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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q/A
Amendment No. 1

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

For the quarterly period ended June 30, 2008

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

For the transition period from _____ to _____

Commission file number 000-31923

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

Delaware	**04-3306140**
(State or Other Jurisdiction of Incorporation or Organization)	**(IRS Employer Identification No.)**
84 October Hill Road, Holliston, MA	**01746**
(Address of Principal Executive Offices)	**(Zip Code)**

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐ Accelerated filer ☒
Non-accelerated filer ☐ (Do not check if a smaller reporting company) Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). ☐ YES ☒ NO

APPLICABLE ONLY TO CORPORATE ISSUERS:

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

As of August 7, 2008, there were 31,058,310 shares of Common Stock, par value $0.01 per share, outstanding.

HARVARD BIOSCIENCE, INC.

Form 10-Q
For the Quarter Ended June 30, 2008

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Explanatory Note

Pursuant to Rule 12b-15 of the Securities Exchange Act of 1934, Harvard Bioscience, Inc. hereby amends its Report on Form 10-Q for the quarterly period ended June 30, 2008, by amending and restating Item 6 in order to restore previously redacted portions of Exhibit 10.1 thereto. Except as set forth in Item 6 below, no other changes are made to the Company's Report on Form 10-Q for the quarterly period ended June 30, 2008.

This Amendment contains the complete text of the original report with the restored information appearing in Item 6 of Part II.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(unaudited, in thousands, except share and per share amounts)

	June 30, 2008	December 31, 2007
Assets		
Current assets:		
Cash and cash equivalents	$ 13,800	$ 17,889
Accounts receivable, net of allowance for doubtful accounts of $297 and $378, respectively	15,440	14,757
Inventories	16,229	14,983
Other receivables and other assets	3,078	2,414
Assets of discontinued operations—held for sale	643	4,268
Total current assets	49,190	54,311
Property, plant and equipment, net	4,532	4,465
Deferred income tax assets—non-current	346	346
Amortizable intangible assets, net	9,910	10,640
Goodwill and other indefinite lived intangible assets	29,503	29,028
Other assets	281	63
Total assets	$ 93,762	$ 98,853
Liabilities and Stockholders' Equity		
Current liabilities:		
Notes payable	$ 2,018	$ 2,169
Accounts payable	5,262	5,611
Deferred revenue	488	442
Accrued income taxes payable	924	1,091
Accrued expenses	5,104	4,129
Other liabilities—current	85	1,128
Liabilities of discontinued operations	1,140	1,771
Total current liabilities	15,021	16,341
Long-term debt, less current installments	88	5,578
Deferred income tax liabilities—non-current	1,641	1,560
Other liabilities—non-current	1,112	1,237
Total liabilities	17,862	24,716
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, par value $0.01 per share, 5,000,000 shares authorized	—	—
Common stock, par value $0.01 per share, 80,000,000 shares authorized; 35,719,294 and 35,512,680 shares issued and 31,058,510 and 30,851,896 shares outstanding, respectively	357	355
Additional paid-in-capital	180,883	179,153
Accumulated deficit	(112,882)	(111,363)
Accumulated other comprehensive income	8,210	6,660
Treasury stock, 4,660,784 common shares, at cost	(668)	(668)
Total stockholders' equity	75,900	74,137
Total liabilities and stockholders' equity	$ 93,762	$ 98,853

See accompanying notes to unaudited consolidated financial statements.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited, in thousands, except per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2008	2007	2008	2007
Revenues	$23,049	$20,410	$45,008	$39,525
Cost of product revenues	12,286	10,426	23,920	20,120
Gross profit	10,763	9,984	21,088	19,405
Sales and marketing expenses	2,969	2,553	5,810	5,023
General and administrative expenses	3,795	3,544	7,551	6,947
Research and development expenses	1,077	888	2,158	1,732
Restructuring charges	943	—	1,518	—
Amortization of intangible assets	505	444	1,011	886
Total operating expenses	9,289	7,429	18,048	14,588
Operating income	1,474	2,555	3,040	4,817
Other income (expense):				
Foreign exchange	(37)	21	156	45
Interest expense	(89)	(107)	(219)	(168)
Interest income	126	84	204	140
Other, net	24	(5)	78	(11)
Other income (expense), net	24	(7)	219	6
Income from continuing operations before income taxes	1,498	2,548	3,259	4,823
Income taxes	445	533	989	1,066
Income from continuing operations	1,053	2,015	2,270	3,757
Discontinued operations, net of tax	(3,259)	(3,781)	(3,789)	(5,027)
Net loss	$ (2,206)	$ (1,766)	$ (1,519)	$ (1,270)
Income (loss) per share:				
Basic earnings per common share from continuing operations	$ 0.03	$ 0.07	$ 0.07	$ 0.12
Discontinued operations	(0.11)	(0.12)	(0.12)	(0.16)
Basic loss per common share	$ (0.07)	$ (0.06)	$ (0.05)	$ (0.04)
Diluted earnings per common share from continuing operations	$ 0.03	$ 0.06	$ 0.07	$ 0.12
Discontinued operations	(0.10)	(0.12)	(0.12)	(0.16)
Diluted loss per common share	$ (0.07)	$ (0.06)	$ (0.05)	$ (0.04)
Weighted average common shares:				
Basic	30,971	30,588	30,923	30,578
Diluted	31,608	31,437	31,527	31,416

See accompanying notes to unaudited consolidated financial statements.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited, in thousands)

	Six Months Ended June 30,	
	2008	2007
Cash flows from operating activities:		
Net loss	$ (1,519)	$(1,270)
Adjustments to reconcile net income to net cash provided by operating activities:		
Stock compensation expense	1,005	1,048
Depreciation	654	672
Impairment of assets	2,886	2,860
Restructuring charges	1,171	—
Amortization of catalog costs	127	82
Loss (gain) on sale of property, plant and equipment	13	(12)
Provision for allowance for doubtful accounts	(5)	(199)
Amortization of intangible assets	1,011	886
Amortization of deferred financing costs	11	11
Deferred income taxes	32	—
Changes in operating assets and liabilities, net of effects of acquisitions:		
Decrease in accounts receivable	1,358	2,429
Increase in inventories	(1,397)	(1,917)
(Increase) decrease in other receivables and other assets	(112)	181
Decrease in trade accounts payable	(519)	(1,051)
(Decrease) increase in accrued income taxes payable	(523)	939
Decrease in accrued expenses	(1,879)	(1,166)
(Decrease) increase in deferred revenue	(8)	188
Decrease in other liabilities	(129)	(60)
Net cash provided by operating activities	2,177	3,621
Cash flows from investing activities:		
Additions to property, plant and equipment	(906)	(838)
Additions to catalog costs	(442)	(4)
Net cash used in investing activities	(1,348)	(842)
Cash flows from financing activities:		
Repayments of debt	(5,812)	(2,800)
Net proceeds from issuance of common stock	727	181
Net cash used in financing activities	(5,085)	(2,619)
Effect of exchange rate changes on cash	257	48
(Decrease) increase in cash and cash equivalents	(3,999)	208
Cash and cash equivalents at the beginning of period	18,204	9,751
Cash and cash equivalents at the end of period	$14,205	$ 9,959
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 381	$ 207
Cash paid for income taxes	$ 1,629	$ 1,023
Income tax refunds received	$ 173	$ 802

Note: The above statement of cash flows includes both continuing and discontinued operations. Cash and cash equivalents include $13,800 held by continuing operations and $405 held by discontinued operations as of June 30, 2008.

See accompanying notes to unaudited consolidated financial statements.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements

1. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

The unaudited consolidated financial statements of Harvard Bioscience, Inc. and its wholly owned subsidiaries (collectively the "Company") as of June 30, 2008 and for the three and six months ended June 30, 2008 and 2007 have been prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. The December 31, 2007 consolidated balance sheet was derived from audited financial statements, but does not include all disclosures required by U.S. generally accepted accounting principles. However, the Company believes that the disclosures are adequate to make the information presented not misleading. These unaudited consolidated financial statements should be read in conjunction with the consolidated financial statements and the notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2007, as amended.

In the opinion of management, all adjustments, which include normal recurring adjustments necessary to present a fair statement of financial position as of June 30, 2008, results of operations for the three and six months ended June 30, 2008 and 2007 and cash flows for the six months ended June 30, 2008 and 2007, as applicable, have been made. The results of operations for the three and six months ended June 30, 2008 are not necessarily indicative of the operating results for the full fiscal year or any future periods.

As discussed in Note 3, the Company has decided to divest its Capital Equipment Business segment. Accordingly, the results of operations of this business segment have been reported as discontinued operations.

Reclassifications

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

Summary of Significant Accounting Policies

The accounting policies underlying the accompanying unaudited consolidated financial statements are those set forth in Note 2 to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2007, as amended, filed with the SEC.

2. Recently Issued Accounting Pronouncements

In September 2006, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standard ("SFAS") No. 157, *Fair Value Measurements*. This statement defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value. This statement is effective for financial statements issued for fiscal years and interim periods within those fiscal years, beginning after November 15, 2007. The adoption of SFAS No. 157 did not have a material impact on the Company's consolidated results of operations or financial position.

