by Seller prior to the Closing Date, including without limitation as set forth in SCHEDULE 2.1(a)(viii), and under which the obligations of all the parties thereto have not at the Closing Date been fully performed;

(ix) the leases to the vehicles leased by Seller in connection with Seller's Business at the Closing Date, listed in SCHEDULE 3.26 (the "Vehicles");

(x) such manufacturers' guarantees and warranties, if any, relating to the Equipment and the Vehicles (or any of them) as may be in force at the Closing Date insofar as the same are capable of assignment and the benefit of any claims against such manufacturers relating to the Equipment and Vehicles (including without limitation any claim for breach of the manufactures' guarantees and warranties);

(xi) all computer software (except with respect to that computer software specified on SCHEDULE 3.11 as not being assignable without consent, which such computer software shall be handled in accordance with Section 2.10) used by Seller in connection with the operation of Seller's Business, including without limitation as set forth on SCHEDULE 2.1(a)(xi) (excluding the network software set forth in Section 2.1(d)(v));

(xii) the accounting and financial records of Seller and the fiscal records contemplated in Section 4.8;

(xiii) the personnel records and employment contracts of the Employees (as defined hereinafter), such Employees being listed on SCHEDULE 3.24;

(xiv) except with respect to the Biochrom Name (as hereinafter defined), all intellectual property rights of Seller (whether owned, licensed or otherwise), including without limitation trade secrets, proprietary information, designs and design rights, styles, technologies, inventions, know-how, formulae, processes, procedures, research records, test information, software and software documentation (except with respect to that computer software specified on SCHEDULE 3.11 as not being assignable without consent, which such computer software shall be handled in accordance with Section 2.10), market surveys, marketing know-how and manufacturing, research and technical information, trade names, service marks and trademarks (except as provided in Section 2.1(d)(ii)) including, without limitation, the trade names and trademarks listed in SCHEDULE 3.10 attached hereto, and, subject to Section 2.12 hereof and any necessary third party consent set forth on SCHEDULES 2.10, information and materials contained in Seller's world-wide-web site (the "Web Site"), the address of which is set forth on SCHEDULE 3.10 attached hereto (all such intellectual property, collectively, the "Buyer Purchased Intellectual Property");

(xv) the names and addresses of all end-user customers world wide during each of the last three (3) years owned by or in the possession of Seller (the "Customer List"), end-user customer records and histories owned by or in the possession of Seller (it being understood by the parties that the foregoing is not intended to include the end-user customers of AP Biotech owned or in the possession of AP Biotech), lists of suppliers and vendors and all records relating thereto, engineering drawings, records with respect to production, engineering, product development, costs, advertising, catalogues, photographs, sales materials, purchasing materials, manufacturing and quality control records and procedures, research and development files, data and laboratory books, media materials and plates and other records; and

(xvi) except as set forth in Section 2.1(d) hereof, all other assets (i.e., other than as described in paragraphs (i) - (xv) above) and properties of every nature whatsoever tangible and intangible, and wherever located, to the extent transferable, of Seller, including without limitation Seller's current phone and fax numbers and electronic mail addresses,

The assets and property of Seller being sold to and purchased by Buyer under this Section 2.1(a) are hereinafter sometimes referred to as the "Subject Assets."

(b) Intentionally Omitted.

(c) Subject to the provisions of this Agreement, at the Closing, Seller shall, in consideration of the Purchase Price, and without any further consideration payable to Seller, sell and transfer free from all liens, charges and encumbrances to HAI and HAI shall purchase and acquire, with effect from the Closing Date, all rights, title and interest in and to the name "Biochrom" and all related and associated logos and trademarks (except as set forth in Section 2.13) (collectively, the "Biochrom Name" and, together with the Buyer Purchased Intellectual Property, the "Intellectual Property").

(d) Notwithstanding anything to the contrary in this Agreement, there shall be excluded from such purchase and sale the following property and assets:

(i) all cash in hand and at bank, cash equivalents, refunds (including tax refunds), taxes advanced, collected or withheld by Seller, intra-group cash pool receivables, and all other receivables of Seller other than the Non-AP Biotech Receivables, including, without limitation, the receivables listed on SCHEDULE 2.1(d)(i);

(ii) all rights, title and interest in and to the names "Upjohn," "Pharmacia Biotech," "Amersham" and "LKB" and all related and associated logos and trademarks and all licenses to or from third parties with respect to each of the foregoing, except to the extent provided for in the license agreements contemplated by Sections 7.1(h) and 7.1(i) hereto, the forms of which are attached hereto as EXHIBITS 7.1(h) and 7.1(i);

(iii) those contracts set forth on SCHEDULE 2.1(d)(iii) between or among any of Seller, AP Biotech or its affiliates and Seller Guarantor or its affiliates;

(iv) all the statutory books and statutory and fiscal records of Seller other than the fiscal records contemplated in Section 4.8;

(v) as set forth on SCHEDULE 2.1(d)(v), the network software of AP Biotech and Seller Guarantor that is used by Seller;

(vi) the Distribution Agreement between Seller and Transgenomics Inc.;

(vii) any and all assets owned by AP Biotech, including its inventory of products manufactured and sold by Seller to AP Biotech and its affiliates, as well as any accounts receivable for such products owing to AP Biotech and its affiliates from their customers; and

(viii) the assets of Innovir Limited that are located in the subleased portion of the Leasehold Property (as hereinafter defined).

The assets and property of Seller which are excluded from the Subject Assets under this Section 2.1(d) are hereinafter sometimes referred to as "Excluded Assets."

2.2 LIABILITIES.

(a) Upon the sale and purchase of the Subject Assets, Buyer agrees to assume (i) the liabilities of the types set forth on EXHIBIT 2.3(b) and SCHEDULE 2.2(a) hereto that are unpaid on the Closing Date, in accordance with their terms (not in excess of the amounts set forth therein and subject to paragraph (b) of this Section 2.2) (collectively, the "Assumed Liabilities") and (ii) all obligations arising or coming due under the Assumed Contracts (as defined below), in accordance with their terms, for the period from and after the Closing Date with respect to acts or services to be performed by Buyer under such Assumed Contracts after the Closing Date. The Assumed Liabilities and the obligations under the Assumed Contracts are the only liabilities and obligations of Seller existing on or prior to the Closing Date (including, without limitation, contractual liabilities and obligations) to be assumed by Buyer under this Agreement. Notwithstanding anything contained herein to the contrary, the Assumed Liabilities shall not include any trade payables representing accounts of AP Biotech or its affiliates or Seller Guarantor or its affiliates. The assumption of the Assumed Liabilities and the Assumed Contracts by Buyer hereunder shall not enlarge any rights of third parties under any contracts or arrangements with Buyer or Seller or any of their respective affiliates or subsidiaries. The "Assumed Contracts" shall mean only those contracts or agreements to be assumed by Buyer as expressly identified in (i) Schedule 3.11 and (ii) Sections 2.1(a)(vii) and 2.1(a)(viii).

(b) Notwithstanding anything to the contrary contained in this Agreement, in no event shall the amounts assumed with respect to those Assumed Liabilities of the types that are set forth on EXHIBIT 2.3(b) and SCHEDULE 2.2(a) exceed in the aggregate $1,300,000 U.S. dollars at the exchange rate set forth in EXHIBIT 2.3(b). All liabilities and obligations not assumed by Buyer under this Agreement are referred to herein as "Excluded Liabilities."

(c) Except for the Assumed Liabilities and the Assumed Contracts, Buyer shall not assume or be bound by any obligations or liabilities of Seller or any affiliate of Seller of any kind or nature, known, unknown, accrued, absolute, contingent or otherwise, whether now existing or hereafter arising.

(d) Subject to paragraph (c) above, Seller shall be solely (as between Seller and Buyer) responsible for and pay any and all debts, losses, damages, obligations, liens, assessments, judgments, fines, disposal and other costs and expenses, liabilities and claims, including, without limitation, interest, penalties and fees of counsel, engineers and experts, as the same are incurred, of every kind or nature whatsoever (all the foregoing being a "Claim" or the "Claims"), made by or owed to any person to the extent any of the foregoing relates to (i) the Excluded Assets, (ii) the operations and assets of Seller's Business or any other business or enterprise of Seller and arises in connection with or on the basis of events, acts, omissions, conditions, or any other state of facts occurring or existing solely prior to or on the Closing Date (including, in each case, without limitation, any Claim relating to or associated with tax matters, any failure to comply with applicable laws and/or permitting or licensing requirements and personal injury and property damage matters) or (iii) any on-account service charge, balancing service charge or insurance payments relating to the Leasehold Property (as hereinafter defined) which arise in connection with or on the basis of events, acts, omissions, conditions, tenant's covenants or any other state of facts occurring or existing solely prior to or on the Closing Date or accruing after the Closing Date in respect of a period solely prior to or on the Closing Date. Seller agrees with Buyer that Seller shall be solely responsible (as between Seller and Buyer) for any and all Claims for injury (including death) or Claims for damage, direct or consequential, resulting from or connected with products manufactured by or services provided by Seller or its affiliates prior to or on the Closing Date, and Buyer shall have no liability for such Claims.

(e) Subject to paragraph (c) above, Buyer shall be solely (as between Buyer and Seller) responsible for and pay any and all Claims made by or owed to any person to the extent they relate to (i) the Assumed Liabilities, (ii) the operations and assets (including the Subject Assets) of Buyer's business after the Closing Date and arise in connection with or on the basis of events, acts, omissions, conditions or any other state of facts occurring or existing solely after the Closing Date (including, in each case, without limitation, any Claim relating to or associated with tax matters, any failure to comply with applicable laws and/or permitting or licensing requirements and personal injury and property damage matters) or (iii) any on-account service charge, balancing service charge or insurance payments relating to the Leasehold Property (as hereinafter defined) which arise in connection with or on the basis of events, acts, omissions, conditions, tenant's covenants or any other state of facts occurring or

existing solely after the Closing Date or accruing after the Closing Date in respect of a period solely after the Closing Date. Buyer agrees with Seller that Buyer shall be solely (as between Buyer and Seller) responsible for any and all warranty Claims or Claims for injury (including death) or Claims for damage, direct or consequential, resulting from or connected with products manufactured by or services provided by Buyer after the Closing Date, and Seller shall have no liability for such Claims.

(f) Any Claim, other than for the payment of the Assumed Liabilities, relating to operations and assets of Seller's Business and arising in connection with or on the basis of events, acts, omissions, conditions or any other state of facts occurring or existing both before and after the Closing Date will be apportioned between Seller and Buyer according to their relative degrees of causation.

(g) Notwithstanding anything contained in paragraphs (d), (e) or (f) of this Section 2.2 to the contrary, such paragraphs (d), (e) or (f) of this Section 2.2 shall not be applicable to any Claim with respect to environmental and worker health and safety matters or pension matters or employment matters (to the extent covered by Section 2.11 hereof), it being the express agreement and intent of the parties hereto that only Sections 10.1(f) and 10.3(e) shall apply to indemnification for a Claim with respect to environmental and worker health and safety matters and that only Section 3.21 and EXHIBIT 2.14 hereto shall apply to indemnification for a Claim with respect to pension matters and that Section 10.1(d) shall apply to indemnification for a Claim with respect to employment matters (to the extent not covered by Section 2.11 hereof).

2.3 PURCHASE PRICE AND PAYMENT.

(a) In consideration of the sale by Seller to Buyer of the Subject Assets (and the related sale by Seller to HAI of the Biochrom Name), subject to Buyer's agreement to assume the Assumed Liabilities and the Assumed Contracts and the satisfaction of all of the conditions contained herein, Buyer agrees that at the Closing it will deliver to Seller or otherwise pay as instructed by Seller the sum of Six Million Three Hundred Sixty Two Thousand Five Hundred Seventy Four U.S. Dollars ($6,362,574) (the "Purchase Price"), which amount includes Six Hundred Thousand U.S. Dollars ($600,000) which is being paid by HAI with respect to HAI's purchase of the Biochrom Name, by bank cashiers checks in Boston Clearing House Funds or by wire transfer.

(b) The Purchase Price is premised upon the Statement of Net Tangible Assets as of December 31, 1998, which is set forth at EXHIBIT 2.3(b) hereto, together with the exchange rate used in the preparation thereof (the "December 31 Statement").

(c) Immediately following the Closing Date, the parties shall, if so requested by Buyer, jointly perform a physical count of the Inventory. In the event that Buyer does not so request such a physical count of the Inventory, the parties agree that, for purposes of the Closing Statement (as defined below), the Inventory count shall be as reflected in the

December 31 Statement adjusted based upon the books and records kept by Seller in the ordinary course of business, consistent with past practice. Any obsolete or excess Inventory shall be written off on a basis consistent with and in accordance with the principles and practices described at EXHIBIT 2.3(c) hereto.

(d) Within forty five (45) days after the Closing Date, Buyer shall at its expense prepare and deliver to Seller a Statement of Net Tangible Assets as of the Closing Date (the "Closing Statement"). The Closing Statement shall be prepared in accordance with this Agreement, including the Exhibits hereto, and the practices and methodology used by Seller in preparing the December 31 Statement; PROVIDED, HOWEVER, that in the event of a conflict between the Agreement, including the Exhibits hereto, and the practices and methodology used by Seller in preparing the December 31 Statement, then this Agreement, including the Exhibits thereto, shall govern. The Closing Statement shall be in the same format as the December 31 Statement, and shall consist solely of an update of the December 31 Statement from December 31, 1998 through the Closing Date.

(e) The Purchase Price shall be increased one dollar for each dollar that the total sum in respect to Net Tangible Assets exceeds $1,055,524; the Purchase Price shall be decreased one dollar for each dollar that the total sum in respect to Net Tangible Assets is less than $1,055,524. For purposes of this Section 2.3, Net Tangible Assets shall be determined by subtracting the total liabilities set forth on the Closing Statement from the total assets set forth on the Closing Statement.

(f) If Seller disagrees with the Closing Statement, Seller shall, within ten (10) Business Days after receipt thereof, furnish to Buyer a written statement of such disagreement, together with an explanation of the reasons therefor. If within such ten (10) Business Day period, Buyer does not receive such a written statement of disagreement from Seller, Seller shall be deemed to have accepted the Closing Statement for all purposes of this Agreement. If Buyer does receive such a written statement of disagreement from Seller within such ten (10) Business Day period, then within ten (10) Business Days of such receipt, senior executives of Buyer and Seller shall discuss, in person, by telephone or by video conference, their disagreement in order to attempt to resolve it through good faith negotiations. If Buyer and Seller are unable to resolve their disagreement within forty-five (45) Business Days after the delivery of the Closing Statement to Seller, the disagreement shall be submitted for determination to Arthur Andersen, LLP (so long as Arthur Andersen, LLP shall not have acted on behalf of any party hereto in the three (3) year period prior to submission of the disagreement), which determination shall be final and binding upon Buyer and Seller. Such determination by Arthur Andersen, LLP shall be made in accordance with this Agreement, including the Exhibits hereto, and the practices and methodology used by Seller in preparing the December 31 Statement; PROVIDED, HOWEVER, that in the event of a conflict between the Agreement, including the Exhibits hereto, and the practices and methodology used by Seller in preparing the December 31 Statement, then this Agreement, including the Exhibits hereto, shall govern. The expenses incurred by Arthur Andersen, LLP in making such determination shall be borne equally by Buyer and Seller. Each of the parties hereto hereby represents that

Arthur Andersen, LLP has not acted on its behalf in the three (3) year period prior to the Closing Date.

(g) The amount of any adjustment to the Purchase Price shall be paid by the relevant party within fifteen (15) Business Days after the later of (i) delivery of the Closing Statement if accepted by Seller and (ii) the earlier of the resolution of any dispute by Buyer and Seller following notification of their disagreement or a determination by Arthur Andersen, LLP pursuant to paragraph (f) above. Any such cash amount shall be paid by cashier's or certified check or by wire transfer of immediately available funds to an account designated by the party receiving the funds.

2.4 TIME AND PLACE OF CLOSING. The closing of the purchase and sale provided for in this Agreement (herein called the "Closing") shall be held at the offices of Goodwin, Procter & Hoar LLP at 53 State Street, Boston, Massachusetts. For the purpose of passage of title and risk of loss, allocation of expenses and other legal, economic or financial effects, the Closing when completed shall be deemed to have occurred at 12:00 noon, Eastern Standard Time, on February 26, 1999 (such date and time being referred to herein as the "Closing Date").

2.5 CHANGE OF SELLER'S NAME. On or about the Closing Date, but in no event later than the date five (5) Business Days after the Closing Date, Seller shall change its name to a corporate name which does not include the word "Biochrom" and each of Seller and Seller Guarantor further agrees, from and after the Closing Date not to use as a trade or business name or mark, or carry on a business under a title containing, the word "Biochrom" or any other word(s) colorably resembling the same and they each will at all times procure that none of their respective affiliates will carry on any such business under such name or names. Seller shall file, within the requisite time period as set out in the Companies Act 1985, at the Companies Registry forthwith the resolutions as to change of name applicable to it with the appropriate fee and use all reasonable endeavors to obtain the requisite Certificate of Incorporation on Change of Name from the Companies Registry in respect thereof effective as soon as is practicable.

2.6 POST-CLOSING ACCESS.

(a) After the Closing, Buyer shall afford to Seller and its accountants and attorneys, for any reasonable legal or business purpose, including defending third party claims and preparing such tax returns of Seller as may be reasonably required after the Closing, reasonable access during normal business hours and subject to reasonable notice to the books and records of Seller delivered to Buyer under this Agreement and shall permit Seller, at Seller's expense, to make extracts and copies therefrom.

(b) After the Closing, Seller shall afford to Buyer and its accountants and attorneys, for any reasonable legal or business purpose, reasonable access during normal business hours and subject to reasonable notice to the statutory books and statutory and fiscal

records of Seller retained by it in accordance with Section 2.1(d)(iv), and shall permit Buyer, at Buyer's expense, to make extracts and copies therefrom.

2.7 FURTHER ASSURANCES.

(a) The Law of Property (Miscellaneous Provisions) Act 1994 shall not apply to the dispositions of property made under or pursuant to this Agreement.

(b) Seller shall, from time to time on being reasonably required to do so by Buyer, now or at any time in the future, do or procure the doing of all such acts and/or execute or procure the execution of all such documents in a form reasonably satisfactory to Buyer as Buyer may reasonably consider necessary for giving full effect to this Agreement and securing to Buyer the full benefit of the rights, powers and remedies conferred upon Buyer in this Agreement.

(c) Seller shall promptly transfer or deliver to Buyer any of the Subject Assets delivered to, or retained or received by, Seller after the Closing Date.

(d) In respect of any of the Leasehold Property (as hereinafter defined) which is let, Seller shall deliver to Buyer authorities signed by Seller addressed to the relevant tenants if any, informing them of the sale and requiring them henceforth to pay all rents and other amounts due to the landlord to Buyer.

2.8 ALLOCATION OF PURCHASE PRICE. Within forty-five (45) days after the Closing or, if later, within ten (10) days following the acceptance by Seller of the Closing Statement in accordance with Section 2.3(d) or the resolution of a dispute with respect to the Closing Statement in accordance with Section 2.3(f), Buyer's auditors shall, with the cooperation of Seller's auditors, issue a certificate apportioning the consideration payable hereunder amongst the Subject Assets for the purpose of enabling Buyer to file Stamps Form No. 22. If such a certificate is not delivered within fourteen (14) days after the date specified in this Section 2.8 and/or in the event Seller gives notice to Buyer of its dissatisfaction with the same within fourteen (14) days after receipt thereof, at the request of either party, senior executives of Buyer and Seller shall discuss, in person, by telephone or by video conference, their disagreement with respect to the certificate in order to attempt to resolve it through good faith negotiations. If Buyer and Seller are unable to resolve their disagreement within forty-five (45) Business Days after the delivery of the Closing Statement to Seller, the disagreement shall be submitted for determination to Arthur Andersen, LLP, which determination shall be final and binding upon Buyer and Seller. The expenses incurred by Arthur Andersen, LLP in making such determination shall be borne equally by Buyer and Seller.

2.9 NON-AP BIOTECH ACCOUNTS RECEIVABLE.

(a) Buyer shall have the right and authority, and shall use commercially reasonable efforts consistent with past practice, to collect the Non-AP Biotech Receivables

after the Closing Date. In the event that subsequent to the Closing, Buyer receives a check or other instrument on account of such Non-AP Biotech Receivables in the name of Seller (a "Non-AP Biotech Receivables Instrument"), Buyer shall deliver such Non-AP Biotech Receivables Instrument to the attention of Graham Lee (or such other authorized person as Seller shall notify Buyer in writing) at the address and facsimile number set forth in Section 11.4 hereof. Upon receipt of such Non-AP Biotech Receivables Instrument, Mr. Lee shall endorse the Non-AP Biotech Receivables Instrument over to Buyer (without set-off) and return the Non-AP Biotech Receivables Instrument to Buyer within two (2) business days of such receipt. At Buyer's request, Seller shall use commercially reasonable efforts to assist Buyer in collecting the Non-AP Biotech Receivables. Any and all amounts received by Seller in respect of any Non-AP Biotech Receivables shall be promptly remitted to Buyer. All payments received by Buyer from a customer owing Non-AP Biotech Receivables which do not designate a specific invoice to which they should be applied shall be applied on a "first in, first out" basis with respect to non-disputed Non-AP Biotech Receivables (i.e., proceeds received shall be applied to the oldest outstanding non-disputed Non-AP Biotech Receivables of such customer). To the extent consistent with past practice Buyer shall not accept any order placed by a customer or distributor that is past due with respect to any Non-AP Biotech Receivable until such Non-AP Biotech Receivable has been paid-in-full by such customer or distributor, unless such customer or distributor is past due as a result of a dispute in connection with a Non-AP Biotech Receivable.

(b) (i) Upon the demand by Buyer at any time after two hundred seventy (270) days following the date of any invoice relating to any Non-AP Biotech Receivable which remains uncollected, Seller shall pay to Buyer the amount of such uncollected Non-AP Biotech Receivable. In the event of any such payment, (A) Buyer shall assign to Seller all of Buyer's right, title and interest in and to such uncollected Non-AP Biotech Receivable (collectively, the "Re-Assigned Non-AP Biotech Receivables") and shall furnish Seller with all files concerning such uncollected Non-AP Biotech Receivable and (B) except as otherwise provided in Section 2.9(c) below, Buyer shall have no further responsibilities with respect to such uncollected Non-AP Biotech Receivable except to remit promptly to Seller any amounts subsequently received by it on account of such uncollected Non-AP Biotech Receivable.

(ii) If subsequent to the Closing, Buyer collects Non-AP Biotech Receivables in an amount in excess of the Non-AP Biotech Receivables set forth on the Closing Statement, any such excess amount shall be returned to Seller within two (2) business days of receipt of such Non-AP Biotech Receivables.

(c) Buyer shall use commercially reasonable efforts consistent with past practice to assist Seller in collecting the Re-Assigned Non-AP Biotech Receivables and the Delinquent Non-APB Receivables. To the extent consistent with past practice, Buyer shall not accept any order placed by a customer or distributor owing either a Re-Assigned Non-AP Biotech Receivable or a Delinquent Non-AP Biotech Receivable until such Re-Assigned Non-AP Biotech Receivable or Delinquent Non-AP Biotech Receivable, as the case may be, has been paid-in-full by such customer or distributor, unless such Re-Assigned Non-AP Biotech

Receivable or Delinquent Non-AP Biotech Receivable has not been paid as a result of a dispute in connection therewith.

2.10 REQUIRED CONSENTS; CONSENTS AND ASSETS NOT DELIVERED AT CLOSING.

(a) Seller shall use commercially reasonable efforts to obtain the consents listed in SCHEDULE 2.10 (the "Required Consents") before or after the Closing Date. Notwithstanding any other provision of this Agreement, this Agreement shall not constitute an agreement to assign any contract or lease requiring a third-party consent if such an agreement to assign or an attempted assignment would constitute a breach thereof.

(b) In relation to any of the Assumed Contracts for which a third party consent is not obtained by Seller in accordance with paragraph (a) of this Section 2.10 and unless and until any such contract or lease shall be so assigned, Buyer shall (insofar as Buyer has notice of them and as it is lawful and practicable) perform as Seller's sub-contractor at the risk and cost of Buyer and for Buyer's benefit the obligations of Seller thereunder from the Closing Date on such terms as shall (insofar as aforesaid) give to Buyer the benefits and obligations of each such contract or lease to the same extent as if the same had been assigned to Buyer and Buyer shall indemnify Seller fully at all times from and against all costs, proceedings, claims, demands and expenses which may be incurred by Seller as a result of any failure by Buyer in the performance of any such contract or lease in accordance with its terms after the Closing Date, provided as concerns this Section 2.10(b) that the contract or lease was an Assumed Contract. If Seller has not obtained such third party consent within ninety (90) days of the Closing Date, Seller and Buyer shall negotiate in good faith to provide Buyer with the substantially equivalent benefit (in the reasonable judgment of Buyer) of any contract or lease the Seller is unable to assign due to lack of third party consent. Any costs or expenses incurred in providing Buyer with such benefit shall be borne by Seller.

(c) In relation to any Subject Asset not assigned at the Closing, Seller shall, from the Closing until the relevant Subject Asset has been assigned to Buyer hold such asset in trust for Buyer, shall forthwith give Buyer notice of any notices or other material communications or information received by it in relation thereto and shall act under the direction of Buyer in all matters relating to the relevant Subject Asset (so far as it lawfully may do so).

2.11 EMPLOYEES.

(a) The parties acknowledge and agree that the sale of Seller's Business from Seller to Buyer is a "relevant transfer" within the meaning of the Transfer of Undertakings (Protection of Employment) Regulations 1981 (the "Employment Regulations") and the contracts of employment of the Employees and Seller's rights, powers, duties and liabilities under or in connection with such contracts will transfer to Buyer pursuant to the Employment Regulations.

(b) Seller undertakes to Buyer contracting for itself and as agent for any successor in title to part or all of Seller's Business to indemnify and keep indemnified Buyer from and against all and any costs, losses, damages, expenses or claims suffered or incurred by Buyer or such successor as a result of or in relation to:

(i) any claim or other legal recourse by all or any of those persons employed (including but not limited to the Employees) at or prior to the Closing Date by Seller in Seller's Business in respect of any fact, matter or omission concerning or arising from employment with Seller occurring or arising on or prior to the Closing Date;

(ii) any claim or other legal recourse in respect of any fact or matter concerning or arising from employment with Seller;

(iii) any claim or other legal recourse by any former, current or future employee of Seller (or any of its associated employers as defined in the Employment Rights Act 1996) other than the Employees against Seller or its officers, employees, agents or shareholders concerning or relating to any matter whatsoever;

(iv) any claim or fine or other liability arising out of a breach by Seller of its obligations under the Trade Union and Labour Relations Consolidation Act 1992 or arising out of a failure by Seller to inform and/or consult appropriate representatives as required by Regulation 10 of the Employment Regulations or to comply with its obligations under Regulation 10 thereof; or

(v) any claim by Employees for redundancy pay or unfair dismissal, (basic award or compensatory or additional award) or pay in lieu of notice, or unlawful deduction of wages or any discrimination claim or damages for breach of contract in respect of any fact or matter concerning or arising from employment with Seller occurring or arising on or prior to the Closing Date.

(c) If any contract of employment between Seller and any of its employees other than the Employees shall as a result of the operation of the provisions of the Employment Regulations have effect as if originally made between Buyer and such employee, Buyer may terminate such contract forthwith, and Seller shall indemnify and keep indemnified Buyer fully at all times from and against all and any costs, losses, damages, claims, liabilities and expenses of any nature suffered or incurred by Buyer as a result of or in relation to such termination or that person's employment by Buyer or the operation of the Employment Regulations upon that person's contract of employment.

(d) Buyer undertakes to Seller contracting for itself and as agent for any successor in title to part or all of Buyer's business to indemnify and keep indemnified Seller from and against all and any costs, losses, damages, expenses or claims suffered or incurred by Seller or such successor as a result of or in relation to:

(i) any claim or other legal recourse by all or any of the Employees in respect of any fact or matter concerning or arising from employment with Buyer occurring or arising solely after the Closing Date; and

(ii) any claim or fine or other liability arising out of a breach by Buyer of its obligations under the Trade Union and Labour Relations Consolidation Act 1992 or arising out of a failure by Buyer to inform or consult employee representatives as required by Regulation 10 of the Employment Regulations or to comply with its obligations under Regulation 10(3) thereof.

(e) In the event that within six (6) months following the Closing Date, the employment of up to three (3) employees of Buyer (who shall be separately identified) is terminated for any reason, any amounts required to be paid to any such employee(s) as a consequence of such termination pursuant to the Seller's employment agreements and policies in effect on the Closing Date and which are in excess of statutory redundancy or notice payments (if any) shall be reimbursed by Seller to Buyer. Seller's obligation hereunder shall include the reimbursement of salary and car benefits paid in lieu of notice of termination on condition that the employee(s) do not in fact work for Buyer (whether as employee(s) or otherwise) during the notice period. Seller shall not be required to reimburse any other amounts payable to such employee(s), including any amounts relating to claims for wrongful or unfair dismissal, for unlawful deduction from wages or for unlawful discrimination by Buyer.

2.12 WORLD WIDE WEB SITE. It is the express understanding and intention of the parties hereto that the Web Site shall be assigned and transferred to Buyer at the Closing. To the extent that the Web Site contains references to Seller Guarantor or AP Biotech, Buyer agrees to remove any and all such references as soon as practicable following the Closing unless otherwise agreed upon with Seller Guarantor or AP Biotech. Seller agrees to cooperate in good faith with Buyer in connection with the foregoing.

2.13 LKB BIOCHROM TRADEMARK. Notwithstanding any other provision herein, Seller shall not cause the "LKB Biochrom" Spanish trademark registration number 1218194, dated February 20, 1990, to be assigned by AP Biotech to Buyer. Promptly after the Closing, Seller shall cause AP Biotech to terminate and/or cease using, and shall not permit any third party to use, the "LKB Biochrom" trademark. If such trademark cannot be terminated, Seller shall cause AP Biotech to not renew such registration upon its expiring and Seller shall cause AP Biotech to not apply for any other registration of that trademark. Neither party shall have any right to use such trademark. Seller and Buyer acknowledge and agree that the "LKB" trademark is and shall continue to be the property of AP Biotech and that the Biochrom Name shall become the property of Buyer Guarantor on the Closing Date.

2.14 PENSIONS. The provisions of EXHIBIT 2.14 hereto shall have effect in relation to pensions.

2.15 ASSIGNMENT OF TRADEMARKS. Within thirty (30) days following the Closing Date, Seller shall assign to Buyer those trademarks listed in SCHEDULE 3.10 hereto. The assignment documentation with respect to each trademark shall be in a form recordable in each jurisdiction in which such trademark is registered. Seller shall be responsible for any cost and expense incurred in connection with providing Buyer with such assignments; PROVIDED, HOWEVER, that Buyer shall be responsible for all costs and expenses incurred in connection with the registration or recordation of such assignments.

3. REPRESENTATIONS AND WARRANTIES OF SELLER

3.1 MAKING OF REPRESENTATIONS AND WARRANTIES. Seller hereby makes to Buyer the representations and warranties contained in this Section 3. For the purposes of this Agreement, references to "knowledge" or "best knowledge" of Seller or "known" by Seller or words of similar import, shall be deemed to include such knowledge as any executive officer employed by Seller at the Closing Date or manager of Seller actually has. Furthermore:

(a) Buyer has entered into this Agreement in reliance upon the representations and warranties and the same shall survive the Closing as provided in Section 9.1 hereof;

(b) The benefit of the representations and warranties may be assigned in whole or in part by Buyer in connection with an assignment of this Agreement pursuant to Section 11.6 hereof; and

(c) In connection with all representations and warranties relating to the Leasehold Property, Seller shall not have been required to carry out any Land Charges searches, Local Land Charges searches, Commons Registration searches, HM Land Registry searches or Index Map searches and shall not have made any other enquiries.

3.2 ORGANIZATION AND QUALIFICATIONS OF SELLER. Seller is a limited liability company duly organized, validly existing and in good standing under the laws of England and Wales with full corporate power and authority to own or lease its properties and to conduct its Business in the manner and in the places where such properties are owned or leased or such Business is currently conducted or proposed to be conducted. Seller has no subsidiaries.

3.3 AUTHORITY OF SELLER.

(a) Each of Seller and Seller Guarantor has or has received full right, authority and power to enter into this Agreement and each agreement, document and instrument to be executed and delivered by Seller or Seller Guarantor, respectively, pursuant to this Agreement. The execution, delivery and performance by Seller and Seller Guarantor of this Agreement and each such other agreement, document and instrument have been duly authorized by all necessary action of Seller and Seller Guarantor, respectively, and their

respective shareholders, if required, and no other action on the part of Seller or Seller Guarantor, or their respective shareholders, is required in connection therewith.

(b) This Agreement and each agreement, document and instrument executed and delivered by Seller and Seller Guarantor pursuant to this Agreement constitutes, or when executed and delivered will constitute, valid and binding obligations of Seller and Seller Guarantor, respectively, enforceable in accordance with their terms. The execution, delivery and performance by Seller and Seller Guarantor of this Agreement and each such agreement, document and instrument:

(i) does not and will not violate any provision of the Memorandum of Association of Seller or the Certificate of Incorporation and By-laws of Seller Guarantor;

(ii) does not and will not violate any laws of England and Wales, the United States, or, to the best of its knowledge, any nation, state or other jurisdiction applicable to Seller or Seller Guarantor;

(iii) does not require Seller or Seller Guarantor to obtain any approval, consent or waiver other than Required Consents or make any filing prior to or on the Closing Date or, solely as a result of the consummation of the transactions contemplated by this Agreement, following the Closing Date with any person or entity (governmental or otherwise) that has not been obtained or made; and

(iv) does not and will not result in a breach of, constitute a default under, accelerate any obligation under, or give rise to a right of termination of any indenture or loan or credit agreement or any other agreement, contract, instrument, mortgage, lien, lease, permit, authorization, order, writ, judgment, injunction, decree, determination or arbitration award to which Seller or Seller Guarantor is a party or by which the property of Seller or Seller Guarantor is bound or affected, or result in the creation or imposition of any mortgage, pledge, lien, security interest or other charge or encumbrance on any of the Subject Assets.

3.4 FREEHOLD, LEASEHOLD AND PERSONAL PROPERTY.

(a) FREEHOLD PROPERTY. Seller owns no freehold property.

(b) LEASEHOLD PROPERTY. Seller hereby makes the following representations and warranties with respect to all those leasehold premises known as Unit 22 Phase I Cambridge Science Park, Milton Road, Cambridge CB4 4FJ England, comprised in a lease (the "Seller Lease") dated September 30, 1974 made between the Master Fellows and Scholars of Trinity College, Cambridge ("Trinity College"), LKB Biochrom Limited and LKB Instruments Limited (the "Leasehold Property"), with the exceptions set forth in the disclosure letter attached hereto as SCHEDULE 3.4(b):

(i) TITLE. Seller has not received notice from the freehold owner of Cambridge Science Park to suggest that it has anything other than a good and marketable title to the Leasehold Property and is legally and beneficially entitled to the same;

(ii) EXISTING USE. The Existing Use is the design manufacture and distribution of scientific instruments accessories and spare parts application software and chemicals;

(iii) ENCUMBRANCES.

(A) to Seller's knowledge, the Leasehold Property and the title deeds and documentation relating thereto are not subject to any charge, debenture (whether fixed or floating), option, right of pre-emption, agreement for sale, overriding interest (as defined in Section 70 of the Land Registration Act 1925) or any other encumbrance nor is there any person in possession or occupation of or who has or claims any right of any kind in respect of the Leasehold Property adversely to the estate, interest, right or title therein of Seller;

(B) to Seller's knowledge, there are no rights, interests, covenants, restrictions, reservations, licences or easements nor any disputes or outstanding notices (whether given by a landlord, a local authority or any other person) nor (without prejudice to the generality of the foregoing) any other matters or things which adversely affect the value of the Leasehold Property or the proper use and enjoyment of the Leasehold Property for the purpose of the Business now being carried on at the Leasehold Property by Seller;

(C) to Seller's knowledge, there are no lawfully enforceable restrictions or prohibitions which restrict or prohibit the Existing Use of the Leasehold Property; and

(D) the Leasehold Property is not subject to the payment of any outgoings other than the usual rates and taxes and all sums due to date in respect thereof have been paid;

(iv) ACCESS AND SERVICES.