In February 2008, the FASB issued FASB Staff Position ("FSP") FAS 157-2, *Effective Date of FASB Statement No. 157*, which delays the effective date of SFAS No. 157 for nonfinancial assets and nonfinancial liabilities that are not remeasured at fair value on a recurring basis (at least annually) until fiscal years beginning after November 15, 2008, and interim periods within those fiscal years.

In February, 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Liabilities Including an Amendment of FASB Statement No. 115*. SFAS No. 159 permits reporting entities to choose to measure eligible financial assets or liabilities, which include marketable securities available-for-sale and equity method investments, at fair value at specified election dates, or according to a preexisting policy for specific types of eligible items. Unrealized gains and losses for which the fair value option has been elected are reported in earnings. SFAS No. 159 is effective for fiscal years beginning after November 15, 2007. Early adoption is permitted as of the beginning of a fiscal year that begins on or before November 15, 2007. The adoption of SFAS No. 159 did not have a material impact on the Company's consolidated results of operations or financial position.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

In December 2007, the FASB issued SFAS No. 141 (revised 2007), *Business Combinations*. SFAS No. 141(R) retains the fundamental requirements of the original pronouncement requiring that the purchase method be used for all business combinations. SFAS 141(R) defines the acquirer as the entity that obtains control of one or more businesses in the business combination, establishes the acquisition date as the date that the acquirer achieves control and requires the acquirer to recognize the assets acquired, liabilities assumed and any noncontrolling interest at their fair values as of the acquisition date. SFAS No. 141(R) also requires that acquisition-related costs be recognized separately from the acquisition. This Statement applies prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008 and may not be applied before that date. The Company is in the process of evaluating the impact the adoption of SFAS No. 141(R) will have its consolidated financial position and results of operations.

In December 2007, the FASB issued SFAS No. 160, *Noncontrolling Interests in Consolidated Financial Statements, An Amendment of ARB No. 51.* SFAS No. 160 amends Accounting Research Bulletin ("ARB") 51 to establish accounting and reporting standards for the noncontrolling interest in a subsidiary and for the deconsolidation of a subsidiary. It also amends certain of ARB 51's consolidation procedures for consistency with the requirements of FASB Statement No. 141(R). This statement is effective for fiscal years, and interim periods within those fiscal years, beginning on or after December 15, 2008. The statement shall be applied prospectively as of the beginning of the fiscal year in which the statement is initially adopted. The Company is currently evaluating SFAS 160 and the impact that it may have on results of operations or financial position.

In April 2008, the FASB issued FSP FAS 142-3, *Determination of the Useful Life of Intangible Assets*. FSP FAS 142-3 amends the factors that should be considered in developing renewal or extension assumptions used to determine the useful life of a recognized intangible asset under SFAS No. 142, *Goodwill and Other Intangible Assets* to improve the consistency between the useful life of a recognized intangible asset under SFAS No. 142 and the period of expected cash flows used to measure the fair value of the asset under SFAS No. 141, *Business Combinations*, other U.S. GAAP. FSP FAS 142-3 is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years. Early adoption is prohibited. The Company is currently evaluating the impact of FSP FAS 142-3 on its financial statements.

In May 2008, the FASB issued SFAS No. 162, *The Hierarchy of Generally Accepted Accounting Principles.* SFAS No. 162 identifies the sources of accounting principles and the framework for selecting the principles to be used in the preparation of financial statements that are presented in conformity with generally accepted accounting principles in the United States. SFAS No. 162 is effective 60 days following the SEC's approval of the Public Company Accounting Oversight Board amendments to AU Section 411, *The Meaning of Present Fairly in Conformity with Generally Accepted Accounting Principles*. Based on the Company's current operations, the adoption of SFAS No. 162 will not have a material impact on its financial statements.

3. Discontinued Operations

In July 2005, the Company announced plans to divest its Capital Equipment Business segment. The decision to divest this business was based on the fact that market conditions for the Capital Equipment Business segment were such that this business had not met expectations and the decision to focus resources on the Apparatus and Instrumentation Business segment. As a result, the Company began reporting its Capital Equipment Business segment as a discontinued operation in the third quarter of 2005.

In November 2007, the Company completed the sale of the assets of its Genomic Solutions Division and the stock of its Belgian subsidiary, MAIA Scientific, both of which were part of its Capital Equipment Business Segment, to Digilab, Inc. The purchase price paid by Digilab under the terms of the Asset Purchase Agreement consisted of $1,000,000 in cash plus additional consideration in the form of an earn-out based on 20% of the revenue generated by the acquired business as it is conducted by Digilab over a three-year period post-transaction. Any earn-out amounts will be evidenced by interest bearing promissory notes due on November 30, 2012. During the fourth quarter, the Company recorded a loss on sale of $3.1 million. There was no value ascribed to the contingent consideration from the earn-out agreement, as realization is uncertain. The COPAS flow cytometry product line (held by our Union Biometrica US and German subsidiaries, both of which are still included in discontinued operations), was not included in this sale, and the Company continues to pursue a sale of this product line separately.

During the quarter ended June 30, 2008, we re-evaluated the fair value less costs to sell the remaining assets that comprise the Capital Equipment Business segment. Based on this evaluation, we recorded additional asset impairment charges of $2.9 million.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

The loss from discontinued operations, net of tax, was $3.3 million and $3.8 million for the three and six months ended June 30, 2008, respectively, compared to a loss of $3.8 million and $5.0 million for the for the three and six months ended June 30, 2007, respectively. For the three and six months ended June 30, 2008, the loss from discontinued operations, net of tax, includes the operating results of the Company's Union Biometrica US and German subsidiaries. For the three and six months ended June 30, 2007, the loss from discontinued operations, net of tax, included the operating results of the Company's former Genomic Solutions Division, its former MAIA Scientific subsidiary and its current Union Biometrica US and German subsidiaries

Operating results from the Capital Equipment Business segment were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2008	2007	2008	2007
	(in thousands)			
Total revenues	$ 677	$ 3,602	$ 1,172	$ 7,383
Pretax loss	(3,259)	(3,713)	(3,789)	(5,028)
Income tax expense	—	68	—	(1)
Net loss	$(3,259)	$(3,781)	$(3,789)	$(5,027)

Assets and liabilities of the Capital Equipment Business segment were as follows:

	June 30, 2008	December 31, 2007
	(in thousands)	
Assets		
Cash and cash equivalents	$ 405	$ 315
Accounts receivable, net	—	1,863
Inventories	—	405
Other assets	238	555
Long-lived assets	—	1,130
Total assets	$ 643	$ 4,268
Liabilities		
Total liabilities	$1,140	$ 1,771

4. Goodwill and Other Intangible Assets Intangible assets consist of the following:

	June 30, 2008		December 31, 2007		Weighted Average Life (a)
	(in thousands)				
	Gross	Accumulated Amortization	Gross	Accumulated Amortization	
Amortizable intangible assets:					
Existing technology	$12,664	$ (6,701)	$12,389	$ (6,009)	6.3 years
Tradename	920	(526)	920	(496)	6.6 years
Distribution agreement/customer relationships	6,411	(2,863)	6,291	(2,460)	7.7 years
Patents	9	(4)	9	(4)	7.8 years
Total amortizable intangible assets	$20,004	$ (10,094)	$19,609	$ (8,969)	
Unamortizable intangible assets:					
Goodwill	$28,088		$27,646		
Other indefinite lived intangible assets	1,415		1,382		
Total goodwill and other indefinite lived intangible assets	$29,503		$29,028		
Total intangible assets	$49,507		$48,637		

(a) Weighted average life is as of June 30, 2008.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

The change in the carrying amount of goodwill for the six months ended June 30, 2008 is as follows:

	(in thousands)
Balance at December 31, 2007	$ 27,646
Effect of change in foreign currencies	442
Balance at June 30, 2008	$ 28,088

Intangible asset amortization expense from continuing operations was $0.5 million and $0.4 million for the three months ended June 30, 2008 and 2007, respectively. Intangible asset amortization expense from continuing operations was $1.0 million and $0.9 million for the six months ended June 30, 2008 and 2007, respectively. Amortization expense of existing amortizable intangible assets is estimated to be $2.0 million for the year ending December 31, 2008, $1.7 million for the year ending December 31, 2009, $1.5 million for the years ending December 31, 2010 and 2011 and $1.2 million for the year ending December 31, 2012.

5. Inventories

Inventories consist of the following:

	June 30, 2008	December 31, 2007
	(in thousands)	
Finished goods	$ 5,200	$ 5,472
Work in process	1,801	1,665
Raw materials	9,228	7,846
Total	$16,229	$ 14,983

6. Restructuring and Other Exit Costs

During the quarter ended March 31, 2008, the management of Harvard Bioscience committed to an ongoing initiative to consolidate business functions to reduce operating expenses. Our recent actions have been related to the separation of our electrophoresis product lines from our spectrophotometer and plate reader product lines. As part of these initiatives we have made changes in management, completed the consolidation of the Hoefer electrophoresis administrative and marketing operations from San Francisco, California to the headquarters of the Harvard Apparatus subsidiary in Holliston, Massachusetts and consolidated the activities of our Asys Hitech subsidiary in Austria to the Company's Biochrom subsidiary's facility located in Cambridge, UK.

During the three months ended March 31, 2008, we recorded charges related to the restructuring of approximately $0.8 million. These charges were comprised of $0.4 million in severance payments, $0.3 million in inventory impairment charges related to the discontinuance of certain product lines (included in cost of product revenues) and $0.2 million in various other costs.

We recorded additional restructuring charges of approximately $0.9 million during the quarter ended June 30, 2008. These charges were comprised of $0.5 million in severance payments, $0.3 million in various other costs and $0.1 million in facility closure costs.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

Restructuring charges are as follows:

	Severance and Related	Inventory	Facility Closure Costs	Other	Total
			(in thousands)		
Restructuring charges	$ 415	$ 259	$ —	$ 165	$ 839
Cash payments	(258)	—	—	(41)	(299)
Non-cash charges	—	(259)	—	(118)	(377)
March 31, 2008 accrual balance	$ 157	$ —	$ —	$ 6	$ 163
Restructuring charges	544	(6)	140	259	937
Cash payments	(122)	—	(3)	(181)	(306)
Non-cash charges	—	6	—	—	6
June 30, 2008 accrual balance	$ 579	$ —	$ 137	$ 84	$ 800

We anticipate the majority of the remaining payments related to the restructuring will occur during 2008.

7. Warranties

Warranties are estimated and accrued for at the time sales are recorded. A roll forward of product warranties is as follows:

	Beginning Balance	Payments	Additions	Ending Balance
		(in thousands)		
Year ended December 31, 2007	$ 179	(226)	286	$ 239
Six months ended June 30, 2008	$ 239	(50)	57	$ 246

8. Comprehensive Income

As of June 30, 2008, accumulated other comprehensive income consisted of cumulative foreign currency translation adjustments of $8.7 million and, in accordance with SFAS No. 158, *Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans-an amendment of FASB Statements No. 87, 88, 106 and 132(R)*, $(0.9) million to reflect the under-funded status of the Company's pension plans net of tax. As of June 30, 2007, accumulated other comprehensive income consisted of cumulative foreign currency translation adjustments of $8.6 million and $(1.6) million to reflect the under-funded status of the Company's pension plans net of tax.

The components of total comprehensive income were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2008	2007	2008	2007
			(in thousands)	
Net loss	$(2,206)	$(1,766)	$(1,519)	$(1,270)
Other comprehensive income	409	640	1,550	813
Comprehensive (loss) income	$(1,797)	$(1,126)	$ 31	$ (457)

Other comprehensive income for the six months ended June 30, 2008 and 2007 consisted of foreign currency translation adjustments.

9. Employee Benefit Plans

Certain of the Company's United Kingdom subsidiaries, Harvard Apparatus Limited and Biochrom Limited, maintain contributory, defined benefit or defined contribution pension plans for substantially all of their employees. The components of the Company's defined benefit pension expense were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2008	2007	2008	2007
			(in thousands)	
Components of net periodic benefit cost:				
Service cost	$ 100	$ 147	$ 199	$ 289
Interest cost	230	211	458	414
Expected return on plan assets	(244)	(236)	(486)	(462)
Net amortization loss	16	35	32	68
Net periodic benefit cost	$ 102	$ 157	203	$ 309

For the three and six months ended June 30, 2008 and 2007, the Company made no contribution to the defined benefit plans. The Company expects to contribute approximately $0.5 million to the defined benefit plans during 2008.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

10. Capital Stock

Common Stock

On February 5, 2008, the Company's Board of Directors adopted a Shareholder Rights Plan and declared a dividend distribution of one preferred stock purchase right for each outstanding share of the Company's common stock to shareholders of record as of the close of business on February 6, 2008. Initially, these rights will not be exercisable and will trade with the shares of the Company's common stock. Under the Shareholder Rights Plan, the rights generally will become exercisable if a person becomes an "acquiring person" by acquiring 20% or more of the common stock of the Company or if a person commences a tender offer that could result in that person owning 20% or more of the common stock of the Company. If a person becomes an acquiring person, each holder of a right (other than the acquiring person) would be entitled to purchase, at the then-current exercise price, such number of shares of preferred stock which are equivalent to shares of the Company's common stock having a value of twice the exercise price of the right. If the Company is acquired in a merger or other business combination transaction after any such event, each holder of a right would then be entitled to purchase, at the then-current exercise price, shares of the acquiring company's common stock having a value of twice the exercise price of the right.

Stock Repurchase Program

On December 6, 2007, the Board of Directors authorized the repurchase by the Company of up to $10 million of its common stock in the open market or through privately negotiated transactions over the next 24 months. Under the program, shares may be repurchased from time to time and in such amounts as market conditions warrant, subject to regulatory considerations and any applicable contractual restrictions. As of June 30, 2008, no shares have been repurchased by the Company pursuant to this repurchase program.

Employee Stock Purchase Plan

In 2000, the Company approved a stock purchase plan. Under this plan, participating employees can authorize the Company to withhold a portion of their base pay during consecutive six-month payment periods for the purchase of shares of the Company's common stock. At the conclusion of the period, participating employees can purchase shares of the Company's common stock at 85% of the lower of the fair market value of the Company's common stock at the beginning or end of the period. Shares are issued under the plan for the six-month periods ending June 30 and December 31. Under this plan, 500,000 shares of common stock are authorized for issuance of which 255,512 shares were issued as of June 30, 2008. During the three and six months ended June 30, 2008, the Company issued 9,650 shares under the Employee Stock Purchase Plan. During the three and six months ended June 30, 2007, the Company issued 13,542 shares under the Employee Stock Purchase Plan.

The Company accounts for share-based payment awards in accordance with the provisions of SFAS No. 123 (revised 2004), *Share-Based Payment*, ("SFAS No.123(R)"), which was adopted as of January 1, 2006 using the modified prospective transition method. Stock-based compensation expense recognized under SFAS No. 123(R) for the three months ended June 30, 2008 and 2007 was $0.6 million, which consisted of stock-based compensation expense related to employee stock options and the employee stock purchase plan. Stock-based compensation expense recognized under SFAS No. 123(R) for the six months ended June 30, 2008 and 2007 was $1.0 million, which consisted of stock-based compensation expense related to employee stock options and the employee stock purchase plan.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

Stock Option Plans

1996 Stock Option and Grant Plan

In 1996, the Company adopted the 1996 Stock Option and Grant Plan (the "1996 Stock Plan") pursuant to which the Company's Board of Directors could grant stock options to employees, directors and consultants. The 1996 Stock Plan authorized grants of options to purchase 4,072,480 shares of authorized but unissued common stock. In 2000, the 1996 Stock Plan was replaced by the 2000 Stock Option and Incentive Plan. As of June 30, 2008, there were options to purchase 125,658 shares outstanding under the 1996 Stock Plan. During the three and six months ended June 30, 2008 and 2007, no shares were issued under the 1996 Stock Plan.

Amended and Restated 2000 Stock Option and Incentive Plan

The Second Amended and Restated 2000 Stock Option and Incentive Plan (the "2000 Plan" and, together with the 1996 Stock Plan, the "Stock Plans") was amended by the Board of Directors on April 10, 2008. Such amendment to the 2000 Plan, which included an increase in the number of shares available thereunder by 2,500,000, was approved by the stockholders at the Company's 2008 Annual Meeting. The 2000 Plan permits the Company to make grants of incentive stock options, non-qualified stock options, stock appreciation rights, deferred stock awards, restricted stock awards, unrestricted stock awards, performance shares and dividend equivalent rights. The Company has currently reserved 9,367,675 shares of common stock for the issuance of awards under the 2000 Plan. As of June 30, 2008, there were options to purchase 5,220,911 shares outstanding and 3,277,227 shares available for grant under the 2000 Plan.

As of June 30, 2008 and 2007, incentive stock options to purchase 6,375,484 and 6,285,484 shares and non-qualified stock options to purchase 5,871,061 and 5,511,061 shares, respectively, had been granted to employees and directors under the Stock Plans. Generally, both the incentive stock options and the non-qualified stock options become fully vested over a four-year period, with one-quarter of the options vesting on each of the first four anniversaries of the grant date.

During the three and six months ended June 30, 2008, 255,000 and 375,000 stock options were granted to employees and directors at exercise prices equal to or greater than fair market value of the Company's common stock on the date of grant. During the three and six months ended June 30, 2007, 1,062,000 stock options were granted to employees and directors at exercise prices equal to or greater than fair market value of the Company's common stock on the date of grant.

Distribution and Dilutive Effect of Options

The following table illustrates the dilution (accretion) resulting from the grant of options and exercise of options, which is referred to as the grant dilution and exercise dilution, respectively, during the periods described below.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2008	2007	2008	2007
Shares of common stock outstanding	31,058,510	30,619,897	31,058,510	30,619,897
Granted	255,000	1,062,000	375,000	1,062,000
Canceled / forfeited	(388,000)	(37,000)	(618,836)	(77,062)
Net options granted	(133,000)	1,025,000	(243,836)	984,938
Grant dilution (accretion) (1)	-0.43%	3.35%	-0.79%	3.22%
Exercised	123,346	35,483	196,964	43,947
Exercise dilution (2)	0.40%	0.12%	0.63%	0.14%

(1) The percentage for grant dilution (accretion) is computed based on net options granted (cancelled/forfeited) as a percentage of shares of common stock outstanding.