(A) to Seller's knowledge, the Leasehold Property enjoys access and egress over roads and footpaths which have been adopted by the appropriate highway authority and are maintainable at the public expense;

(B) the Leasehold Property is served by water, electricity, gas and telephone utilities and to Seller's knowledge, drains foul sewage and surface water to public sewers. Either the pipes, sewers, wires, cables, conduits and other conducting media serving the Leasehold Property connect directly to the mains without passing through land in the occupation or ownership of any other person or, if they do not, the Leasehold Property has

the benefit of all necessary easements and rights for the maintenance and use thereof and such rights are held on terms which do not entitle any person to terminate or curtail the same; and

(C) to the knowledge of Seller, the Leasehold Property has the benefit of all other easements and rights necessary for the proper use and enjoyment of the Leasehold Property for the purposes of the Business now being carried on at the Leasehold Property by Seller and such easements and rights are held on terms which do not entitle any person to terminate or curtail the same;

(v) PLANNING.

(A) Seller has not received any notice advising that the Existing Use is in breach of the permitted use under the Town and Country Planning legislation (which term includes the Town and Country Planning Act 1990 the Planning (Listed Buildings and Conservation Areas) Act 1990, the Planning (Hazardous Substances) Act 1990 or is of a temporary or personal nature.

(B) to the knowledge of Seller, all development carried out in relation to the Leasehold Property since the commencement of the lease has been lawful and all necessary consents and permissions have been obtained for such development;

(C) to the knowledge of Seller, the consents and permissions referred to in paragraph (v)(B) above are valid, subsisting and unimpeachable and are also either unconditional or subject only to conditions which have been satisfied so that nothing further remains to be done thereunder;

(D) Seller has not received notice confirming that any resolution, proposal, order or act has been made or is contemplated for the compulsory acquisition of the Leasehold Property by the local or any other authority nor to the knowledge of Seller is there any outstanding order, notice or other requirement of any such authority that affects the Existing Use or involves expenditure in compliance with it nor has Seller received notice that there any other circumstances which may result in any such order or notice being made or served or which may otherwise affect the Leasehold Property;

(E) no compensation has been received consequent upon a refusal of any planning permission affecting the Leasehold Property and applied for by Seller or the imposition of any restrictions in any such planning permission and no such planning permission is suspended; and

(F) Seller has not received notice confirming that any of the buildings or other structures or erections on the Leasehold Property have been listed under Section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990 nor to the knowledge of Seller has the relevant local authority authorised the service of any building preservation notice under Section 3 of the Planning (Listed Building and Conservation Areas)

Act 1990 or any repairs notice under Section 48 of the Planning (Listed Buildings and Conservation Areas) Act 1990 in respect of the Leasehold Property or any building structure or erection thereon and Seller has not received notice that the relevant local authority has made or resolved to make any noise abatement zone order under Section 63 of the Control of Pollution Act 1974 for the area which includes the Leasehold Property;

(vi) PARTICULARS OF LEASE. Certain particulars of the Seller Lease are set out in SCHEDULE 3.4(b) attached hereto.

(A) to Seller's knowledge the Leasehold Property forms part of the Landlord's ancient possessions; and

(B) Value Added Tax is chargeable on the rent and any other payment to be made under the Lease;

(vii) INFERIOR LEASES. Seller holds the Leasehold Property subject to no inferior leases;

(viii) STATUTORY COMPLIANCE/FIRE CERTIFICATE.

(A) Seller has not received notice of any breach of the requirements of the Shops Act 1950 to 1965, the Factories Act 1961, the Offices Shops and Railway Premises Act 1963, the Fire Precautions Act 1971, the Health and Safety at Work etc. Act 1974 or any other legislation, regulations, orders notices or directions made thereunder which affect the Leasehold Property; and

(B) where required a fire certificate has been issued in respect of the Leasehold Property. Seller has not received notice that the Leasehold Property does not comply in all material respects with current fire regulations affecting the Leasehold Property and nor has Seller received notice that the current requirements of the insurers of the Leasehold Property have not been complied with; and

(ix) CONDITION AND REPAIR.

(A) to Seller's knowledge, there are (and there have been) no structural or other material defects in respect of the buildings and structures at or comprising the Leasehold Property or any parts thereof other than those contained or referred to in a survey report of February 1996 commissioned by Seller and carried out by JSS Cardoe; and

(B) to Seller's knowledge, there are no latent or patent defects in the buildings and structures on or comprising the Leasehold Property and in the construction thereof or any alterations thereto none of the following materials were used:

(I) high alumina cement in structural elements;

(II) wood wool slabs in permanent formwork to concrete or in structural elements;

(III) calcium chloride in admixtures for use in reinforced concrete;

(IV) asbestos or asbestos containing products as defined in the Asbestos Regulations 1969 and 1987;

(V) naturally occurring aggregates for use in reinforced concrete which do not comply with British Standard Specification 882: 1983 and naturally occurring aggregates for use in concrete which do not comply with the provisions of British Standard Specification 8110: 1985;

(VI) urea formaldehyde foam or materials which may release formaldehyde in quantities which may be hazardous with reference to the limits set from time to time by the Health and Safety Executive;

(VII) materials which are generally comprised of mineral fibres either man-made or naturally occurring which have a diameter of 3 microns or less or which contain fibre not sealed or otherwise stabilised to ensure that fibre migration is prevented; or

(VIII) any other materials not in accordance with good design standards and good building practice at the time of construction of any such buildings.

(c) PERSONAL PROPERTY. A list of the machinery, equipment and other fixed assets (including, without limitation, any improvements to the Leasehold Property) owned by Seller having an original purchase value of $1,000 or more is set forth in SCHEDULE 3.4(c). Except as specifically disclosed in said Schedule, Seller has good and marketable title to all of its tangible personal property. None of such personal property is subject to any mortgage, pledge, lien, conditional sale agreement, security agreement, encumbrance, fixed charge or floating charge that has crystallized, or other charge except as specifically disclosed in said Schedule. Except as otherwise specified in SCHEDULE 3.4(c), all machinery, equipment and other tangible property listed in SCHEDULE 3.4(c) is in good working order, ordinary wear and tear excepted, has been well maintained, and substantially complies with applicable laws, ordinances and regulations.

(d) The Subject Assets will be sufficient to allow Buyer to conduct the Business subsequent to the Closing and, at the Closing, title to the Subject Assets will pass to Buyer free and clear of all mortgages, pledges, liens, encumbrances and charges of any kind, other than those Subject Assets that are the subject matter of any of the Required Consents that have not been obtained at or prior to the Closing.

(e) Seller represents that those assets referred to in Section 2.1(a)(xvi), together with any other Subject Assets (other than those contracts requiring consent as set forth on SCHEDULE 2.10 hereof) that are not transferable to Buyer (whether as a result of requiring consent or otherwise) are not, individually or in the aggregate, material to Seller's Business.

3.5 FINANCIAL STATEMENTS AND ORDINARY COURSE.

(a) Seller has delivered to Buyer the following financial statements, copies of which are attached hereto as SCHEDULE 3.5:

(i) Balance sheets of Seller for its fiscal years ending on December 31, 1995, December 31, 1996 and December 31, 1997 and statements of income, retained earnings and cash flows for each of the three (3) years then ended, with appropriate footnotes, accompanied by Coopers & Lybrand, L.L.P.'s, independent public accountants, opinion.

(ii) Balance sheet of Seller as of June 30, 1998 (herein, the "Base Balance Sheet").

(b) Said financial statements have been prepared in accordance with the requirements of the Companies Act 1985 (so far as applicable) and good accounting principles and practices generally accepted at the date hereof in the United Kingdom, are complete and correct in all material respects and present fairly in all material respects the financial condition of Seller at the dates of said statements and the results of its operations and its cash flows for the periods covered thereby, all subject to the matters set forth or referenced in said disclaimer opinions.

(c) Since the date of the Base Balance Sheet, Seller has conducted its Business only in the ordinary course and consistently with its prior practices.

3.6 TAXES. Seller has paid or caused to be paid all United Kingdom taxes, including, without limitation, advanced corporation taxes, income taxes, estimated taxes, excise taxes, sales taxes, use taxes, value-added taxes, gross receipts taxes, franchise taxes, employment and payroll-related taxes, withholding taxes, stamp taxes, transfer taxes, windfall profit taxes, environmental taxes and property taxes, whether or not measured in whole or in part by net income with respect to the Subject Assets, Seller's Business and the Assumed Liabilities (in respect to Seller's Business and the Assumed Liabilities, if in arrears prior to the Closing Date) and all deficiencies, or other additions to tax, interest, fines and penalties owed by it (other than any stamp duty or value added or other taxes payable by Buyer in connection with the transactions contemplated by the Agreement) (the "Taxes") required to be paid by it through the date hereof whether disputed or not.

3.7 COLLECTIBILITY OF NON-AP BIOTECH ACCOUNTS RECEIVABLE. All of the Non-AP Biotech Receivables of Seller, including without limitation those listed on SCHEDULE 3.7, or existing at the date hereof are or will be at the Closing valid and enforceable claims. The

Non-AP Biotech Receivables are fully collectible and subject to no setoff or counterclaim. Seller has no loan receivables from employees, directors or unaffiliated third parties.

3.8 INVENTORY. The Inventory has been maintained by Seller at levels consistent with the ordinary course of Seller's Business, consistent with past practice. The Inventory reflects write-offs or write-downs to realizable values in the case of items which are excessive or have become obsolete, such write-offs or write-downs to be calculated in accordance with the methodology indicated on EXHIBIT 2.3(c). The values of the Inventory stated in the Base Balance Sheet and the December 31 Statement were prepared by Seller in accordance with EXHIBIT 2.3(c). Purchase commitments for raw materials and parts are not in excess of normal requirements and have not been made at prices materially in excess of market prices at the time of the purchase commitment. All Inventory is located on the Leasehold Property. Since the date of the Base Balance Sheet, no Inventory items have been sold or disposed of except through sales in the ordinary course of business.

3.9 ABSENCE OF CERTAIN CHANGES. Except as disclosed in SCHEDULE 3.9, since the date of the Base Balance Sheet there has not been:

(a) Any change in the financial condition, revenues, properties, assets, liabilities, business or operations of Seller which change by itself or in conjunction with all other such changes, whether or not arising in the ordinary course of business, has been materially adverse with respect to Seller;

(b) Any mortgage, encumbrance or lien placed on any of the properties of Seller which remains in existence on the date hereof or will remain on the Closing Date;

(c) Any known obligation or liability of any nature incurred by Seller, whether accrued, absolute, contingent, potential or otherwise, asserted or unasserted (including, without limitation, liabilities for Taxes due or to become due (other than any such Taxes which, following the Closing, will be the sole responsibility of Seller) or liabilities relating to products or services provided by Seller or the conduct of Seller's Business since the date of the Base Balance Sheet regardless of whether claims in respect thereof have been asserted), other than obligations and liabilities incurred in the ordinary course of business (it being understood that product or service liability claims shall not be deemed to be incurred in the ordinary course of business);

(d) Any purchase, sale or other disposition, or any agreement or other arrangement for the purchase, sale or other disposition, of any of the properties or assets of Seller other than in the ordinary course of business;

(e) Any damage, destruction or loss, whether or not covered by insurance, materially and adversely affecting the properties, assets or Business of Seller;

(f) Any labor trouble or claim of unfair labor practices involving Seller; and, except as set forth on SCHEDULE 3.9 or SCHEDULE 3.24, any change in the compensation payable or to become payable by Seller to any of its officers, employees, agents or independent contractors other than normal merit increases in accordance with its usual practices, or any bonus payment or arrangement made to or with any of such officers, employees, agents or independent contractors;

(g) Any change with respect to the officers or management employees of Seller;

(h) Any change in accounting methods or practices, credit practices or collection policies used by Seller;

(i) Any declaration, setting aside or payment of any dividend by Seller, or the making of any other distribution in respect of the share capital of Seller, other than with respect to a dividend or distribution made solely in cash, or any direct or indirect redemption, purchase or other acquisition made solely in cash by Seller of its own share capital;

(j) Any payment or discharge of a material lien or liability of Seller which was not shown on the Base Balance Sheet or was not incurred in the ordinary course of business thereafter;

(k) Any obligation or liability incurred by Seller to any of its officers, directors or employees, or any loans or advances made by Seller to any of its officers, directors or employees, except normal compensation and expense allowances payable to officers, directors or employees;

(l) Any transaction with a party affiliated with Seller, other than sales to AP Biotech in the normal course of Seller's Business;

(m) Any other transaction entered into by Seller other than transactions in the ordinary course of Seller's Business; or

(n) Any agreement or understanding whether in writing or otherwise, for Seller to take any of the actions specified in paragraphs (a) through (m) above.

3.10 INTELLECTUAL PROPERTY.

(a) Except as described in SCHEDULE 3.10 or SCHEDULE 3.11(k), Seller has exclusive ownership or has a licence to use all of the Intellectual Property used in Seller's Business as presently conducted. Except as set forth on SCHEDULE 3.10 or SCHEDULE 3.11(k), Seller's rights in all of such Intellectual Property are freely transferable. There are no claims or demands of any other person pertaining to any of such Intellectual Property and no proceedings have been instituted, or are pending or threatened, which challenge the rights of

Seller in respect thereof; and, except as set forth on SCHEDULE 3.10, Seller has the right to use, free and clear of claims or rights of other persons, the Customer Lists, designs, manufacturing or other processes, computer software, systems, data compilations, research results and other information required for or incident to its products or its Business as presently conducted. None of the Intellectual Property has been, or will be, charged, mortgaged or otherwise encumbered by Seller.

(b) All trademarks and common law copyrights which are owned by or licensed to Seller or used by Seller in its Business as presently conducted are listed in SCHEDULE 3.10. Seller owns no patents, registered copyrights or registered designs and has no pending applications to register any patents, copyrights, designs or trademarks. All of Seller's trademark registrations have been duly registered in, filed in or issued by the appropriate offices in the countries identified on said Schedule.

(c) All licenses or other agreements under which Seller is granted rights in the intellectual property of others are listed in SCHEDULE 3.11(k). Except as stated in SCHEDULE 3.11(k), all said licenses or other agreements are in full force and effect, Seller is not in default under any such licenses or other agreements described in said Schedule and has no knowledge of conditions or facts which with notice or the passage of time, or both, would constitute a default, and, except as set forth on SCHEDULE 2.10 or SCHEDULE 3.11(k), all of the rights of Seller thereunder are freely assignable and will be assigned to Buyer at the Closing. Except as set forth on SCHEDULE 3.11(k), to the best of Seller's knowledge, the licensors under said licenses and other agreements have and had all requisite power and authority to grant the rights purported to be conferred thereby. Seller has provided or made available to Buyer true and complete copies of all such licenses or other agreements, and any amendments thereto. SCHEDULE 3.11(k) specifically references those licenses and agreements which Seller is unable to locate and therefore have not been provided to Buyer.

(d) In relation to registered rights, all registrations forming part of the Intellectual Property have been maintained and all renewal fees have been paid on time. Seller has received no adverse opinion (whether from the registry concerned or its advisor) or notice of opposition in relation to any such application.

(e) Seller has no licenses, authorizations (whether express or implied) or other agreements under which Seller has granted rights to others in Intellectual Property.

(f) Seller has required all of its employees to execute agreements under which such employees are required to maintain the confidentiality of any information concerning the Business, transactions, secrets or affairs of Seller or of any of its customers or suppliers during or after termination of their employment.

(g) Seller has no knowledge of any infringement by others of any of its Intellectual Property rights.

(h) Seller's activities and products do not infringe any intellectual property rights of any other person. No proceeding charging Seller with infringement of any adversely held intellectual property rights has been filed or is threatened to be filed and Seller has not received notice of any breach and is not aware of any dispute or claim in relation to the Intellectual Property or any other intellectual property. To the best of Seller's knowledge, there exists no unexpired patent or patent application which includes claims that would be infringed by or otherwise adversely affect the products, activities or Business of Seller. Seller is not making unauthorized use of any confidential information or trade secrets of any person, including, without limitation, any former employer of any past or present employee of Seller. Except as set forth in SCHEDULE 3.10, neither Seller nor, to the best of Seller's knowledge, any of its employees have any agreements or arrangements with any persons other than Seller related to confidential information or trade secrets of such persons or restricting any such employee's ability to engage in business activities of any nature. The activities of its employees on behalf of Seller do not violate any such agreements or arrangements known to Seller which any such employees have with other persons.

3.11 CONTRACTS. Except for contracts, commitments, plans, agreements and licenses described in SCHEDULE 3.11, Seller is not a party to or subject to:

(a) any plan or contract providing for bonuses, options, share purchases, deferred compensation, profit sharing, collective bargaining or the like, or any contract or agreement with any labor union;

(b) any employment contract or contract for services which requires the payment of more than $10,000 annually or which is not terminable within 30 days by Seller without liability for any penalty or severance payment;

(c) any contract or agreement for the purchase of any commodity, material or equipment, except purchase orders in the ordinary course for less than $10,000 each, such purchase orders not exceeding $20,000 in the aggregate;

(d) any other contracts or agreements creating any obligations of Seller of $10,000 or more with respect to any such contract or agreement not specifically disclosed elsewhere under this Agreement;

(e) any contract or agreement providing for the purchase of all or substantially all of Seller's requirements of a particular product from a supplier;

(f) any contract or agreement being assigned hereunder involving more than $10,000 which by its terms does not terminate or is not terminable without penalty by Seller or any successor or assign within one year after the date hereof;

(g) any contract or agreement for the sale or lease of its products not made in the ordinary course of business;

(h) any contract with any sales agent or distributor of products of Seller;

(i) any confidentiality agreement or contract containing covenants limiting the freedom of Seller to compete in any line of business or with any person or entity;

(j) any contract or agreement for the purchase of any fixed asset for a price in excess of $1,000 whether or not such purchase is in the ordinary course of business;

(k) any license agreement (as licensor or licensee) or agreement relating to Buyer Purchased Intellectual Property;

(l) any indenture, mortgage, promissory note, loan agreement, credit agreement or arrangement, guaranty or other agreement or commitment for the borrowing of money; or

(m) any contract or agreement (other than an employment agreement listed on SCHEDULE 3.11 or not required to be so listed) with any officer, employee or director. There are no agreements between Seller and any shareholder of Seller or with any persons or organizations controlled by or affiliated with any of them that are material, individually or in the aggregate, to Seller's Business.

Seller is not in default under any such contracts, commitments, plans, agreements or licenses described in SCHEDULE 3.11 and, except as expressly disclosed on SCHEDULE 3.11, Seller has no knowledge of conditions or facts which with notice or passage of time, or both, would constitute a default. Except as set forth on SCHEDULE 2.10 and SCHEDULE 3.11, all such contracts, plans, commitments, agreements and licenses and any other contracts or agreements included within the Subject Assets are freely assignable and will be assigned to Buyer at the Closing. Seller has provided or made available to Buyer true and complete copies of all such contracts, commitments, plans, agreements or licenses described in SCHEDULE 3.11, and any amendments thereto. SCHEDULE 3.11 specifically references those contracts, commitments, plans, agreements or licenses which Seller is unable to locate and therefore have not been provided to Buyer.

3.12 LITIGATION. There is no litigation or governmental or administrative proceeding or investigation pending or, to the knowledge of Seller, threatened against Seller or its affiliates which may have any adverse effect on the properties, assets, prospects, financial condition or business of Seller or which would prevent or hinder the consummation of the transactions contemplated by this Agreement.

3.13 COMPLIANCE WITH LAWS. Seller is in compliance in all material respects with all applicable statutes, ordinances, orders, judgments, decrees and rules and regulations promulgated by any English or other governmental authority which apply to Seller or to the conduct of its Business, and Seller has not received notice of a violation or alleged violation of any such statute, ordinance, order, rule or regulation.

3.14 INSURANCE. The physical properties and assets of Seller are insured to the extent disclosed in SCHEDULE 3.14 and all such insurance policies are disclosed in said Schedule. Said insurance policies are in full force and effect, all premiums with respect thereto are currently paid, and Seller is in compliance in all material respects with the terms thereof. Said insurance is adequate and customary for the Business engaged in by Seller prior to the Closing.

3.15 POWERS OF ATTORNEY. Seller has not granted powers of attorney which are presently outstanding with respect to the Subject Assets.

3.16 FINDER'S FEE. Seller has not incurred or become liable for any broker's commission or finder's fee relating to or in connection with the transactions contemplated by this Agreement or any other agreement contemplated hereby, except with respect to a fee due to John Sharrock, Inc., which fee will remain an obligation of Seller and be payable by Seller and will not be included in either the Subject Assets or in the Assumed Liabilities hereunder.

3.17 PRODUCT LIABILITY OR OTHER CLAIMS. There are no existing or, to the best of Seller's knowledge, threatened product or service liability or other similar claims, or to the best of Seller's knowledge, any facts upon which a material claim of such nature could be based, against Seller for products or services which are defective.

3.18 GOVERNMENTAL APPROVALS; ORDERS AFFECTING THE BUSINESS. SCHEDULE 3.18 lists all permits, registrations, licenses, franchises, certifications and other approvals (collectively, the "Approvals") which are, to the best of Seller's knowledge, required from English authorities in order for Seller to conduct its Business. To the best of Seller's knowledge, all such Approvals are valid and in full force and effect, and Seller is operating in compliance therewith. Such Approvals include, but are not limited to, those required under the laws of England and Wales pertaining to environmental protection, public health and safety, worker health and safety, buildings, highways or zoning. Except as disclosed in SCHEDULE 3.18, to the best of Seller's knowledge, all such Approvals will be available to Buyer and remain in full force and effect upon Buyer's purchase of the Subject Assets, and, to the best of Seller's knowledge, no further Approvals will be required for Buyer to conduct Seller's Business as currently conducted by Seller subsequent to the Closing. Seller is not subject to or bound by any judgment, decree or order which may materially and adversely affect its business or prospects, its condition, financial or otherwise, or any of its assets or properties.

3.19 COPIES OF DOCUMENTS. Seller has made available for inspection and copying by Buyer and its counsel complete and correct copies of all documents referred to in the Schedules to this Agreement. Such Schedules specifically reference those documents which Seller is unable to locate and therefore have not been provided to Buyer.

3.20 TRANSACTIONS WITH INTERESTED PERSONS. To the best of Seller's knowledge, no officer, management employee or director of Seller or any of their respective spouses or family members, owns directly or indirectly on an individual or joint basis any material interest in, or

serves as an officer or director or in another similar capacity of, any competitor, distributor or supplier of Seller or any organization which has a material contract or arrangement with Seller.

3.21 PENSION SCHEME. All capitalized terms used in this Section 3.21 not otherwise defined in this Agreement shall have the meanings ascribed to them in EXHIBIT 2.14 attached hereto.

(a) Particulars of the Transferring Scheme have been disclosed including true and complete copies of the following in relation to each pension scheme:

(i) trust deeds and rules and all other deeds;

(ii) booklets currently in force and any subsequent announcements to scheme members;

(iii) latest finalized actuarial valuation together with any subsequent valuation in draft and any subsequent written actuarial advice not included in such valuations;

(iv) details of all Transferring Employees (including dates of birth, sex, entry and current salary and pensionable salary and name of employer);

(v) details of contributions by the Transferring Employees and the employer in respect of them in the last three years;

(vi) latest Transferring Scheme accounts and trustee reports;

(vii) evidence of Inland Revenue approval;

(viii) contracting-out certificate;

(ix) insurance policies and certificates and details of premiums paid; and

(x) details of ex-gratia pensions and any discretionary increases in benefits given in respect of any Transferring Employee in the last three years.

Other than as disclosed there are no other pension schemes for current or past directors or employees of Seller who will be transferring to the employment of Buyer on the Closing Date.

(b) In relation to the Transferring Scheme:

(i) no power to augment benefits has been exercised;

(ii) no discretion has been exercised to admit an employee to membership of the pension scheme who would not otherwise be eligible;

(iii) no discretion has been exercised to provide a benefit which would not otherwise be provided;

(iv) all benefits (other than a refund of contributions with interest where appropriate) payable under the Transferring Scheme on the death of a member while in an employment to which the Transferring Scheme relates or during a period of sickness or disability of a member are fully insured by a policy with an insurance company of good repute. Each member has been covered for insurance by the insurance company at its normal rates and on its normal terms for persons in good health and all premiums payable have been paid;

(v) there are no contributions to the Transferring Scheme which are due but unpaid and have remained unpaid for more than one month and in any event contributions have been paid which are at least equal to and by the due date specified in the schedule of contributions under Section 58 of the Pensions Act;

(vi) no take-over protection provision will be triggered by the Closing Date; and

(vii) no amendment has been made in contravention of Section 67 of the Pensions Act.

(c) The Transferring Scheme:

(i) is approved by the Board of Inland Revenue for the purposes of Chapter I of Part XIV of the Income and Corporation Taxes Act 1988;

(ii) is established under irrevocable trusts; and

(iii) has been administered in accordance with:

(A) the preservation requirements under the Pensions Schemes Act 1993;

(B) the equal access requirements of the Pensions Schemes Act 1993;

(C) the contracting-out requirements of the Pensions Schemes Act 1993 (where applicable);

(D) the Pensions Schemes Act 1993; and

(E) all other applicable laws (including Article 119 of the Treaty of Rome save in respect of guaranteed minimum pensions), regulations and requirements of any competent governmental body or regulatory authority and the trusts and rules of the Transferring Scheme.

(d) No claim has been threatened or made or litigation commenced against the trustees or administrator of the Transferring Scheme or against Seller or any other person whom Seller is or may be liable to indemnify or compensate in respect of any matter arising out of or in connection with the Transferring Scheme. So far as Seller is aware there are no circumstances which may give rise to any such claim or litigation. There are no unresolved disputes under the Transferring Scheme's internal dispute resolution procedure.

3.22 ENVIRONMENTAL MATTERS.

(a) Seller represents and warrants that Seller's Business, the Subject Assets and the Leasehold Property comply with, and the Subject Assets and the Leasehold Property have been used in compliance with, all applicable Environmental Laws and that none of Seller's Business, any of the Subject Assets or the Leasehold Property is or has been the subject of any existing, pending or threatened judgment, consent decree, compliance order, administrative order, investigation or inquiry by any governmental authority or subject to any remediation obligation under any Environmental Laws and, so far as Seller is aware, there exist no circumstances that could give rise to any of the foregoing. Seller further represents and warrants that Seller's Business, the Subject Assets and the Leasehold Property comply in all material respects with all applicable occupational health and safety regulations and similar worker safety rules and regulations. SCHEDULE 3.22 sets forth a list of the chemicals used by Seller prior to the Closing and details the internal procedure for the disposal of chemicals. The use and disposal of such chemicals by Seller has been in compliance with all applicable Environmental Laws at all times prior to the Closing Date.

(b) Seller has disclosed to Buyer copies of: (i) the Due Diligence Report relating to Pharmacia Biotech (Biochrom) Limited, Cambridge (UK), prepared by Alfredo

Ricci dated March 11, 1997; and (ii) the Due Diligence Follow-Up Report relating to Pharmacia Biotech (Biochrom) Limited, Cambridge (UK), prepared by Finbarr Fitzgerald on or about August 6, 1998.

(c) "Environmental Laws" shall mean any environmental or health and safety-related laws, regulations, rules, ordinances, or by-laws of England and Wales, whether existing as of the date hereof or previously in force.

3.23 OFFICERS. SCHEDULE 3.23 contains a true and complete list of the officers and directors of Seller immediately prior to the Closing.

3.24 EMPLOYEES.

(a) SCHEDULE 3.24 contains a list of all current managers and employees of Seller who, individually, have received or are scheduled to receive compensation, benefits, bonus, incentive schemes, commission, periods of notice, pension, voluntary pension, annuities, rights under any retirement benefits, life assurance or a hospital insurance scheme from Seller for the fiscal year ending December 31, 1998 or December 31, 1999, listing the gross compensation (including any bonuses) each such person received and/or is scheduled to receive for the fiscal year ended December 31, 1998 and the fiscal year ending December 31, 1999, respectively, and their job title or position. Except as set forth on SCHEDULE 3.24, all such managers and employees were employed by Seller as of the Closing Date (those persons so employed, the "Employees"). In addition, except as set forth on SCHEDULE 3.24, none of the Employees is a party to any employment agreement or other employment arrangement with Seller other than Seller's standard employment agreement, a copy of which is attached to SCHEDULE 3.24. Seller has no contracts or agreements (whether written or oral) with consultants other than consulting relationships terminable at will by Seller without payment of any fees, penalties or other amounts by Seller.

(b) There is no dispute between Seller and any of the Employees or any trades union existing or pending at the date of this Agreement and so far as Seller is aware there are no circumstances likely to give rise to the same.

(c) The Employees are the only employees of Seller whose contract of employment will have effect as if originally made with Buyer by reason of the Employment Regulations.

(d) There is no agreement or arrangement between Seller and any trades union. Seller has informed and consulted the appropriate representatives of the Employees.

(e) Other than with respect to gross compensation to be paid to the Employees for the fiscal year ending December 31, 1999, which are set forth on SCHEDULE 3.24, since June 30, 1998, no change has been made in the rates of remuneration, emoluments, benefits or other terms of employment of any of the Employees.

(f) None of the Employees has given or received notice terminating his employment, nor will any of the Employees be entitled to give notice as a result of the provisions of this Agreement.

(g) Except as set forth on SCHEDULE 3.24, there is not in existence any written or unwritten contract of employment with any Employee (or any contract for services with any person) which cannot be terminated by three (3) months' notice or less without giving rise to a claim for damages or compensation (other than a redundancy payment and/or statutory compensation for unfair dismissal).

(h) Except as set forth on SCHEDULE 3.24, there are no dispensations agreed with or notifications under Section 166 of the Taxes Act 1988 issued by the Inland Revenue which are currently in force in relation to the Employees.

(i) There are no inquiries or investigations, existing, pending or threatened, affecting Seller's Business by the Equal Opportunities Commission or the Commission for Racial Equality.

3.25 CUSTOMERS, DISTRIBUTORS AND SUPPLIERS. SCHEDULE 3.25 is a true and complete list of the customers, distributors and suppliers of Seller's Business to whom Seller made payments or to whom Seller has shipped products and issued invoices, as the case may be, aggregating $20,000 or more during the fiscal year ended December 31, 1998, showing, with respect to each, the name, address and volume in British Pounds Sterling involved (the "Customers, Distributors and Suppliers"). Except as set forth on SCHEDULE 3.25, the relationships of Seller with its Customers, Distributors and Suppliers are good commercial working relationships and there have been no material adverse changes to any of such relationships during said period.

3.26 VEHICLES. Except as set forth in SCHEDULE 3.26:

(a) the Vehicles are duly licensed and are, to the best of Seller's knowledge, capable of being properly used for the purposes of Seller's Business, roadworthy and maintained in a serviceable condition;

(b) all forms of taxation payable by Seller in respect of the Vehicles have been fully paid; and

(c) the Vehicles have, to the best of Seller's knowledge, been annually tested and passed as fit for service by the Department of Transport.

3.27 DISCLOSURE. The representations, warranties and statements of Seller contained in this Agreement and in the certificates, exhibits and schedules delivered by Seller pursuant to this Agreement do not contain any untrue statement of a material fact, and, when taken together, do not, to the best of Seller's knowledge, omit to state a material fact known to Seller

required to be stated therein or necessary in order to make such representations, warranties or statements not misleading in light of the circumstances under which they were made. There are no facts known to Seller which presently or in the future will have a material adverse affect on the business, properties, operations or condition of Seller which have not been disclosed herein or in a Schedule furnished herewith, other than general economic, industry and political conditions affecting the industries in which Seller operates.

4. COVENANTS OF SELLER

4.1 MAKING OF COVENANTS AND AGREEMENTS. Seller hereby makes the covenants and agreements set forth in this Section 4.

4.2 NOTICE OF DEFAULT. Promptly upon the occurrence of, or promptly upon Seller becoming aware of the impending or threatened occurrence of, any event which would cause or constitute a breach or default, or would have caused or constituted a breach or default had such event occurred or been known to Seller prior to the date hereof, of any of the representations, warranties or covenants of Seller contained in or referred to in this Agreement or in any Schedule or Exhibit referred to in this Agreement, Seller shall give detailed written notice thereof to Buyer and shall use its best efforts to prevent or promptly remedy the same.

4.3 CONSUMMATION OF AGREEMENT. Seller shall use its best efforts to perform and fulfill all conditions and obligations on its part to be performed and fulfilled under this Agreement, to the end that the transactions contemplated by this Agreement shall be fully carried out.

4.4 NOTICE TO THIRD PARTIES.

(a) After the Closing, Seller shall notify any and all persons or entities in possession of Off-Site Assets that title thereto has passed to Buyer, such Off-Site Assets are then owned by Buyer, and such persons and entities thereafter shall look solely to Buyer with respect to the ownership thereof and for instructions with respect thereto.

(b) After the Closing, at the request of Buyer, Seller and Buyer shall send a jointly executed letter to those persons and entities as Buyer may request notifying such persons or entities of the consummation of the transactions contemplated by this Agreement, such letter to be substantially in the form of EXHIBIT 4.4.

4.5 PROTECTION OF GOODWILL.

(a) As further consideration for Buyer agreeing to purchase the Subject Assets from Seller on the terms herein contained and with the intent of assuring to Buyer the Goodwill, Seller and Seller Guarantor hereby undertake to Buyer that (except with the prior written consent of Buyer) Seller and Seller Guarantor shall not, either solely or jointly with any person or entity, directly or indirectly, at any time within a period of two (2) years from

the Closing Date, in the United Kingdom of Great Britain and Northern Ireland (or any other country in which Seller or any of its distributors has done business within the twelve (12) months preceding the Closing Date):

(i) carry on or be engaged in the manufacture, distribution or sale of any products of the same type which have been manufactured, distributed or sold in the normal course of Seller's Business at any time during the twelve (12) months preceding the Closing Date and which are still manufactured, distributed or sold by Buyer at the relevant time; or

(ii) employ or solicit any of the Employees or entice any of the Employees to decline employment with Buyer pursuant to Section 3.24 or to terminate their employment with Buyer.

(b) Notwithstanding clause (a)(i) above, nothing in this Agreement shall prevent Seller Guarantor from:

(i) engaging in the manufacture, distribution or sale of: (A) mass spectrometers and related products or instruments in which mass spectrometry technology is utilized; (B) chromatography instruments and related products or instruments in which spectrophotometer technology is utilized; or (C) electrophoresis instruments and related products or instruments in which electrophoresis technology is utilized, including without limitation DNA sequencing instruments; and

(ii) subject to the last sentence of this clause (b)(ii), acquiring, being acquired by, or merging (in each case whether by sale of stock, assets, or otherwise) with a company that sells spectrophotometers or amino acid analyzers (a "Subject Company"); PROVIDED, HOWEVER, that Seller Guarantor shall notify Buyer that it has entered into such a transaction within thirty (30) days following the consummation of such transaction. Notwithstanding the foregoing, (a) Seller Guarantor may not enter into such a transaction with a Subject Company whose sales of spectrophotometers or amino acid analyzers accounted for greater than fifty percent (50%) of the Subject Company's gross revenues with respect to its most recently completed fiscal year (a "Significant Portion") and (b) in the event that Seller Guarantor enters into such a transaction with a Subject Company whose sales of spectrophotometers or amino acid analyzers does not constitute a Significant Portion of such Subject Company's business, then Seller Guarantor shall use commercially reasonable efforts to dispose of that portion of such Subject Company's business that sells spectrophotometers or amino acid analyzers.

(c) While each of the undertakings contained in Section 4.5(a) above is considered by the parties to be reasonable, if any such undertaking should be held invalid as an unreasonable restraint of trade or for any other reason but would have been held valid if part of the wording thereof had been deleted or the period thereof reduced or the range of activities or area dealt with thereby reduced in scope, said undertaking shall apply with such modifications as may be necessary to make them valid and effective.