(2) The percentage for exercise dilution is computed based on net options exercised as a percentage of shares of common stock outstanding.

Basic income per share is based upon net income divided by the number of weighted average common shares outstanding during the period. The calculation of diluted net income per share assumes conversion of stock options into common stock using the treasury method. The weighted average number of shares used to compute basic and diluted earnings per share consists of the following:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2008	2007	2008	2007
Basic	30,970,539	30,587,802	30,922,850	30,577,639
Effect of assumed conversion of employee and director stock options	637,497	849,437	604,216	838,156
Diluted	31,608,036	31,437,239	31,527,066	31,415,795

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

Excluded from the shares used in calculating the diluted earnings per common share in the above table are options to purchase approximately 3,791,997 and 3,874,707 shares of common stock for the three and six months ended June 30, 2008, respectively, as the impact of these shares would be anti-dilutive. Excluded from the shares used in calculating the diluted earnings per common share in the above table are options to purchase approximately 3,716,049 and 3,451,801 shares of common stock for the three and six months ended June 30, 2007, respectively, as the impact of these shares would be anti-dilutive.

General Option Information

A summary of stock option transactions follows:

	Options Available for Grant	Options Outstanding	Weighted Average Exercise Price
Balance at December 31, 2005	354,138	4,281,282	$ 5.29
Approved by shareholders	2,000,000	—	—
Options granted	(1,185,000)	1,185,000	4.36
Options exercised	—	(52,192)	2.47
Options cancelled / forfeited	167,691	(167,691)	5.81
Balance at December 31, 2006	1,336,829	5,246,399	$ 5.09
Options granted	(1,137,000)	1,137,000	5.41
Options exercised	—	(262,468)	2.33
Options cancelled / forfeited	333,562	(333,562)	5.71
Balance at December 31, 2007	533,391	5,787,369	$ 5.24
Approved by shareholders	2,500,000	—	—
Options granted	(375,000)	375,000	4.82
Options exercised	—	(196,964)	3.51
Options cancelled / forfeited	618,836	(618,836)	5.38
Balance at June 30, 2008	3,277,227	5,346,569	$ 5.26

The Company has a policy of issuing stock out of its registered but unissued stock pool through its transfer agent to satisfy stock option exercises.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

The following table summarizes information concerning currently outstanding and exercisable options as of June 30, 2008 (Aggregate Intrinsic Value in thousands):

	Options Outstanding				Options Exercisable		
Range of Exercise Price	Number Outstanding at June 30, 2008	Weighted Average Remaining Contractual Life in Years	Weighted Average Exercise Price	Aggregate Intrinsic Value	Shares Exercisable at June 30, 2008	Weighted Average Exercise Price	Aggregate Intrinsic Value
$ 0.01-3.15	769,319	5.45	$ 2.67	$ 1,523	673,069	$ 2.63	$ 1,360
$ 3.15-4.23	822,750	5.33	$ 3.51	938	752,003	$ 3.48	880
$ 4.23-4.63	1,036,000	8.02	$ 4.38	280	433,000	$ 4.34	134
$ 4.63-6.47	1,106,500	9.03	$ 5.34	—	221,419	$ 5.49	—
$ 6.47-10.00	1,612,000	4.67	$ 7.89	—	1,612,000	$ 7.89	—
$ 0.01-10.00	5,346,569	6.44	$ 5.26	$ 2,741	3,691,491	$ 5.47	$ 2,374

The aggregate intrinsic value in the preceding table represents the total pre-tax intrinsic value, based on the Company's closing stock price of $4.65 as of June 30, 2008, which would have been received by the option holders had all option holders exercised their options as of that date. The aggregate intrinsic value of options exercised for the three months ended June 30, 2008 and 2007, respectively, was approximately $0.1 million and $0.08 million, respectively. The aggregate intrinsic value of options exercised for the six months ended June 30, 2008 and 2007, respectively, was approximately $0.2 million and $0.1 million, respectively. The total number of in-the-money options that were exercisable as of June 30, 2008 was 1,858,072.

Valuation and Expense Information under SFAS No. 123(R)

Stock-based compensation expense related to employee stock options and the employee stock purchase plan under SFAS No. 123(R) for the three and six months ended June 30, 2008 and 2007, respectively, was allocated as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2008	2007	2008	2007
	(in thousands)			
Cost of sales	$ 11	$ 11	$ 21	$ 20
Sales and marketing	26	30	61	56
General and administrative	533	533	917	939
Research and development	—	2	1	3
Discontinued operations	1	16	5	30
Total stock-based compensation	$ 571	$ 592	$ 1,005	$ 1,048

The Company did not capitalize any stock-based compensation. No significant tax benefit on the stock-based compensation was recorded in the three and six months ended June 30, 2008 and 2007 since the Company has established a valuation allowance against net deferred tax assets.

The weighted-average estimated value of employee stock options granted during the three and six months ended June 30, 2008 was $2.65 per share and $2.62 per share, respectively, and the weighted-average estimated value of employee stock options granted during the three and six months ended June 30, 2007 was $3.68 per share using the Black Scholes option-pricing model with the following weighted-average assumptions:

	Three and Six Months Ended June 30,	
	2008	2007
Volatility	55.36%	70.56%
Risk-free interest rate	3.25%	4.61%
Expected holding period	5.84 Years	6.25 Years
Dividend yield	0.00%	0.00%

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

The Company used historical volatility to calculate its expected volatility as of June 30, 2008. Historical volatility was determined by calculating the mean reversion of the daily adjusted closing stock price. The risk-free interest rate assumption is based upon observed Treasury bill interest rates (risk free) appropriate for the term of the Company's employee stock options. The expected life of employee stock options represents the period of time options are expected to be outstanding and were based on historical experience.

Stock-based compensation expense recognized in the Consolidated Statement of Operations for the three and six months ended June 30, 2008 and 2007, is based on awards ultimately expected to vest and has been reduced for annualized estimated forfeitures of 6.24% and 2.84%, respectively. SFAS No. 123(R) requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures were estimated based on historical experience.

11. Segment and Related Information

During the quarter ended June 30, 2005, the Company realigned its lines of business into two business segments, the Apparatus and Instrumentation Business segment and the Capital Equipment Business segment. Corporate costs of $1.6 million and $3.3 million, respectively, and $1.5 million and $2.8 million for the three and six months ended June 30, 2008 and 2007, respectively, are all included in general and administrative expenses from continuing operations and are not allocated for purposes of segment reporting. Included in corporate costs are $0.4 million and $0.9 million for the three and six months ended June 30, 2008, respectively, and $0.4 million and $0.7 million for the three and six months ended June 30, 2007, respectively, of stock compensation expense related to the adoption of SFAS No. 123(R). See Note 10-Capital Stock.

During the quarter ended September 30, 2005, the Company announced plans to divest its Capital Equipment Business segment. The decision to divest this business segment was based on the fact that market conditions for the Capital Equipment Business were such that this business had not met the Company's expectations and the decision to focus Company resources on the Apparatus and Instrumentation Business segment. As a result, the Company began reporting the Capital Equipment Business segment as a discontinued operation in the third quarter of 2005. In November 2007, the Company completed the sale of the assets of its Genomic Solutions Division and the stock of its Belgian subsidiary, Maia Scientific, both of which were part of its Capital Equipment Business Segment, to Digilab, Inc. The COPAS flow cytometry product line (held by our Union Biometrica US and German subsidiaries), was not included in this sale, and the Company continues to pursue a sale of this product line in a separate transaction. See Note 3-Discontinued Operations.

12. Revolving Credit Facility

During 2003, the Company entered into a $20.0 million credit facility with Brown Brothers Harriman & Co. On December 1, 2006, the Company amended the terms of the credit facility. This amendment changed the terms of the Company's current $20.0 million credit facility, by allowing borrowing of up to $10.0 million in British Pound Sterling or Eurocurrency and extending the maturity date from January 1, 2007 to December 1, 2009. The amended credit facility bears interest at either (1) the base rate announced by BBH from time to time, (2) the London Interbank Offered Rate ("LIBOR") or (3) the Eurocurrency base rate, plus, in the case of LIBOR or the Eurocurrency base rate, a margin of 2.5% or 2.75% depending on the Company's debt service leverage ratio. As of June 30, 2008, we had no debt outstanding under our revolving credit facility.