(d) Each undertaking contained in Section 4.5(a) above shall be read and construed independently of the other undertakings therein contained so that if one or more should be held to be invalid as an unreasonable restraint of trade or for any other reason whatsoever then the remaining undertakings shall be valid to the extent that they are not held to be so invalid.

(e) The benefit of the undertakings contained in Section 4.5(a) above may be assigned in whole or in part by Buyer in accordance with Section 11.6.

(f) The undertakings contained in Section 4.5(a) above are given by each of Seller and Seller Guarantor for itself and (on the basis that references to Seller or Seller Guarantor were treated as references to the company concerned) on behalf of each company which is a member of the group of companies to which Seller or Seller Guarantor belongs (formed by itself, its holding company and any subsidiary of itself or any such holding company, as such expressions are defined in the Companies Act 1985); and Seller and Seller Guarantor hereby warrant to Buyer that each of Seller and Seller Guarantor, respectively, has been duly authorized so to undertake. The preceding notwithstanding, the undertakings contained in Section 4.5(a) above do not apply to AP Biotech or any entity that, directly or indirectly, is wholly-owned, or has not less than a majority of its voting power or economic interests owned, by Amersham Pharmacia Biotech Ltd. (each, an "AP Biotech Affiliate"), as similar undertakings with respect to AP Biotech or any AP Affiliate are expressly contained in the Distribution Agreement.

4.6 CONFIDENTIALITY. Seller and Seller Guarantor agree that, after the Closing has been consummated, Seller, Seller Guarantor, and their respective officers, directors, agents, representatives and employees and affiliates (other than the Employees) will hold in strict confidence, and will not distribute or make available, any confidential or proprietary data or information of Seller that is used in connection with or related to Seller's Business, except:

(a) information which, as of the date hereof, is published or otherwise generally available to the public;

(b) information which after the date hereof becomes available to the public other than through an act or omission of the parties which is in violation of the provisions hereof;

(c) information rightfully acquired from a third party which did not obtain such information under a pledge of confidentiality;

(d) information which is developed by the disclosing party independently of the relationship established by this Agreement; or

(e) any information which the disclosing party is required to disclose by law (including the regulations of a stock exchange) or court order.

4.7 INTENTIONALLY OMITTED.

4.8 VALUE ADDED TAX.

(a) Buyer hereby represents that it will register under the Value Added Tax Act 1994 as soon as practicable after the Closing. The parties shall use all reasonable endeavors to secure that Section 49(1) of the Value Added Tax Act 1994 and Article 5 of the Value Added Tax (Special Provisions) Order 1995 shall apply to the transfer of Seller's Business hereunder. Accordingly, Seller shall on or about Closing deliver to Buyer all records referred to in the said Section 49 and shall not thereafter make any request to H.M. Customs & Excise for such records to be taken out of the custody of Buyer. Buyer hereby undertakes to preserve such records for such periods as may be required by law.

(b) If, notwithstanding the provisions referred to above, Seller is required to account to H.M. Customs & Excise for any Value Added Tax on the sale hereunder, Buyer shall pay to Seller such taxation, including any interest and penalties, in addition to the price otherwise agreed, such payment by Buyer to be made forthwith on its payment by Seller to H.M. Customs & Excise or, if later, delivery by Seller to Buyer of invoices for value added tax purposes in respect thereof.

(c) Seller shall ensure that until Closing all such records are kept and all such returns and payments are made in connection with Seller's Business as may be required by law for the purposes of the enactments relating to Value Added Tax.

(d) All Value Added Tax payable in respect of goods and services supplied or deemed to be supplied by Seller prior to the Closing Date and all interest payable thereon and penalties attributable thereto shall be paid to H.M. Customs & Excise by Seller.

(e) In addition to its obligations under Section 4.8 above, Seller shall on or before Closing give to Buyer written notice of the identity of such of the Subject Assets as are capital items covered by the Capital Goods Scheme pursuant to Part VA of the Value Added Tax (General) Regulations 1985 and deliver to Buyer all such information as shall be necessary to enable Buyer to calculate any future adjustments to the deduction of input tax on such Subject Assets.

4.9 AUDITED FINANCIAL STATEMENTS. Following the Closing, Seller shall, in the ordinary course, complete or cause to be completed its audited financial statements for the fiscal year ended December 31, 1998, with appropriate footnotes, accompanied by Cooper & Lybrand L.L.P.'s, independent public accountant, opinion, and Seller shall provide such financial statements to Buyer promptly thereafter.

5. REPRESENTATIONS AND WARRANTIES OF BUYER

5.1 MAKING OF REPRESENTATIONS AND WARRANTIES. Buyer hereby makes the representations and warranties to Seller contained in this Section 5. For the purposes of this Agreement, references to "knowledge" or "best knowledge" of Buyer or "known" by Buyer or words of similar import, shall be deemed to include such knowledge as any executive officer employed by Buyer at the Closing Date or manager of Buyer actually has.

5.2 ORGANIZATION OF BUYER. Buyer is a limited liability company duly organized, validly existing and in good standing under the laws of England and Wales with full corporate power to own or lease its properties and to conduct its business in the manner and in the places where such properties are owned or leased or such business is currently conducted or proposed to be conducted.

5.3 AUTHORITY OF BUYER.

(a) Each of Buyer and Buyer Guarantor has or has received full right, authority and power to enter into this Agreement and each agreement, document and instrument to be executed and delivered by Buyer and Buyer Guarantor pursuant to this Agreement (including, without limitation, the Distribution Agreement) and to carry out the transactions contemplated hereby and thereby. The execution, delivery and performance by Buyer and Buyer Guarantor of this Agreement, and each such other agreement, document and instrument (including, without limitation, the Distribution Agreement) have been duly authorized by all necessary corporate action of Buyer and Buyer Guarantor, respectively, and their respective shareholders, if required, and no other action on the part of Buyer or Buyer Guarantor or their respective shareholders is required in connection therewith.

(b) This Agreement, and each agreement, document and instrument executed and delivered by Buyer and Buyer Guarantor pursuant to this Agreement (including, without limitation, the Distribution Agreement) constitute, or when executed and delivered will constitute, valid and binding obligations of Buyer and Buyer Guarantor enforceable in accordance with their terms. The execution, delivery and performance by Buyer and Buyer Guarantor of this Agreement and each such agreement, document and instrument:

(i) does not and will not violate any provision of the Memorandum of Association of Buyer or the Articles of Organization and By-laws of Buyer Guarantor;

(ii) does not and will not violate any laws of England and Wales, the United States, or, to the best of its knowledge, any nation, state or other jurisdiction applicable to Buyer or Buyer Guarantor;

(iii) does not require Buyer or Buyer Guarantor to obtain any approval, consent or waiver or make any filing prior to or on the Closing Date or, solely as a result of the consummation of the transactions contemplated by this Agreement, following the

Closing Date with any person or entity (governmental or otherwise) that has not been obtained or made; and

(iv) does not and will not result in a breach of, constitute a default under, accelerate any obligation under, or give rise to a right of termination of any indenture or loan or credit agreement or any other agreement, contract, instrument, mortgage, lien, lease, permit, authorization, order, writ, judgment, injunction, decree, determination or arbitration award to which Buyer or Buyer Guarantor is a party or by which the property of Buyer or Buyer Guarantor is bound or affected.

5.4 FINDER'S FEE. Buyer has not incurred or become liable for any broker's commission or finder's fee relating to or in connection with the transactions contemplated by this Agreement or any other agreement contemplated hereby.

6. COVENANTS OF BUYER

6.1 MAKING OF COVENANTS AND AGREEMENT. Buyer hereby makes the covenants and agreements set forth in this Section 6.

6.2 NOTICE OF DEFAULT. Promptly upon the occurrence of, or promptly upon Buyer becoming aware of the impending or threatened occurrence of, any event which would cause or constitute a breach or default, or would have caused or constituted a breach or default had such event occurred or been known to Buyer prior to the date hereof, of any of the representations, warranties or covenants of Buyer contained in or referred to in this Agreement or in any Schedule or Exhibit referred to in this Agreement, Buyer shall give detailed written notice thereof to Seller and shall use its best efforts to prevent or promptly remedy the same.

6.3 CONSUMMATION OF AGREEMENT. Buyer shall use its best efforts to perform and fulfill all conditions and obligations on its parts to be performed and fulfilled under this Agreement, to the end that the transactions contemplated by this Agreement shall be fully carried out.

7. CONDITIONS

7.1 CONDITIONS TO THE OBLIGATIONS OF BUYER. The obligation of Buyer to consummate this Agreement and the transactions contemplated hereby is subject to the fulfillment, prior to or at the Closing, of the following conditions precedent and the delivery of the following documents:

(a) REPRESENTATIONS; WARRANTIES; COVENANTS. Each of the representations and warranties of Seller contained in Section 3 shall be true and correct as though made on and as of the Closing; Seller shall, on or before the Closing, have performed all of its obligations hereunder which by the terms hereof are to be performed on or before the Closing.

(b) NO MATERIAL CHANGE. There shall have been no material adverse change in the financial condition, prospects, properties, assets, liabilities, business or operations of Seller since June 30, 1998.

(c) CERTIFICATE FROM OFFICERS. Seller shall deliver to Buyer a certificate dated as of the Closing to the effect that: (i) the statements set forth in paragraph (a) and (b) above in this Section 7.1 are true and correct; and (ii) all bolts and fastenings attaching plant, machinery or fittings to land or buildings (insofar as included in the sale hereunder) which can safely be undone have been undone so that the same shall be severed at the Closing Date and title thereto shall pass by delivery.

(d) APPROVAL OF BUYER'S COUNSEL. All instruments and documents required to carry out this Agreement and the transactions contemplated hereby shall be consistent with the forms attached as exhibits hereto or shall otherwise have been reasonably approved by Goodwin, Procter & Hoar LLP and Cameron McKenna, each as counsel for Buyer.

(e) INTENTIONALLY OMITTED.

(f) INTENTIONALLY OMITTED.

(g) DISTRIBUTION AGREEMENT. Seller shall deliver two (2) originals of the Distribution Agreement in the form of EXHIBIT 7.1(g) executed by AP Biotech.

(h) LICENSE TO THE "PHARMACIA BIOTECH" NAME. Seller shall deliver two (2) originals of the License Agreement relating to the "Pharmacia Biotech" name in the form of EXHIBIT 7.1(h) executed by Seller Guarantor.

(i) LICENSE TO THE "AMERSHAM" NAME. Seller shall deliver two (2) originals of the License Agreement relating to the "Amersham" name in the form of EXHIBIT 7.1(i) executed by Amersham International plc.

(j) DELIVERY OF REQUIRED CONSENTS. Seller shall deliver to Buyer the Required Consents that it has obtained prior to the Closing.

(k) BILL OF SALE TO BUYER. Seller shall deliver two (2) originals of the Bill of Sale in the form of EXHIBIT 7(k) executed by Seller.

(l) INTENTIONALLY OMITTED.

(m) INTENTIONALLY OMITTED.

(n) ASSIGNMENT OF CONTRACTS AND ASSUMPTION OF LIABILITIES. Seller shall deliver two (2) originals of the Assignment of Contracts and Assumption of Liabilities in the form of EXHIBIT 7.1(n).

(o) NAME CHANGE RESOLUTIONS. Seller shall deliver a certified copy of a special resolution changing its name to some other name not incorporating the word "Biochrom" or any other word or combination of words capable of confusion therewith.

7.2 CONDITIONS TO OBLIGATIONS OF SELLER. Seller's obligation to consummate this Agreement and the transactions contemplated hereby is subject to the fulfillment, prior to or at the Closing, of the following conditions precedent and the delivery of the following documents:

(a) REPRESENTATIONS; WARRANTIES; COVENANTS. Each of the representations and warranties of Buyer contained in Section 5 shall be true and correct as though made on and as of the Closing; Buyer shall, on or before the Closing, have performed all of its obligations hereunder which by the terms hereof are to be performed on or before the Closing.

(b) CERTIFICATE FROM OFFICERS. Buyer shall deliver to Seller a certificate dated as of the Closing to the effect that the statements set forth in paragraph (a) above in this Section 7.2 are true and correct.

(c) APPROVAL OF SELLER'S COUNSEL. All instruments and documents required to carry out this Agreement and the transactions contemplated hereby shall be consistent with the forms attached as exhibits hereto or shall otherwise have been reasonably approved by Curtis, Mallet-Prevost, Colt & Mosle, as counsel for Seller.

(d) DISTRIBUTION AGREEMENT. Buyer shall deliver two (2) originals of the Distribution Agreement in the form of EXHIBIT 7.1(g) executed by Buyer.

(e) LICENSE TO THE "PHARMACIA BIOTECH" NAME. Buyer shall deliver two (2) originals of the License Agreement relating to the "Pharmacia Biotech" name in the form of EXHIBIT 7.1(h) executed by Buyer.

(f) LICENSE TO THE "AMERSHAM" NAME. Buyer shall deliver two (2) originals of the License Agreement relating to the "Amersham" name in the form of EXHIBIT 7.1(i) executed by Buyer.

(g) ASSIGNMENT OF CONTRACTS AND ASSUMPTION OF LIABILITIES. Buyer shall deliver two (2) originals of the Assignment of Contracts and Assumption of Liabilities in the form of EXHIBIT 7.1(n).

7.3 FURTHER CONDITIONS TO OBLIGATIONS OF BUYER AND SELLER. Each of Buyer's and Seller's obligation to consummate this Agreement and the transactions contemplated hereby is subject to the fulfillment, prior to or at the Closing, of the following conditions precedent:

(a) GOVERNMENTAL MATTERS. No government or governmental, quasi-governmental supranational or state agency or regulatory body professional association

or trade union or court or any other person or organization in any jurisdiction having by the date on which all the other conditions set out in this Section 7 have either been fulfilled or waived:

(i) instituted, implemented or threatened any action, suit or investigation to restrain, prohibit or otherwise challenge or interfere with the transaction proposed hereunder or any part thereof;

(ii) threatened to take any action as a result or in anticipation of the implementation of such transaction or any part thereof; or

(iii) proposed or enacted any statute or regulation which would prohibit, materially restrict or materially delay implementation of such transaction or any part thereof or the operations of Seller.

(b) LEASEHOLD PROPERTY MATTERS.

(i) Seller shall have entered into the Deed of Surrender of Lease with Buyer and shall have terminated the Seller Lease with the consent of Buyer; and

(ii) Following the termination of the Seller Lease as described in clause (i) above, Buyer shall have entered into a lease agreement with Trinity College with respect to the Leasehold Property on terms acceptable to Buyer, in its sole discretion.

8. INTENTIONALLY OMITTED

9. RIGHTS AND OBLIGATIONS SUBSEQUENT TO CLOSING

9.1 SURVIVAL OF WARRANTIES. The representations, warranties, agreements, covenants and obligations in this Agreement or any other agreement schedule, exhibit or certificate executed by Seller or Seller Guarantor are material, shall be deemed to have been relied upon by the other party and shall survive the Closing for the period of time as to which indemnification is payable under Section 10 with respect thereto, regardless of any investigation or knowledge acquired on the part of Buyer or its affiliates and shall not merge in the performance of any obligation by either party hereto.

9.2 PAYMENT OF EXCLUDED LIABILITIES. Seller shall pay or perform all of the Excluded Liabilities in accordance with their terms as soon as practicable.

9.3 PAYMENT OF ASSUMED LIABILITIES. Buyer shall pay all of the Assumed Liabilities and perform its obligations under the Assumed Contracts in accordance with their terms as soon as practicable.

10. INDEMNIFICATION

10.1 INDEMNIFICATION BY SELLER. Seller agrees subsequent to the Closing to indemnify and hold Buyer and its shareholders, subsidiaries and affiliates and persons serving as officers, directors, partners or employees thereof (individually a "Buyer Indemnified Party" and collectively, the "Buyer Indemnified Parties") harmless from and against any damages, actions, proceedings, demands, liabilities, diminution in value, losses, taxes, fines, penalties, costs, claims and expenses (including, without limitation, reasonable fees of counsel) of any kind or nature whatsoever (whether or not arising out of third-party claims and including all amounts paid in investigation, defense or settlement of the foregoing) which may be sustained or suffered by any of them arising out of or based upon any of the following matters:

(a) fraud, dishonesty, intentional misrepresentation or a deliberate or willful breach by Seller of any of its representations, warranties, agreements or covenants under this Agreement or any other agreement, certificate, schedule or exhibit executed by Seller or Seller Guarantor and delivered pursuant hereto;

(b) any other breach of any representation or warranty of Seller under this Agreement or any other agreement, certificate, schedule or exhibit executed by Seller or Seller Guarantor and delivered pursuant hereto, or by reason of any claim, action or proceeding asserted or instituted growing out of any matter or thing constituting a breach of such representations or warranties;

(c) any breach of any agreement or covenant of Seller under this Agreement or any other agreement, certificate, schedule or exhibit executed by Seller and delivered pursuant hereto, or by reason of any claim, action or proceeding asserted or instituted growing out of any matter or thing constituting a breach of such covenants;

(d) any failure by Seller to perform and discharge any of the Excluded Liabilities, including its obligations pursuant to Sections 2.2(d) and (f) hereof;

(e) any liability of Seller for Taxes (as defined in Section 3.6 hereof), whether levied or imposed in the United Kingdom or elsewhere, of whatever nature and whether past, present or, solely to the extent arising from the Subject Assets or from the conduct of the Business, including the Excluded Liabilities, by Seller prior to the Closing Date, future, and all penalties, charges, costs and interest relating to the same and any penalties chargeable for non-compliance by Seller with any statutory provisions or regulations in connection therewith; and

(f) any liability (whether arising before or after the Closing Date) relating to any environmental or worker health and safety matter of any kind or nature whatsoever, known or unknown, asserted or unasserted, that arises in connection with or on the basis of events, acts, omissions, conditions, or any other state of facts occurring or existing prior to or on the Closing Date.

10.2 LIMITATIONS ON INDEMNIFICATION BY SELLER. Notwithstanding the foregoing, the right of Buyer Indemnified Parties to indemnification under Section 10.1 shall be subject to the following provisions:

(a) No indemnification shall be payable pursuant to Section 10.1(b) to any Buyer Indemnified Party, unless the total of all claims for indemnification pursuant to Section 10.1(b) (a "Buyer Indemnification Claim") shall exceed $50,000 in the aggregate (the "Buyer $50,000 Threshold"), whereupon the full amount of such Buyer Indemnification Claims shall be recoverable in accordance with the terms hereof. In the event that a Buyer Indemnified Party makes a Buyer Indemnification Claim that, individually, or together with all other such Buyer Indemnification Claims, exceeds the Buyer $50,000 Threshold, thereafter no indemnification shall be payable with respect to any subsequently made Buyer Indemnification Claim pursuant to Section 10.1(b) to any Buyer Indemnified Party, unless the total of all such subsequently made Buyer Indemnification Claims shall exceed $10,000 in the aggregate (the "Buyer $10,000 Threshold"), whereupon the full amount of such subsequently made Buyer Indemnification Claims shall be recoverable in accordance with the terms hereof; PROVIDED, HOWEVER, that if the Buyer $50,000 Threshold has been exceeded and on the Indemnification Cut-Off Date (as defined below) there exist subsequently made Buyer Indemnification Claims that do not, in the aggregate, exceed the Buyer $10,000 Threshold, the full amount of such subsequently made Buyer Indemnification Claims shall be recoverable in accordance with the terms hereof.

(b) No indemnification shall be payable to a Buyer Indemnified Party with respect to Buyer Indemnification Claims asserted pursuant to Section 10.1(b) (exclusive of Buyer Indemnification Claims for indemnification for Taxes or a breach of any representation, warranty or covenant with respect to Taxes or tax related matters, environmental related matters and title to the Subject Assets) after March 31, 2001 (the "Indemnification Cut-Off Date"), except in respect of matters which have been the subject of a bona fide written Buyer Indemnification Claim which is made before the Indemnification Cut-Off Date by or on behalf of a Buyer Indemnified Party to Seller; and

(c) Buyer Indemnified Parties shall not be entitled to indemnification (A) with respect to claims asserted pursuant to Sections 10.1(b)-(e) hereof in an amount in excess of the Purchase Price or (B) with respect to claims asserted pursuant to Sections 10.1(f) hereof in an amount in excess of $15,000,000.

10.3 INDEMNIFICATION BY BUYER. Buyer agrees subsequent to the Closing to indemnify and hold Seller and its shareholders, subsidiaries, affiliates and persons serving as officers, directors, partners or employees thereof (individually a "Seller Indemnified Party" and collectively, the "Seller Indemnified Parties") harmless from and against any damages, actions, proceedings, demands, liabilities, diminution in value, losses, taxes, fines, penalties, costs, claims and expenses (including, without limitation, reasonable fees of counsel) of any kind or nature whatsoever (whether or not arising out of third-party claims and including all amounts

paid in investigation, defense or settlement of the foregoing) which may be sustained or suffered by any of them arising out of or based upon any of the following matters:

(a) fraud, dishonesty, intentional misrepresentation or a deliberate or willful breach by Buyer of any of its representations, warranties, agreements or covenants under this Agreement or any other agreement (other than the Distribution Agreement), certificate, schedule or exhibit executed by Buyer or Buyer Guarantor and delivered pursuant hereto;

(b) any other breach of any representation or warranty of Buyer under this Agreement or any other agreement (other than the Distribution Agreement), certificate, schedule or exhibit executed by Buyer or Buyer Guarantor and delivered pursuant hereto, or by reason of any claim, action or proceeding asserted or instituted growing out of any matter or thing constituting a breach of such representations or warranties;

(c) any breach of any agreement or covenant of Buyer under this Agreement or any other agreement entered into in connection herewith (other than the Distribution Agreement) or in any certificate delivered by Buyer pursuant hereto, or by reason of any claim, action or proceeding asserted or instituted growing out of any matter or thing constituting a breach of such covenant;

(d) any failure by Buyer to perform and discharge any of the Assumed Liabilities, including its obligations pursuant to Sections 2.2(d) and (f) hereof; and

(e) any liability relating to any environmental or worker health and safety matter of any kind or nature whatsoever, known or unknown, asserted or unasserted, that arises in connection with or on the basis of events, acts, omissions, conditions, or any other state of facts caused by Buyer, its affiliates, directors, officers, employees, agents or representatives after the Closing Date.

10.4 LIMITATION ON INDEMNIFICATION BY BUYER. Notwithstanding the foregoing, the right of Seller Indemnified Parties to indemnification under Section 10.3 shall be subject to the following provisions:

(a) No indemnification shall be payable pursuant to Section 10.3(b) to any Seller Indemnified Party, unless the total of all claims for indemnification pursuant to Section 10.3(b) (a "Seller Indemnification Claim") shall exceed $50,000 in the aggregate (the "Seller $50,000 Threshold"), whereupon the full amount of such Seller Indemnification Claims shall be recoverable in accordance with the terms hereof. In the event that a Seller Indemnified Party makes a Seller Indemnification Claim that, individually, or together with all other Seller Indemnification Claims, exceeds the Seller $50,000 Threshold, thereafter no indemnification shall be payable with respect to any subsequently made Seller Indemnification Claim pursuant to Section 10.3(b) to any Seller Indemnified Party, unless the total of all such subsequently made Seller Indemnification Claims shall exceed $10,000 in the aggregate (the "Seller $10,000 Threshold"), whereupon the full amount of such subsequently made Seller Indemnification

Claims shall be recoverable in accordance with the terms hereof; PROVIDED, HOWEVER, that if the Seller $50,000 Threshold has been exceeded and on the Indemnification Cut-Off Date there exist subsequently made Seller Indemnification Claims that do not, in the aggregate, exceed the Seller $10,000 Threshold, the full amount of such subsequently made Seller Indemnification Claims shall be recoverable in accordance with the terms hereof.

(b) No indemnification shall be payable to a Seller Indemnified Party with respect to Seller Indemnification Claims asserted pursuant to Section 10.3(b) (exclusive of Seller Indemnification Claims for indemnification for a breach of any representation, warranty or covenant with respect to payment of Value Added Taxes) after the Indemnification Cut-Off Date, except in respect of matters which have been the subject of a bona fide written Seller Indemnification Claim which is made before the Indemnification Cut-Off Date by or on behalf of Seller to Buyer; and

(c) Seller Indemnified Parties shall not be entitled to indemnification (A) with respect to claims asserted pursuant to Sections 10.3(b)-(d) hereof in an amount in excess of the Purchase Price or (B) with respect to claims asserted pursuant to Sections 10.3(e) hereof in an amount in excess of $15,000,000.

10.5 NOTICE; DEFENSE OF CLAIMS.

(a) An indemnified party may make claims for indemnification hereunder by giving written notice thereof to the indemnifying party within the period in which indemnification claims can be made hereunder. If indemnification is sought for a claim or liability asserted by a third party, the indemnified party shall also give written notice thereof to the indemnifying party promptly after it receives notice of the claim or liability being asserted, but the failure to do so shall not relieve the indemnifying party from any liability except to the extent that it is prejudiced by the failure or delay in giving such notice. Such notice shall summarize the bases for the claim for indemnification and any claim or liability being asserted by a third party.

(b) Within thirty (30) days after receiving such notice the indemnifying party shall give written notice to the indemnified party stating whether it disputes the claim for indemnification and whether it will defend against any third party claim or liability at its own cost and expense.

(i) With respect to any claim for indemnification (other than a claim or liability asserted by a third party), if the indemnifying party fails to give notice that it disputes an indemnification claim within thirty (30) days after receipt of notice thereof, it shall be deemed to have accepted and agreed to the claim, which shall become immediately due and payable.

(ii) With respect to any claim or liability being asserted by a third party, the indemnifying party shall be entitled to direct the defense against a third party claim

or liability with counsel selected by it (subject to the consent of the indemnified party, which consent shall not be unreasonably withheld) as long as the indemnifying party is conducting a good faith and diligent defense.

The indemnified party shall at all times have the right to fully participate in the defense of a third party claim or liability at its own expense directly or through counsel; PROVIDED, HOWEVER, that if the named parties to the action or proceeding include both the indemnifying party and the indemnified party and the indemnified party is advised by its own counsel that 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 reasonable expense of the indemnifying party. If the indemnifying party fails to give notice as required by the first sentence of this paragraph (b) stating whether it disputes the claim for indemnification and whether it will defend against any third party claim or liability at its own cost or expense, or if such 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.

11.MISCELLANEOUS

11.1 WARRANTY OBLIGATIONS. In the event that there exist warranty claims relating to products sold by Seller prior to the Closing Date, Seller shall be responsible to perform the obligations associated with such warranty claims (the "Warranty Obligations"). Notwithstanding the foregoing, Buyer agrees to perform the Warranty Obligations on Seller's behalf, subject to receipt of payment as provided below. In connection with the performance of the Warranty Obligations, Buyer shall invoice Seller reflecting (a) the cost for parts used by Buyer in, and Buyer's labor costs associated with, the performance of the Warranty Obligations, at Buyer's then current rates for such parts and labor and (b) reasonable out-of-pocket travel and accommodation expenses associated with Buyer's performance of the Warranty Obligations. Seller agrees to pay each such invoice within thirty (30) days following Seller's receipt thereof.

11.2 FEES AND EXPENSES.

(a) Except as otherwise provided in this Agreement, each of the parties will bear its own expenses in connection with the negotiation and the consummation of the transactions contemplated by this Agreement, and no expenses of Seller relating in any way to the purchase and sale of the Subject Assets hereunder and the transactions contemplated

hereby, including, without limitation, legal, accounting or other professional expenses of Seller, shall be charged to or paid by Buyer or included in any of the Assumed Liabilities.

(b) Buyer shall pay any stamp duty on this Agreement and on any assignments to the Subject Assets together with any Land Registry fees.

11.3 GOVERNING LAW. This Agreement shall be construed under and governed by the internal laws of the State of New York without regard to its conflict of laws provisions. The preceding notwithstanding, the parties acknowledge that Seller's Business is situated in England and Wales and that, accordingly, the laws of England and Wales of a mandatory nature may apply to certain matters, including without limitation, employment, pension, environmental, tax and competition matters.

11.4 NOTICES. Any notice, request, demand or other communication required or permitted hereunder shall be in writing and shall be deemed to have been given if delivered personally or sent by facsimile transmission (receipt acknowledged), upon receipt, or if sent by first class registered, certified or recorded delivery post, upon the sooner of the date on which receipt is acknowledged or the expiration of five (5) Business Days after deposit into the custody of the relevant postal authorities properly addressed with postage prepaid. All notices to a party will be sent to the addresses set forth below or to such other address or person as such party may designate by notice to each other party hereunder:

TO BUYER:
Harvard Apparatus, Inc.
84 October Hill Road
Holliston, MA 01746-1371
Attn: Chane Graziano, Chief Executive Officer
David Green, President
Fax: (508) 429-5732

With a copy to:
Goodwin, Procter & Hoar LLP
Exchange Place
Boston, MA 02109
Attn: H. David Henken, P.C.
Fax: (617) 523-1231

Cameron McKenna
Mitre House
160 Aldersgate Street
London, EC1A 4DD
Attn: Guilherme Brafman
Fax: 011-44-171-367-2000

TO SELLER:
Pharmacia & Upjohn, Inc.
7000 Portage Road

Kalamazoo, Michigan 49001-0199
Attn: Robert J. Meisenhelder, Esq.
Fax: (616) 833-7564

With a copy to: Pharmacia & Upjohn Limited
Davy Avenue
Knowlhill
Milton Keynes MK5 8PH
Buckingham, England
Attn: Graham Lee
Fax: 011-44-190-860-3909

Curtis, Mallet-Prevost, Colt & Mosle
101 Park Avenue
New York, New York 10178
Attn: Eric L. Gilioli, Esq.
Fax: (212) 697-1559

Any notice given hereunder may be given on behalf of any party by his counsel or other authorized representatives. In proving service of a notice it shall be sufficient to prove that personal delivery was made, or that the envelope containing such notice was properly addressed and delivered into the custody of the postal authorities as a prepaid first class registered or recorded delivery letter or Datapost letter as the case may be.

11.5 ENTIRE AGREEMENT. This Agreement, including the Schedules and Exhibits referred to herein and other agreements entered into in connection herewith (including, without limitation, the Distribution Agreement) and the other writings specifically identified herein or contemplated hereby, is complete, reflects the entire agreement of the parties with respect to its subject matter, and supersedes all previous written or oral negotiations, commitments and writings. No promises, representations, understandings, warranties and agreements have been made by any of the parties hereto except as referred to herein or therein in such Schedules and Exhibits or in such other writings; and all inducements to the making of this Agreement and such other agreements relied upon by either party hereto have been expressed herein or in such Schedules or Exhibits or in such other writings.

11.6 ASSIGNABILITY; BINDING EFFECT. This Agreement may not be assigned by a party without the prior written consent of the other parties hereto, which shall not be unreasonably withheld. This Agreement shall be binding upon and enforceable by, and shall inure to the benefit of, the parties hereto and their respective heirs, successors and permitted assigns.

11.7 EXECUTION IN COUNTERPARTS. For the convenience of the parties and to facilitate execution, this Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same document.

11.8 AMENDMENTS. This Agreement may not be amended or modified, nor may compliance with any condition or covenant set forth herein be waived, except by a writing duly and validly executed by each party hereto, or in the case of a waiver, the party waiving compliance.

11.9 PUBLICITY AND DISCLOSURES.

(a) Except if and insofar as required by law (including any applicable stock exchange regulation), no press releases, announcements or public disclosure, either written or oral, of the transactions contemplated by this Agreement, shall be made by a party to this Agreement without the prior knowledge and written consent of Buyer and Seller.

(b) Seller and Buyer each undertake to provide all such information known to it or which on reasonable inquiry ought to be known to it as may reasonably be required by Buyer, Seller or Seller Guarantor for the purpose of complying with the requirements of law (including any applicable stock exchange regulation).

11.10 AGREEMENT TO CONTINUE IN FULL FORCE. This Agreement shall, insofar as it remains to be performed, continue in full force and effect notwithstanding Closing.

11.11 DISPUTE RESOLUTION.

(a) The parties hereby agree to cooperate in good faith to resolve any disputes, claims or controversies that may arise hereunder or with respect to the performance by either party of its obligations as contemplated hereby.

(b) Except as provided below, in the event that any dispute, claim or controversy shall not be so resolved by the parties among themselves, the parties agree that any and all disputes, claims or controversies arising out of or relating to this Agreement or a breach thereof, whether grounded in common law or statutory law, shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce, in New York City, New York.

(c) The arbitration shall be conducted by three (3) arbitrators, one (1) selected by each of Seller and Buyer and the third appointed by the two (2) arbitrators selected by such parties. The judgment of the three (3) arbitrators shall be rendered no later than the earlier of (i) one year after such dispute is submitted to arbitration in accordance with this Section 11.11 or (ii) such shorter period of time as the three (3) arbitrators shall determine at the outset of such arbitration to be reasonable in light of the nature of such dispute (which such determination shall be memorialized in writing and delivered to the parties hereto).

(d) Judgment upon the award rendered by the arbitrators may be entered in any court having jurisdiction thereof.

(e) Except as provided below, the failure or refusal of a party to submit to arbitration in accordance with this Section 11.11 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(ies) in such judicial proceeding all costs and expenses, including reasonable attorneys' fees, that it was thereby required to incur.

Notwithstanding anything to the contrary contained herein, the provisions of this Section 11.11 shall not apply with regard to any equitable remedies to which any party may be entitled hereunder.

Each of the parties hereto (a) hereby irrevocably submits to the jurisdiction of the United States District Court of the State of New York for the purpose of enforcing the award or decision in any such proceeding, (b) hereby waives, and agrees not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named court, that its property is exempt or immune from attachment or execution (except as protected by applicable law), that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court, and hereby waives and agrees not to seek any review by any court of any other jurisdiction which may be called upon to grant an enforcement of the judgment of any such court. Each of the parties hereto hereby consents to service of process by registered or certified mail at the address to which notices are to be given. Each of the parties hereto agrees that its or his submission to jurisdiction and its or his consent to service of process by mail is made for the express benefit of the other parties hereto. Final judgment against any party hereto in any such action, suit or proceeding may be enforced in other jurisdictions by suit, action or proceeding on the judgment, or in any other manner provided by or pursuant to the laws of such other jurisdiction.

11.12 SEVERABILITY. In the event that any one or more of the provisions contained in this Agreement, or the application thereof in any circumstances, is held invalid, illegal or unenforceable in any respect for any reason, the validity, legality and enforceability of any such provision in every other respect and of the remaining provisions contained in this Agreement shall not be in any way impaired thereby, it being intended that all of the rights and privileges of the parties hereto shall be enforceable to the fullest extent permitted by law.

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AS WITNESS the hands of the parties hereto or their duly authorized representatives within the United States the day and year first above written.

Signed by Biochrom Limited acting by Chane Graziano and David Green

/S/ CHANE GRAZIANO

Chane Graziano

/S/ DAVID GREEN

David Green

Signed by Pharmacia Biotech (Biochrom) Limited acting by Graham Lee and Keith Krzywicki

/S/ GRAHAM LEE

Graham Lee

/S/ KEITH KRZYWICKI

Keith Krzywicki

The undersigned hereby agrees to guarantee the obligations of Buyer under this Agreement, including, without limitation, Buyer's indemnification obligations pursuant to Section 10 hereto and further agrees to be bound by the provisions of Section 2.1(c) hereto.

Signed by an authorized signatory of
HARVARD APPARATUS, INC.

By: /S/ CHANE GRAZIANO

Name: Chane Graziano
Title: Chief Executive Officer

The undersigned hereby agrees to guarantee the obligations of Seller under this Agreement including, without limitation, Seller's indemnification obligations pursuant to Section 10 hereto and further agrees to be bound by the provisions of Section 4.5 hereto.

Signed by an authorized signatory of
PHARMACIA & UPJOHN, INC.