As of June 30, 2008, the Company is in compliance with financial covenants contained in the credit facility involving income, debt coverage and cash flow, as well as minimum working capital requirements. Additionally, the credit facility also contains limitations on the Company's ability to incur additional indebtedness and requires creditor approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of $6.0 million and for acquisitions funded solely with equity in excess of $10.0 million. The Company does not believe that these requirements will be a significant constraint on its operations or on the acquisition portion of its growth strategy. As of June 30, 2008, there was no debt outstanding under the credit facility compared to $5.5 million as of December 31, 2007. As of June 30, 2008, the Company was not subject to any borrowing restrictions under the covenants and had available borrowing capacity under its revolving credit facility of $20.0 million.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
Notes to Unaudited Consolidated Financial Statements (Continued)

Under the terms of its credit facility, the Company will be required to obtain consent from its lenders upon the sale of the remaining portion of its Capital Equipment Business segment. If the Company is unable to obtain this consent, the sale of the remaining portion of the Capital Equipment Business segment will trigger a default under the credit facility whereby its lenders could accelerate all of the outstanding indebtedness and terminate the credit facility.

In connection with the Company's acquisition of Panlab, the Company assumed several working capital lines of credit totaling $2.3 million. As of June 30, 2008, Panlab held notes payable of $2.1 million denominated in Euros. The payment terms of the lines of credit are generally one year; however, the lines have historically renewed annually. The interest rates, which include bank commissions and other fees, range between 5.5% and 8.0%. There are no material financial covenants associated with these lines of credit.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Forward Looking Statements

This Quarterly Report on Form 10-Q contains statements that are not statements of historical fact and are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. The forward-looking statements are principally, but not exclusively, contained in "Item 2: Management's Discussion and Analysis of Financial Condition and Results of Operations." These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about management's confidence or expectations, and our plans, objectives, expectations and intentions that are not historical facts. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "intends," "potential" and similar expressions intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Factors that may cause the Company's actual results to differ materially from those in the forward-looking statements include the Company's failure to successfully integrate acquired businesses or technologies, complete planned consolidations of business functions, expand its product offerings, introduce new products or commercialize new technologies, including our new micro liter spectrophotometer and electrophoresis products, unanticipated costs relating to acquisitions, unanticipated costs arising in connection with the Company's planned consolidation of business functions, decreased demand for the Company's products due to changes in its customers' needs, financial position, general economic outlook, or other circumstances, overall economic trends, the timing of our customers' capital equipment purchases and the seasonal nature of purchasing in Europe, our potential misinterpretation of trends of our capital equipment product lines due to the cyclical nature of this market, economic, political and other risks associated with international revenues and operations, additional costs of complying with recent changes in regulatory rules applicable to public companies, our ability to manage our growth, our ability to retain key personnel, competition from our competitors, technological changes resulting in our products becoming obsolete, future changes to the operations or the activities of our Asys Hitech subsidiary that are being consolidated, our ability to meet the financial covenants contained in our credit facility, our ability to protect our intellectual property and operate without infringing on others' intellectual property, potential costs of any lawsuits to protect or enforce our intellectual property, economic and political conditions generally and those affecting pharmaceutical and biotechnology industries, the Company's inability to complete the divestiture of its remaining portion of its Capital Equipment Business segment on attractive terms, the potential loss of business at the Company's Capital Equipment Business segment relating to the Company's decision to divest this business, unanticipated costs or expenses related to the divestiture of the Capital Equipment Business segment, completion of the purchase price allocation for Panlab s.l., impact of any impairment of our goodwill or intangible assets, and our acquisition of Genomic Solutions failing to qualify as a tax-free reorganization for federal tax purposes, the amount of earn-out consideration that the Company receives in connection with the recent disposition of a portion of the Company's Capital Equipment Business segment and factors that may impact the receipt of this consideration, such as the revenues of the businesses disposed of, plus factors described under the heading "Item 1A. Risk Factors" in the Company's Annual Report on Form 10-K, for the fiscal year ended December 31, 2007, as amended. Our results may also be affected by factors of which we are not currently aware. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this report. We may not update these forward-looking statements, even though our situation may change in the future, unless we have obligations under the federal securities laws to update and disclose material developments related to previously disclosed information.

General

From 1997 to 2007, the revenues from our continuing operations grew from $11.5 million to $83.4 million, an annual compounded growth rate of approximately 22.0%. Since the second half of 2005, when we made the decision to divest the Capital Equipment Business segment, we refocused our resources on our core apparatus and instrumentation business, which has been the cornerstone to our success over the last decade.

In March 2008, we outlined five major initiatives that we expect will have a positive impact on our performance in 2008. These initiatives include:

- the launch of a new major Harvard Apparatus catalog during February 2008;
- the launch of Panlab products into US markets;
- the signing of a new contract with GE Healthcare and the full launch of our new microliter spectrophotometer;
- the launch of new 2-D electrophoresis products through our Hoefer subsidiary; and
- the consolidation of business functions to reduce operating expenses.

During the first half of 2008, we made significant progress on most of these five initiatives. We launched our new major catalog in February with a second mailing tranche in April. We entered into a new distributor contract with GE Healthcare in April, which led to healthy sales of our new microliter spectrophotometer. We made significant progress consolidating certain business functions; in particular, we consolidated the marketing and administrative functions of Hoefer into the Harvard Apparatus business and consolidated the complete operations of Asys into our Biochrom business. While we did launch the new Hoefer 2-D electrophoresis products in the second quarter, the uptake of this product has been slower than expected.

Accordingly, we remain committed to our goal of high revenue and profit growth through a combination of organic growth and tuck under acquisitions. While we expect the initiatives discussed above will positively impact our business, the success of these initiatives is subject to a number of factors including the competitiveness of our new products, the strength of our intellectual property underlying these products, the success of our marketing efforts and those of our distributors and the other factors described under the heading “Item 1A. Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2007, as amended.

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

Financing

During 2003, we entered into a $20.0 million credit facility with Brown Brothers Harriman & Co. On December 1, 2006, we amended the terms of the credit facility. The amended credit facility expires on December 1, 2009. Under the terms of our credit facility, we will be required to obtain consent from our lenders upon the sale of the remaining portion of our Capital Equipment Business segment. If we are unable to obtain this consent, the sale of the remaining portion of our Capital Equipment Business segment will trigger a default under the credit facility whereby our lenders could accelerate all of our outstanding indebtedness and terminate our credit facility.

As of June 30, 2008, we were in compliance with the financial covenants contained in the credit facility involving income, debt coverage and cash flow, as well as minimum working capital requirements. Additionally, the credit facility also contains limitations on our ability to incur additional indebtedness and requires creditor approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of $6.0 million and for acquisitions funded solely with equity in excess of $10.0 million. We do not believe that these requirements will be a significant constraint on our operations or on the acquisition portion of our growth strategy. As of June 30, 2008, there was no debt outstanding under the credit facility compared to $5.5 million outstanding as of December 31, 2007. As of June 30, 2008, we were not subject to any borrowing restrictions under the covenants and we had available borrowing capacity under our revolving credit facility of $20.0 million.

Historically, we have funded acquisitions with debt, capital raised by issuing equity and cash flow from operations. In order to continue the acquisition portion of our growth strategy beyond what our current cash balances and cash flow from operations can support, we will need to raise more capital, either by incurring additional debt, issuing equity or a combination.

To the extent we receive some or all of the proceeds in cash from the planned divestiture of our Capital Equipment Business segment, we intend to apply any cash proceeds to the repayment of debt, to continue our tuck-under acquisition strategy within our Apparatus and Instrumentation Business segment or to other general corporate purposes.

Components of Operating Income from Continuing Operations

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

For products primarily priced under $10,000, every one to three years, we typically distribute a new, comprehensive catalog initially in a series of bulk mailings, first to our existing customers, followed by mailings to targeted markets of potential customers. Over the life of the catalog, distribution will also be made periodically to potential and existing customers through direct mail and trade shows and in response to e-mail and telephone inquiries. From time to time, we also intend to distribute catalog supplements that promote selected areas of our catalog or new products to targeted subsets of our customer base. Future distributions of our comprehensive catalog and our catalog supplements will be determined primarily by the incidence of new product introductions, which cannot be predicted. Our end user customers are research scientists at pharmaceutical and biotechnology companies, universities and government laboratories. Revenue from catalog sales in any period is influenced by the amount of time elapsed since the last mailing of the catalog, the number of catalogs mailed and the number of new items included in the catalog. We launched our latest comprehensive catalog in February 2008, with approximately 900 pages and approximately 60,000 copies printed. Revenues from direct sales to end users, derived through our catalog and the electronic version of our catalog on our website, represented approximately 29% and 31%, respectively, of our revenues for the six months ended June 30, 2008 and for the year ended December 31, 2007.

Products sold under brand names of distributors including GE Healthcare, are typically priced in the range of $5,000-$15,000. They are mainly scientific instruments like spectrophotometers and plate readers that analyze light to detect and quantify a very wide range of molecular and cellular processes or apparatus like gel electrophoresis units. We also use distributors for both our catalog products and our higher priced products, for sales in locations where we do not have subsidiaries or where we have distributors in place for acquired businesses. For the six months ended June 30, 2008 and for the year ended December 31, 2007, approximately 53% and 59%, respectively, of our revenues were derived from sales to distributors.