By: /S/ MATS PETTERSSON

Name: Mats Pettersson
Title: Senior Vice President,
Business Development

EXHIBIT 2.2

ASSET PURCHASE AGREEMENT

AGREEMENT entered into as of July 14, 2000 by and between Harvard Apparatus, Inc., a Massachusetts corporation ("BUYER"), AmiKa Corporation., a Maryland corporation ("AMIKA"), and Ashok Shukla (the "SHAREHOLDER") for the purposes of the Sections entitled "1.8. New Technology Licensing," "2.5(b)(i) and (ii). Subject Assets; Personal Property," "3.4. Non-Competition" and "3.5. Confidentiality."

W I T N E S S E T H

WHEREAS, subject to the terms and conditions set forth herein, Buyer desires to purchase from AmiKa, and AmiKa desires to sell, transfer and assign to Buyer, all of the properties and assets of the business and operations of AmiKa relating to the manufacturing, distribution and sale of the Products (as defined in Section 2.9(o)(ii) hereof). The business and operations of AmiKa which relate solely to the Products are referred to herein as the "BUSINESS";

WHEREAS, Buyer and AmiKa have previously entered into a non-binding letter agreement dated May 26, 2000 (the "ORIGINAL LETTER AGREEMENT"); and

WHEREAS, this Agreement is intended by the parties hereto to constitute the entire agreement of the parties and to supersede the Original Letter Agreement and, accordingly, upon the execution of this Agreement the provisions of the Original Letter Agreement shall be of no further force and effect.

NOW, THEREFORE, in order to consummate the purchase and sale of the Subject Assets and in consideration of the mutual agreements set forth herein, the parties hereto agree as follows:

1. PURCHASE AND SALE OF ASSETS.

1.1 PURCHASE AND SALE OF ASSETS.

(a) Subject to the provisions of this Agreement, at the Closing (as defined in Section 1.5 hereof) AmiKa shall sell, transfer and assign to Buyer and Buyer shall acquire all right, title and interest in all of the assets, property and business of AmiKa related to, used or held for use in the Business (except for patent application number 09/591009 relating to the Puretip product, and the cash and accounts receivable on AmiKa's balance sheet at the Closing set forth on SCHEDULE 1.1(A) (collectively, the "EXCLUDED ASSETS")) of every kind and description, tangible and intangible, real, personal or mixed, and wherever located, including, without limitation, all goodwill and Intellectual Property Assets (as defined in Section 2.9 hereof) and all of AmiKa's rights and interests in and to all purchase orders, commitments, contracts and agreements relating to the Business, including without limitation the assets, property and business set forth on SCHEDULE 1.1(A) hereto.

The assets, property and business of AmiKa being sold to and purchased by Buyer under this Section 1.1(a) are hereinafter sometimes referred to as the "SUBJECT ASSETS."

1.2 LIABILITIES. Except with respect to those unexpired purchase orders made in the ordinary course of business as set forth on SCHEDULE 1.2 attached hereto and those warranty obligations set forth in the AmiKa Catalogue (as defined in Section 2.19(o)(ii)), as to which Buyer will assume the obligations thereunder but only to the extent set forth therein, Buyer will not assume any liabilities of AmiKa, including, without limitation accounts payable and any liabilities arising from or related to severance payments required to be made or owed in connection with the termination of any employees of AmiKa. Notwithstanding anything in this Agreement to the contrary, Buyer will not assume, and Seller shall remain solely responsible for, any liability (whether arising before or after the Closing Date) relating to any environmental or worker health and safety matter of any kind or nature whatsoever, known or unknown, asserted or unasserted, that arises in connection with or on the basis of events, acts, omissions, conditions, or any other state of facts occurring or existing prior to or on the Closing Date.

1.3. PURCHASE PRICE AND PAYMENT. In consideration of the sale by AmiKa to Buyer of the Subject Assets, subject to the satisfaction of all of the conditions contained herein, at the Closing (as defined in Section 1.5) Buyer shall cause the amount of $3,000,000 (the "PURCHASE PRICE") to be delivered as follows:

(a) Buyer shall deliver to Boston Safe Deposit & Trust Company (the "ESCROW AGENT") cash in the amount of $100,000 (the "INDEMNIFICATION ESCROW AMOUNT") to be held in escrow pursuant to and in accordance with the terms of an Escrow Agreement in the form attached hereto as EXHIBIT 1.3 (the "ESCROW Agreement"); and

(b) Buyer shall deliver to AmiKa an amount equal to the Purchase Price less the Escrow Amount (or $2,900,000) by wire transfer of immediately available funds to First Union National Bank, Center Park Drive, Columbia, Maryland 21045, ABA #:055003201, Account #: 4371239315 (the "WIRE TRANSFER INSTRUCTIONS").

Each of Buyer, AmiKa and the Shareholder hereby agree that following the Closing Date, they, and each of their respective officers and directors, will hold in strict confidence, and will not distribute or make available, the financial terms of this Agreement, except as required by law or subject to an obligation of confidence by a third party receiving such information.

1.4. INVENTORY ADJUSTMENT. AmiKa's Inventory (as defined in Section 2.7) at Closing, as such amount is mutually determined and agreed upon by Buyer and AmiKa prior to the Closing (the "CLOSING INVENTORY VALUE"), shall have a retail value equal to approximately $200,000, but in no event shall the Closing Inventory Value be less than $180,000. If the sum of the retail value of any finished goods Inventory made by AmiKa at Buyer's request following the Closing Date (as defined in Section 1.5) plus the Closing Inventory Value (the "INVENTORY SUM") exceeds $180,000, Buyer shall pay to AmiKa by wire transfer (in

accordance with the Wire Transfer Instructions) an amount equal to 35% of the excess of the Inventory Sum over $180,000 within three (3) business days following receipt of such finished goods inventory by Buyer.

1.5. TIME AND PLACE OF CLOSING. The closing of the purchase and sale provided for in this Agreement (herein called the "CLOSING") shall be held at the offices of Goodwin, Procter & Hoar LLP at Exchange Place, Boston, Massachusetts, on July 14, 2000 (the "CLOSING DATE") or at such other place or earlier or later date or time as may be fixed by mutual agreement of Buyer and AmiKa.

1.6. TRANSFER OF SUBJECT ASSETS. At the Closing, AmiKa shall deliver or cause to be delivered to Buyer good and sufficient instruments of transfer transferring to Buyer title to all the Subject Assets. Such instruments of transfer (a) shall be in the form and will contain the warranties, covenants and other provisions (not inconsistent with the provisions hereof) which are usual and customary for transferring the type of property involved under the laws of the jurisdictions applicable to such transfers, (b) shall be in form and substance satisfactory to Buyer and its counsel, and (c) shall effectively vest in Buyer good and marketable title to all the Subject Assets free and clear of all liens, restrictions and encumbrances. The Subject Assets will be packed and shipped by common carrier (both at Buyer's expense) to Buyer's place of business at 84 October Hill Road, Holliston, Massachusetts.

1.7 FURTHER ASSURANCES. AmiKa, at any time on and after the Closing Date, shall execute and deliver such further instruments of transfer and assignment and other documents and take such other actions as may reasonably requested by Buyer in order to transfer to Buyer or its permitted assigns title to and possession of any of the Subject Assets acquired hereunder or otherwise to carry out the purposes of this Agreement.

1.8 NEW TECHNOLOGY LICENSING.

(a) For a period of four (4) years following the Closing Date, Buyer will have the right to be the first party offered (the "RIGHT OF FIRST OFFER") a license to all new technology developed by any of AmiKa or the Shareholder (collectively, the "LICENSING PARTIES") (i) which competes with the technology underlying the Products or (ii) for sample preparation using proteins, peptides, nucleic acids or other biomolecules (whether patented, patent pending, patent applied for or unpatented), for the worldwide, exclusive rights to make, use and sell such technology.

(b) In connection with Buyer's Right of First Offer, the applicable Licensing Party(ies) shall deliver to the Buyer (i) a written notice offering a license to the new technology pursuant to Section 1.8(a) (the "NEW TECHNOLOGY LICENSE") and (ii) a license agreement substantially in the form attached hereto as EXHIBIT 1.8 that will include all terms and conditions of the New Technology License; PROVIDED, that the parties shall, within fifteen (15) business days following the exercise by Buyer of its Right of First Offer hereunder, mutually agree to the level of minimum sales to be used for determining the minimum royalties to be paid under each such license agreement entered into with respect to each New Technology

License ("MINIMUM SALES"). Buyer shall have thirty (30) calendar days in which to exercise its Right of First Offer by providing written notice to the applicable Licensing Party(ies). In the event Buyer does not so exercise its Right of First Offer within such thirty (30) day period, or if Buyer does exercise it Right of First Offer but the parties cannot mutually agree upon the Minimum Sales within the fifteen (15) business day period as described above, Buyer's Right of First Offer with respect only to the particular New Technology License being offered by Seller shall be deemed waived.

(c) In the event Buyer shall not have exercised its Right of First Offer, the applicable Licensing Party(ies) may offer such New Technology License to a third party on the same terms and subject to the same conditions as were offered to Buyer pursuant to Section 1.8(b). If, however, the Licensing Party(ies) offers such New Technology License to a third party on terms or conditions that are more favorable than those offered to the Buyer in connection with its Right of First Offer (a "DIFFERING NEW TECHNOLOGY LICENSE"), prior to entering into the Differing New Technology License with such third party, (i) the applicable Licensing Party(ies) shall notify Buyer in writing of its offer of the Differing New Technology License to such third party and (ii) Buyer shall have the right to accept the Differing New Technology License on the same terms and conditions so offered by the applicable Licensing Party(ies) to such third party (the "RIGHT OF LAST REFUSAL"). Buyer shall have fifteen (15) calendar days in which to exercise its Right of Last Refusal by providing written notice to the applicable Licensing Party(ies). In the event Buyer does not so exercise its Right of Last Refusal within such fifteen (15) day period, Buyer's Right of Last Refusal with respect only to the particular Differing New Technology License being offered by Seller shall be deemed waived. The offer of a New Technology License by a Licensing Party(ies) to a third party in accordance with the terms of this Section 1.8(c) shall be exempt from the provisions of Section 3.4 and 3.5.

1.9 ALLOCATION OF PURCHASE PRICE. Prior to the Closing, Buyer and AmiKa shall agree on the fair market values by class, in accordance with Section 1060 of the Internal Revenue Code of 1986, as amended (the "CODE"), and the Treasury Regulations thereunder, of the Subject Assets and the undertakings set forth in Section 3.4, which such agreement is contained in SCHEDULE 1.9. The fair market provided in SCHEDULE 1.9 shall be used by Buyer and AmiKa for all financial, accounting, regulatory and tax purposes, including, but not limited to, any reporting requirement of the Internal Revenue Service (the "IRS") or any state, local, or foreign taxing authority. Buyer and AmiKa agree to file IRS Forms 8594 that are consistent with the fair market values provided in SCHEDULE 1.9 and in accordance with Section 1060 of the Code and the Treasury Regulations thereunder.

1.10 SALES AND TRANSFER TAXES. All sales and transfer taxes, fees and duties under applicable law incurred in connection with this Agreement will be borne and paid by Buyer.

2. REPRESENTATIONS AND WARRANTIES OF AMIKA.

2.1 MAKING OF REPRESENTATIONS AND WARRANTIES. As a material inducement to Buyer to enter into this Agreement and consummate the transactions contemplated thereby, AmiKa hereby makes to Buyer the representations and warranties contained in this Section 2.

2.2 ORGANIZATION AND QUALIFICATIONS OF AMIKA. AmiKa is a corporation duly organized, validly existing and in good standing under the laws of the State of Maryland with full corporate power and authority to own or lease its properties and to conduct its business in the manner and in the places where such properties are owned or leased or such business is currently conducted or proposed to be conducted. A copy of AmiKa's Articles of Incorporation, as amended to date, certified by the State Department of Assessment and Taxation of Maryland, and by-laws, as amended to date, certified by AmiKa's Secretary, and heretofore delivered to Buyer's counsel, are complete and correct, and no amendments thereto are pending. AmiKa is not in violation of any term of its Articles of Incorporation or by-laws.

2.3 CAPITAL STOCK; SUBSIDIARIES. The Shareholder and Mukta Shukla own, beneficially and of record, all of the issued and outstanding shares of capital stock of AmiKa. AmiKa does not have any subsidiaries.

2.4 AUTHORITY.

(a) Each of AmiKa and Shareholder has full right, authority and power to enter into this Agreement and each agreement, document and instrument to be executed and delivered by AmiKa and Shareholder pursuant to this Agreement and to carry out the transactions contemplated thereby. The execution, delivery and performance by each of AmiKa and Shareholder of this Agreement and each such other agreement, document and instrument have been duly authorized by all necessary action of AmiKa, the Shareholder and the stockholders of AmiKa and no other action on the part of AmiKa, the Shareholder or the stockholders of AmiKa is required in connection therewith.

This Agreement and each agreement, document and instrument executed and delivered by AmiKa and the Shareholder pursuant to this Agreement constitutes, or when executed and delivered will constitute, valid and binding obligations of AmiKa and the Shareholder enforceable in accordance with their terms. The execution, delivery and performance by AmiKa and the Shareholder of this Agreement and each such agreement, document and instrument:

(i) does not and will not violate any provision of the Certificate of Incorporation or by-laws of AmiKa;

(ii) to the knowledge of AmiKa, does not and will not violate any laws of the United States, or any state or other jurisdiction applicable to AmiKa or require AmiKa to obtain any approval, consent or waiver of, or make any filing with, any person or entity (governmental or otherwise) that has not been obtained or made; and

(iii) does not and will not result in a breach of, constitute a default under, accelerate any obligation under, or give rise to a right of termination of any indenture or loan or credit agreement or any other agreement, contract, instrument, mortgage, lien, lease, permit, authorization, order, writ, judgment, injunction, decree, determination or arbitration award to which AmiKa is a party or by which the property of AmiKa is bound or affected, or result in the creation or imposition of any mortgage, pledge, lien, security interest or other charge or encumbrance on any of the Subject Assets, except as specifically identified on SCHEDULE 2.4(A).

2.5 SUBJECT ASSETS; PERSONAL PROPERTY.

(a) AmiKa is the true and lawful owner of the Subject Assets, and has the right to sell and transfer to Buyer good, clear, record and marketable title to such Subject Assets, and, in the case of those Subject Assets which are tangible assets, free and clear of all claims, liabilities, liens, pledges, charges, collateral assignments, preemptive or refusal rights, security interests, encumbrances and equities of any kind (collectively, the "ENCUMBRANCES"). The delivery to Buyer of the instruments of transfer of ownership contemplated by this Agreement will vest good and marketable or merchantable title to such Subject Assets which are tangible assets in Buyer, free and clear of all Encumbrances.

(b) The Subject Assets are and have been sufficient to operate the Business as currently conducted by AmiKa. The Shareholder shall provide such training to Buyer's employees as part of this Agreement as follows: (i) the Shareholder shall make himself available to Buyer at reasonable times for the purpose of providing such training as reasonably requested by Buyer for the period prior to the Closing Date and (ii) the Shareholder shall provide such training at Buyer's request for the four (4) week period following the Closing Date. All lodging and travel of Shareholder in connection with Shareholder's providing such training shall be arranged and provided by Buyer in accordance with Buyer's customary practices, and shall be borne by Buyer, subject to reasonable documentation and substantiation.

(c) Except as set forth on SCHEDULE 2.5, all of the Subject Assets are located at AmiKa's sole place of business at 8980F Route 108, Oakland Center, Columbia, Maryland 21045. A complete description of the machinery, equipment and other tangible personal property of AmiKa relating to, used in or held for use in the Business (collectively, the "PERSONAL PROPERTY"), including, without limitation, all tooling, whether or not owned by AmiKa (the "TOOLING"), and all test, loaner or demonstration inventory (the "EQUIPMENT") is contained in SCHEDULE 2.5. SCHEDULE 2.5 also specifically sets forth the location of all of the loaner or demonstration inventory and the Tooling as well as whether such Tooling is owned by AmiKa and if not so owned, the name of the owner. All of the Personal Property is in working order, has been maintained in accordance with AmiKa's past practices, and, to AmiKa's knowledge, comply with applicable laws, ordinances and regulations.

2.6 FINANCIAL STATEMENTS.

(a) AmiKa has delivered to Buyer the Statement of Profit and Loss for January to April 2000 (dated June 7, 2000), a copy of which is attached hereto as part of SCHEDULE 2.6. Said statement is complete and correct in all material respects, and presents fairly in all material respects the financial condition of AmiKa at the dates of said statement and the results of its operations for the periods covered thereby prepared in accordance with AmiKa's past practices.

(b) AmiKa has delivered to Buyer a copy of their tax returns for the fiscal years 1998 and 1999, copies of which are attached hereto as part of SCHEDULE 2.6.

2.7 INVENTORIES. Except as disclosed in SCHEDULE 2.7, all items in the inventories of AmiKa relating to, used in or held for use in the Business (the "INVENTORY") are of a quality and quantity saleable in the ordinary course of business of AmiKa.

2.8 ORDINARY COURSE. Since January 1, 2000, AmiKa has conducted the Business only in the ordinary course and consistently with its prior practices and, since such date, and, to AmiKa's knowledge, there has been no material adverse change in the financial condition, prospects, properties, assets, liabilities, business or operations of the Business, whether or not in the ordinary course of business.

2.9 INTELLECTUAL PROPERTY.

(a) OWNERSHIP OF INTELLECTUAL PROPERTY ASSETS. AmiKa is the exclusive owner of, and has good, valid and marketable title to all of the Intellectual Property Assets (as defined below) free and clear of all Encumbrances, and has the right to use without payment to a third party all of the Intellectual Property Assets. No claim is pending or, to the knowledge of AmiKa, threatened against AmiKa or its officers, employees, and consultants to the effect that AmiKa's right, title and interest in and to the Intellectual Property Assets is invalid or unenforceable by AmiKa. All former and current employees of AmiKa have executed written instruments with AmiKa that assign to AmiKa all rights to any inventions, improvements, discoveries, or information relating to the Business. No employee of AmiKa has entered into any agreement that restricts or limits in any way the scope or type of work in which the employee may be engaged or requires the employee to transfer, assign, or disclose information concerning his work to anyone other than AmiKa.

(b) PATENTS. SCHEDULE 2.9(B) sets forth a complete and accurate list and summary description of all Patents (as defined below). Except as set forth in SCHEDULE 2.9(B), all of the issued Patents are currently in compliance with legal requirements (including without limitation payment of filing, examination and maintenance fees and proofs of working or use), are, to the knowledge of AmiKa's knowledge, valid and enforceable, and are not subject to any maintenance fees or taxes or actions falling due within ninety (90) days after the date of the Closing except as set forth in SCHEDULE 2.9(B). No Patent has been or is now involved in any interference, reissue, re-examination or opposition proceeding. Except as set forth on SCHEDULE

2.9(B), to the knowledge of AmiKa, there is no potentially interfering patent or patent application of any third party. Payment of all filing, examination and maintenance fees incurred following the Closing shall be the responsibility of Buyer.

(c) TRADEMARKS. SCHEDULE 2.9(C) sets forth a complete and accurate list and summary description of all Marks (as defined below). None of the Marks have been registered with the United States Patent and Trademark Office. Except as set forth on SCHEDULE 2.9(C), no Mark has been or is now involved in any opposition, invalidation or cancellation proceeding and, to the knowledge of AmiKa, no such action is threatened with respect to any of the Marks.

(d) COPYRIGHTS. SCHEDULE 2.9(D) sets forth a complete and accurate list and summary description of all Copyrights (as defined below). None of the Copyrights have been registered with the United States Copyright Office. None of the source or object code, algorithms, or structure included in the Products is copied from, based upon, or derived from any other source or object code, algorithm or structure in violation of the rights of any third party. All copies of works encompassed by the Copyrights have been marked with the proper copyright notice under common law requirements.

(e) TRADE SECRETS. AmiKa has taken reasonable security measures (including entering into the Employment Agreement attached hereto as EXHIBIT 2.9(E) with all employees of AmiKa and any other persons with access to the Trade Secrets (as defined below)) to protect the secrecy, confidentiality and value of all Trade Secrets. To the knowledge of AmiKa, there has not been any breach by any party to any such confidentiality or non-disclosure agreement. To the knowledge of AmiKa, the Trade Secrets have not been disclosed by AmiKa to any person or entity other than employees of AmiKa who had a need to know and use the Trade Secrets in the course of their employment or contract performance. AmiKa has the right to use, free and clear of claims of third parties, all Trade Secrets. To the knowledge of AmiKa, no third party has asserted that the use by AmiKa of any Trade Secret violates the rights of any third party.

(f) OTHER INTANGIBLES. SCHEDULE 2.9(F) sets forth a complete and accurate list of Other Intangibles (as defined below).

(g) EXCLUSIVITY OF RIGHTS. AmiKa has the exclusive right to use, license, distribute, transfer and bring infringement actions with respect to the Intellectual Property Assets. Except as set forth on SCHEDULE 2.9(G), AmiKa (i) has not licensed or granted to anyone rights of any nature to use any of its Intellectual Property Assets; and (ii) is not obligated to and do not pay royalties or other fees to anyone for AmiKa's ownership, use, license or transfer of any of its Intellectual Property Assets.

(h) LICENSES RECEIVED. All licenses or other agreements under which AmiKa is granted rights by others in Intellectual Property Assets are listed in SCHEDULE 2.9(H). All such licenses or other agreements are in full force and effect, to the knowledge of AmiKa, there is no material default by any party thereto, and, all of the rights of AmiKa thereunder are

freely assignable. True and complete copies of all such licenses or other agreements, and any amendments thereto, have been provided to Buyer, and to the knowledge of AmiKa, the licensors under the licenses and other agreements under which AmiKa is granted rights have all requisite power and authority to grant the rights purported to be conferred thereby.

(i) LICENSES GRANTED. All licenses or other agreements under which AmiKa has granted rights to others in Intellectual Property Assets are listed in SCHEDULE 2.9(I). Except as set forth thereon, all such licenses or other agreements are in full force and effect, and to the knowledge of AmiKa, there is no material default by any party thereto. True and complete copies of all such licenses or other agreements, and any amendments thereto, have been provided to Buyer.

(j) AFFIRMATIVE OBLIGATIONS. AmiKa has no obligation to any person to maintain, modify, improve or upgrade the Products.

(k) SUFFICIENCY. The Intellectual Property Assets constitute all of the assets of AmiKa used in designing, creating and developing the Products, and are those necessary for the operation of the Business as currently conducted and planned to be conducted.

(l) INFRINGEMENT. Except as set forth on SCHEDULE 2.9(L), none of the Products manufactured and sold, nor any process or know-how used, by AmiKa infringes or is alleged to infringe any patent, trademark, service mark, trade name, copyright or other proprietary right or is a derivative work based on the work of another person.

(m) PRODUCT PERFORMANCE. The Products perform in accordance with their specifications as set forth in, and subject to the limitation of liability provisions contained in, the AmiKa Catalogue as defined in Section 2.9(o)(ii) below.

(n) NONDISCLOSURE CONTRACTS. Each of the Nondisclosure Contracts is a valid and binding obligation of AmiKa enforceable in accordance with its terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally.

(o) For purposes of this Agreement,

(i) "INTELLECTUAL PROPERTY ASSETS" means:

(A) the Products (as defined in Section 2.9(o)(ii) below);

(B) the patents, patent applications, patent rights, and inventions and discoveries and invention disclosures (whether or not patented) relating to, used or held for use in the Business, with the exception of patent application number 09/591009 relating to the Puretip product (collectively, "PATENTS");

(C) the name "AmiKa Corporation", and the trade names, trade dress, logos, packaging design and slogans enumerated in the AmiKa

Catalogue (as defined below), Internet domain names set forth on SCHEDULE 2.9(O)(I)(C), registered and unregistered trademarks and service marks and applications relating to, used or held for use in the Business (collectively, "MARKS");

(D) the copyrights in both published and unpublished works, including without limitation all compilations, databases and computer programs, and all copyright registrations and applications, and all derivatives, translations, adaptations and combinations of the above relating to, used or held for use in the Business (collectively, "COPYRIGHTS");

(E) the know-how, trade secrets, confidential or proprietary information, research in progress, algorithms, data, designs, processes, formulae, drawings, schematics, blueprints, flow charts, models, prototypes, techniques, Beta testing procedures and Beta testing results relating to, used or held for use in the Business (collectively, "TRADE SECRETS");

(F) the goodwill, franchises, licenses, permits, consents, approvals, technical information, telephone numbers, and claims of infringement against third parties relating to, used or held for use in the Business; and

(G) the customer lists and telephone numbers (except for the telephone number 1 (800) 742-5624), business strategies, outside analyst's plans and reports, outlooks, forecasts and other similar documents relating to, used or held for use in the Business (collectively, "OTHER INTANGIBLES")

(ii) "PRODUCTS" mean those products listed in the AmiKa Catalogue, a copy of which is attached hereto as EXHIBIT 2.9(O)(II) (the "AMIKA CATALOGUE"), and any and all products sold by AmiKa in the twelve (12) months prior to the Closing Date, a complete list of which is provided on SCHEDULE 2.9(O)(II) attached hereto.

(iii) "NONDISCLOSURE CONTRACTS" means all nondisclosure and/or confidentiality agreements entered into between AmiKa and persons in connection with disclosures by AmiKa relating to the Products and the Intellectual Property Assets. A complete list of all Nondisclosure Contracts is provided on SCHEDULE 2.9(O)(III) attached hereto.

2.10 CONTRACTS. Except for contracts, commitments, plans, agreements and licenses listed in SCHEDULE 2.10 (true and complete copies of which have been delivered to Buyer and with respect to which no other arrangements or understandings (whether written or oral) exist that otherwise amend or modify such agreements), AmiKa is not a party to or subject to any of the foregoing that relate to, are used in or are relevant to the Business. Except as set forth in SCHEDULE 2.10, all of the foregoing are freely assignable without the consent of any person or entity and will be assigned to Buyer at Closing. AmiKa is not a party to any contract or

agreement containing confidentiality covenants or covenants limiting the freedom of AmiKa to compete in any line of business or with any person or entity.

2.11 LITIGATION. SCHEDULE 2.11 hereto lists all currently pending litigation and governmental or administrative proceedings or investigations to which AmiKa is a party. Except for matters described in SCHEDULE 2.11, there is no litigation or governmental or administrative proceeding or investigation pending or, to the knowledge of AmiKa, threatened against AmiKa or its affiliates which may have any adverse effect on the properties, assets, prospects, financial condition or business of AmiKa or which would prevent or hinder the consummation of the transactions contemplated by this Agreement. With respect to each matter set forth therein, SCHEDULE 2.11 sets forth a description of the matter, the forum (if any) in which it is being conducted, the parties thereto and the type and amount of relief sought.

2.12 WARRANTY OR OTHER CLAIMS. There are no existing or, to AmiKa's knowledge, threatened product liability, warranty or other similar claims, or any facts upon which a material claim of such nature could be based, against AmiKa for products or services which are defective or fail to meet any product or service warranties, except as disclosed in SCHEDULE 2.12. No claim has been asserted against AmiKa for renegotiation or price redetermination of any business transaction, and there are no facts upon which any such claim could be based.

2.13 PERMITS. SCHEDULE 2.13 lists those permits, registrations, licenses, franchises, certifications and other approvals (collectively, the "APPROVALS") that AmiKa has obtained from federal, state or local authorities. AmiKa is not required to obtain any federal Approval for the operation of the Business as currently conducted.

2.14 INTENTIONALLY OMITTED.

2.15 WARRANTIES. Except as set forth in the AmiKa Catalogue, AmiKa has made no warranties (whether written or oral) with respect to any of its products.

2.16 BACKLOG. As of the date hereof, AmiKa has a backlog of orders for the sale of its products or services in respect of the Business which have been placed in the ordinary course of business, for which revenues have not been recognized by AmiKa, as set forth in SCHEDULE 2.16 (the "BACKLOG"). Buyer hereby agrees to fulfill the orders comprising the Backlog that exist at the Closing, which such orders will be set forth on a statement of existing orders to be provided by AmiKa to Buyer at Closing, so long as such orders have been accepted by AmiKa on normal business terms. Consistent with past practice of the Business and so long as no payments or deposits have been received by AmiKa with respect to such orders as of the Closing, Buyer will fulfill such orders consistent with Buyer's past practices.

2.17 CUSTOMERS, DISTRIBUTORS AND SUPPLIERS. The relationships of AmiKa with its customers, distributors and suppliers relating to the Business are good commercial working relationships. No such customer, distributor or supplier has canceled, materially modified, or otherwise terminated its relationship with AmiKa, nor, to the knowledge of AmiKa, does any such customer, distributor or supplier have any plan or intention to do any of the foregoing.

2.18 DISCLOSURE. The representations, warranties and statements contained in this Agreement and in the certificates, exhibits and schedules delivered by AmiKa pursuant to this Agreement to Buyer do not contain any untrue statement of a material fact, and, when taken together, do not omit to state a material fact required to be stated therein or necessary in order to make such representations, warranties or statements not misleading in light of the circumstances under which they were made. There are no facts known to AmiKa which presently have a material adverse affect on the business, properties, prospects, operations or condition of AmiKa which have not been specifically disclosed herein or in a Schedule furnished herewith, other than general economic, industry and political conditions affecting the industries in which AmiKa operates.

3. COVENANTS OF AMIKA.

3.1 MAKING OF COVENANTS AND AGREEMENTS. AmiKa hereby makes the covenants and agreements set forth in this Section 3.

3.2. CONSUMMATION OF AGREEMENT. AmiKa shall use its best efforts to perform and fulfill all conditions and obligations on their parts to be performed and fulfilled under this Agreement, to the end that the transactions contemplated by this Agreement shall be fully carried out. To this end, AmiKa will promptly in connection with or following the Closing take all appropriate actions to:

(a) Transfer the Subject Assets to Buyer; and

(b) Cooperate with Buyer to notify all customers and prospects of the consummation of the transaction contemplated by this Agreement in a mutually agreeable fashion.

3.3. CHANGE IN CORPORATE NAME. AmiKa shall take all action necessary to effect a change in its corporate name from "AmiKa Corporation" to a name not utilizing the word "AmiKa", or a similar name, such change to be effective no later than five (5) calendar days after the Closing.

3.4. NON-COMPETITION. As a material inducement to Buyer to enter into this Agreement and consummate the transactions contemplated hereby, AmiKa and the Shareholder (each, a "NON-COMPETE PARTY") each agree that he or it will not, for a period of four (4) years following the Closing Date without the prior written consent of Buyer, directly or indirectly, engage or participate in, be employed by or assist in any manner or in any capacity, or have any interest in or make any loan to any person, firm, corporation or business which engages in any activity which directly competes with the Business or the Subject Assets so long as Buyer or any of Buyer's subsidiaries (or its or their successor, if any) shall engage in such activity; PROVIDED, HOWEVER, the foregoing shall not prevent a Non-Compete Party from owning beneficially or of record up to one percent (1%) of the outstanding securities of a publicly-held corporation which engages in such competitive activities. Notwithstanding the foregoing, a Licensing Party(ies) shall not be in violation of this Section 3.4 in the event Buyer waives or is

deemed to have waived its Right of First Offer pursuant to Section 1.8(a) and such Licensing Party(ies) offers the relevant New Technology License to a third party pursuant to Section 1.8(c).

3.5. CONFIDENTIALITY. AmiKa and the Shareholder each agree that, for a period of four (4) years following the Closing Date, they, and each of their respective officers and directors will hold in strict confidence, and will not distribute or make available, any confidential or proprietary data or information of AmiKa that is used in connection with or related to the Business (the "CONFIDENTIAL INFORMATION"). Each such party's obligations under this Agreement with respect to any portion of the Confidential Information shall terminate when such party can document that: (a) such Confidential Information was public knowledge at the time it was communicated to the party; (b) such Confidential Information entered the public domain subsequent to the time it was communicated to the party through no fault of the party; (c) it was in the party's possession free of any obligation of confidence at the time it was communicated to the party; (d) it was rightfully communicated to the party free of any obligation of confidence subsequent to the time it was communicated to the party; or (e) it was developed by employees or agents of the party who had no access to any information communicated to the party. Notwithstanding the foregoing, a Licensing Party(ies) shall not be in violation of this Section 3.5 in the event Buyer waives or is deemed to have waived its Right of First Offer pursuant to Section 1.8(a) and such Licensing Party(ies) offers the relevant New Technology License to a third party pursuant to Section 1.8(c).

3.6. ORDERS AND INQUIRIES. From and after the Closing, AmiKa shall forward any and all orders and inquiries relating to the Business to Buyer immediately upon receipt.

3.7. CERTAIN REMEDIES. It is specifically understood and agreed that any breach of this Section 3 by any of the parties hereto will result in irreparable injury to Buyer that the remedy at law alone will be an inadequate remedy for such breach and that, in addition to any other remedy for such breach and any other remedy it may have, Buyer shall be entitled to enforce the specific performance of the agreements contained in this Section 3 by AmiKa and to seek both temporary and permanent injunctive relief as well as other equitable remedies, without the necessity of proving actual damages, but without limitation of their rights to recover damages.

3.8 ASSIGNMENT OF DISTRIBUTION ARRANGEMENT. Immediately following Closing, AmiKa shall use commercially reasonable efforts to obtain the consent of Dianorm GmbH ("DIANORM") to the assignment of the distribution arrangement between AmiKa and Dianorm evidenced by the Certificate of Dianorm dated July 5, 2000, a copy of which is attached EXHIBIT 3.8. Upon receipt of such consent, AmiKa shall execute an assignment to Buyer of such distribution arrangement in a form reasonably acceptable to Buyer. AmiKa or Shareholder shall not be liable to Buyer if, after using its commercially reasonable efforts to do so, AmiKA fails to obtain such consent of Dianorm.

3.9 DELIVERY OF ORIGINAL ASSIGNMENT AGREEMENTS. AmiKa shall cause to be sent to Buyer, no later than the first (1st) business day following the conclusion of the Closing, via

overnight courier the originally executed assignments referred to below in Section 4.1(b) and Section 4.1(c).

4. CONDITIONS.

4.1 CONDITIONS TO THE OBLIGATIONS OF BUYER. The obligation of Buyer to consummate this Agreement and the transactions contemplated hereby is subject to the fulfillment, prior to or at the Closing, of the following conditions precedent:

(a) CERTIFICATE(S). AmiKa shall have delivered to Buyer such supporting documents and certificates as Buyer may reasonably request and as may be required pursuant to this Agreement.

(b) ASSIGNMENT OF PATENTS TO AMIKA. All of the rights and interests in the Patents shall have been sold, transferred and assigned by the appropriate parties to AmiKa prior to the conclusion of the Closing and a copy of such executed assignments shall have been delivered to Buyer.

(c) ASSIGNMENT OF PATENTS AGREEMENT. AmiKa shall have entered into an Assignment of Patents Agreement with Buyer substantially in the form attached hereto as EXHIBIT 4.1(C).

(d) PURETIP LICENSE AGREEMENT. AmiKa shall have entered into a License Agreement with Buyer substantially in the form attached hereto as EXHIBIT 4.1(D).

(e) ARTICLES OF SALE AND TRANSFER. Buyer shall have properly filed with the State Department of Assessments and Taxation of Maryland the Articles of Sale and Transfer substantially in the form attached hereto as EXHIBIT 4.1(E).

(f) SUPROTIP RECIPE. AmiKa shall have delivered to Buyer the complete recipe (including, without limitation, detailing all materials, compounds and processes) for the production of Suprotip.

(g) OPINION OF SELLER'S COUNSEL. On the Closing Date, Buyer shall have received from Blum, Yumkas, Mailman, Gutman & Denick, P.A., counsel to Seller, an opinion as of said date, in substantially the form attached hereto as EXHIBIT 4.1(G).

(h) SIDE LETTER AGREEMENT. AmiKa shall have delivered to Buyer an executed Side Letter Agreement in the form attached hereto as EXHIBIT 4.1(H).