For the six months ended June 30, 2008 and for the year ended December 31, 2007, approximately 85% and 87%, respectively, of our revenues were derived from products we manufacture. The remaining 15% and 13%, respectively, of our revenues for the six months ended June 30, 2008 and for the year ended December 31, 2007, were derived from complementary products we distribute in order to provide the researcher with a single source for all equipment needed to conduct a particular experiment. For the six months ended June 30, 2008 and for the year ended December 31, 2007, approximately 62% and 58%, respectively, of our revenues were derived from sales made by our non-U.S. operations. A large portion of our international sales during this period consisted of sales to GE Healthcare, the distributor for our spectrophotometers and plate readers. GE Healthcare distributes these products to customers around the world, including many customers in the United States, from its distribution center in Upsalla, Sweden. As a result, we believe our international sales would have been a lower percentage of our revenues if we had shipped our products directly to our end-users. Changes in the relative proportion of our revenue sources between catalog sales, direct sales, and distribution sales are primarily the result of a different sales proportion of acquired companies.

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

Sales and marketing expenses. Sales and marketing expense consists primarily of salaries and related expenses for personnel in sales, marketing and customer support functions. We also incur costs for travel, trade shows, demonstration equipment, public relations and marketing materials, consisting primarily of the printing and distribution of our approximately 900 page catalog, supplements and various other specialty catalogs, and the maintenance of our websites. We may from time to time expand our marketing efforts by employing additional technical marketing specialists in an effort to increase sales of selected categories of products in our catalog. We may also from time to time expand our direct sales organizations in an effort to increase and/or support sales of our higher priced capital equipment instruments or to concentrate on key accounts or promote certain product lines.

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

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

Stock compensation expenses. On January 1, 2006, we adopted Statement of Financial Accounting Standards (SFAS) No. 123 (revised 2004), *Share-Based Payment*, which requires the Company to recognize compensation expense for all share-based payment awards made to employees and directors including employee stock options and employee stock purchases related to the Employee Stock Purchase Plan ("employee stock purchases"). We adopted SFAS No. 123(R) using the modified prospective transition method, which requires the application of the accounting standard as of January 1, 2006, the first day of our fiscal year 2006. Stock-based compensation expense recognized under SFAS No. 123(R) was $0.6 million and $1,000 for the three months ended June 30, 2008 in our continuing operations and discontinued operations, respectively, and $1.0 million and $5,000 for the six months ended June 30, 2008 in our continuing operations and discontinued operations, respectively. Stock-based compensation expense recognized under SFAS No. 123(R) was $0.6 million and $16,000 for the three months ended June 30, 2007 in our continuing operations and discontinued operations, respectively, and $1.0 million and $30,000 for the six months ended June 30, 2007 in our continuing operations and discontinued operations, respectively. This stock-based compensation expense was related to employee stock options and the employee stock purchase plan and was recorded as a component of cost of product revenues, sales and marketing expenses, general and administrative expenses, research and development expenses and discontinued operations.

Selected Results of Operations

Three months ended June 30, 2008 compared to three months ended June 30, 2007:

	Three Months Ended June 30,			
	2008	2007	Dollar Change	% Change
	(dollars in thousands, unaudited)			
Revenues	$ 23,049	$ 20,410	$2,639	12.9%
Cost of product revenues	12,286	10,426	1,860	17.8%
Gross margin percentage	46.7%	48.9%		
Sales and marketing expenses	2,969	2,553	416	16.3%
General and administrative expenses	3,795	3,544	251	7.1%
Research and development expenses	1,077	888	189	21.3%

Revenues.

Revenues increased $2.6 million, or 12.9%, to $23.0 million for the three months ended June 30, 2008 compared to $20.4 million for the same period in 2007. The increase in revenue is primarily due to revenues from our recently acquired Panlab subsidiary of $2.8 million, an increase in sales at our Biochrom UK subsidiary of $0.5 million, primarily of our new microliter spectrophotometer, and favorable foreign exchange rate impact on sales denominated in foreign currencies of $0.3 million during the second quarter of 2008. This revenue growth was offset by a decrease of $0.4 million in revenue of our electrophoresis products to GE Healthcare and a decrease of $0.4 million in our Asys plate reader business compared to a particularly strong second quarter in 2007.

Cost of product revenues.

Cost of product revenues increased $1.9 million, or 17.8%, to $12.3 million for the three months ended June 30, 2008 from $10.4 million for the three months ended June 30, 2007. The increase in cost of product revenues is primarily due to increases of $1.8 million attributable to our recently acquired Panlab subsidiary and $0.2 million attributable to changes in foreign exchange rates. Gross profit as a percentage of revenues decreased to 46.7% for the three months ended June 30, 2008 compared with 48.9% for the same period in 2007. The decrease in gross profit as a percentage of revenues was primarily due to sales from our Panlab subsidiary, which sells at lower gross margins than our historical consolidated gross margins, as a result of Panlab's mix of distributed products compared to manufactured products. The impact of Panlab on gross margin percentage was 1.6%.

Sales and marketing expense.

Sales and marketing expenses increased $0.4 million, or 16.3%, to $3.0 million for the three months ended June 30, 2008 compared to $2.6 million for the three months ended June 30, 2007. This increase was primarily due to expenses from our recently acquired Panlab subsidiary of $0.3 million and changes in foreign exchange rates of $0.1 million.

General and administrative expense.

General and administrative expenses increased $0.3 million, or 7.1%, to $3.8 million for the three months ended June 30, 2008 compared to $3.5 million for the three months ended June 30, 2007. General and administrative expenses increased $0.2 million due to our recent acquisition of Panlab.

Research and development expense.

Research and development expenses were $1.1 million, an increase of $0.2 million, or 21.3%, for the three months ended June 30, 2008 compared to $0.9 million for the three months ended June 30, 2007. The increase in research and development expenses was primarily due to our recent acquisition of Panlab.

Amortization of intangible assets.

Amortization of intangibles was $0.5 million and $0.4 million for the three months ended June 30, 2008 and 2007, respectively.

Other income (expense), net.

Other income (expense), net, was $24,000 income for the three months ended June 30, 2008 and $7,000 expense for the three months ended June 30, 2007. Net interest income was $37,000 for the three months ended June 30, 2008 compared to net interest expense of $23,000 for the three months ended June 30, 2007. The shift between interest income from interest expense was due to lower average long-term debt balances in the second quarter of 2008 compared to the second quarter of 2007. Other income (expense), net, also included foreign exchange losses $37,000 for the three months ended June 30, 2008 compared to foreign exchange gains of $21,000 for the same period in 2007. These exchange losses and gains were primarily the result of currency fluctuations on intercompany transactions between our subsidiaries.

Income taxes.

Income tax expense from continuing operations was approximately $0.4 million and $0.5 million for the three months ended June 30, 2008 and 2007, respectively. The effective income tax rate for continuing operations was 29.7% for the three months ended June 30, 2008, compared with 20.9% for the same period of 2007. The difference between our effective tax rate and the US statutory tax rate is principally attributable to foreign tax rate differential and changes in our valuation allowance and a benefit recorded in the second quarter of 2007 due to a change in German tax law.

Restructuring

During the quarter ended March 31, 2008, the management of Harvard Bioscience committed to an ongoing initiative to consolidate business functions to reduce operating expenses. Our recent actions have been related to the separation of our electrophoresis product lines from our spectrophotometer and plate reader product lines. As part of these initiatives we have made changes in management, completed the consolidation of the Hoefer electrophoresis administrative and marketing operations from San Francisco, California to the headquarters of the Harvard Apparatus subsidiary in Holliston, Massachusetts and consolidated the activities of our Asys Hitech subsidiary in Austria to the Company's Biochrom subsidiary's facility located in Cambridge UK. The combined costs of these activities recorded in the first half of 2008, are $1.8 million.

During the quarter ended March 31, 2008, we recorded charges relating to the restructuring of approximately $0.8 million. These charges were comprised of $0.4 million in severance payments, $0.3 million in inventory impairment charges related to the discontinuance of certain product lines (included in cost of product revenues) and $0.2 million in various other costs.

During the quarter ended June 30, 2008, we recorded charges relating to the restructuring of approximately $0.9 million. These charges were comprised of $0.5 million in severance payments, $0.3 million in various other costs and. $0.1 million in facility closure costs.

Discontinued Operations

During the quarter ended September 30, 2005, the Company announced plans to divest its Capital Equipment Business segment. The decision to divest this business segment was based on the fact that market conditions for the Capital Equipment Business had been such that this business did not meet the Company's expectations and the decision to focus Company resources on the Apparatus and Instrumentation Business segment. As a result, we began reporting the Capital Equipment Business segment as a discontinued operation in the third quarter of 2005.

In November 2007, the Company completed the sale of the assets of its Genomic Solutions Division and the stock of its Belgian subsidiary, MAIA Scientific, both of which were part of its Capital Equipment Business Segment, to Digilab, Inc. The purchase price paid by Digilab under the terms of the Asset Purchase Agreement consisted of $1,000,000 in cash plus additional consideration in the form of an earn-out based on 20% of the revenue generated by the acquired business as it is conducted by Digilab over a three-year period post-transaction. Any earn-out amounts will be evidenced by interest bearing promissory notes due on November 30, 2012. During the fourth quarter of 2007, we recorded a loss on sale of $3.1 million. There was no value ascribed to the contingent consideration from the earn-out agreement, as realization is uncertain.