5. RIGHTS AND OBLIGATIONS SUBSEQUENT TO CLOSING.

5.1 SURVIVAL OF WARRANTIES. Each of the representations, warranties, agreements, covenants and obligations herein, or any other agreement entered into in connection herewith or therewith or in any schedule, exhibit, certificate or financial statement delivered by any

party to the other party incident to the transactions contemplated hereby and thereby are material, shall be deemed to have been relied upon by the other party and shall survive the Closing, regardless of any investigation or knowledge acquired on the part of Buyer or its affiliates and shall not merge in the performance of any obligation by either party hereto.

6. INDEMNIFICATION.

6.1 INDEMNIFICATION BY AMIKA. AmiKa hereby agrees subsequent to the Closing to indemnify and hold Buyer and its respective subsidiaries and affiliates and persons serving as officers, directors, partners or employees thereof (individually a "BUYER INDEMNIFIED PARTY" and collectively, the "BUYER INDEMNIFIED PARTIES") harmless from and against any damages, liabilities, diminution in value, losses, taxes, fines, penalties, costs, and expenses (including, without limitation, reasonable fees of counsel) of any kind or nature whatsoever (whether or not arising out of third-party claims and including all amounts paid in investigation, defense or settlement of the foregoing) (collectively, "DAMAGES") which may be sustained or suffered by any of them arising out of, attributable to or based upon any of the following matters:

(a) fraud, intentional misrepresentation or a deliberate or willful breach by AmiKa of any of its representations, warranties or covenants under Sections 2.9(a) (only as it relates to the Patents), 2.9(b) (only as it relates to the Patents), 2.9(g) (only as it relates to the Patents) and 2.9(l) (only as it relates to the Patents) of this Agreement or any schedule or exhibit delivered pursuant thereto;

(b) fraud, intentional misrepresentation or a deliberate or willful breach by AmiKa of any of its representations, warranties or covenants under this Agreement or any other agreement entered into in connection herewith or in any certificate, schedule or exhibit delivered pursuant hereto or thereto, other than as set forth in Section 6.1(a) above;

(c) any other breach of any representation or warranty, covenant or agreement of AmiKa under this Agreement or any other agreement entered into in connection herewith or therewith or in any certificate, schedule or exhibit delivered pursuant hereto or thereto, or by reason of any claim, action or proceeding asserted or instituted growing out of any matter or thing constituting a breach of such representations or warranties, covenants or agreements;

(d) any liability of AmiKa (whether arising before or after the Closing Date) relating to any product liability matter of any kind or nature whatsoever, known or unknown, asserted or unassented, that arises in connection with or on the basis of events, acts, omissions, conditions, or any other state of facts occurring or existing prior to or on the Closing Date;

(e) any liability of AmiKa relating to federal, state, local, foreign or other taxes; and

(f) all claims asserted under any Bulk Sales Law.

6.2 LIMITATIONS ON INDEMNIFICATION BY AMIKA.

(a) Notwithstanding anything contained in Section 6.1 to the contrary, AmiKa's obligations to indemnify Buyer Indemnified Parties with respect to any indemnification claims asserted pursuant to Section 6.1(a) shall be limited in the aggregate to $3,000,000.

(b) Notwithstanding anything contained in Section 6.1 to the contrary, no indemnification shall be payable to a Buyer Indemnified Party with respect to any indemnification claims asserted pursuant to Section 6.1(b) - (g) after the first anniversary of the Closing Date (the "INDEMNIFICATION CUT-OFF DATE"), except in respect of matters which have been the subject of a bona fide written indemnification claim which is made before the Indemnification Cut-Off Date by or on behalf of a Buyer Indemnified Party to AmiKa. Furthermore, AmiKa's obligations to indemnify Buyer Indemnified Parties with respect to any indemnification claims asserted pursuant to Section 6.1(b) - (g) shall be limited in the aggregate to $200,000.

6.3 NOTICE; DEFENSE OF CLAIMS. An indemnified party may make claims for indemnification hereunder by giving written notice thereof to the indemnifying party. If indemnification is sought for a claim or liability asserted by a third party, the indemnified party shall also give written notice thereof to the indemnifying party promptly after it receives notice of the claim or liability being asserted, but the failure to do so shall not relieve the indemnifying party from any liability except to the extent that it is prejudiced by the failure or delay in giving such notice. Such notice shall summarize the bases for the claim for indemnification and any claim or liability being asserted by a third party. Within twenty (20) days after receiving such notice the indemnifying party shall give written notice to the indemnified party stating whether it disputes the claim for indemnification and whether it will defend against any third party claim or liability at its own cost and expense. If the indemnifying party fails to give notice that it disputes an indemnification claim within twenty (20) days after receipt of notice thereof, it shall be deemed to have accepted and agreed to the claim, which shall become immediately due and payable. If the indemnifying party shall dispute a non-third party indemnification claim and the disputed indemnification claim has not been resolved or compromised within thirty (30) days after the indemnifying party sends notice of such dispute as provided above, such indemnification claim shall be referred to J.A.M.S./Endispute, Inc. to be settled by binding arbitration in Washington, D.C. as provided in Section 7.5 of hereof. The indemnifying party shall be entitled to direct the defense against a third party claim or liability with counsel selected by it (subject to the consent of the indemnified party, which consent shall not be unreasonably withheld) as long as the indemnifying party is conducting a good faith and diligent defense. The indemnifying party shall not, in the defense of such a third party claim or any litigation resulting therefrom, consent to entry of any judgment (other than a judgment of dismissal on the merits without costs) without the prior written consent of the indemnified party (which consent shall not be unreasonably withheld or delayed) or enter into any settlement or compromise without the prior written consent of the indemnified party (which consent shall not be unreasonably withheld or delayed) which does not include as an unconditional term thereof the giving by the

claimant or the plaintiff to the indemnified party a full release from all liability in respect of such claim or litigation. The indemnified party shall at all times have the right to fully participate in the defense of a third party claim or liability at its own expense directly or through counsel; PROVIDED, HOWEVER, that if the named parties to the action or proceeding include both the indemnifying party and the indemnified party and the indemnified party is advised that 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. If no such notice of intent to dispute and defend a third party claim or liability is given by the indemnifying party, or if such 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.

6.4 SATISFACTION OF AMIKA'S INDEMNIFICATION OBLIGATIONS. In order to satisfy the indemnification obligations of AmiKa pursuant to this Section 6, a Buyer Indemnified Party shall have the right in its sole discretion (in addition to proceeding directly against AmiKa and any of its assets and enforcing any and all other rights and remedies it may have) to proceed directly against the Indemnification Escrow Amount as further set forth in the Escrow Agreement.

6.5 MILLIPORE LIABILITY. Notwithstanding anything contained herein to the contrary, AmiKa and Shareholder shall not be liable to Buyer for any Damages arising out of, attributable to or based upon any infringement claims made by Millipore, Inc. relating to the manufacture and sale by Buyer of any of the Products following the Closing.

7. MISCELLANEOUS.

7.1 BULK SALES LAW. Buyer waives compliance by AmiKa with the provisions of any applicable bulk sales, fraudulent conveyance or other law for the protection of creditors (collectively, the "BULK SALES LAWS") in connection with the transfer of the Subject Assets under this Agreement.

7.2 GOVERNING LAW. This Agreement shall be construed under and governed by the internal laws of The State of Maryland without regard to its conflict of laws provisions.

7.3 ENTIRE AGREEMENT. This Agreement, including the Schedules and Exhibits referred to herein and other agreements entered into in connection herewith and the other writings specifically identified herein or contemplated hereby, is complete, reflects the entire agreement of the parties with respect to its subject matter, and supersedes all previous written

or oral negotiations, commitments and writings, including without limitation the Original Letter Agreement.

7.4 ARBITRATION. The parties agree that, except for any matter where the remedy sought involves an equitable remedy, specific performance or injunctive relief, any controversy or dispute arising under this Agreement, including, without limitation, for indemnification under Section 6 hereof, shall be referred to J.A.M.S./Endispute, Inc., to be settled by binding arbitration in Washington, D.C. in accordance with the arbitration rules of such entity. The fees and expenses of the arbitrator shall, as between AmiKa, on the one hand, and Buyer, on the other hand, be borne by them in such proportions as shall be determined by the arbitrator, or if there is no such determination, then such fees and expenses shall be borne equally by AmiKa, on the one hand, and Buyer, on the other hand. The determination of the arbitrator as to any controversy or dispute shall be conclusive and binding upon the parties hereto and judgment may be entered thereon in any court having jurisdiction thereof.

7.5 CONSENT TO JURISDICTION. Solely for the purpose of allowing a party to enforce its indemnification and other rights hereunder, each of the parties hereby consents to personal jurisdiction, service of process and venue in the federal or state courts in which such rights are sought to be enforced.

7.6 FEES AND EXPENSES. Except as otherwise provided in this Agreement, the costs and expenses of each party will be borne by each party. Any payment owed to Abacus Group or any other broker engaged by AmiKa shall be the sole responsibility of AmiKa.

7.7 SEVERABILITY. In the event that one or more of the provisions contained in the Agreement, or the application thereof in any circumstances, is held invalid, illegal or unenforceable in any respect for any reason, the validity, legality and enforceability of any such provision in every other respect and of the remaining provisions contained in this Agreement shall not be in any way impaired thereby, it being intended that all of the rights and privileges of the parties hereto shall be enforceable to the fullest extent possible by law.

7.8 NOTICES. All notices under this Agreement shall be transmitted to the respective parties, shall be in writing and shall be considered to have been duly given or served when personally delivered to any individual party, or on the first (1st) business day after the date of deposit with an overnight courier for next day delivery, postage paid, or on the third (3rd) business day after deposit in the United States Mail, certified or registered, return receipt requested, postage prepaid, or on the date of telecopy, fax or similar telephonic transmission during normal business hours, as evidenced by mechanical confirmation of such telecopy, fax or telephonic transmission; addressed in all cases to the party at his or its address set forth below, or to such other address as such party may hereafter designate:

If to the Buyer:

Harvard Apparatus, Inc.
84 October Hill Road
Holliston, MA 01746
Attn: David Green, President
Fax: (508) 429-5732

with a copy to:

Goodwin, Procter & Hoar LLP
Exchange Place
Boston, MA 02109
Attn: H. David Henken, Esq.
Fax: (617) 523-1231

If to the Seller:

AmiKa Corporation
8980F Route 108
Oakland Center
Columbia, MD 21045
Attn: Ashok Shukla, Ph.D.
Fax: (410) 997-6962

with a copy to:

Blum, Yumkas, Mailman, Gutman & Denick, P.A.
1200 Mercantile Bank & Trust Building
2 Hopkins Plaza
Baltimore, MD 21201
Attn: Bernard S. Denick, Esq.
Fax: (410) 385-4070

7.9 ASSIGNABILITY; EFFECT. This Agreement shall be binding upon and enforceable by, and shall inure to the benefit of, the parties hereto and their respective heirs, successors and permitted assigns. This Agreement may not be assigned by a party without the prior written consent of the other parties hereto; PROVIDED, HOWEVER, that Buyer shall be entitled to assign its rights and obligations hereunder after payment of the Purchase Price to Seller, without obtaining the prior written consent of the other parties hereto, to any successor in interest in the event of a merger, a sale of all or substantially all of its assets or a sale of a majority of its capital stock.

[SIGNATURE PAGES FOLLOW]

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed as of the date set forth above by their duly authorized representatives.

BUYER:

HARVARD APPARATUS, INC.

By: /s/ David Green

Name: David Green
Title: President

AMIKA:

AMIKA CORPORATION

By: /s/ Ashok Shukla

Name: Ashok Shukla, Ph.D.
Title: President

The undersigned hereby agrees to be bound by the provisions of Section 1.8, Section 2.5(b)(i) and (ii), Section 3.4 and Section 3.5 hereto.

SHAREHOLDER:

/s/ Ashok Shukla

Ashok Shukla, Ph.D.,
in his personal capacity

Exhibit 4.2

AMENDED AND RESTATED SECURITYHOLDERS' AGREEMENT

By and Among

HARVARD APPARATUS, INC.
(the "Company")

PIONEER VENTURES LIMITED PARTNERSHIP,
PIONEER VENTURES LIMITED PARTNERSHIP II,
PIONEER CAPITAL CORP.,
FIRST NEW ENGLAND CAPITAL, L.P. and
CITIZENS CAPITAL, INC.
(collectively, the "Outside Investors"),
and
Chane Graziano
and
David Green
(collectively, the "Management Investors")

Dated as of March 2, 1999

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AMENDED AND RESTATED
SECURITYHOLDERS' AGREEMENT

This Amended and Restated Securityholders' Agreement is made as of March 2, 1999, by and among Harvard Apparatus, Inc., a Massachusetts corporation (the "Company"), Chane Graziano ("Graziano") and David Green ("Green") (collectively, the "Management Investors," except such term shall not include Graziano in his capacity as an Outside Investor) and Pioneer Ventures Limited Partnership, Pioneer Ventures Limited Partnership II, Pioneer Capital Corp., First New England Capital, L.P., Citizens Capital, Inc. and Graziano, but only to the extent of and with respect to the securities purchased by Graziano on March 15, 1996 pursuant to the Initial Investment Agreement (as defined below) and not in his capacity as a Management Investor (collectively, the "Outside Investors" and, together with the Management Investors, the "Investors" and each individually, an "Investor").

W I T N E S S E T H:

WHEREAS, reference is made to the Investment and Stockholders' Agreement dated as of March 15, 1996 by and among the Company and certain of the Investors (the "Initial Investment Agreement"), pursuant to which certain of the Investors purchased shares of Common Stock, the Warrants, shares of Series A Preferred Stock and other securities of the Company, and the parties thereto set forth the terms of such investment and certain other matters.

WHEREAS, concurrently herewith, the Company is selling, and certain of the Outside Investors are purchasing, shares of Series B Preferred Stock of the Company pursuant to the terms of that certain Securities Purchase Agreement of even date herewith (the "Securities Purchase Agreement").

WHEREAS, in connection with such sale and purchase of the Series B Preferred Stock, the parties to the Initial Investment Agreement wish to amend and restate their agreement with respect to the Company, the Series A Preferred Stock, the Warrants and the Subordinated Debentures and provide for the issuance of the Series B Preferred Stock so as to set forth their agreement with respect to all of their shares of capital stock of the Company.

NOW THEREFORE, in consideration of the foregoing and the mutual covenants and agreements hereinafter set forth, the parties hereto agree as follows:

ARTICLE I DEFINITIONS

SECTION 1.1 CONSTRUCTION OF TERMS. As used herein, the masculine, feminine or neuter gender, and the singular or plural number, shall be deemed to be or to include the other genders or number, as the case may be, whenever the context so indicates or requires.

SECTION 1.2 DEFINED TERMS. Capitalized terms used but not defined herein have the meanings ascribed thereto in the Securities Purchase Agreement. The following capitalized terms, as used in this Agreement, shall have the meanings set forth below.

An "Affiliate" of any Person means a Person that directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with the first mentioned Person. A Person shall be deemed to control another Person if such first Person possesses directly or indirectly the power to direct, or cause the direction of, the management and policies of the second Person, whether through the ownership of voting securities, by contract or otherwise.

"Articles of Organization" means the Amended and Restated Articles of Organization of the Company in substantially the form attached as EXHIBIT A to the Securities Purchase Agreement.

"Bank Documents" shall mean the Amended and Restated Loan and Security Agreement by and among the Company, as borrower, and Brown Brothers Harriman & Co. as agent; and the lending institutions from time to time parties thereto and the other documentation in connection with a loan to the Company in the aggregate amount of $5,850,000, as the same may be amended from time to time.

"Buyer" has the meaning set forth in Section 5.4.

"Commission" means the Securities and Exchange Commission.

"Common Stock" means the Common Stock, par value $0.01 per share, of the Company issued in accordance with and subject to the terms of the Articles of Organization, and any other common equity securities now or hereafter issued by the Company (but not including the Preferred Stock), together with any other shares of stock issued or issuable with respect thereto (whether by way of a stock dividend, stock split or in exchange for or upon conversion of such shares or otherwise in connection with a combination of shares, recapitalization, merger, consolidation or other corporate reorganization).

"Company" means Harvard Apparatus, Inc., a Massachusetts corporation, and its successors and assigns, whether by way of merger, consolidation or otherwise.

"Compliance Certificate" has the meaning set forth in Section 8.5(a).

"Controlling Person" has the meaning set forth in Section 4.7.

"Co-Sale Option" has the meaning set forth in Section 5.3.

"Exchange Act" means the Securities Exchange Act of 1934, as amended from time to time, and the rules and regulations promulgated thereunder.

"Graziano" has the meaning set forth in the preamble to this Agreement.

"Green" has the meaning set forth in the preamble to this Agreement.

"Holder" has the meaning set forth in Section 4.1.

"Initial Investment Agreement" has the meaning set forth in the preamble to this Agreement.

"Investors" has the meaning set forth in the preamble to this Agreement.

"Management Investors" has the meaning set forth in the preamble to this Agreement except such term shall not include Graziano in his capacity as an Outside Investor.

"Management Investor Shares" means the shares of Common Stock owned by the Management Investors from time to time, together with (i) those securities purchased by Graziano pursuant to Sections 2.1, 2.2, 2.5. 2.6, 2.7 and 2.8 of the Initial Investment Agreement and (ii) any other shares of Common Stock or other securities of the Company from time to time held by the Management Investors.

"New Stock" has the meaning set forth in Section 6.3.

"New Stock Offer" has the meaning set forth in Section 6.2.

"Offeror" has the meaning set forth in Section 5.2.

"Offer Notice" has the meaning set forth in Section 5.2.

"Outside Investor" has the meaning set forth in the preamble to this Agreement, except such term shall include Graziano only to the extent of and with respect to the securities purchased by him pursuant to the Initial Investment Agreement and not in his capacity as a Management Investor.

"Outside Investor Shares" means the shares of Preferred Stock and the shares of Common Stock to be received by the Outside Investors upon exercise of the Warrants or conversion of the Series B Preferred Stock, together with any other shares of Common Stock, Preferred Stock and other securities of the Company held by the Outside Investors from time to time.

"Percentage Ownership" has the meaning set forth in Section 6.3.

"Permitted Transfer" has the meaning set forth in Section 5.1.

"Permitted Transferee" means, with respect to the Outside Investors, any Transferee thereof, and, with respect to either Management Investor, has the meaning set forth in Section 5.1.

"Person" means an individual, a corporation, an association, a partnership, a limited liability company, an estate, a trust, and any other entity or organization, governmental or otherwise.

"Preferred Stock" means, collectively, the Series A Preferred Stock and the Series B Preferred Stock.

"Pro Rata Share" has the meaning set forth in Section 5.2.

"Registrable Securities" shall have the meaning set forth in Section 4.5.

"Required Outside Investors" means a majority-in-interest of the Outside Investors, based upon holdings of Common Stock and assuming the exercise of all outstanding Warrants and conversion of all outstanding shares of Series B Preferred Stock (but excluding any securities purchased or acquired by Graziano other than pursuant to the Initial Investment Agreement).

"Right of First Refusal" has the meaning set forth in Section 5.2.

"Sale" has the meaning set forth in Section 5.4.

"Securities Act" means the Securities Act of 1933, as amended from time to time, and the rules and regulations promulgated thereunder.

"Securities Purchase Agreement" means the Securities Purchase Agreement of even date herewith by and among the Company and certain of the Investors.

"Selling Holder" has the meaning set forth in Section 4.7.

"Series A Preferred Stock" means the Series A Redeemable Preferred Stock of the Company, par value $0.01 per share, purchased by certain of the Investors pursuant to the Initial Investment Agreement, with the terms set forth in the Articles of Organization, together with any other shares issued or issuable with respect thereto (whether by way of a stock dividend, stock split or in exchange for or in replacement or upon conversion of such shares or otherwise in connection with a combination of shares, recapitalization, merger, consolidation or other corporate reorganization).

"Series B Preferred Stock" means the Series B Convertible Preferred Stock of the Company, par value $0.01 per share, purchased by certain of the Investors pursuant to the Securities Purchase Agreement, with the terms set forth in the Articles of Organization, together with any other shares issued or issuable with respect thereto (whether by way of a

stock dividend, stock split or in exchange for or in replacement or upon conversion of such shares or otherwise in connection with a combination of shares, recapitalization, merger, consolidation or other corporate reorganization).

"Stock" means collectively, Preferred Stock and Common Stock, Common Stock issued or to be issued upon conversion of convertible securities or exercise of warrants or options, regardless of whether or not the convertible securities are converted or the warrants or options are exercised, and other equity securities of the Company.

"Subordinated Debentures" means the Subordinated Debentures purchased by certain of the Investors pursuant to Section 2.7 of the Initial Investment Agreement.

"Transaction Offer" has the meaning set forth in Section 5.2.

"Transfer" means any direct or indirect offer, transfer, donation, sale, assignment, pledge, hypothecation, grant of a security interest in, conveyance of a beneficial ownership or other right in, or other disposal or attempted disposal of all or any portion of a security or of any rights. "Transferred" means the accomplishment of a Transfer, and "Transferee" means the recipient of a Transfer.

"Transferring Investor" has the meaning set forth in Section 5.2.

"Warrants" means the warrants to purchase shares of Common Stock purchased by certain of the Outside Investors and Graziano pursuant to the Initial Investment Agreement.

ARTICLE II TERMINATION, AMENDMENT AND RESTATEMENT; WAIVER AND CONSENT

SECTION 2.1 TERMINATION, AMENDMENT AND RESTATEMENT OF INITIAL INVESTMENT AGREEMENT. In accordance with Section 12.5 of the Initial Investment Agreement, by execution of this Agreement, the parties hereto hereby amend and restate the Initial Investment Agreement in its entirety and replace such Agreement with this Agreement, intending to be bound in accordance with the terms hereof. The provisions of this Agreement shall replace and be in substitution for the Initial Investment Agreement. To the extent that any other agreement or document that was executed or delivered in connection with the Initial Investment Agreement referred to or incorporated by reference the Initial Investment Agreement, such agreements and documents shall be deemed to be modified to the extent necessary to refer to or incorporate by reference the provisions set forth in this Agreement.

SECTION 2.2 WAIVER OF RIGHTS; CONSENT. In connection with the purchase and sale of the Series B Preferred Stock on the date hereof pursuant to the Securities Purchase Agreement, the purchase of certain assets of Pharmacia Biotech (Biochrom) Limited pursuant to the Asset Purchase Agreement and the borrowings incurred in connection therewith under the Bank Documents, each of the Investors hereby grants its consent to and waives any and all rights

that such Investor may have on the date hereof under the Initial Investment Agreement, as amended and restated by this Agreement, as a result of such transactions. Without limitation of the foregoing, each Outside Investor who is a party to the Initial Investment Agreement hereby waives any right to purchase additional securities pursuant to Article VIII thereof as a result of the sale by the Company of the Series B Preferred Stock pursuant to the Securities Purchase Agreement, and each Investor hereby grants its consent under Article X of the Initial Investment Agreement and Article VIII of this Agreement to the execution, delivery and performance by the Company of this Agreement, the Securities Purchase Agreement, the Asset Purchase Agreement, the Bank Documents and each other agreement, document or instrument contemplated hereby and thereby.

SECTION 2.3 WAIVER AND AMENDMENT OF WARRANTS. The parties hereto, in their capacity as holders of all of the issued and outstanding Warrants, hereby amend the terms of the Warrants as follows: (i) the defined term "Repurchase Price" as used in Section 2(a) of the Warrants, is amended to refer to the "Series A Redemption Price" as defined in the Articles of Organization and (ii) the parties hereby agree that it shall not be a breach of, or an event of default under, the Warrants or any promissory note issued pursuant to Section 3 thereof if the Company does not repurchase, redeem or otherwise make any payment in respect of the Warrants or such notes in accordance with the terms thereof as a result of (i) any prohibition thereof set forth herein or in the Articles of Organization or (ii) any failure to grant consent thereto by the holders of the Series A Preferred Stock and/or the Series B Preferred Stock.

ARTICLE III REPRESENTATIONS AND WARRANTIES

SECTION 3.1 REPRESENTATIONS AND WARRANTIES OF THE INVESTORS. Each of the Investors, individually as to itself, severally and not jointly, hereby represents, warrants and covenants to the Company as follows: (a) such Investor has full authority, power and capacity, under its charter, by-laws, governing partnership agreement or comparable constituent organizational documents (if such Investor is a legal entity) to enter into this Agreement; (b) this Agreement constitutes the valid and binding obligation of such Investor; and (c) the execution, delivery and performance by such Investor of this Agreement: (i) does not and will not violate any laws, rules or regulations of the United States or any state or other jurisdiction applicable to such Investor, or require such Investor to obtain any approval, consent or waiver of, or to make any filing with, any Person that has not been obtained or made; and (ii) does not and will not result in a breach of, constitute a default under, accelerate any obligation under or give rise to a right of termination of any indenture or loan or credit agreement or any other agreement, contract, instrument, mortgage, lien, lease, permit, authorization, order, writ, judgment, injunction, decree, determination or arbitration award to which such Investor is a party or by which the property of such Investor is bound or affected, or result in the creation or imposition of any mortgage, pledge, lien, security interest or other charge or encumbrance on any of the assets or properties of such Investor.

SECTION 3.2 REPRESENTATIONS AND WARRANTIES OF THE COMPANY. The Company hereby represents, warrants and covenants to the Investors as follows: (a) the Company has full

corporate authority, power and capacity under its Articles of Organization and Bylaws to enter into this Agreement; (b) this Agreement constitutes the valid and binding obligation of the Company enforceable against it in accordance with its terms; and (c) the execution, delivery and performance by the Company of this Agreement: (i) does not and will not violate any laws, rules or regulations of the United States or any state or other jurisdiction applicable to the Company, or require the Company to obtain any approval, consent or waiver of, or to make any filing with, any Person that has not been obtained or made; and (ii) does not and will not result in a breach of, constitute a default under, accelerate any obligation under or give rise to a right of termination of any indenture or loan or credit agreement or any other agreement, contract, instrument, mortgage, lien, lease, permit, authorization, order, writ, judgment, injunction, decree, determination or arbitration award to which the Company is a party or by which the property of the Company is bound or affected, or result in the creation or imposition of any mortgage, pledge, lien, security interest or other charge or encumbrance on any of the assets or properties of the Company.

ARTICLE IV REGISTRATION RIGHTS

SECTION 4.1 "PIGGY-BACK" REGISTRATION RIGHTS. If at any time or times after the Closing Date, the Company shall determine or be required to register any shares of its Common Stock for sale under the Securities Act (whether in connection with a public offering of securities by the Company (a "primary offering"), a public offering of securities by stockholders of the Company (a "secondary offering"), or both, but not in connection with a registration effected solely to implement an employee benefit plan or a transaction to which Rule 145 or any other similar rule of the Commission under the Securities Act is applicable), the Company will promptly give written notice thereof to the Investors and any other Person to whom the Company has granted "piggy-back" registration rights with respect to the Common Stock (including Common Stock issued or issuable upon exercise of any Warrants or conversion of any shares of Series B Preferred Stock) (referred to for purposes of this Article IV collectively as the "Holders" and individually as a "Holder," subject to Section 4.10 below). If within 30 days after the delivery of such notice by the Company, one or more Holders of Registrable Securities (as hereinafter defined) requests in a writing delivered to the Company the inclusion of some or all of the Registrable Securities (but not any other securities) held by them in such registration, the Company will use its best efforts to effect the registration under the Securities Act of all such Registrable Securities. In the case of the registration of shares of Common Stock by the Company in connection with an underwritten public offering, (i) the Company shall not be required to include any Registrable Securities in such underwriting unless the Holders thereof accept the terms of the underwriting as agreed upon between the Company and the underwriter or underwriters selected by it (provided the same is not inconsistent with the terms of this Agreement), and (ii) if the underwriter(s) determines that marketing factors require a limitation on the number of Registrable Securities to be offered, the Company shall not be required to register Registrable Securities of the Holders in excess of the amount, if any, of shares of the capital stock which the principal underwriter of such underwritten offering shall reasonably and in good faith agree to include in such offering in excess of any amount to be registered for the Company. In the event of any

such limitation, the first shares to be included in such registration shall be any shares to be registered for the benefit of the Company, and thereafter the priority of the remaining securities to be included in such registration shall be as follows: (1) for so long as there are any shares of Series B Preferred Stock outstanding, any Registrable Securities to be registered for the holders thereof upon conversion of such Series B Preferred Stock shall be included on a pro rata basis based on their relative ownership of Series B Preferred Stock; (2) until the Subordinated Debentures and Series A Preferred Stock held by the Outside Investors (or their transferees) have been paid in full or redeemed, as applicable, any Registrable Securities to be registered for the benefit of the Outside Investors (or their transferees) (other than as provided in clause (1) above) shall be included on a pro rata basis based on their relative ownership of such Registrable Securities (excluding for this purpose (i) any shares of Series B Preferred Stock or Common Stock issued upon conversion thereof and (ii) any securities purchased or acquired by Graziano other than pursuant to the Initial Investment Agreement); and (3) thereafter any Registrable Securities which any other Holders have requested to be registered shall be included, based upon their respective holdings of Registrable Securities. After such time as the Subordinated Debentures and Series A Preferred Stock held by the Outside Investors (or their transferees) have been paid in full or redeemed, as applicable, Registrable Securities which any Holders under clauses (2) and (3) above have requested to be registered shall be included on a pro rata basis (subject to any shares with priority pursuant clause (1) above), based upon their respective holdings of Registrable Securities. All expenses relating to the registration and offering of Registrable Securities pursuant to this Section 4.1 (including the reasonable fees and expenses of not more than one independent counsel for the Holders) shall be borne by the Company, except that the Holders shall bear underwriting and selling commissions attributable to their Registrable Securities being registered and any transfer taxes on shares being sold by such Holders.

SECTION 4.2 REQUIRED REGISTRATIONS OF THE OUTSIDE INVESTORS. If on any two (2) occasions, Outside Investors holding 30% or more of the then outstanding Registrable Securities held by all Outside Investors shall notify the Company in writing that they intend to offer or cause to be offered for public sale all or any portion of their Registrable Securities, the Company shall notify all of the Holders of Registrable Securities who are entitled to notice of a proposed registration under or as contemplated by Section 4.1 above, if any, of its receipt of such notification. Upon the written request of any such Holder delivered to the Company within 30 days after delivery by the Company of such notification, the Company will, at its election, either (i) elect to make a primary offering or (ii) use its best efforts to cause such of the Registrable Securities as may be requested by any Holders (including the Holder or Holders giving the initial notice of intent to register) to be registered under the Securities Act in accordance with the terms of this Section 4.2; PROVIDED, HOWEVER, that if such registration is underwritten and the underwriter determines that a limitation on the number of shares to be underwritten is required, the first shares to be excluded from such registration shall be any shares to be registered for the benefit of the Company, thereafter any shares to be registered for the benefit of any Holders other than the Outside Investors based upon their respective holdings of Registrable Securities and thereafter any shares to be registered for the benefit of the Outside Investors; PROVIDED, HOWEVER, that in the event less than 70% of the Registrable Securities desired to be registered by the Outside Investors initiating the registration pursuant

to the first sentence of this Section 4.2 are registered in such registration, such registration may be terminated by a majority-in-interest of such Outside Investors (based upon holdings of Common Stock on an as-converted basis), in which event such registration shall not count as one of the two (2) demand registrations pursuant to such sentence, notwithstanding that the Company may determine to proceed with such registration. If so requested by the Outside Investors requesting registration under this Section 4.2, the Company shall take such steps as are required to register the relevant Holders' Registrable Securities for sale on a delayed or continuous basis under Rule 415, and to keep such registration effective for 180 days (or 120 days in the case of a registration on Form S-3, if applicable) or until all of such Holders' Registrable Securities registered thereunder are sold, whichever is shorter. All expenses of such registrations and offerings (other than underwriting and selling commissions attributable to the Registrable Securities) and the reasonable fees and expenses of not more than one independent counsel for the Holders in connection with any registration pursuant to this Section 4.2 shall be borne by the Company. Any registration effected pursuant to this Section 4.2 and so designated by the Outside Investors shall be subject to this Section 4.2, regardless of the form in which such registration is effected. Notwithstanding anything contained herein to the contrary, at any time after a notice by the Outside Investors has been sent pursuant to the first sentence of this Section 4.2 (the "Election Notice"), the Required Outside Investors may send a notice rescinding such Election Notice and thereafter no Holder shall have any right to have any Registrable Securities offered or registered in connection with such Election Notice.

SECTION 4.3 FORM S-3. If the Company becomes eligible to use Form S-3 under the Securities Act or a comparable successor form, the Company shall use its best efforts to continue to qualify at all times for registration of its capital stock on Form S-3 or such successor form. In addition to their rights under Section 4.2 hereof, the Outside Investors shall have the right to request and have effected registrations of Registrable Securities on Form S-3 or such successor form for a public offering of shares of Registrable Securities having an aggregate proposed offering price of not less than $2,000,000 (such requests shall be in writing and shall state the number of shares of Registrable Securities to be disposed of and the intended method of disposition of such shares by the Outside Investors). The Company shall give notice to all of the Holders of Registrable Securities of the receipt of a request for registration pursuant to this Section 4.3 and upon the written request of any such Holder delivered to the Company within 20 days after receipt from the Company, the Company shall use its best efforts to cause such of the Registrable Securities as may be required by any Holder to be registered under the Securities Act on Form S-3 (or any successor form). If so requested by the Holders initiating the demand under this Section 4.3, the Company shall take such steps as are required to register the requesting Holders' Registrable Securities for sale on a delayed or continuous basis under Rule 415 and to keep such registration effective for 120 days or until all of such Holders' Registrable Securities registered thereunder are sold, whichever is shorter. All expenses incurred in connection with a registration requested pursuant to this Section 4.3 (other than underwriting and selling commissions attributable to the Registrable Securities) and the reasonable fees and expenses of not more than one independent counsel for the Holders shall be borne by the Company.

SECTION 4.4 POSTPONEMENT OF REGISTRATION.

(a) The Company may postpone the filing of any registration statement required under Section 4.2 or 4.3 for a reasonable period of time, not to exceed 60 days during any twelve-month period, if the Company has been advised by legal counsel that such filing would require a special audit or the disclosure of a material impending transaction or other matter and the Company determines reasonably and in good faith that such disclosure would have a material adverse effect on the Company. The Company shall not be required to cause a registration statement requested pursuant to Section 4.2 or 4.3 to become effective prior to 90 days following the effective date of a registration statement initiated by the Company if the request for registration has been received by the Company subsequent to the delivery of written notice by the Company, made in good faith, to the Holders of Registrable Securities to the effect that the Company is commencing to prepare a Company-initiated registration statement (other than a registration effected solely to implement an employee benefit plan or a transaction to which Rule 145 or any other similar rule of the Commission under the Securities Act is applicable); PROVIDED, HOWEVER, that the Company shall use its best efforts to cause such Company-initiated registration statement to become effective promptly.

(b) In the event that the Company notifies the Holders of Registrable Securities of any postponement of registration pursuant to the foregoing subparagraph (a), such Holders shall keep all information regarding such postponement confidential.

SECTION 4.5 REGISTRABLE SECURITIES. For the purposes of this Article IV, the term "Registrable Securities" and any and all references to Registrable Securities held by any Person shall mean any shares of Common Stock purchased by or issued to an Investor prior to, at or after the Closing, and shall also mean shares of Common Stock issuable pursuant to the conversion of Series B Preferred Stock, the exercise of Warrants and, to the extent then vested, options, notwithstanding that any such shares of Series B Preferred Stock have not been converted or such Warrants or options have not been exercised; PROVIDED, HOWEVER, that any Common Stock that is sold in a registered sale pursuant to an effective registration statement under the Securities Act or pursuant to Rule 144 thereunder, or that may be sold without restriction pursuant to Rule 144(k) under the Securities Act (as confirmed by an unqualified opinion of counsel to the Company), shall not be deemed Registrable Securities.