During the quarter ended June 30, 2008, we re-evaluated the fair value less costs to sell the remaining assets that comprise the Capital Equipment Business segment. Based on this evaluation, we recorded additional asset impairment charges of $2.9 million.

The loss from discontinued operations, net of tax, was approximately $3.3 million for the three months ended June 30, 2008 compared to a loss of $3.8 million for the same period in 2007. For the three months ended June 30, 2008, the loss from discontinued operations, net of tax, includes the operating results of the Company's Union Biometrica US and German subsidiaries. For the three months ended June 30, 2007, the loss from discontinued operations, net of tax, included the operating results of the Company's former Genomic Solutions Division, its former MAIA Scientific subsidiary, and its current Union Biometrica US and German subsidiaries.

Six months ended June 30, 2008 compared to six months ended June 30, 2007:

	Six Months Ended June 30,			
	2008	2007	Dollar Change	% Change
	(dollars in thousands, unaudited)			
Revenues	$ 45,008	$ 39,525	$5,483	13.9%
Cost of product revenues	23,920	20,120	3,800	18.9%
Gross margin percentage	46.9%	49.1%		
Sales and marketing expenses	5,810	5,023	787	15.7%
General and administrative expenses	7,551	6,947	604	8.7%
Research and development expenses	2,158	1,732	426	24.6%

Revenues.

Revenues increased $5.5 million, or 13.9%, to $45.0 million for the six months ended June 30, 2008 compared to $39.5 million for the same period in 2007. The increase in revenue is primarily due to revenues from our recently acquired Panlab subsidiary of $5.2 million, an increase in sales at our Biochrom UK subsidiary of $2.4 million, primarily of our new microliter spectrophotometer, and favorable foreign exchange rate impact on sales denominated in foreign currencies of $0.7 million during the first half of 2008. This revenue growth was offset by large one-off orders in the first half of 2007, which were not repeated in 2008, including a large tender order for our Anthos plate readers from China of approximately $0.9 million and a decrease of approximately $0.6 million in revenues of our electrophoresis products to GE Healthcare.

Cost of product revenues.

Cost of product revenues increased $3.8 million, or 18.9%, to $23.9 million for the six months ended June 30, 2008 from $20.1 million for the six months ended June 30, 2007. The increase in cost of product revenues is primarily due to increases of $3.4 million attributable to our recently acquired Panlab subsidiary, $0.3 million of inventory write-downs associated with our decision to consolidate our Asys subsidiary into our Biochrom UK subsidiary and $0.4 million attributable to changes in foreign exchange rates. Gross profit as a percentage of revenues decreased to 46.9% for the six months ended June 30, 2008 compared with 49.1% for the same period in 2007. The decrease in gross profit as a percentage of revenues was primarily due to sales from our Panlab subsidiary, which sells at lower gross margins than our historical consolidated gross margins, as a result of Panlab's mix of distributed products compared to manufactured products and certain inventory write-downs related to our consolidation plan (see "Restructuring" on the following page). The impact of Panlab and the inventory write-downs on gross margin percentage was 2.1%.

Sales and marketing expense.

Sales and marketing expenses increased $0.8 million, or 15.7%, to $5.8 million for the six months ended June 30, 2008 compared to $5.0 million for the six months ended June 30, 2007. This increase was primarily due to expenses from our recently acquired Panlab subsidiary of $0.5 million and, to a lesser extent, to increases in salary related expenses of $0.1 million and changes in foreign exchange rates of $0.2 million.

General and administrative expense.

General and administrative expenses increased $0.6 million, or 8.7%, to $7.6 million for the six months ended June 30, 2008 compared to $6.9 million for the six months ended June 30, 2007. General and administrative expenses increased $0.4 million due to expenses from our recent acquisition of Panlab and $0.1 million due to our implementation of our shareholder rights plan.

Research and development expense.

Research and development expenses were $2.2 million, an increase of $0.4 million for the six months ended June 30, 2008 compared to $1.7 million for the six months ended June 30, 2007. The increase in research and development expenses was primarily due to expenses from our recent acquisition of Panlab of $0.3 million.

Amortization of intangible assets.

Amortization of intangibles was $1.0 million and $0.9 million for the six months ended June 30, 2008 and 2007, respectively.

Other income, net.

Other income, net, was $0.2 million and $6,000 for the six months ended June 30, 2008 and 2007, respectively. Net interest expense was $15,000 for the six months ended June 30, 2008 compared to net interest expense of $28,000 for the six months ended June 30, 2007. The decrease in net interest expense was primarily due to lower average long-term debt balances in the first half of 2008 compared to the first half of 2007. Other income, net, also included foreign exchange gains of $0.2 million and $45,000 for the six months ended June 30, 2008 and 2007, respectively. These exchange gains were primarily the result of currency fluctuations on intercompany transactions between our subsidiaries.

Income taxes.

Income tax expense from continuing operations was approximately $1.0 million and $1.1 million for the six months ended June 30, 2008 and 2007, respectively. The effective income tax rate for continuing operations was 30.3% for the six months ended June 30, 2008, compared with 22.1% for the same period of 2007. The difference between our effective tax rate and the US statutory tax rate is principally attributable to foreign tax rate differential and changes in our valuation allowance and a benefit recorded in the second quarter of 2007 due to a change in German tax law.

Restructuring

During the quarter ended March 31, 2008, the management of Harvard Bioscience committed to an ongoing initiative to consolidate business functions to reduce operating expenses. Our recent actions have been related to the separation of our electrophoresis product lines from our spectrophotometer and plate reader product lines. As part of these initiatives we have made changes in management, completed the consolidation of the Hoefer electrophoresis administrative and marketing operations from San Francisco, California to the headquarters of the Harvard Apparatus subsidiary in Holliston, Massachusetts and consolidated the activities of our Asys Hitech subsidiary in Austria to the Company's Biochrom subsidiary's facility located in Cambridge UK. The combined costs of these activities recorded in the first half of 2008 are and $1.8 million.

During the quarter ended March 31, 2008, we recorded charges relating to the restructuring of approximately $0.8 million. These charges were comprised of $0.4 million in severance payments, $0.3 million in inventory impairment charges related to the discontinuance of certain product lines (included in cost of product revenues) and $0.2 million in various other costs.

During the quarter ended June 30, 2008, we recorded charges relating to the restructuring of approximately $0.9 million. These charges were comprised of $0.5 million in severance payments, $0.3 million in various other costs and $0.1 million in facility closure costs.

Discontinued Operations

During the quarter ended September 30, 2005, the Company announced plans to divest its Capital Equipment Business segment. The decision to divest this business segment was based on the fact that market conditions for the Capital Equipment Business had been such that this business did not meet the Company's expectations and the decision to focus Company resources on the Apparatus and Instrumentation Business segment. As a result, we began reporting the Capital Equipment Business segment as a discontinued operation in the third quarter of 2005.

In November 2007, the Company completed the sale of the assets of its Genomic Solutions Division and the stock of its Belgian subsidiary, MAIA Scientific, both of which were part of its Capital Equipment Business Segment, to Digilab, Inc. The purchase price paid by Digilab under the terms of the Asset Purchase Agreement consisted of $1,000,000 in cash plus additional consideration in the form of an earn-out based on 20% of the revenue generated by the acquired business as it is conducted by Digilab over a three-year period post-transaction. Any earn-out amounts will be evidenced by interest bearing promissory notes due on November 30, 2012. During the fourth quarter of 2007, we recorded a loss on sale of $3.1 million. There was no value ascribed to the contingent consideration from the earn-out agreement, as realization is uncertain.

During the six months ended June 30, 2008, we re-evaluated the fair value less costs to sell the remaining assets that comprise the Capital Equipment Business segment. Based on this evaluation, we recorded additional asset impairment charges of $2.9 million.

The loss from discontinued operations, net of tax, was approximately $3.8 million for the six months ended June 30, 2008 compared to a loss of $5.0 million for the same period in 2007. For the six months ended June 30, 2008, the loss from discontinued operations, net of tax, includes the operating results of the Company's Union Biometrica US and German subsidiaries. For the six months ended June 30, 2007, the loss from discontinued operations, net of tax, included the operating results of the Company's former Genomic Solutions Division, its former MAIA Scientific subsidiary, and its current Union Biometrica US and German subsidiaries.

Liquidity and Capital Resources

Historically, we have financed our business through cash provided by operating activities, the issuance of common stock and preferred stock, and bank borrowings. Our liquidity requirements have arisen primarily from investing activities, including funding of acquisitions and capital expenditures.

In our consolidated statements of cash flows, we have elected to combine the cash flows from both continuing and discontinued operations within each category, as allowed by SFAS No. 95, *Statement of Cash Flows*. Unless specifically noted otherwise, our discussion of our cash flows below refers to combined cash flows from both continuing and discontinued operations.

We ended the second quarter of 2008 with cash and cash equivalents of $14.2 million compared to cash and cash equivalents of $18.2 million at December 31, 2007. As of June 30, 2008, $13.8 million was held by our continuing operations and $0.4 million was held by our discontinued operations. As of June 30, 2008, we had no debt outstanding on our revolving credit facility compared to $5.5 million at December 31, 2007. Additionally, our Panlab subsidiary had $2.1 million in debt remaining at June 30, 2008 compared to $2.3 million in debt remaining at December 31, 2007.