SECTION 4.6 FURTHER OBLIGATIONS OF THE COMPANY. Whenever under the preceding Sections of this Article IV the Company is required hereunder to register any Registrable Securities, it agrees that it shall also do the following:

(a) Pay all expenses of such registrations and offerings (exclusive of underwriting discounts and commissions) and the reasonable fees and expenses of not more than one independent counsel for the Holders satisfactory to a majority-in-interest of the Holders (based upon holdings of Common Stock on an as-converted basis);

(b) Use its best efforts (with due regard to the management of the ongoing business of the Company) diligently to prepare and file with the Commission a registration statement and such amendments and supplements to said registration statement and the prospectus used in connection therewith as may be necessary to keep said registration statement effective and to comply with the provisions of the Securities Act with respect to the sale of securities covered by said registration statement for the lesser of (i) 180 days (or 120 days in the case of registration or Form S-3) or (ii) the period necessary to complete the proposed public offering;

(c) Furnish to each selling Holder such number of copies of each preliminary and final prospectus and such other documents as such Holder may reasonably request to facilitate the public offering of its or his Registrable Securities;

(d) Enter into any reasonable underwriting agreement required by the proposed underwriter for the selling Holders, if any, in such form and containing such terms as are customary and not inconsistent with the terms of this Agreement; PROVIDED, HOWEVER, that no Holder shall be required to make any representations or warranties other than with respect to its title to the Registrable Securities and any written information provided by the Holders to the Company, and if the underwriter requires that representations or warranties be made, the Company shall make all such representations and warranties relating to the Company;

(e) Use its best efforts to register or qualify the securities covered by said registration statement under the securities or "blue-sky" laws of such jurisdictions as any selling Holders may reasonably request; PROVIDED that the Company shall not be required to register or qualify securities in any jurisdictions which require it to qualify to do business or subject itself to general service of process therein;

(f) Immediately notify each selling Holder, at any time when a prospectus relating to such Holder's Registrable Securities is required to be delivered under the Securities Act, of the happening of any event as a result of which such prospectus contains an untrue statement of a material fact or omits any material fact necessary to make the statements therein not misleading, and, at the request of any such selling Holder, prepare a supplement or amendment to such prospectus so that, as thereafter delivered to the purchasers of such Registrable Securities, such prospectus will not contain any untrue statement of a material fact or omit to state any material fact necessary to make the statements therein not misleading;

(g) Cause all such Registrable Securities to be listed on each securities exchange or quoted in each quotation system on which similar securities issued by the Company are then listed or quoted (or, in the case of the Company's initial public offering, such exchange or quotation system as the Company may determine);

(h) Otherwise use its best efforts to comply with all applicable rules and regulations of the Commission and make generally available to its security holders, in each case as soon as practicable, but not later than 45 days after the close of the period covered thereby (90 days in case the period covered corresponds to a fiscal year of the Company), an earnings statement of the Company which will satisfy the provisions of Section 9(a) of the Securities Act;

(i) Obtain and furnish to each selling Holder, immediately prior to the effectiveness of the registration statement (and, in the case of an underwritten offering, at the time of delivery of any Registrable Securities sold pursuant thereto), a cold comfort letter from the Company's independent public accountants in the same form and covering the same matters as is typically delivered to underwriters and, in the event that an underwriter or underwriters have been retained in connection with such registration, such cold comfort letter to be provided to the selling Holders shall be the same cold comfort letter delivered to such underwriter or underwriters; and

(j) Otherwise cooperate with the underwriter or underwriters, the Commission and other regulatory agencies and take all actions and execute and deliver or cause to be executed and delivered all documents necessary to effect the registration of any Registrable Securities under this Article IV.

SECTION 4.7 INDEMNIFICATION; CONTRIBUTION.

(a) Incident to any registration statement referred to in this Article IV and subject to applicable law, the Company will indemnify and hold harmless each underwriter, each Holder who offers or sells any such Registrable Securities in connection with such registration statement (including its partners (including partners of partners and stockholders of any such partners), and directors, officers, employees and agents of any of them (a "Selling Holder"), and each person who controls any of them within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (a "Controlling Person") (each, an "Indemnified Party"), from and against any and all losses, claims, damages, expenses and liabilities, joint or several (including any investigation, legal and other expenses incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted), to which they, or any of them, may become subject under the Securities Act, the Exchange Act or other federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, damages, expenses or liabilities arise out of or are based on (i) any untrue statement or alleged untrue statement of a material fact contained in such registration statement (including any related preliminary or definitive prospectus, or any amendment or supplement to such registration statement or prospectus), (ii) any omission or alleged omission to state in such document a material fact required to be stated in it or necessary to make the statements in it not misleading, or (iii) any violation by the Company of the Securities Act, any state securities or "blue sky" laws or any rule or regulation thereunder in connection with such registration; PROVIDED, HOWEVER, that the Company will not be liable to any Indemnified Party to the extent that

such loss, claim, damage, expense or liability arises from and is based on an untrue statement or omission or alleged untrue statement or omission made in reliance on and in conformity with information furnished in writing to the Company by such Indemnified Party expressly for use in such registration statement (in such Person's capacity as a shareholder of the Company and not in its capacity as an officer or director of the Company and which such information relates to such Person's capacity as a shareholder). With respect to (but only with respect to) such untrue statement or omission or alleged untrue statement or omission in the information furnished in writing to the Company by such Selling Holder expressly for use in such registration statement (in such Person's capacity as a shareholder of the Company and not in its capacity as an officer or director of the Company and which such information relates to such Person's capacity as a shareholder), such Selling Holder will indemnify and hold harmless each underwriter, the Company (including its directors, officers, employees and agents), each other Investor (including its partners (including partners of partners and stockholders of such partners) and directors, officers, employees and agents of any of them) so registered, and each Controlling Person thereof, from and against any and all losses, claims, damages, expenses and liabilities, joint or several, to which they, or any of them, may become subject under the Securities Act, the Exchange Act or other federal or state statutory law or regulation, at common law or otherwise to the same extent provided in the immediately preceding sentence. In no event, however, shall the aggregate liability of a Selling Holder for indemnification and/or contribution under this Section 4.7 in its capacity as such (and not in its capacity as an officer or director of the Company) exceed the lesser of (i) that proportion of the total of such losses, claims, damages or liabilities indemnified against equal to the proportion of the total securities sold under such registration statement which is being sold by such Selling Holder or (ii) the net cash proceeds received by such Selling Holder from its sale of Registrable Securities under such registration statement.

(b) If the indemnification provided for in Section 4.7(a) above for any reason is held by a court of competent jurisdiction to be unavailable to an indemnified party in respect of any losses, claims, damages, expenses or liabilities referred to therein, then each indemnifying party under this Section 4.7, in lieu of indemnifying such indemnified party thereunder, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages, expenses or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, the Selling Holders and the underwriters from the offering of the Registrable Securities or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, the Selling Holders and the underwriters in connection with the statements or omissions which resulted in such losses, claims, damages, expenses or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company, the Selling Holders and the underwriters shall be deemed to be in the same respective proportions that the net proceeds from the offering (before deducting expenses) received by the Company and the Selling Holders and the underwriting

discount received by the underwriters, in each case as set forth in the table on the cover page of the applicable prospectus, bear to the aggregate public offering price of the Registrable Securities. The relative fault of the Company, the Selling Holders and the underwriters shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company, the Selling Holders or the underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company, the Selling Holders, and the underwriters agree that it would not be just and equitable if contribution pursuant to this Section 4.7(b) were determined by pro rata or per capita allocation or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraph. In no event, however, shall a Selling Holder be required to make any indemnification payment under Section 4.7(a) and/or contribute any amount under this Section 4.7(b) in excess, in the aggregate, of the lesser of (i) that proportion of the total of such losses, claims, damages or liabilities indemnified against equal to the proportion of the total Registrable Securities sold under such registration statement which are being sold by such Selling Holder or (ii) the net cash proceeds received by such Selling Holder from its sale of Registrable Securities under such registration statement. No person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not found guilty of such fraudulent misrepresentation.

(c) The amount paid by an indemnifying party or payable to an indemnified party as a result of the losses, claims, damages and liabilities referred to in this Section 4.7 shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim, payable as the same are incurred. The indemnification and contribution provided for in this Section 4.7 will remain in full force and effect regardless of any investigation made by or on behalf of the indemnified parties or any officer, director, employee, agent or controlling person of the indemnified parties.

SECTION 4.8 RULE 144 AND 144A REQUIREMENTS. If the Company becomes subject to the reporting requirements of either Section 13 or 15(d) of the Exchange Act, the Company will use its best efforts thereafter to file with the Commission such information as is specified under either of said Sections for so long as there are Holders of Registrable Securities; and in such event, the Company shall use its best efforts to take all action as may be required as a condition to the availability of Rule 144 or Rule 144A under the Securities Act (or any successor or similar exemptive rules hereafter in effect). The Company shall furnish to any Holder of Registrable Securities upon request a written statement executed by the Company as to the steps it has taken to comply with the current public information requirement of Rule 144 or Rule 144A or such successor rules.

SECTION 4.9 MARKET STAND-OFF. Each Holder agrees, if requested by the Company and an underwriter of Common Stock of the Company (provided that all Holders have been so requested), not to publicly sell or otherwise publicly transfer or dispose of any Common Stock held by it for such period, not to exceed 180 days following the effective date of any registration statement (other than a registration effected solely to implement an employee benefit plan or a transaction to which Rule 145 or any other similar rule of the Commission under the Securities Act is applicable) of the Company filed under the Securities Act as the Company or such underwriter shall specify reasonably and in good faith (a "Lock-up Agreement"), and each Holder shall require any transferee of Common Stock by a private sale or transfer, as a condition to such private sale or transfer, to enter into a Lock-up Agreement.

SECTION 4.10 TRANSFER OF REGISTRATION RIGHTS. The registration rights and related obligations under this Article IV of each Outside Investor with respect to its Registrable Securities may be assigned to any transferee of Registrable Securities held by it, and upon such Transfer, the relevant Transferee shall be deemed to be included within the definition of an "Outside Investor" and a "Holder" solely for purposes of this Article IV. Each Outside Investor shall notify the Company at the time of such Transfer. The registration rights and related obligations under this Article IV of each Management Investor may not be assigned or transferred (except to their Permitted Transferees), until such time as the Subordinated Debentures and Series A Preferred Stock held by the Outside Investors (or their transferees) have been paid in full, redeemed, or converted in to Common Stock, as applicable, and if permitted to be so transferred, only in compliance with and subject to all other terms and conditions of this Agreement.

SECTION 4.11 NO OTHER REGISTRATION RIGHTS. Other than the rights provided in this Article IV to the Investors and their Permitted Transferees, without the prior written consent of holders of at least a majority of the outstanding shares of Series B Preferred Stock, the Company shall not grant to any other Person(s) any right to register, or require the Company to register, capital stock of the Company under the Securities Act.

ARTICLE V RESTRICTIONS ON TRANSFER; RIGHT OF FIRST REFUSAL AND OBLIGATIONS OF CO-SALE

SECTION 5.1 RESTRICTIONS ON TRANSFER. Neither Management Investor shall Transfer any Stock, except (subject to Section 5.1(b) below) for Permitted Transfers as defined in Section 5.1(a).

(a) For purposes of this Article V, a "Permitted Transfer" by a Management Investor means:

(i) Transfers by any Management Investor pursuant to Sections 5.2, 5.3 or 5.4, in each case made in accordance with the procedures set forth therein;

(ii) Transfers by any Management Investor pursuant to a public offering of the Company's Common Stock registered under the Securities Act, subject to the limitations and procedures set forth in Article IV hereof or, following a public offering, sold pursuant to Rule 144 promulgated under the Securities Act;

(iii) Transfers by any Management Investor to his spouse or children or to a trust of which he is the settlor and a trustee for the benefit of his spouse or children; PROVIDED, HOWEVER, that any such trust does not require or permit distribution of such Stock during the term of this Agreement;

(iv) Transfers by any Management Investor upon the death of such Management Investor to his heirs, executors or administrators or to a trust under his will or Transfers between such Management Investor and his guardian or conservator;

(v) Transfers by any Management Investor to satisfy such Management Investor's obligations under Section 5.3 of the Initial Investment Agreement.

Any Transferee of a Permitted Transfer by a Management Investor described in the preceding clauses (iii) and (iv) shall be referred to herein as a "Permitted Transferee" thereof.

(b) Notwithstanding the foregoing, no Transfer of Stock or rights pursuant to Sections 5.1(a)(iii) or (iv) shall be deemed to be a Permitted Transfer unless the Transferee shall have entered into a Joinder Agreement, in substantially the form attached hereto as EXHIBIT A, for the benefit of the other Investors, as a condition to such Transfer, pursuant to which such Transferee shall agree to be bound by all of the provisions of this Agreement, to the same extent as was the transferor hereunder; and PROVIDED, FURTHER, that any such Transferee shall take all such Stock and rights subject to all the provisions of this Agreement as if such Stock or rights were still held by the Investor who made the Transfer, whether or not they so agree with the Company, the Investor who makes the Transfer or with the other Investors.

SECTION 5.2 RIGHT OF FIRST REFUSAL. In the event that either of the Management Investors, including any Permitted Transferee thereof, receives a bona fide offer to purchase all or any portion of the shares of Stock held by such Management Investor (a "Transaction Offer") from a party other than a Permitted Transferee (the "Offeror") and such Management Investor desires to accept such Transaction Offer, such Management Investor (a "Transferring Investor") may, subject to the provisions of Section 5.3 hereof, Transfer such shares pursuant to and in accordance with the following provisions of this Section 5.2:

(a) Such Transferring Investor shall notify the Company, with a copy to the Outside Investors (enclosing a description, in reasonable detail, including, without limitation, the consideration to be received and the name and address of the

Offeror, of the Transaction Offer), of his wish to accept the Transaction Offer and otherwise comply with the provisions of this Section 5.2 and, if applicable, Section 5.3 (such notice, the "Offer Notice").

(b) The Company shall have the right, exercisable upon written notice to the Transferring Investor within thirty (30) days after it receives the Offer Notice, to purchase all or any portion of the shares of Stock proposed to be sold, at the price set forth in the Offer Notice and upon the other terms and conditions set forth below (the "Company Right of First Refusal"). In the event that the price set forth in the Offer Notice is stated in consideration other than cash or cash equivalents, the fair market value of such consideration shall be determined substantially as provided in Article XI hereof, and the Company may exercise its Right of First Refusal by payment of such fair market value in cash or cash equivalents.

(c) In the event the Company does not elect to purchase all of the shares of Stock in accordance with the terms of Section 5.2(b) above, each of the Outside Investors shall have the right, exercisable upon written notice to the Transferring Investor within thirty (30) days after the Outside Investors have received notice from the Transferring Investor (i) that the Company has not elected to exercise the Company Right of First Refusal with respect to all or a portion of shares of Stock proposed to be sold and (ii) offering to sell all or such portion, as the case may be, not so elected to be purchased by the Company pursuant to 5.2(b) of the shares of Stock proposed to be sold, to purchase at the price set forth in the Offer Notice and upon the other terms and conditions set forth below to purchase its Pro Rata Share (as defined below) (the "Outside Investors' Right of First Refusal," and collectively with the Company Right of First Refusal, the "Right of First Refusal"). In the event that the price set forth in the Offer Notice is stated in consideration other than cash or cash equivalents, any of the Outside Investors may request that the fair market value of such consideration be determined as provided in Article XI hereof, and any of the Outside Investors may exercise its Outside Investors' Right of First Refusal by payment of such fair market value in cash or cash equivalents. An Outside Investor's Pro Rata Share shall equal the product obtained by multiplying (i) the total number of shares of Stock subject to the Offer Notice and not to be purchased by the Company pursuant to Section 5.2(b) by (ii) a fraction, the numerator of which is the total number of shares of Stock owned by such Outside Investor on the date of the Offer Notice, and the denominator of which is the total number of shares of Stock then held by all Outside Investors on the date of the Offer Notice (in each case, calculated on a fully diluted basis). To the extent one or more Outside Investors elects not to purchase, or fails to exercise its right to purchase, the full amount of such shares of Stock which it is entitled to purchase pursuant to this Section 5.2, the other Outside Investors' rights to purchase shares of Stock shall be increased proportionately and such other Outside Investors shall have an additional five (5) days from the date upon which they are notified of such election or failure to exercise in which to increase the number of shares of Stock to be purchased by them hereunder. For purposes of this Section 5.2, any Warrants held by an Outside Investor which are exercisable for shares of Common Stock shall be treated as so

exercised, and any shares Series B Preferred Stock held by an Outside Investor which are convertible into shares of Common Stock shall be treated as so converted.

(d) The closing for any purchase of shares of Stock by the Company or the Outside Investors shall take place at the place and on a date specified in the applicable notice of exercise within sixty (60) days of such notice of exercise.

(e) In the event that the Company or the Outside Investors do not elect to exercise the Right of First Refusal with respect to all or part of the shares of Stock proposed to be sold, the Transferring Investor may sell the remaining shares of such Stock proposed to be sold to the Offeror on the terms and conditions set forth in the Offer Notice, subject to the provisions of Section 5.3. If the Transaction Offer is not consummated within the later of (i) thirty (30) days after the expiration of the Outside Investors' Right of First Refusal and the Co-Sale Option set forth in Section 5.3 below, if applicable, and (ii) ten (10) days after the satisfaction of all governmental approval or filing requirements, the Transaction Offer shall be deemed to lapse, and any Transfers of shares of Stock pursuant to such Transaction Offer shall be deemed to be in violation of the provisions of this Agreement unless the Company and the Outside Investors are once again afforded the Right of First Refusal provided for herein with respect to such Transaction Offer.

SECTION 5.3 CO-SALE OPTION. In the event that the Right of First Refusal is not exercised with respect to all or part of the shares of Stock proposed to be sold by any Transferring Investor, such Transferring Investor may Transfer such shares only pursuant to and in accordance with the following provisions of this Section 5.3:

(a) Each of the Outside Investors shall have the right to participate in the Transaction Offer on the terms and conditions herein stated, which right shall be exercisable upon written notice to the Transferring Investor within thirty (30) days after the Outside Investors receive notice from the Transferring Investor that the Company has not elected to exercise the Company Right of First Refusal with respect to all of the shares of Stock proposed to be sold (the "Co-Sale Option").

(b) Each of the Outside Investors shall have the right to sell a portion of its Stock pursuant to the Transaction Offer which is equal to or less than the product obtained by multiplying (i) the total number of shares of Stock subject to the Transaction Offer by (ii) a fraction, the NUMERATOR of which is the total number of shares of Stock owned by such Outside Investor on the date of the Offer Notice, and the DENOMINATOR of which is the total number of shares of Stock then held by all Outside Investors and the Transferring Investor on the date of the Offer Notice (in each case, calculated on a fully diluted basis). To the extent one or more Outside Investors elects not to sell, or fails to exercise its right to sell, the full amount of such shares of Stock which it is entitled to sell pursuant to this Section 5.3, the other Outside Investors' rights to sell shares of Stock shall be increased proportionately and such other Outside Investors shall have an additional five (5) days from the date upon which they are

notified of such election or failure to exercise in which to increase the number of shares of Stock to be sold by them hereunder. For purposes of this Section 5.3, any Warrants held by an Outside Investor which are exercisable for shares of Common Stock shall be treated as so exercised, and any shares Series B Preferred Stock held by an Outside Investor which are convertible into shares of Common Stock shall be treated as so converted. In addition, any Outside Investor that holds Warrants or shares of Series B Preferred Stock shall be permitted to sell to the relevant purchaser shares of Common Stock acquired upon exercise or conversion thereof or, at its election, (i) an option to acquire such Common Stock when it receives the same upon such exercise or conversion of the Warrants or Series B Preferred Stock, as the case may be, or (ii) the Warrants (net of the exercise price thereof) or the shares of Series B Preferred Stock (on an as-converted basis), in each case, with the same effect as if Common Stock were being conveyed.

(c) Within ten (10) days after the date by which the Outside Investors were first required to notify the Transferring Investor of their intent to participate, the Transferring Investor shall notify each participating Outside Investor of the number of shares of Stock held by such Investor that will be included in the sale and the date on which the Transaction Offer will be consummated, which shall be no later than the later of (i) thirty (30) days after the date by which the Investors were required to notify the Management Investor of their intent to participate and (ii) ten (10) days after the satisfaction of any governmental approval or filing requirements, if any.

(d) Each of the participating Outside Investors may effect its participation in any Transaction Offer hereunder by delivery to the Offeror, or to the Transferring Investor for delivery to the Offeror, of one or more instruments or certificates, properly endorsed for transfer, representing the shares of Stock it elects to sell therein, together with executed copies of any purchase agreement or related documents that (i) accompanied the original Offer Notice and (ii) are also executed by the Transferring Investors. At the time of consummation of the Transaction Offer, the Offeror shall remit directly to each Outside Investor that portion of the sale proceeds to which such Outside Investor is entitled by reason of its participation therein.

(e) In the event that the Transaction Offer is not consummated within the period required by subsection (c) hereof or the Offeror fails to remit timely to each Outside Investor its portion of the sale proceeds, the Transaction Offer shall be deemed to lapse, and any Transfers of shares of Stock pursuant to such Transaction Offer shall be deemed to be in violation of the provisions of this Agreement unless the Transferring Investor once again complies with the provisions of Section 5.2 and this Section 5.3 hereof with respect to such Transaction Offer.

SECTION 5.4 TAKE-ALONG.

(a) In the event that the Required Outside Investors determine to sell or otherwise dispose of all or substantially all of the assets of the Company or all of the

capital stock of the Company owned by such Outside Investors to any non-Affiliate(s) of the Company or of the Outside Investors, or to cause the Company to merge with or into or consolidate with any non-Affiliate(s) of the Company or of the Outside Investors in a transaction in which the Outside Investors and their Affiliates following such transaction own less than 51% in the aggregate of the securities of the Company they owned prior to such transaction (in each case, the "Buyer") in a bona fide negotiated transaction (a "Sale") and in which such Sale the actual or implied sale price per share of Common Stock is not less than $13.00, each of the Management Investors, including any of their respective Permitted Transferees, shall be obligated to and shall upon the written request of the Outside Investors: (i) sell, transfer and deliver, or cause to be sold, transferred and delivered, to the Buyer, his or its shares of Stock on the same terms applicable to the Outside Investors (with appropriate adjustments to reflect the conversion of convertible securities and the exercise of exercisable securities); and (ii) execute and deliver such instruments of conveyance and transfer and take such other action, including voting such shares of Stock in favor of any Sale proposed by the Outside Investors and executing any purchase agreements, merger agreements, indemnity agreements, escrow agreements or related documents, as the Outside Investors or the Buyer may reasonably require in order to carry out the terms and provisions of this Section 5.4.

(b) Not less than thirty (30) days prior to the date proposed for the closing of any Sale, the Outside Investors shall give written notice to each Management Investor, setting forth in reasonable detail the name or names of the Buyer, the terms and conditions of the Sale, including the purchase price, and the proposed closing date. In furtherance of the provisions of this Section 5.4, each Management Investor hereby (i) irrevocably appoints the Outside Investors as his attorney-in-fact (with full power of substitution) to execute all agreements, instruments and certificates and take all actions necessary or desirable to effectuate any Sale hereunder; and (ii) grants to the Outside Investors a proxy (which shall be deemed to be coupled with an interest and irrevocable) to vote the shares of Stock held by such Management Investor and exercise any consent rights applicable thereto in favor of any Sale hereunder; PROVIDED, HOWEVER, that the Outside Investors shall not exercise such powers-of-attorney or proxies with respect to either of the Management Investors unless such Management Investor is in breach of his obligations under this Section 5.4.

SECTION 5.5 ASSIGNMENT OF RIGHTS. Each Outside Investor may assign his or its rights under this Article V in connection with the sale by such Outside Investor of any Stock or Warrants.

SECTION 5.6 PROHIBITED TRANSFERS. If any Transfer is made or attempted contrary to the provisions of this Agreement, such purported Transfer shall be void AB INITIO; the Company and the other Investors shall have, in addition to any other legal or equitable remedies which they may have, the right to enforce the provisions of this Agreement by actions for specific performance (to the extent permitted by law); and the Company shall have the right to refuse to recognize any Transferee as one of its Investors for any purpose. Without limitation to the

foregoing, each of the Management Investors further agrees that the provisions of Section 9.7 shall apply in the event of any violation or threatened violation of this Agreement.

ARTICLE VI RIGHTS TO PURCHASE

SECTION 6.1 RIGHT TO PURCHASE. The Company hereby grants to the Outside Investors (for purposes of this Article VI including any assignees under Section 6.4), the right, from and after the date hereof, to purchase such quantity of any class or classes of New Stock (as hereinafter defined) that the Company may, from time to time, propose to sell and issue to any Person as shall be necessary to ensure that, after giving effect to such purchase, the Outside Investor's Percentage Ownership (as hereinafter defined) is at least equal to its Percentage Ownership immediately prior to such sale and issuance of New Stock.

SECTION 6.2 PROCEDURE. The Company shall give each Outside Investor written notice of such proposed sale of New Stock, describing the amount, type and class of New Stock and the price and the other terms upon which the Company proposes to issue the same (the "New Stock Offer"). Each of the Outside Investors shall have thirty (30) days from the date of delivery of any such written notice to agree to exercise its purchase right hereunder for the price and upon the terms specified in the New Stock Offer by giving written notice to the Company and stating therein the maximum quantity of each class of New Stock that it is willing to purchase. In the event any Outside Investor fails to exercise the right granted herein within said thirty-day period, the right to exercise its purchase right shall expire with respect to such issuance of New Stock. The closing of the purchase of New Stock by the Outside Investors shall take place within fifteen (15) business days after the expiration of said thirty-day period. The Company shall have fifteen (15) days from the closing of the purchase of New Stock by the Outside Investors to sell the unsold portion of the New Stock to other purchasers, but only upon terms and conditions that are in all respects no more favorable to such purchasers or less favorable to the Company than those set forth in the New Stock Offer.

SECTION 6.3 DEFINITIONS. For purposes of this Agreement, "New Stock" means any equity securities of the Company (whether common stock, preferred or otherwise), or any warrants, options, convertible securities or rights to purchase any equity securities of the Company, in each case issued after the Closing Date; PROVIDED, HOWEVER, that "New Stock" does not include: (i) securities issued upon exercise of the Warrants or conversion of the Series B Preferred Stock, (ii) securities issued as a result of any stock split, stock dividend, reclassification or reorganization of the Company's Stock, distributable on a pro rata basis to all holders of such Stock (excluding options and warrants) and (iii) up to 206,620 shares of Common Stock, or options to purchase such shares, granted to employees, consultants and advisers, officers or directors of the Company pursuant to the Company's stock plan (and the Common Stock acquired upon the exercise of any such options); PROVIDED FURTHER, that the Company covenants and agrees that of such 206,620 shares of Common Stock (or options to purchase such shares), 104,362 of which remain available for grant, 57,862 shares shall be allocated to the general pool of awards to be granted to current and future employees of the Company other than Green and Graziano, and 46,500 shares will be allocated to awards for

Green and Graziano (23,250 shares each), with such restricted stock or options granted to Green and Graziano to have vesting provisions consistent with all other awards granted to employees of the Company, but such restricted stock or options granted to Green and Graziano shall only be vested and/or exercisable upon the closing of an underwritten public offering of the Company's Common Stock at a price per share to the public of not less than $41.23 per share (appropriately adjusted for stock dividends, stock splits, and other recapitalization transactions) and gross proceeds to the Company of at least $15.0 million.

An Outside Investor's "Percentage Ownership" shall mean as of the date of determination, such Outside Investor's percentage ownership of the Common Stock of the Company determined on a fully diluted basis assuming exercise of all then outstanding Warrants and stock options described in Section 6.3(i) and the conversion of all then outstanding shares of Series B Preferred Stock purchased pursuant to the Securities Purchase Agreement; PROVIDED, HOWEVER, that any securities purchased by Graziano other than pursuant to the Initial Investment Agreement and any stock options issued to Graziano shall not be counted in the numerator in determining Graziano's percentage ownership of the Company.

SECTION 6.4 ASSIGNMENT OF RIGHTS. Each Outside Investor may assign its rights under this Article VI to any Person.

ARTICLE VII ELECTION OF DIRECTORS OF THE COMPANY

SECTION 7.1 VOTING OF SHARES FOR ELECTION OF DIRECTORS OF THE COMPANY. Except as provided in Section 7.5 hereof, with respect to each election or removal of members of the Board of Directors of the Company (including, without limitation, any replacement members), whether at an annual or special meeting of stockholders or by written consent of stockholders, each of the Investors and their Permitted Transferees agrees to vote its Stock (and any shares of Stock over which it exercises voting control) and to take such other action as may be necessary to fix the number of Directors of the Company at five (5) or seven (7), as indicated below, and to cause and maintain the nomination and election to the Board of Directors of the Company and to keep in office as such:

(i) two (2) persons designated from time to time by the Required Outside Investors, which shall initially be C.W. Dick, and Richard C. Klaffky, and during such time as there shall be four (4) directors designated pursuant to clauses (ii) and (iii) below, three (3) persons designated from time to time by the Outside Investors (any such director designated under this clause (i), an "Outside Director" and collectively, the "Outside Directors");

(ii) three (3) persons designated from time to time by Graziano and Green (the "Other Directors"), who shall initially be Paul Grindle, Chane Graziano and David Green; provided, however, in the event: (a) Graziano (I) ceases to be employed by the Company for any reason or (II) ceases, together with his Permitted Transferees, to own fifty percent (50%)

or more of the shares of Common Stock held of record by him as of the Closing, the number of Other Directors shall (unless otherwise consented to by the Outside Investors) be reduced by one (1) and Graziano shall have no further rights under this clause (ii), and/or (b) in the event Green (I) ceases to be employed by the Company for any reason or (II) ceases, together with his Permitted Transferees, to own fifty percent (50%) or more of the shares of Common Stock held of record by him as of the Closing, the number of Other Directors shall (unless otherwise consented to by the Outside Investors) be reduced by one (1) and Green shall have no further rights under this clause (ii); and

(iii) up to one (1) person mutually agreeable to the Required Outside Investors and a majority of the Other Directors (the "Independent Director").

If, pursuant to clauses (i), (ii) and (iii) above, no representative of Citizens Capital, Inc. is elected as a member of the Board of Directors, for as long as Citizens Capital, Inc. owns any shares of Series B Preferred Stock or shares of Common Stock issued upon conversion thereof, a representative of Citizens Capital, Inc. shall be entitled to receive: (i) notice of all meetings of the Board of Directors and all committees thereof and (ii) all information provided to Directors by the Company at the same time and in the same manner as all members of the Board of Directors receive such notice and/or information, and such representative of Citizens Capital, Inc., or his or her designee, shall be entitled to attend in person, or at his or her option, by telephone, and have observation rights (but not vote at) all meetings of the Board of Directors and all committees thereof (excluding the Compensation Committee).

SECTION 7.2 VACANCIES. Except as provided in Section 7.5 hereof, each of the Investors and its Permitted Transferees, if any, agrees to vote its Stock (and any shares of stock over which it exercises voting control), to the extent required by Section 7.1, in such manner as shall be necessary or appropriate so as to ensure that any vacancy occurring for any reason in the Board of Directors of the Company shall be filled so as to constitute the Board in accordance with Section 7.1 above.

SECTION 7.3 MEETINGS; EXPENSES. The Board of Directors shall hold not less than six (6) meetings per year, or such fewer numbers as shall be agreed to by a majority of the Outside Investor Directors. All Directors and the representative of Citizens Capital Inc. referred to in Section 7.1 above shall, subject to reasonable substantiation and documentation, be entitled to reimbursement of out-of-pocket expenses incurred in attending each meeting of the Board of Directors or any committee thereof or otherwise incurred in performing his duties as a director of the Company (including, without limitation, reasonable travel, lodging, meals and communication expenses). In addition, each Director not affiliated with any Investor shall be entitled to reasonable compensation when if and as from time to time (if at all) determined by the Board (including without limitation, stock options under the Company's stock option plan).

SECTION 7.4 NO WAIVER. Any failure by any of the Investors to fully exercise its rights to designate Directors under this Article VII at any time shall not be construed to waive or limit its rights to designate such Director(s) hereunder at any time thereafter.

SECTION 7.5 BOARD CONTROL OVERRIDE. Notwithstanding anything contained herein to the contrary, in the event an Event of Default (as defined in the Articles of Organization, which such definition is incorporated by reference herein with the same force and effect as if stated herein in full) shall occur, each of the Investors and their Permitted Transferees agrees to vote its Stock (and any shares of Stock over which it exercises voting control) and to take such other action as may be necessary so that the Required Outside Investors (other than Graziano) shall be entitled to elect the smallest number of directors which shall constitute a majority of the authorized number of directors of the Company at such time.

SECTION 7.6 COMPENSATION COMMITTEE. The Company shall maintain a Compensation Committee (the "Compensation Committee") which shall have authority over all compensation matters. The Compensation Committee shall initially have two (2) members consisting of Graziano and C.W. Dick (so long as each such person is a member of the Board of Directors) and shall have three (3) members, which third member shall be the Independent Director, at such time as such Director is so designated.

ARTICLE VIII OTHER COVENANTS OF THE COMPANY.

SECTION 8.1 RESTRICTED ACTIVITIES. Without the written approval of a majority-in-interest of the Outside Investors (other than Graziano) (based upon holdings of Common Stock and assuming the exercise of all outstanding Warrants and conversion of all outstanding shares of Series B Preferred Stock), the Company agrees and covenants that neither the Company nor its subsidiaries shall, together or alone:

(a) borrow, guarantee or otherwise incur any indebtedness or commit itself to pay in excess of $250,000 in any transaction or series of similar transactions (other than under the Bank Documents in connection with the Asset Purchase Agreement);

(b) lease, purchase, sell or otherwise acquire or dispose of any property or services having a value in excess of $250,000 in any transaction or series of similar transactions;

(c) assign, mortgage, pledge, hypothecate, grant a security interest in, or otherwise encumber or permit any lien on any assets having a value of more than $100,000 (other than under the Bank Documents in connection with the Asset Purchase Agreement);

(d) disclose any proprietary information to any Person other than as shall be necessary to the conduct of the ordinary business of the Company unless the

Company has the written agreement of the party to whom the disclosure is made to retain the confidentiality of the Company's proprietary information and not to disclose it to others;

(e) enter into any employment, consulting or similar agreement which the Company or its subsidiaries shall be unable to cancel, without penalty or other cost, upon notice of one month or less, or any collective bargaining agreement;

(f) make any loan or extend any credit to, guaranty any indebtedness of, pledge or hypothecate any asset to secure the indebtedness of, or forgive or otherwise change the terms of any indebtedness of any director, officer or holder of securities of the Company or its subsidiaries;

(g) make any loan, extend any credit or guaranty any indebtedness, or forgive or otherwise change the terms of any indebtedness, in excess of $250,000, or pledge or hypothecate any asset worth more than $250,000 to secure any indebtedness (other than under the Bank Documents in connection with the Asset Purchase Agreement);

(h) make an investment in, or purchase or otherwise acquire the securities or assets of any other corporation, partnership or other entity or enter into any partnership, joint venture or other similar agreement; PROVIDED, HOWEVER, that investments in short-term U.S. government securities, bank certificates of deposit or other similar investments shall not be deemed a breach of this covenant;

(i) merge or consolidate the Company with, or sell, assign, lease or otherwise dispose of or voluntarily part with the control of (whether in one transaction or in a series of transactions) all, or substantially all, of its assets or capital stock (whether now owned or hereinafter acquired) or sell, assign or otherwise dispose of (whether in one transaction or in a series of transactions) any asset or group of assets which is material to the business or operations of the Company and its subsidiaries, taken as a whole, or permit any subsidiary to do any of the foregoing, except for sales or other dispositions of assets in the ordinary course of business and except that (1) any subsidiary may merge into or consolidate with or transfer assets to any other subsidiary and (2) any subsidiary may merge into or transfer assets to the Company;

(j) amend the Company's Articles of Organization or By-laws;

(k) repurchase or otherwise make any distributions with respect to any outstanding Stock (other than with respect to redemption, repurchase or payments in respect of shares of Series A Preferred Stock, Series B Preferred Stock, Warrants or options granted under the Company's 1996 Stock Option and Grant Plan in accordance with the terms hereof, thereof and the Articles of Organization);

(l) issue to any Person any capital stock of the Company, unless in connection with such issuance, such Person enters into an agreement reasonably satisfactory to the Outside Investors agreeing to be bound by all of the voting restrictions contained herein, including, without limitation, Article VII hereof;

(m) issue to any Person any capital stock of any of the Company's subsidiaries from time to time existing;

(n) without the approval of the Compensation Committee, increase salaries or benefits of any officer of the Company or any of its subsidiaries;

(o) terminate the employment of either Graziano or Green;

(p) amend the Bank Documents in any way that is not permitted under the terms of that certain Amended and Restated Subordination Agreement dated as of the date hereof by and among the Company, the Investors and Brown Brothers Harriman & Co., as agent;

(q) issue shares of Common Stock (or options or convertible securities exchangeable for or convertible into shares of Common Stock) for a price that is less than fair market value.

SECTION 8.2 KEY MAN LIFE INSURANCE. The Company shall maintain key man life insurance payable to the Company (i.e. with the Company named as the beneficiary) on the lives of each of Graziano and Green in the amount of $1,000,000 each so long as each such person remains an employee of the Company. The Company will not cause or permit any assignment of the proceeds of the life insurance policies specified above, and will not borrow against any of such policies. Such policies shall not be cancelable by the Company except upon sixty (60) days prior written notice to, and upon the consent of the Required Outside Investors.

SECTION 8.3 ACCOUNTS AND RECORDS. The Company shall keep true books of accounts and records in which full, true and correct entries will be made of all dealings or transactions in relation to its business and affairs in accordance (to the extent applicable) with generally accepted accounting principles applied on a consistent basis. These books and records shall be available for inspection by any of the Outside Investors during regular business upon reasonable advance notice to the Company.

SECTION 8.4 INSURANCE. The Company and each of its subsidiaries will keep its insurable properties insured with fire, broad form extended coverage insurance policies by financially sound and reputable insurers satisfactory to the Required Outside Investors for amounts not less than the full replacement value of such properties. The Company and each of its subsidiaries will maintain in full force and effect public liability insurance, business interruption insurance, and a so-called "umbrella" policy in such amounts as is customary in

its industry or as reasonably required by the Outside Investors against claims for bodily injury, death or physical property damages occurring upon, in, about, or in connection with the use of any properties occupied or controlled by it, through the operation of any motor vehicles by its agents or employees, or arising in any other manner out of its business. Each such insurance policy shall contain a provision requiring at least 30 days' written notice to the Outside Investors prior to the cancellation or modification of such policy. The Outside Investors shall have the additional right, exercisable by other written election of the Required Outside Investors at any point in time, in their reasonable judgment, to require additional insurance coverage.

SECTION 8.5 ACCOUNTS AND REPORTS. The Company will furnish, or cause to be furnished, to the Outside Investors (or any transferee of Outside Investor Shares) the following reports:

(a) ANNUAL REPORTS. As soon as available and in any event within ninety (90) days after the end of each fiscal year, (i) audited consolidated and consolidating financial statements of the Company and its subsidiaries together with all notes thereto, prepared in reasonable detail and in accordance with generally accepted accounting principles consistently applied, such statements to be duly certified by certified, independent public accountants selected by the Company and reasonably acceptable to the Required Outside Investors and (ii) an officer's certificate demonstrating compliance with all of the covenants contained in this Agreement ("Compliance Certificate"). The financial statements referred to in clause (i) above shall be accompanied by a statement of such certified, independent public accountants that the examination made in certifying such statements did not disclose the existence of any condition or event which constitutes an Event of Default under the Articles of Organization or which, after the giving of notice or the lapse of time or both, would constitute such an Event of Default, or a statement specifying the nature and period of existence of any such condition or event disclosed by such examination.

(b) MONTHLY AND QUARTERLY REPORTS. As soon as available, and in any event within twenty (20) days after the end of each monthly and quarterly accounting period, as the case may be, in each fiscal year, (i) unaudited consolidated and consolidating financial statements of the Company and its subsidiaries (including balance sheet, income statement and source and application of funds (compared to budget on a monthly, quarterly and year to date basis)), prepared in accordance with generally accepted accounting principles consistently applied and certified by the chief financial officer, chief accounting officer or treasurer of the Company, which statements shall also contain a balance sheet as of the end of such accounting period and a statement of profit and loss for the period from the beginning of such fiscal year to the end of such accounting period, and (ii) a Compliance Certificate.

(c) AUDITOR'S LETTERS. Promptly after receipt by the Company or any of its subsidiaries, copies of any written communications concerning the management, finances, internal controls or operation of the Company and its subsidiaries by the independent certified public accountants who audit the Company's and its subsidiaries' annual financial statements.

(d) ACCOUNTING PRINCIPLES. Reports furnished to the Outside Investors under this Agreement shall be prepared in accordance with generally accepted accounting principles used in the United States except that unaudited statements need not contain notes thereto and may be subject to normal year-end adjustments. Compliance with the covenants set forth in this Agreement will be determined on the basis of accounting principles used in the preparation of the financial statements. In the event that any subsequent reports shall have been prepared in accordance with accounting principles different than those used in the financial statements, the Company shall inform the Outside Investors of such changes in accounting principles and shall provide to the Outside Investors, with such subsequent reports, such supplemental reconciling financial information as may be required to ascertain performance by the Company and its subsidiaries with the covenants contained in this Agreement.

(e) BUDGET AND PROJECTIONS. At least thirty (30) days prior to the end of each fiscal year of the Company, a budget (the "Budget") and projections for the next fiscal year indicating each of the Company's and its subsidiaries' expected operating results (on a consolidated and consolidating basis), and proposed expenditures, including without limitation, and subject to the approval of the Compensation Committee, management compensation. The Budget and projections shall be made on a month-by-month basis. The Budget shall be subject to the approval of the holders of two-thirds of the shares of Preferred Stock.

SECTION 8.6 INFORMATION AND INSPECTION. The Company will furnish to the Outside Investors upon request full information pertinent to any covenant, provision or condition hereof or to any matter in connection with its business and that of its subsidiaries and, at all reasonable times and as often as the Outside Investors shall reasonably request, permit any authorized representative designated by the Outside Investors to visit and inspect any of its and its subsidiaries' properties, including its books (and to make extracts therefrom), and to discuss their affairs, finances and accounts with their officers. The Company will, in addition, promptly furnish to the Outside Investors such financial information as the Outside Investors shall reasonably request. The Investors agree to treat all material non-public information provided to them by the Company as confidential and use all commercially reasonable efforts to protect the confidentiality of such information at least to the same extent as such Investors protect their own confidential information.

SECTION 8.7 SMALL BUSINESS INVESTMENT ACT. Promptly after request made by any holder of Stock or Subordinated Debentures that is a small business investment company licensed under the Small Business Investment Act of 1958, as amended, the Company shall furnish to such holder or permit such holder access to such information as such holder may request to enable such holder to comply with its record keeping, reporting and other obligations under such Act or under any rule or regulation of the Small Business Administration thereunder.

SECTION 8.8 RELATED PARTY TRANSACTIONS. The Company covenants that it shall not, and will not permit any of its subsidiaries to enter into any transaction (including without limitation the purchase, sale, rental or exchange of any property or services, or any loans, advances or guarantees) with any stockholder, director, officer, agent, partner, employee or

Affiliate of the Company or any of its stockholders, other than upon fair and reasonable terms no less favorable to the Company and its subsidiaries than would be obtained in a comparable arms-length transaction with any other Person not so affiliated with the Company.

ARTICLE IX MISCELLANEOUS PROVISIONS

SECTION 9.1 SURVIVAL OF REPRESENTATIONS, WARRANTIES AND COVENANTS. Each of the parties hereto agrees that the representations, warranties, covenants and agreements made by each of them in this Agreement, the Securities Purchase Agreement and in other agreements entered into in connection herewith or therewith, or in any certificate, instrument or other document delivered pursuant to this Agreement or in other agreements entered into in connection herewith or therewith are material, shall be deemed to have been relied upon by the other parties and shall remain operative and in full force and effect after the date hereof regardless of any investigation. This Agreement shall not be construed so as to confer any right or benefit upon any Person other than the parties hereto and their respective successors and permitted assigns to the extent contemplated herein.

SECTION 9.2 INDEMNIFICATION.

(a) The Company agrees to defend, indemnify and hold each of the Outside Investors (except with respect to any matter with respect to which indemnification is not available to such Outside Investor as provided in Section 4.7(a)) and its or his Affiliates and its or his direct and indirect partners, directors, officers, employees and agents and each person who controls any of them within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (parties receiving the benefit of the indemnification agreement herein shall be referred to collectively as "Indemnified Parties" and individually as an "Indemnified Party") harmless from and against any and all losses, claims, damages, obligations, liens, assessments, judgments, fines, liabilities, and other costs and expenses (including without limitation interest, penalties and any investigation, legal and other expenses incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, as the same are incurred) of any kind or nature whatsoever which may be sustained or suffered by any such Indemnified Party, without regard to any investigation by any of the Indemnified Parties, based upon, arising out of, by reason of or otherwise in respect of or in connection with (a) any inaccuracy in or breach of any representation or warranty made by the Company in this Agreement or the Initial Investment Agreement or in any agreement or instrument or other document delivered pursuant to this Agreement or the Initial Investment Agreement (including the Securities Purchase Agreement), (b) any breach of any covenant or agreement made by the Company in this Agreement or the Initial Investment Agreement or in any agreement or instrument delivered pursuant to this Agreement or the Initial Investment Agreement and (c) any action taken or omitted to be taken or alleged to have been taken or omitted to have been taken by any Indemnified Party as shareholder, director, agent, representative or controlling person of the Company, including, without limitation, any

and all losses, claims, damages, expenses and liabilities, joint or several (including any investigation, legal and other expenses incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, as the same may be incurred) arising or alleged to arise under the Securities Act, the Exchange Act or other federal or state statutory law or regulation, at common law or otherwise; PROVIDED, HOWEVER, that the Company will not be liable to the extent that such loss, claim, damage, expense or liability arises from and is based on (i) an untrue statement or omission or alleged untrue statement or omission in a registration statement or prospectus which is made in reliance on and in conformity with written information furnished to the Company in an instrument duly executed by or on behalf of such Indemnified Party specifically stating that it is for use in the preparation thereof or (ii) a knowing and willful violation of the federal securities laws by a Indemnified Party, as finally determined by a court of competent jurisdiction.

(b) If the indemnification provided for in Section 9.2(a) above for any reason is held by a court of competent jurisdiction to be unavailable to a Indemnified Party in respect of any losses, claims, damages, expenses or liabilities referred to therein, then the Company, in lieu of indemnifying such Indemnified Party thereunder, shall contribute to the amount paid or payable by such Indemnified Party as a result of such losses, claims, damages, expenses or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the Company and the Investors, or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company and the Investors in connection with the action or inaction which resulted in such losses, claims, damages, expenses or liabilities, as well as any other relevant equitable considerations. In connection with any registration of the Company's securities, the relative benefits received by the Company and the Outside Investors shall be deemed to be in the same respective proportions that the net proceeds from the offering (before deducting expenses) received by the Company and the Outside Investors, in each case as set forth in the table on the cover page of the applicable prospectus, bear to the aggregate public offering price of the securities so offered. The relative fault of the Company and the Investors shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or the Investors and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company and the Outside Investors agree that it would not be just and equitable if contribution pursuant to this Section 9.2(b) were determined by pro rata or per capita allocation or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraph. In connection with the registration of the Company's securities, in no event shall an Investor be required to contribute any amount under this Section 9.2 in excess of the lesser of (i) that proportion of the total of such losses, claims, damages or liabilities

indemnified against equal to the proportion of the total securities sold under such registration statement which is being sold by such Outside Investor or (ii) the proceeds received by such Outside Investor from its sale of securities under such registration statement. No person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not found guilty of such fraudulent misrepresentation.

(c) The indemnification and contribution provided for in this Section 9.2 will remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Parties or any officer, director, employee, agent or controlling person of the Indemnified Parties.

(d) The provisions of this Section 9.2 are in addition to and shall supplement (and not derogate) those set forth in Section 4.7 which shall apply in the case of the registration and sale of Registrable Securities held by any of the Investors registered pursuant to Article IV hereof.

SECTION 9.3 LEGEND ON SECURITIES. The Company and the Investors acknowledge and agree that the following legend shall be typed on each certificate evidencing any of the securities issued pursuant to the Securities Purchase Agreement held at any time by any of the Investors or their Permitted Transferees:

THE SECURITIES REPRESENTED HEREBY ARE SUBJECT TO THE PROVISIONS OF A CERTAIN AMENDED AND RESTATED SECURITYHOLDERS' AGREEMENT, DATED AS OF MARCH 2, 1999, INCLUDING CERTAIN RESTRICTIONS ON TRANSFER SET FORTH THEREIN. A COMPLETE AND CORRECT COPY OF SUCH AGREEMENT IS AVAILABLE FOR INSPECTION AT THE PRINCIPAL OFFICE OF THE COMPANY AND WILL BE FURNISHED UPON WRITTEN REQUEST AND WITHOUT CHARGE.

SECTION 9.4 AMENDMENT AND WAIVER. Any party may waive any provision hereof intended for its benefit in writing. No failure or delay on the part of any party hereto in exercising any right, power or remedy hereunder shall operate as a waiver thereof. Except as otherwise expressly provided herein, the remedies provided for herein are cumulative and are not exclusive of any remedies that may be available to any party hereto at law or in equity or otherwise. This Agreement may not be amended without the prior written consent of (A) the Company, (B) the Required Outside Investors and (C) the Management Investors, except in the case where the Management Investors are not materially and adversely affected in a manner different than other Investors, in which such case, one Management Investor. Except as otherwise expressly provided herein, neither of the Management Investors may assign any of his or its rights under this Agreement without the prior written consent of the Company and the Outside Investors. Notwithstanding the foregoing, (i) any action to be taken, amendment, waiver or consent by, in connection with, or with respect to the Series A Preferred Stock, the Series B Preferred Stock, the Subordinated Debentures or the Warrants, respectively, shall require the holders of a majority-in-interest of the Series A Preferred Stock, a

majority-in-interest of the Series B Preferred Stock, a majority-in-interest in aggregate principal amount of the Subordinated Debentures or the holders of a majority-in-interest of the Warrants, respectively, (ii) no waiver or amendment may adversely affect one Investor in a manner different from any other Investor without the written consent of such first mentioned Investor, (iii) no amendment of this Section 9.4 shall be binding upon any Investor without the prior written consent of such Investor, (iv) no amendment of Section 9.2 or 9.14 shall be binding upon any Investor without the prior written consent of such Investor, (v) no provision herein which by its terms requires the act or consent of more than a majority-in-interest of any class or group of Investors may be amended without the prior written consent of such greater number of such class or group of Investors as is so specified and (vi) no amendment or waiver of any of the provisions herein relating to the board visitation rights of Citizens Capital, Inc. shall be effective without the prior written consent of Citizens Capital, Inc.

SECTION 9.5 NOTICES. All notices and other communications provided for herein shall be in writing and shall be deemed to have been duly given, delivered and received (a) if delivered personally or (b) if sent by telex or facsimile, registered or certified mail (return receipt requested) postage prepaid, or by courier guaranteeing next day delivery, in each case to the party to whom it is directed at the following addresses (or at such other address for any party as shall be specified by notice given in accordance with the provisions hereof, provided that notices of a change of address shall be effective only upon receipt thereof). Notices delivered personally shall be effective on the day so delivered, notices sent by registered or certified mail shall be effective three days after mailing, notices sent by telex shall be effective when answered back, notices sent by facsimile shall be effective when receipt is acknowledged, and notices sent by courier guaranteeing next day delivery shall be effective on the earlier of the second business day after timely delivery to the courier or the day of actual delivery by the courier:

If to the Company:	Harvard Apparatus, Inc. 84 October Hill Road Holliston, MA 01746-1371 Attention: President Phone: (508) 893-8999 Fax: (508) 429-5732
with a copy to:	Goodwin, Procter & Hoar LLP Exchange Place Boston, MA 02109 Attention: H. David Henken, P.C. Phone: (617) 570-1672 Fax: (617) 523-1231
If to the Outside Investors:	To the address set forth on the signature pages hereto
with a copy to:	Choate, Hall & Stewart Exchange Place

Boston, MA 02109
Attention: W. Brewster Lee, P.C.
Phone: (617) 248-5051
Fax: (617) 248-4000

If to the Management Investors: at the office of the Company set forth above.

SECTION 9.6 HEADINGS. The Article and Section headings used or contained in this Agreement are for convenience of the reference only and shall not affect the construction of this Agreement.

SECTION 9.7 COUNTERPARTS. This Agreement may be executed in one or more counterparts and by the parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which together shall be deemed to constitute one and the same agreement.

SECTION 9.8 REMEDIES; SEVERABILITY. It is specifically understood and agreed that any breach of the provisions of this Agreement by any Person subject hereto will result in irreparable injury to the other parties hereto, that the remedy at law alone will be an inadequate remedy for such breach, and that, in addition to any other legal or equitable remedies which they may have, such other parties may enforce their respective rights by actions for specific performance (to the extent permitted by law) and the Company may refuse to recognize any unauthorized transferee as one of its stockholders for any purpose, including, without limitation, for purposes of dividend and voting rights, until the relevant party or parties have complied with all applicable provisions of this Agreement.

In the event that any one or more of the provisions contained herein, or the application thereof in any circumstances, is held invalid, illegal or unenforceable in any respect for any reason, the validity, legality and enforceability of any such provision in every other respect and of the remaining provisions contained herein shall not be in any way impaired thereby, it being intended that all of the rights and privileges of the parties hereto shall be enforceable to the fullest extent permitted by law.

SECTION 9.9 ENTIRE AGREEMENT. This Agreement is intended by the parties as a final expression of their agreement and intended to be complete and exclusive statement of the agreement and understanding of the parties hereto in respect of the subject matter contained herein. This Agreement supersedes all prior agreements and understandings between the parties with respect to such subject matter (including without limitation, the Initial Investment Agreement).

SECTION 9.10 ADJUSTMENTS. All references to share prices and amounts herein shall be equitably adjusted to reflect stock splits, stock dividends, recapitalizations and similar changes affecting the capital stock of the Company.

SECTION 9.11 LAW GOVERNING. This Agreement shall be construed and enforced in accordance with and governed by the laws of The Commonwealth of Massachusetts (without giving effect to principles of conflicts of law). Each party also waives trial by jury in any action relating to this Agreement and consents to the jurisdiction of any Massachusetts court (federal or state).

SECTION 9.12 TERMINATION OF AGREEMENT.

(a) With respect to all Investors, this Agreement shall, except as provided in the following sentence, automatically terminate and be of no further force or effect upon the closing of a public offering of the Company's capital stock resulting in gross proceeds to the Company of at least $10,000,000 and a per share price of Common Stock of $24.29 (appropriately adjusted for stock dividends, stock splits, and other recapitalization transactions), provided that the Subordinated Debentures and all amounts owing in connection therewith have been or will be concurrently with the closing of any such public offering paid in full. Notwithstanding the preceding sentence, the agreements contained in Article IV, Section 9.2, Section 9.14 (with respect only to expenses incurred prior to or in connection with such public offering) and Sections 9.4, 9.5, 9.8, 9.9, 9.10, 9.11 and 9.13 hereof shall survive such termination.

(b) With respect to each holder of shares of Series B Preferred Stock in its capacity as such, except as provided in the following sentence, this Agreement shall automatically terminate and be of no further force or effect upon the earlier of (i) the events described in subparagraph 9.12(a) above, and (ii) that time when such holder no longer owns at least 30% of the shares of Series B Preferred Stock purchased by it pursuant to the Securities Purchase Agreement. Notwithstanding the preceding sentence, the agreements contained in Article IV, Section 9.2 and Section 9.14 (with respect only to expenses incurred prior to or in connection any public offering described in subparagraph 9.12(a) above) and Sections 9.4, 9.5, 9.8, 9.9, 9.10, 9.11 and 9.13 hereof shall survive such termination.

SECTION 9.13 COOPERATION. Each of the Company, the Outside Investors and the Management Investors shall cooperate with all reasonable requests of the others not inconsistent with the terms of this Agreement to consummate more effectively the transactions contemplated hereby.

SECTION 9.14 EXPENSES. The Company agrees to pay and hold the Outside Investors harmless against liability for payment of all costs and expenses incurred in connection with their investment in the Company, including the reasonable fees and disbursements of legal counsel and other professionals. The Company shall not pay or reimburse the Management Investors for any costs or expenses (including, without limitation, reasonable legal fees or fees of other professionals) incurred by them in connection with their investment in the Company.

ARTICLE X EVENTS OF DEFAULT.

In each case of the happening of any of the following events (each of which is herein sometimes referred to as an "Event of Default"):

(a) if any representation or warranty made herein or by the Company in any agreement executed in connection with, or in any report, certificate, financial statement or other instrument furnished in connection with or pursuant to, this Agreement, the Initial Investment Agreement or the Securities Purchase Agreement shall prove to have been false or misleading when made in any material respect;

(b) if a default occurs in the payment of any premium, installment of the principal of, interest or dividends on, or other obligation with respect to, the Preferred Stock or the Subordinated Debentures, whether at the due date thereof or upon acceleration thereof, and, in the case of any such default such default continues for fifteen (15) or more days after the due date thereof;

(c) if a default occurs in the due observance or performance of any material covenant, condition or agreement on the part of the Company to be observed or performed pursuant to the provisions of this Agreement, the Subordinated Debentures or any other agreement entered into in connection herewith or contemplated by this Agreement and, if such default is susceptible to cure, such default continues for ten (10) days after the occurrence thereof or (ii) if a default occurs in the due observance or performance of any covenant, condition or agreement on the part of the Company to be observed or performed pursuant to the provisions of this Agreement, the Subordinated Debentures or any other agreement entered into in connection herewith or contemplated by this Agreement other than any such default described in clause (b) or clause (c)(i) hereof and, if such default is susceptible to cure, such default continues for thirty (30) days after the occurrence thereof ;

(d) if a default occurs with respect to any other indebtedness of the Company for borrowed money which permits the holder thereof to accelerate such indebtedness prior to the stated maturity thereof;

(e) if the Company shall (i) discontinue its business, (ii) apply for or consent to the appointment of a receiver, trustee, custodian or liquidator of it or any of its property, (iii) admit in writing its inability to pay its debts as they mature, (iv) make a general assignment for the benefit of creditors, or (v) file a voluntary petition in bankruptcy, or a petition or an answer seeking reorganization or an arrangement with creditors, or to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation laws or statutes, or an answer admitting the material allegations of a petition filed against it in any proceeding under any such law, or if corporate action shall be taken for the purpose of effecting any of the foregoing;

(f) there shall be filed against the Company an involuntary petition not stayed or vacated within thirty (30) days seeking reorganization of the Company or the appointment of a receiver, trustee, custodian or liquidator of the Company or a substantial part of its assets, or an involuntary petition under any bankruptcy, reorganization or insolvency law of any jurisdiction, whether now or hereafter in effect (any of the foregoing petitions being hereinafter referred to as an "Involuntary Petition");

(g) if final judgment(s) for the payment of money in excess of an aggregate of $100,000 shall be rendered against the Company and the same shall remain undischarged for a period of thirty (30) consecutive days, during which time execution shall not be effectively stayed; or

(h) if there occurs any attachment of any deposits or other property of the Company in an amount exceeding $100,000, which shall not be discharged within thirty (30) days of the date of such attachment;

then, upon each and every such Event of Default and at any time thereafter during the continuance of such Event of Default, at the election of the respective Outside Investor, the Subordinated Debentures and any and all indebtedness of the Company to such Outside Investor shall immediately become due and payable, both as to principal and interest, without presentment, demand, or protest, all of which are hereby expressly waived, anything contained herein or in the Subordinated Debentures or other evidence of such indebtedness to the contrary notwithstanding (except in the case of an Event of Default under paragraphs (e) or (f) of this Article X, in which event such indebtedness shall automatically become due and payable). In the event of an acceleration of the Company's indebtedness hereunder as a result of the filing of an Involuntary Petition as specified in paragraph (f) of this Article X, such acceleration shall be rescinded, and the Company's rights hereunder reinstated, if, within forty-five (45) days following the filing of such Involuntary Petition, such Involuntary Petition shall have been dismissed, and there shall exist no other Event of Default under this Agreement.

In case any one or more Events of Default shall occur and be continuing and acceleration of the Subordinated Debentures or any other indebtedness of the Company to the Outside Investors shall have occurred, the Outside Investors may proceed to protect and enforce their rights by an action at law, suit in equity or other appropriate proceeding, whether for the specific performance of any agreement contained in this Agreement or the Subordinated Debentures, or for an injunction against a violation of any of the terms hereof or thereof or in and of the exercise of any power granted hereby or thereby or by law. No right conferred upon the Outside Investors hereby or by the Subordinated Debentures 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.

ARTICLE XI FAIR MARKET VALUE

For purposes of this Agreement, "Fair Market Value" with respect to any security shall mean the fair market value of such security, on a fully-diluted basis, as of the date of the event giving rise to the necessity of making such determination, as determined in good faith by the Board of Directors of the Company and without discount for any lack of control. In making its determination of Fair Market Value, the Board of Directors shall take into consideration such factors as it deems appropriate. The Investor for whom such Fair Market Value determination is being made shall have thirty (30) days following the date on which the Board of Directors of the Company gives written notice to such Investor of such Fair Market Value determination to accept such Fair Market Value determination. Such Investor will be deemed to have accepted such Fair Market Value determination if he fails to so notify the Company within the 30-day period. During such 30-day period, the Company shall supply to the Investor with such information as the Investor shall reasonably request (subject to executing an appropriate confidentiality agreement) in order that the Investor can assess the Fair Market Value determination. In the event that such Investor notifies the Company in writing within such 30-day period that such Investor disagrees with the determination of Fair Market Value made by the Board of Directors, the Fair Market Value shall be determined by an accounting or other firm reasonably satisfactory to the Company and such Investor (the "Independent Firm"). The Independent Firm shall be instructed to determine Fair Market Value on a fully-diluted basis, as of the date of the event giving rise to the necessity of making such determination and without discount for any lack of control. The expense of such determination of Fair Market Value shall be borne by the objecting Investor; PROVIDED, HOWEVER, that if the Independent Firm's determination of Fair Market Value is one hundred twenty-five percent (125%) or more than the determination of the Company's Board of Directors as presented to the Investor, the expense of the determination of Fair Market Value by the Independent Firm shall be borne by the Company.

ARTICLE XII ARBITRATION

The parties agree that any controversy or dispute arising under this Agreement, including without limitation, for indemnification, shall be referred to the J.A.M.S./Endispute, to be settled by arbitration in Boston, Massachusetts in accordance with the arbitration rules of such entity. The fees and expenses of the arbitrator shall, as between the relevant parties, be borne by them in such proportions as shall be determined by the arbitrator, or if there is no such determination, then such fees and expenses shall be borne equally by the relevant parties. The determination of the arbitrator as to any controversy or dispute shall be conclusive and binding upon the parties hereto and judgment may be entered thereon in any court having jurisdiction thereof, including, without limitation, any Superior Court in The Commonwealth of Massachusetts.

ARTICLE XIII TERMS OF THE SUBORDINATED DEBENTURES

The terms of the Subordinated Debentures shall be as follows:

(a) MATURITY DATE. The Subordinated Debentures shall mature and shall be due and payable, together with all accrued but unpaid interest on the first to occur of: (i) March 15, 2003; (ii) the consummation of the first registered offering of the Company's capital stock (the "First Offering") under the Securities Act; (iii) the sale, lease or other disposition of all or substantially all of the Company's assets (whether in one transaction or a series of related transactions) or the merger or consolidation of the Company with another entity where the beneficial owners of the Company's outstanding capital stock immediately prior to such transaction hold less than fifty-one per cent (51%) of the voting power of the outstanding capital stock of the combined entity immediately after such transaction; (iv) any sale of a material or substantial asset or group of assets of the Company or of any subsidiary of the Company other than in the ordinary course of business (including, without limitation, any sale of the capital stock of any subsidiary of the Company), whether in one transaction or in a series of transactions, in which the aggregate consideration paid to the Company by the purchaser or purchasers of such asset or group of assets exceeds $2,000,000; or (v) the liquidation, dissolution or winding up of the Company (the first to occur of the foregoing, the "Maturity Date").

(b) INTEREST. The Subordinated Debentures shall bear interest, contingent upon and limited to the extent of earnings ("Debenture Interest"), computed on the basis of twelve 30-day months and the actual number of days elapsed, on the unpaid principal amount thereof from the date of issuance until the Maturity Date at the per annum rate of thirteen percent (13%). Interest on the Subordinated Debentures shall be payable quarterly in arrears on each March 31, June 30, September 30, and December 31 commencing on March 31, 1996.

(c) INTEREST AFTER DEFAULT. In the event that any Event of Default occurs hereunder, the interest rate on the Subordinated Debentures shall increase to fifteen percent (15%) per annum ("Debenture Default Interest") (computed as provided above) during the period from the occurrence of such Event of Default through the earlier of the cure or waiver of such Event of Default or the payment in full of all outstanding principal and accrued but unpaid interest due thereon; provided, however, notwithstanding the foregoing, in no event shall the interest actually paid on a Subordinated Debenture exceed, so long as the holder of such Subordinated Debenture (a "Debentureholder") is a Small Business Investment Company, the maximum amount of interest permitted to be paid by the U.S. SBA Regulations as in effect on the date hereof, or such greater amount as may be permitted by such regulations as amended from time to time.

(d) PRINCIPAL. The Company will pay the principal of, and all accrued but unpaid interest on, the Subordinated Debentures without set-off, deduction or counterclaim in accordance with the following amortization schedule:

Calendar Quarter Ended	Percent of Original Principal Amount of Debentures Due and Payable
The issue date - March 31, 1997	0.0%
June 30, 1997 - March 31, 1998	2.5%
June 30, 1998 - December 31, 1998	3.75%
March 31, 1999	0.0%
June 30, 1999 - December 31, 1999	2.0%
March 31, 2000 - December 31, 2000	2.5%
March 31, 2001 - December 31, 2002	5.0%
March 31, 2003	22.75%

Payments due under this Section 2.7(d) shall be made not later than five (5) business days after the relevant calendar quarter end.

(e) PAYMENTS ON THE DEBENTURES. All payments of principal and interest on the Subordinated Debentures shall be made by the Company in lawful money of the United States of America in immediately available funds not later than 12:00 p.m., Boston time, on the date such payment is due, or, if such date is not a business day, then on the next succeeding business day, at the address of the Debentureholder set forth on the signature pages hereto or, at such Debentureholder's election, by crediting the Debentureholder's account at a bank designated by the Debentureholder in writing to the Company.

(f) PREPAYMENT. The outstanding principal amount of the Subordinated Debentures may be prepaid, in whole or in part, without penalty or premium, but with all accrued but unpaid interest thereon, at any time upon not less than ten (10) days' prior written notice to the Debentureholders, and shall be paid, in whole, with all accrued but unpaid interest thereon, upon the Maturity Date.

(g) FINANCIAL COVENANT. The Company at all times shall maintain a ratio of Debt to Equity of not more than 2.5 to 1. For these purposes, "Debt" shall mean all outstanding indebtedness for borrowed money (excluding the Subordinated Debentures) and "Equity" shall mean the sum of (A) the Company's consolidated tangible net worth as determined in accordance with generally accepted accounting principles and (B) the principal amount of the Subordinated Debentures.

(h) TRANSFERABILITY. The Subordinated Debentures shall be freely transferable.

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

COMPANY

HARVARD APPARATUS, INC.

By: /S/ David Green

Name: David Green
Title: President

OUTSIDE INVESTORS

PIONEER VENTURES LIMITED PARTNERSHIP

ADDRESS:
c/o Pioneer Capital Corp.
60 State Street
Boston, MA 02109
Attn: C.W. Dick
fax: (617) 742-7315

By: Pioneer SBIC Corp.,
Its: General Partner

By: /S/ C.W. Dick

C. W. Dick
Vice President

PIONEER VENTURES LIMITED PARTNERSHIP II

By: Pioneer Ventures Management LP
Its: General Partner

ADDRESS:
c/o Pioneer Capital Corp.
60 State Street
Boston, MA 02109
Attn: C.W. Dick
fax: (617) 742-7315

By: Pioneer Management SBIC Corp.
Its: General Partner

By: /S/ C.W. Dick

C. W. Dick
Vice President

ADDRESS:
60 State Street
Boston, MA 02109
Attn: C.W. Dick
fax: (617) 742-7315

PIONEER CAPITAL CORP.

By: /S/ C.W. Dick

C. W. Dick

FIRST NEW ENGLAND CAPITAL, L.P.

ADDRESS:
100 Pearl Street
Hartford, CT 06103
Attn: Richard Klaffky
fax: (860) 293-3338

By: FINEC CORP.
Its: General Partner

By: /S/ Richard C. Klaffky

Richard C. Klaffky
President

CITIZENS CAPITAL, INC.

ADDRESS:
28 State Street, 15th Floor
Boston, MA 02109
Attn: Daniel P. Corcoran, Jr.
fax: (617) 725-5630

By: /S/ Daniel P. Corcoran, Jr.

Daniel P. Corcoran, Jr.
Title:

/S/ Chane Graziano

Chane Graziano, in his capacity as
an Outside Investor

MANAGEMENT INVESTORS

/S/ Chane Graziano

Chane Graziano, in his capacity as
a Management Investor

/S/ David Green

David Green

EXHIBIT A

FORM OF JOINDER AGREEMENT

The undersigned hereby agrees, effective as of the date hereof, to become a party to that certain Securityholders' Agreement (the "Agreement") dated as of March 2, 1999 by and among Harvard Apparatus, Inc. (the "Company") and the other parties named therein and for all purposes of the Agreement, the undersigned shall be included within the term "Management Investor" (as defined in the Agreement). As of the date hereof the undersigned makes each of the representations and warranties set forth in Section 3.1 of the Agreement. The address and facsimile number to which notices may be sent to the undersigned is as follows:

_____

Facsimile No._____.

_____

[Name]

Exhibit 10.1

HARVARD APPARATUS, INC.

1996 STOCK OPTION AND GRANT PLAN

1. PURPOSE

This Stock Option and Grant Plan (the "Plan") is intended as a performance incentive for officers, employees, directors, consultants and other key persons of Harvard Apparatus, Inc. (the "Company") or its Subsidiaries (as hereinafter defined) to enable the persons to whom options are granted (the "Optionees") or to whom shares of common stock are granted (the "Grantees") to acquire or increase a proprietary interest in the success of the Company. The Company intends that this purpose will be effected by the granting of "incentive stock options" ("Incentive Options") as defined in Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), nonqualified stock options ("Nonqualified Options") and outright grants of common stock under the Plan. The term "Subsidiaries" includes any corporations in which stock possessing fifty percent or more of the total combined voting power of all classes of stock is owned directly or indirectly by the Company.

2. OPTIONS TO BE GRANTED AND ADMINISTRATION

(a) Options granted under the Plan may be either Incentive Options or Nonqualified Options, and shall be designated as such at the time of grant. To the extent that any option intended to be an Incentive Option shall fail to qualify as an "incentive stock option" under the Code, such option shall be deemed to be a Nonqualified Option.

(b) The Plan shall be administered by the Compensation Committee of the Board of Directors of the Company (the "Board of Directors") or such other committee as may from time to time be chosen by the Board of Directors (the "Option Committee").

(c) Subject to the terms and conditions of the Plan, the Option Committee shall have the power:

(i) To determine from time to time the options or stock to be granted to eligible persons under the Plan, to prescribe the terms and provisions (which need not be identical) of options or stock granted under the Plan to such persons and to approve the grant of options or stock, as the case may be;

(ii) To construe and interpret the Plan and grants thereunder and to establish, amend, and revoke rules and regulations for administration of the Plan. In this connection, the Option Committee may correct any defect or supply any omission, or reconcile any inconsistency in the Plan, in any option agreement, or in any related agreements, in the manner and to the extent it shall deem necessary or expedient to make the Plan fully effective. All decisions and determinations by the Option Committee in the exercise of this power shall be final and binding upon the Company, the Optionees and the Grantees;

(iii) to condition the grant of any award (or, in the case of stock options, the exercise of any stock option) on the entering into of an agreement by the recipient thereof, which such agreement may contain such terms and conditions as the Option Committee shall determine, including, without limitation, the granting of rights of first refusal, drag-along rights and voting requirements with respect to any Stock underlying any such award; and

(iv) Generally, to exercise such powers and to perform such acts as are deemed necessary or expedient to promote the best interests of the Company with respect to the Plan.

3. STOCK

(a) The stock granted under the Plan, or subject to the options granted under the Plan, shall be shares of the Company's authorized but unissued common stock, par value $.01 per share (the "Common Stock"). The total number of shares that may be issued under the Plan shall not exceed an aggregate of 113,620 shares of Common Stock (such number shall be subject to adjustment as provided in Section 7 hereof).

(b) Whenever any outstanding option under the Plan expires, is cancelled or is otherwise terminated (other than by exercise), the shares of Common Stock allocable to the unexercised portion of such option may again be the subject of options under the Plan or grants of Common Stock.

4. ELIGIBILITY

(a) Incentive Options may be granted only to officers or other employees of the Company or its Subsidiaries, including members of the Board of Directors who are also employees of the Company or its Subsidiaries. Nonqualified Options may be granted to officers or other employees of the Company or its Subsidiaries, members of the Board of Directors and consultants and other key persons who provide services to the Company or its Subsidiaries (regardless of whether they are also employees). Grants of Common Stock may be made to any officer, director, employee, consultant or other key person of the Company.

(b) No person shall be eligible to receive any Incentive Option under the Plan if, at the date of grant, such person beneficially owns stock representing in excess of 10% of the voting power of all outstanding capital stock of the Company (a "Ten Percent Stockholder") unless notwithstanding anything in this Plan to the contrary (i) the purchase price for the Common Stock subject to such option is at least 110% of the fair market value of such stock at the time of the grant and (ii) the option by its terms is not exercisable more than five (5) years from the date of grant thereof.

(c) Notwithstanding any other provision of the Plan, to the extent that the aggregate fair market value of the stock with respect to which Incentive Options are exercisable for the first time by any individual during any calendar year (under all plans of the Company and its parent and Subsidiaries) exceeds $100,000, the options attributable to the excess over $100,000 shall be treated as Nonqualified Options under the Plan. Such annual limitation shall be applied by taking Incentive Options into account in the order in which they were granted.

5. TERMS OF THE OPTION AGREEMENTS

Subject to the terms and conditions of the Plan, each option agreement shall contain such provisions as the Option Committee shall from time to time deem appropriate. Option agreements need not be identical, but each option agreement by appropriate language shall include the substance of all of the following provisions:

(a) EXPIRATION; TERMINATION OF EMPLOYMENT. Notwithstanding any other provision of the Plan or of any option agreement, each option shall expire on the date specified in the option agreement, which date in the case of any Incentive Option shall not be later than the tenth (10th) anniversary of the date on which the option was granted; provided, however, that

if such Incentive Option is held by a Ten Percent Stockholder, the expiration date of such Incentive Option shall not be later than five (5) years from the date of grant thereof. If an Optionee's employment or service as a director with the Company and its Subsidiaries terminates for any reason, the Option Committee may (in addition to any terms and provisions contained in an option grant) in its sole and absolute discretion provide, at any time, that any outstanding option granted to such Optionee under the Plan shall be exercisable for not more than three (3) months following termination of employment, subject to the expiration date of such option.

(b) MINIMUM SHARES EXERCISABLE. The minimum number of shares with respect to which an option may be exercised at any one time shall be one hundred (100) shares, or such lesser number as is subject to exercise under the option at the time, provided that no fractional shares may be issued.

(c) EXERCISE. Each option shall be exercisable in such installments (which need not be equal) and at such times as may be designated by the Option Committee. To the extent not exercised, installments shall accumulate and be exercisable, in whole or in part, at any time after becoming exercisable, but not later than the date the option expires.

(d) PURCHASE PRICE. The purchase price per share of Common Stock subject to each option shall be determined by the Option Committee; provided, however, that the purchase price per share of Common Stock subject to each Incentive Option shall be not less than the fair market value of the Common Stock on the date such Incentive Option is granted. For the purposes of the Plan, the fair market value of the Common Stock shall be determined in good faith by the Option Committee; provided, however, that (i) if the Common Stock is admitted to

quotation on the National Association of Securities Dealers Automated Quotation System ("NASDAQ") on the date the option is granted, the fair market value shall not be less than the average of the highest bid and lowest asked prices of the Common Stock on NASDAQ reported for such date, or (ii) if the Common Stock is admitted to trading on a national securities exchange or the NASDAQ National Market System on the date the option is granted, the fair market value shall not be less than the closing price reported for the Common Stock on such exchange or system for such date or, if no sales were reported for such date, for the last date preceding such date for which a sale was reported.

(e) RIGHTS OF OPTIONEES. No Optionee shall be deemed for any purpose to be the owner of any shares of Common Stock subject to any option unless and until (i) the option shall have been exercised pursuant to the terms thereof, (ii) all requirements under applicable law and regulations shall have been complied with to the satisfaction of the Company, (iii) the Company shall have issued and delivered the shares to the Optionee, and (iv) the Optionee's name shall have been entered as a stockholder of record on the books of the Company. Thereupon, the Optionee shall have full voting, dividend and other ownership rights with respect to such shares of Common Stock.

(f) TRANSFER. No option granted hereunder shall be transferable by the Optionee other than by will or by the laws of descent and distribution, and such option may be exercised during the Optionee's lifetime only by the Optionee, or his or her guardian or legal representative.

5A. TERMS OF STOCK GRANT

Subject to the terms and conditions of this Plan, the Option Committee may grant (or sell at a purchase price determined by such committee) shares of Common Stock to eligible participants under this Plan. Such grants or issuances may be on such terms as the Option Committee may determine, including restrictions on transfer, rights of first refusal and repurchase provisions based upon continuing employment and/or the achievement of performance goals or other conditions. In no event may Common Stock issued or granted under this Plan (other than as a result of the exercise of Options issued under this Plan) be transferred or sold within six months of the date of issuance thereof.

6. METHOD OF EXERCISE; PAYMENT OF PURCHASE PRICE

(a) Any option granted under the Plan may be exercised by the Optionee in whole or, subject to Section 5(b) hereof, in part by delivering to the Company on any business day a written notice specifying the number of shares of Common Stock the Optionee then desires to purchase (the "Notice"). As a condition precedent to the exercise of any option (i) prior to the closing date of the Company's first underwritten public offering of the Common Stock, on or prior to the exercise date, the Optionee shall execute and deliver a Joinder Agreement with substantially the terms attached hereto as EXHIBIT A, which may be amended from time to time, and/or such other agreement containing such terms and provisions as any option grant shall require as a condition to exercise, and (ii) the Optionee shall pay or make arrangements for the payment of all taxes to be withheld, in accordance with Section 9 of the Plan.

(b) Payment for the shares of Common Stock purchased pursuant to the exercise of an option shall be made either: (i) in cash, or by certified or bank check or other payment

acceptable to the Company, equal to the option exercise price for the number of shares specified in the Notice (the "Total Option Price"); (ii) if authorized by the applicable option agreement and if permitted by law, by delivery of shares of Common Stock that the optionee may freely transfer having a fair market value, determined by reference to the provisions of Section 5(d) hereof, equal to or less than the Total Option Price, plus cash in an amount equal to the excess, if any, of the Total Option Price over the fair market value of such shares of Common Stock; or (iii) by the Optionee delivering the Notice to the Company together with irrevocable instructions to a broker to promptly deliver the Total Option Price to the Company in cash or by other method of payment acceptable to the Company; provided, however, that the Optionee and the broker shall comply with such procedures and enter into such agreements of indemnity or other agreements as the Company shall prescribe as a condition of payment under this clause (iii).

(c) The delivery of certificates representing shares of Common Stock to be purchased pursuant to the exercise of an option will be contingent upon the Company's receipt of the Total Option Price and of any written representations from the Optionee required by the Option Committee, and the fulfillment of any other requirements contained in the option agreement or applicable provisions of law.

7. ADJUSTMENT UPON CHANGES IN CAPITALIZATION

(a) If the shares of the Company's Common Stock as a whole are increased, decreased, changed into or exchanged for a different number or kind of shares or securities of the Company, whether through merger, consolidation, reorganization, recapitalization, reclassification, stock dividend, stock split, combination of shares, exchange of shares, change

in corporate structure or the like, an appropriate and proportionate adjustment shall be made in the number and kind of shares subject to the Plan, and in the number, kind, and per share exercise price of shares subject to unexercised options or portions thereof granted prior to any such change. In the event of any such adjustment in an outstanding option, the Optionee thereafter shall have the right to purchase the number of shares under such option at the per share price, as so adjusted, which the Optionee could purchase at the total purchase price applicable to the option immediately prior to such adjustment.

(b) Adjustments under this Section 7 shall be determined by the Option Committee and such determinations shall be conclusive and binding on all persons. The Option Committee shall have the discretion and power in any such event to determine and to make effective provision for acceleration of the time or times at which any option or portion thereof shall become exercisable. No fractional shares of Common Stock shall be issued under the Plan on account of any adjustment specified above.

8. EFFECT OF CERTAIN TRANSACTIONS

In the case of (i) the dissolution or liquidation of the Company, (ii) a reorganization, merger, consolidation or other business combination in which the Company is acquired by another entity (other than a holding company formed by the Company) or in which the Company is not the surviving entity, or (iii) the sale of all or substantially all of the assets of the Company to another entity, the Plan and the options issued hereunder shall terminate upon the effectiveness of any such transaction or event, unless provision is made in connection with such transaction for the assumption of options theretofore granted, or the substitution for such options of new options of the successor entity or parent thereof, with appropriate adjustment as

to the number and kind of shares and the per share exercise price, as provided in Section 7. In the event of such termination, all outstanding vested options shall be exercisable for at least fifteen (15) days prior to the date of such termination.

9. TAX WITHHOLDING

Each Optionee shall, no later than the exercise date of any option, pay to the Company, or make arrangements satisfactory to the Option Committee regarding payment of any Federal, state, or local taxes of any kind required by law to be withheld with respect to such income. The Company and its Subsidiaries shall, to the extent permitted by law, have the right to deduct any such taxes from any payment of any kind otherwise due to the Optionee.

10. CONDITION TO GRANTS OF COMMON STOCK

As a condition precedent to the grant of Common Stock to any Grantee under the Plan prior to the closing date of the Company's first underwritten public offering of the Common Stock, the Grantee shall execute and deliver a Joinder Agreement with substantially the terms attached hereto as EXHIBIT A, which may be amended from time to time, and/or such other agreement containing such terms and provisions as the Option Committee shall require as a condition to the grant. The Option Committee may also impose such other terms and conditions on the grant of any Common Stock under the Plan as it may determine.

11. AMENDMENT OF THE PLAN

The Board of Directors may discontinue the Plan or amend the Plan at any time, and from time to time, subject to any required regulatory approval and the limitation that, except as provided in Sections 7 and 8 hereof, no amendment shall be effective unless approved by the stockholders of the Company in accordance with applicable law and regulations at an annual or

special meeting held within twelve months before or after the date of adoption of such amendment, where such amendment will:

(a) increase the number of shares of Common Stock as to which options may be granted under the Plan;

(b) change in substance Section 4 hereof relating to eligibility to participate in the Plan;

(c) change the minimum option exercise price; or

(d) otherwise materially increase the benefits accruing to participants under the Plan.

Except as provided in Sections 7 and 8 hereof, rights and obligations under any option granted before any amendment of the Plan shall not be altered or impaired by such amendment, except with the consent of the Optionee.

12. NONEXCLUSIVITY OF THE PLAN

Neither the adoption of the Plan by the Board of Directors nor the submission of the Plan to the stockholders of the Company for approval shall be construed as creating any limitations on the power of the Board of Directors to adopt such other incentive arrangements as it may deem desirable, including, without limitation, the granting of stock or stock options otherwise than under the Plan, and such arrangements may be either applicable generally or only in specific cases. Neither the Plan nor any option granted hereunder shall be deemed to confer upon any employee any right to continued employment with the Company or its Subsidiaries.

13. GOVERNMENT AND OTHER REGULATIONS; GOVERNING LAW

(a) The obligation of the Company to sell and deliver shares of Common Stock with respect to options granted under the Plan shall be subject to all applicable laws, rules and regulations, including all applicable federal and state securities laws, and the obtaining of all such approvals by governmental agencies as may be deemed necessary or appropriate by the Option Committee.

(b) The Plan shall be governed by Massachusetts law, except to the extent that such law is preempted by federal law.

14. EFFECTIVE DATE OF PLAN; STOCKHOLDER APPROVAL

The Plan shall become effective upon the date that it is approved by the Board of Directors of the Company; provided, however, that the Plan shall be subject to the approval of the Company's stockholders in accordance with applicable laws and regulations at an annual or special meeting held within twelve (12) months of such effective date. No options granted under the Plan prior to such stockholder approval may be exercised until such approval has been obtained. No options may be granted under the Plan after the tenth anniversary of the effective date of the Plan.

* * *

Approved by Board of Directors: May 29, 1996

Approved by Stockholders: May, 1996

Exhibit 10.8

FORM OF INDEMNIFICATION AGREEMENT

This Agreement made and entered into this ____ day of _____ 2000, ("Agreement"), by and between Harvard Bioscience, Inc., a Delaware corporation (the "Company," which term shall include, where appropriate, any Entity (as hereinafter defined) controlled directly or indirectly by the Company) and _____ ("Indemnitee"):

WHEREAS, it is essential to the Company that it be able to retain and attract as directors the most capable persons available;

WHEREAS, increased corporate litigation has subjected directors to litigation risks and expenses, and the limitations on the availability of directors and officers liability insurance have made it increasingly difficult for the Company to attract and retain such persons;

WHEREAS, the Company's Certificate of Incorporation, as amended from time to time, and By-laws, as amended from time to time, require it to indemnify its directors to the fullest extent permitted by law and permit it to make other indemnification arrangements and agreements;

WHEREAS, the Company desires to provide Indemnitee with specific contractual assurance of Indemnitee's rights to full indemnification against litigation risks and expenses (regardless, among other things, of any amendment to or revocation of any such Certificate of Incorporation or By-laws or any change in the ownership of the Company or the composition of its Board of Directors);

WHEREAS, the Company intends that this Agreement provide Indemnitee with greater protection than that which is provided by the Company's Certificate of Incorporation or Bylaws; and

WHEREAS, Indemnitee is relying upon the rights afforded under this Agreement in continuing as a director of the Company:

NOW, THEREFORE, in consideration of the promises and the covenants contained herein, the Company and Indemnitee do hereby covenant and agree as follows:

1. DEFINITIONS.

(a) "Corporate Status" describes the status of a person who is serving or has served (i) as a director of the Company, (ii) in any capacity with respect to any employee benefit plan of the Company, or (iii) as a director, partner, trustee, officer, employee, or agent of any other Entity at the request of the Company.

For purposes of subsection (iii) of this Section 1(a), if Indemnitee is serving or has served as a director, partner, trustee, officer, employee or agent of a Subsidiary, Indemnitee shall be deemed to be serving at the request of the Company.

(b) "Entity" shall mean any corporation, partnership, limited liability company, joint venture, trust, foundation, association, organization or other legal entity.

(c) "Expenses" shall mean all fees, costs and expenses incurred by Indemnitee in connection with any Proceeding (as defined below), including, without limitation, attorneys" fees, disbursements and retainers (including, without limitation, any such fees, disbursements and retainers incurred by Indemnitee pursuant to Sections 10 and 11(c) of this Agreement), fees and disbursements of expert witnesses, private investigators and professional advisors (including, without limitation, accountants and investment bankers), court costs, transcript costs, fees of experts, travel expenses, duplicating, printing and binding costs, telephone and fax transmission charges, postage, delivery services, secretarial services, and other disbursements and expenses.

(d) "Indemnifiable Expenses," "Indemnifiable Liabilities" and "Indemnifiable Amounts" shall have the meanings ascribed to those terms in Section 3(a) below.

(e) "Liabilities" shall mean judgments, damages, liabilities, losses, penalties, excise taxes, fines and amounts paid in settlement.

(f) "Proceeding" shall mean any threatened, pending or completed claim, action, suit, arbitration, alternate dispute resolution process, investigation, administrative hearing, appeal, or any other proceeding, whether civil, criminal, administrative, arbitrative or investigative, whether formal or informal, including a proceeding initiated by Indemnitee pursuant to Section 10 of this Agreement to enforce Indemnitee's rights hereunder.

(g) "Subsidiary" shall mean any corporation, partnership, limited liability company, joint venture, trust or other Entity of which the Company owns (either directly or through or together with another Subsidiary of the Company) either (i) a general partner, managing member or other similar interest or (ii) (A) 50% or more of the voting power of the voting capital equity interests of such corporation, partnership, limited liability company, joint venture or other Entity, or (B) 50% or more of the outstanding voting capital stock or other voting equity interests of such corporation, partnership, limited liability company, joint venture or other Entity.

2. SERVICES OF INDEMNITEE. In consideration of the Company's covenants and

commitments hereunder, Indemnitee agrees to serve or continue to serve as a director of the Company. However, this Agreement shall not impose any obligation on Indemnitee or the Company to continue Indemnitee's service to the Company beyond any period otherwise required by law or by other agreements or commitments of the parties, if any.

3. AGREEMENT TO INDEMNIFY. The Company agrees to indemnify Indemnitee as follows:

(a) Subject to the exceptions contained in Section 4(a) below, if Indemnitee was or is a party or is threatened to be made a party to any Proceeding (other than an action by or in the right of the Company) by reason of Indemnitee's Corporate Status, Indemnitee shall be indemnified by the Company against all Expenses and Liabilities incurred or paid by Indemnitee in connection with such Proceeding (referred to herein as "Indemnifiable Expenses" and "Indemnifiable Liabilities," respectively, and collectively as "Indemnifiable Amounts").

(b) Subject to the exceptions contained in Section 4(b) below, if Indemnitee was or is a party or is threatened to be made a party to any Proceeding by or in the right of the Company to procure a judgment in its favor by reason of Indemnitee's Corporate Status, Indemnitee shall be indemnified by the Company against all Indemnifiable Expenses.

4. EXCEPTIONS TO INDEMNIFICATION. Indemnitee shall be entitled to indemnification under Sections 3(a) and 3(b) above in all circumstances other than the following:

(a) If indemnification is requested under Section 3(a) and it has been adjudicated finally by a court of competent jurisdiction that, in connection with the subject of the Proceeding out of which the claim for indemnification has arisen, Indemnitee failed to act (i) in good faith and (ii) in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, or, with respect to any criminal action or proceeding, Indemnitee had reasonable cause to believe that Indemnitee's conduct was unlawful, Indemnitee shall not be entitled to payment of Indemnifiable Amounts hereunder.

(b) If indemnification is requested under Section 3(b) and

(i) it has been adjudicated finally by a court of competent jurisdiction that, in connection with the subject of the Proceeding out of which the claim for indemnification has arisen, Indemnitee failed to act (A) in good faith and (B) in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, Indemnitee shall not be entitled to payment of Indemnifiable Expenses hereunder; or

(ii) it has been adjudicated finally by a court of competent

jurisdiction that Indemnitee is liable to the Company with respect to any claim, issue or matter involved in the Proceeding out of which the claim for indemnification has arisen, including, without limitation, a claim that Indemnitee received an improper personal benefit, no Indemnifiable Expenses shall be paid with respect to such claim, issue or matter unless the Court of Chancery or another court in which such Proceeding was brought shall determine upon application that, despite the adjudication of liability, but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnity for such Indemnifiable Expenses which such court shall deem proper.

5. PROCEDURE FOR PAYMENT OF INDEMNIFIABLE AMOUNTS. Indemnitee shall submit to the Company a written request specifying the Indemnifiable Amounts for which Indemnitee seeks payment under Section 3 of this Agreement and the basis for the claim. The Company shall pay such Indemnifiable Amounts to Indemnitee within sixty (60) calendar days of receipt of the request. At the request of the Company, Indemnitee shall furnish such documentation and information as are reasonably available to Indemnitee and necessary to establish that Indemnitee is entitled to indemnification hereunder.

6. INDEMNIFICATION FOR EXPENSES OF A PARTY WHO IS WHOLLY OR PARTLY SUCCESSFUL. Notwithstanding any other provision of this Agreement, and without limiting any such provision, to the extent that Indemnitee is, by reason of Indemnitee's Corporate Status, a party to and is successful, on the merits or otherwise, in any Proceeding, Indemnitee shall be indemnified against all Expenses reasonably incurred by Indemnitee or on Indemnitee's behalf in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Agreement, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

7. EFFECT OF CERTAIN RESOLUTIONS. Neither the settlement or termination of any Proceeding nor the failure of the Company to award indemnification or to determine that indemnification is payable shall create an adverse presumption that Indemnitee is not entitled to indemnification hereunder. In addition, the termination of any proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent shall not create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal action or proceeding, had reasonable cause to believe that Indemnitee's action was unlawful.

8. AGREEMENT TO ADVANCE EXPENSES; UNDERTAKING. The Company shall advance all Expenses incurred by or on behalf Indemnitee in connection with any Proceeding, including

a Proceeding by or in the right of the Company, in which Indemnitee is involved by reason of such Indemnitee's Corporate Status within thirty (30) days after the receipt by the Company of a written statement from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. To the extent required by Delaware law, Indemnitee hereby undertakes to repay the amount of Indemnifiable Expenses paid to Indemnitee if it is finally determined by a court of competent jurisdiction that Indemnitee is not entitled under this Agreement to indemnification with respect to such Expenses. This undertaking is an unlimited general obligation of Indemnitee.

9. PROCEDURE FOR ADVANCE PAYMENT OF EXPENSES. Indemnitee shall submit to the Company a written request specifying the Indemnifiable Expenses for which Indemnitee seeks an advancement under Section 8 of this Agreement, together with documentation evidencing that Indemnitee has incurred such Indemnifiable Expenses. Payment of Indemnifiable Expenses under Section 8 shall be made no later than thirty (30) calendar days after the Company's receipt of such request.

10. REMEDIES OF INDEMNITEE.

(a) RIGHT TO PETITION COURT. In the event that Indemnitee makes a request for payment of Indemnifiable Amounts under Sections 3 and 5 above or a request for an advancement of Indemnifiable Expenses under Sections 8 and 9 above and the Company fails to make such payment or advancement in a timely manner pursuant to the terms of this Agreement, Indemnitee may petition the Court of Chancery to enforce the Company's obligations under this Agreement.

(b) BURDEN OF PROOF. In any judicial proceeding brought under Section 10(a) above, the Company shall have the burden of proving that Indemnitee is not entitled to payment of Indemnifiable Amounts hereunder.

(c) EXPENSES. If Indemnitee is successful in whole or in part in connection with any action brought by Indemnitee under Section 10(a) above, the Company agrees to reimburse Indemnitee in full for any Expenses incurred by Indemnitee in connection with investigating, preparing for, litigating, defending or settling any such action, or in connection with any claim or counterclaim brought by the Company in connection therewith.

(d) VALIDITY OF AGREEMENT. The Company shall be precluded from asserting in any Proceeding, including, without limitation, an action under Section 10(a) above, that the provisions of this Agreement are not valid, binding and enforceable or that there is insufficient consideration for this Agreement and shall stipulate in court that the Company is bound by all the provisions of this Agreement.

(e) FAILURE TO ACT NOT A DEFENSE. The failure of the Company (including its Board of Directors or any committee thereof, independent legal counsel, or

stockholders) to make a determination concerning the permissibility of the payment of Indemnifiable Amounts or the advancement of Indemnifiable Expenses under this Agreement shall not be a defense in any action brought under Section 10(a) above, and shall not create a presumption that such payment or advancement is not permissible.

11. DEFENSE OF THE UNDERLYING PROCEEDING.

(a) NOTICE BY INDEMNITEE. Indemnitee agrees to notify the Company promptly upon being served with any summons, citation, subpoena, complaint, indictment, information, or other document relating to any Proceeding which may result in the payment of Indemnifiable Amounts or the advancement of Indemnifiable Expenses hereunder; provided, however, that the failure to give any such notice shall not disqualify Indemnitee from the right to receive payments of Indemnifiable Amounts or advancements of Indemnifiable Expenses unless the Company's ability to defend in such Proceeding is materially and adversely prejudiced thereby.

(b) DEFENSE BY COMPANY. Subject to the provisions of the last sentence of this Section 11(b) and of Section 11(c) below, the Company shall have the right to defend Indemnitee in any Proceeding which may give rise to the payment of Indemnifiable Amounts hereunder; provided, however that the Company shall notify Indemnitee of any such decision to defend within ten (10) days of receipt of notice of any such Proceeding under Section 11(a) above. The Company shall not, without the prior written consent of Indemnitee, consent to the entry of any judgment against Indemnitee or enter into any settlement or compromise which (i) includes an admission of fault of Indemnitee or (ii) does not include, as an unconditional term thereof, the full release of Indemnitee from all liability in respect of such Proceeding, which release shall be in form and substance reasonably satisfactory to Indemnitee. This Section 11(b) shall not apply to a Proceeding brought by Indemnitee under Section 10(a) above or pursuant to Section 19 below.

(c) INDEMNITEE'S RIGHT TO COUNSEL. Notwithstanding the provisions of Section 11(b) above, if in a Proceeding to which Indemnitee is a party by reason of Indemnitee's Corporate Status, Indemnitee reasonably concludes that it may have separate defenses or counterclaims to assert with respect to any issue which may not be consistent with the position of other defendants in such Proceeding, or if the Company fails to assume the defense of such proceeding in a timely manner, Indemnitee shall be entitled to be represented by separate legal counsel of Indemnitee's choice at the expense of the Company. In addition, if the Company fails to comply with any of its obligations under this Agreement or in the event that the Company or any other person takes any action to declare this Agreement void or unenforceable, or institutes any action, suit or proceeding to deny or to recover from Indemnitee the benefits intended to be

provided to Indemnitee hereunder, Indemnitee shall have the right to retain counsel of Indemnitee's choice, at the expense of the Company, to represent Indemnitee in connection with any such matter.

12. REPRESENTATIONS AND WARRANTIES OF THE COMPANY. The Company hereby represents and warrants to Indemnitee as follows:

(a) AUTHORITY. The Company has all necessary power and authority to enter into, and be bound by the terms of, this Agreement, and the execution, delivery and performance of the undertakings contemplated by this Agreement have been duly authorized by the Company.

(b) ENFORCEABILITY. This Agreement, when executed and delivered by the Company in accordance with the provisions hereof, shall be a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency, moratorium, reorganization or similar laws affecting the enforcement of creditors' rights generally.

13. INSURANCE. The Company shall, from time to time, make the good faith determination whether or not it is practicable for the Company to obtain and maintain a policy or policies of insurance with a reputable insurance company providing the Indemnitee with coverage for losses from wrongful acts, and to ensure the Company's performance of its indemnification obligations under this Agreement. Among other considerations, the Company will weigh the costs of obtaining such insurance coverage against the protection afforded by such coverage. In all policies of director and officer liability insurance, Indemnitee shall be named as an insured in such a manner as to provide Indemnitee the same rights and benefits as are accorded to the most favorably insured of the Company's officers and directors. Notwithstanding the foregoing, the Company shall have no obligation to obtain or maintain such insurance if the Company determines in good faith that such insurance is not reasonably available, if the premium costs for such insurance are disproportionate to the amount of coverage provided, or if the coverage provided by such insurance is limited by exclusions so as to provide an insufficient benefit. The Company shall promptly notify Indemnitee of any good faith determination not to provide such coverage.

14. CONTRACT RIGHTS NOT EXCLUSIVE. The rights to payment of Indemnifiable Amounts and advancement of Indemnifiable Expenses provided by this Agreement shall be in addition to, but not exclusive of, any other rights which Indemnitee may have at any time under applicable law, the Company's By-laws or Certificate of Incorporation, or any other agreement, vote of stockholders or directors (or a committee of directors), or otherwise, both as to action in Indemnitee's official capacity and as to action in any other capacity as a result of Indemnitee's serving as a director of the Company.

15. SUCCESSORS. This Agreement shall be (a) binding upon all successors and assigns of the Company (including any transferee of all or a substantial portion of the business,

stock and/or assets of the Company and any direct or indirect successor by merger or consolidation or otherwise by operation of law) and (b) binding on and shall inure to the benefit of the heirs, personal representatives, executors and administrators of Indemnitee. This Agreement shall continue for the benefit of Indemnitee and such heirs, personal representatives, executors and administrators after Indemnitee has ceased to have Corporate Status.

16. SUBROGATION. In the event of any payment of Indemnifiable Amounts under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of contribution or recovery of Indemnitee against other persons, and Indemnitee shall take, at the request of the Company, all reasonable action necessary to secure such rights, including the execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

17. CHANGE IN LAW. To the extent that a change in Delaware law (whether by statute or judicial decision) shall permit broader indemnification or advancement of expenses than is provided under the terms of the by-laws of the Company and this Agreement, Indemnitee shall be entitled to such broader indemnification and advancements, and this Agreement shall be deemed to be amended to such extent.

18. SEVERABILITY. Whenever possible, each provision of this Agreement shall be interpreted in such a manner as to be effective and valid under applicable law, but if any provision of this Agreement, or any clause thereof, shall be determined by a court of competent jurisdiction to be illegal, invalid or unenforceable, in whole or in part, such provision or clause shall be limited or modified in its application to the minimum extent necessary to make such provision or clause valid, legal and enforceable, and the remaining provisions and clauses of this Agreement shall remain fully enforceable and binding on the parties.

19. INDEMNITEE AS PLAINTIFF. Except as provided in Section 10(c) of this Agreement and in the next sentence, Indemnitee shall not be entitled to payment of Indemnifiable Amounts or advancement of Indemnifiable Expenses with respect to any Proceeding brought by Indemnitee against the Company, any Entity which it controls, any director or officer thereof, or any third party, unless the Board of Directors of the Company has consented to the initiation of such Proceeding. This Section shall not apply to counterclaims or affirmative defenses asserted by Indemnitee in an action brought against Indemnitee.

20. MODIFICATIONS AND WAIVER. Except as provided in Section 17 above with respect to changes in Delaware law which broaden the right of Indemnitee to be indemnified by the Company, no supplement, modification or amendment of this Agreement shall be binding unless executed in writing by each of the parties hereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions of this Agreement (whether or not similar), nor shall such waiver constitute a continuing waiver.

21. GENERAL NOTICES. All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given (a) when delivered by hand, (b) when transmitted by facsimile and receipt is acknowledged, or (c) if mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed:

(i) If to Indemnitee, to:

(ii) If to the Company, to:

Harvard Bioscience, Inc.
84 October Hill Road
Holliston, Massachusetts 01746-1371
Facsimile: (508) 429-8478
Attention: President

with a copy to:
Goodwin, Procter and Hoar LLP
One Exchange Place
Boston, Massachusetts 02109-2881
Facsimile: (617) 523-1231
Attention: H. David Henken P.C.

or to such other address as may have been furnished in the same manner by any party to the others.

22. GOVERNING LAW; CONSENT TO JURISDICTION; SERVICE OF PROCESS. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware without regard to its rules of conflict of laws. Each of the Company and the Indemnitee hereby irrevocably and unconditionally consents to submit to the exclusive jurisdiction of the Court of Chancery of the State of Delaware and the courts of the United States of America located in the State of Delaware (the "Delaware Courts") for any litigation arising out of or relating to this Agreement and the transactions contemplated hereby (and agrees not to commence any litigation relating thereto except in such courts), waives any objection to the laying of venue of any such litigation in the Delaware Courts and agrees not to plead or claim in any Delaware Court that such litigation brought therein has been brought in an inconvenient forum. Each of the parties hereto agrees, (a) to the extent such party is not otherwise subject to service of process in the State of Delaware, to appoint and maintain an agent in the State of Delaware as such party's agent for acceptance of legal process, and (b) that service of process may also be made on such party by prepaid certified mail with a proof of mailing receipt validated by the United States Postal Service constituting evidence of valid service. Service made pursuant to (a) or (b) above shall have the same legal force and effect as if served upon such party personally within the State of Delaware. For purposes of implementing the parties' agreement to appoint and maintain an agent for service of process in the State of Delaware, each

such party does hereby appoint [_____], as such agent and each such party hereby agrees to complete all actions necessary for such appointment.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

HARVARD BIOSCIENCE, INC.

By:

Name:
Title:

INDEMNITEE

Exhibit 21.1

SUBSIDIARIES OF THE REGISTRANT

Harvard Apparatus, Limited (United Kingdom)
Biochrom, Ltd. (United Kingdom)
Ealing Scientific Ltd. Canada (doing business as Harvard Apparatus, Canada)
(Canada)
Harvard Apparatus, S.A.R.L. (France)
Hugo Sachs Elektronik - Harvard Apparatus GmbH (Germany)
Harvard Apparatus FSC, Inc. (U.S. Virgin Islands)

INDEPENDENT AUDITORS' CONSENT

The Board of Directors
Harvard Apparatus, Inc.:

We consent to the inclusion of our report dated October 19, 2000, except as to note 20 which is as of October 25, 2000, with respect to the consolidated balance sheets of Harvard Apparatus, Inc. and subsidiaries as of September 30, 2000, December 31, 1999 and 1998 and the related consolidated statements of operations, stockholders' equity (deficit) and comprehensive income (loss), and cash flows for the nine months ended September 30, 2000 and for each of the years in the three-year period ended December 31, 1999 which report appears in this Registration Statement, and to the reference to our firm under the heading "Experts" in this Registration Statement.

/s/ KPMG LLP

Boston, Massachusetts
October 25, 2000

EXHIBIT 23.3

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the use in this Registration Statement on Form S-1 of our reports dated February 26, 1998 (for the year ended December 31, 1997) and April 9, 1999 (for the year ended December 31, 1998), except for the US GAAP reconciliation as described in Note 24 which is at September 15, 2000, relating to the financial statements and financial statement schedules of Pharmacia & Upjohn (Cambridge) Limited, which appear in the Registration Statement. We also consent to the references to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers

PRICEWATERHOUSECOOPERS
Cambridge, England
October 25, 2000

THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM CONSOLIDATED BALANCE SHEETS AT DECEMBER 31, 1999 AND SEPTEMBER 30, 2000 AND CONSOLIDATED STATEMENT OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 1999 AND THE NINE MONTHS ENDED SEPTEMBER 30, 2000 AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS.

1,000

YEAR	6-MOS
DEC-31-1999	DEC-31-2000
JAN-01-1999	JAN-01-2000
DEC-31-1999	SEP-30-2000
0	0
0	0
0	0
0	0
0	0
0	0
2,396	2,149
0	0
0	0
20,610	23,236
0	0
0	0
0	0
0	0
5,867	7,287
2,500	2,500
0	0
5	7
(25,711)	(97,018)
20,610	23,236
0	0
0	0
0	0
(5)	62
0	0
0	0
0	0
(29,282)	(82,507)
137	1,354
0	0
0	0
0	0
0	0
(29,420)	(83,862)
(5.28)	(13.11)
(5.28)	(13.11)
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0

Exhibit 99.1

CONSENT TO BE NAMED AS A DIRECTOR OF HARVARD BIOSCIENCE, INC.

I hereby consent to be named as a person to become a director of Harvard Bioscience, Inc., a Delaware corporation (the "Company"), in the registration statement on Form S-1 filed by the Company with the Securities and Exchange Commission with respect to the public offering of Common Stock of the Company.

/s/ Robert Dishman

Name: Robert Dishman
Date: October 23, 2000

Exhibit 99.2

CONSENT TO BE NAMED AS A DIRECTOR OF HARVARD BIOSCIENCE, INC.

I hereby consent to be named as a person to become a director of Harvard Bioscience, Inc., a Delaware corporation (the "Company"), in the registration statement on Form S-1 filed by the Company with the Securities and Exchange Commission with respect to the public offering of Common Stock of the Company.

/s/ Earl Lewis

Name: Earl Lewis
Date: October 23, 2000