Overview of Cash Flows
(Cash flow information includes cash flows for both continuing and discontinued operations)
(in thousands, unaudited)

	Six Months Ended June 30,	
	2008	2007
Cash flows from operations:		
Net income (loss)	$(1,519)	$(1,270)
Changes in assets and liabilities	(3,119)	(384)
Other adjustments to operating cash flows	6,815	5,275
Net cash provided by operating activities	2,177	3,621
Investing activities:		
Other investing activities	(1,348)	(842)
Net cash used in investing activities	(1,348)	(842)
Financing activities:		
Other financing activities	(5,085)	(2,619)
Net cash used in financing activities	(5,085)	(2,619)
Effect of exchange rate changes on cash	257	48
Increase (decrease) in cash and cash equivalents	$(3,999)	$ 208

Our operating activities generated cash of $2.2 million for the six months ended June 30, 2008 compared to $3.6 million for the six months ended June 30, 2007. The decrease in cash flows from operations was primarily due to a $0.6 million decrease in income tax refunds and a $0.6 million increase in income taxes paid.

Our investing activities used cash of $1.3 million in the six months ended June 30, 2008 compared to $0.8 million for the same period in 2007. The caption "Other investing activities" includes purchases of property, plant and equipment and expenditures for our recently printed 900-page Harvard Apparatus catalog. Catalog costs related to the new Harvard Apparatus catalog were $0.4 million for the six months ended June 30, 2008 compared to $4,000 for the six months ended June 30, 2007. We spent $0.9 million on capital expenditures in the six months ended June 30, 2008 compared to $0.8 million for the three months ended June 30, 2007. During the next twelve months, we expect to spend approximately $2.0 million on capital expenditures.

Our financing activities have historically consisted of borrowings and repayments under a revolving credit facility with Brown Brothers Harriman & Co., long-term debt and the issuance of preferred stock and common stock, including the common stock issued in our initial public offering. As of June 30, 2008, we had no debt outstanding on our revolving credit facility compared to $5.5 million at December 31, 2007.

During 2003, we entered into a $20.0 million credit facility with Brown Brothers Harriman & Co. On December 1, 2006, we amended the terms of the credit facility. This amendment changed the terms of our current $20.0 million credit facility, by allowing borrowing of up to $10.0 million in British Pound Sterling or Eurocurrency and extending the maturity date from January 1, 2007 to December 1, 2009. The amended credit facility bears interest at either (1) the base rate announced by BBH from time to time, (2) the London Interbank Offered Rate ("LIBOR") or (3) the Eurocurrency base rate, plus, in the case of LIBOR or the Eurocurrency base rate, a margin of 2.5% or 2.75% depending on our debt service leverage ratio. As of June 30, 2008, there was no debt outstanding under the credit facility. As of June 30, 2008, we were in compliance with the financial covenants contained in the credit facility involving income, debt coverage and cash flow, as well as minimum working capital requirements. Additionally, the credit facility also contains limitations on our ability to incur additional indebtedness and requires creditor approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of $6.0 million and for acquisitions funded solely with equity in excess of $10.0 million. We do not believe that these requirements will be a significant constraint on our operations or on the acquisition portion of our growth strategy. As of June 30, 2008, there was no debt outstanding under the credit facility compared to $5.5 million outstanding as of December 31, 2007. As of June 30, 2008, we were not subject to any borrowing restrictions under the covenants and we had available borrowing capacity under our revolving credit facility of $20.0 million.

Under the terms of our credit facility, we will be required to obtain consent from our lenders upon the sale of the remaining portion of our Capital Equipment Business segment. If we are unable to obtain this consent, the sale of the remaining portion of our Capital Equipment Business segment will trigger a default under the credit facility whereby our lenders could accelerate all of our outstanding indebtedness and terminate our credit facility.

Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary as a result of a number of factors. Based on our current operations and current operating plans, we expect that our available cash, cash generated from current operations and debt capacity will be sufficient to finance current operations and capital expenditures for 12 months and beyond. However, we may use substantial amounts of capital to accelerate product development or expand our sales and marketing activities. We may need to raise additional capital in order to make significant acquisitions. Additional capital raising activities will dilute the ownership interests of existing stockholders to the extent we raise capital by issuing equity securities and we cannot assure you that we will be successful in raising additional capital on favorable terms or at all. In addition, we believe that the absence of cash inflows from our discontinued businesses will not have an impact on our ability to support our current operations or operating plans.

Impact of Foreign Currencies

We sell our products in many countries and a substantial portion of our revenues, costs and expenses are denominated in foreign currencies, especially the United Kingdom pound sterling and the Euro. During the six months ended June 30, 2008 and 2007, the U.S. dollar weakened against these currencies resulting in increased consolidated revenue and earnings growth. Changes in foreign currency exchange rates resulted in an increase in revenues of $0.7 million and expenses of $0.9 million (net unfavorable $0.2 million) during the six months ended June 30, 2008.

Our exchange gains and losses were primarily the result of currency fluctuations on net payables and receivables among our subsidiaries. The gain associated with the translation of foreign equity into U.S. dollars was approximately $1.5 million and $0.8 million during the six months ended June 30, 2008 and 2007, respectively. In addition, currency fluctuations resulted in approximately $0.2 million and $45,000 in foreign currency gains during the six months ended June 30, 2008 and 2007, respectively. Under the current terms of our credit facility, we have the ability to borrow in US dollars, Euros or British pounds sterling. As of June 30, 2008, there was no debt outstanding under the credit facility. In addition, as of June 30, 2008, our recently acquired Panlab subsidiary held notes payable of $2.1 million denominated in Euros. These Eurocurrency borrowings are sensitive to changes in currency exchange rates.

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 will continue to evaluate our currency risks and we may enter into foreign exchange contracts from time to time to mitigate foreign currency exposure.

Critical Accounting Policies

We believe that our critical accounting policies are as follows:

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

Revenue recognition. We recognize revenue of products when persuasive evidence of a sales arrangement exists, the price to the buyer is fixed or determinable, delivery has occurred, and collectibility of the sales price is reasonably assured. Sales of some of our products include provisions to provide additional services such as installation and training. We evaluate all sales with multiple deliverables, including our collaboration agreements, to determine if more than one unit of accounting exists, in accordance with Emerging Issues Task Force (EITF) Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables.* When we determine that there is more than one unit of accounting, and there is objective and reliable evidence of fair value for all units of accounting in an arrangement, the arrangement consideration is allocated to the separate units of accounting based on their relative fair values. In situations where there is objective and reliable evidence of the fair value(s) of the undelivered item(s) in an arrangement but no such evidence for the delivered item(s), we apply the residual method to allocate fair value. Under the residual method, the amount of consideration allocated to the delivered item(s) equals the total arrangement consideration less the aggregate fair value of the undelivered item(s). Revenue for each unit of accounting is recorded once all applicable revenue recognition criteria have been met. Service agreements on our equipment are typically sold separately from the sale of the equipment. Revenues on these service agreements are recognized ratably over the life of the agreement, typically one year, in accordance FASB Technical Bulletin (FTB) 90-1, *Accounting for Separately Priced Extended Warranty and Product Maintenance Contracts.*

We account for shipping and handling fees and costs in accordance with EITF Issue No. 00-10, *Accounting for Shipping and Handling Fees and Costs*, which requires all amounts charged to customers for shipping and handling to be classified as revenues. Our costs incurred related to shipping and handling are classified as cost of product revenues. Warranties and product returns are estimated and accrued for at the time sales are recorded. We have no obligations to customers after the date products are shipped or installed, if applicable, other than pursuant to warranty obligations and service or maintenance contracts. We provide for the estimated amount of future returns upon shipment of products or installation, if applicable, based on historical experience. Historically, product returns and warranty costs have not been significant, and they have been within our expectations and the provisions established, however, there is no assurance that we will continue to experience the same return rates and warranty repair costs that we have in the past. Any significant increase in product return rates or a significant increase in the cost to repair our products could have a material adverse impact on our operating results for the period or periods in which such returns or increased costs materialize.

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

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

Management's judgment and estimates are required in determining our income tax provision, deferred tax assets and liabilities and any valuation allowance recorded against deferred tax assets. We have established a valuation allowance attributable to certain deferred tax assets as of December 31, 2007 that do not meet the "more likely than not" standard of realization based on our ability to generate sufficient future taxable income in the carryback and carryforward periods based on the criteria set forth in SFAS No. 109. We review the recoverability of deferred tax assets during each reporting period by reviewing estimates of future taxable income, future reversals of existing taxable temporary differences, and tax planning strategies that would, if necessary, be implemented to realize the benefit of a deferred tax asset before expiration.

We assess tax positions taken on tax returns, including recognition of potential interest and penalties, in accordance with the recognition thresholds and measurement attributes outlined in FASB Interpretation (FIN) No. 48 , *Accounting for Uncertainty in Income Taxes—an interpretation of FAS 109*. Interest and penalties recognized, if any, would be classified as a component of income tax expense.

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

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

technologies involved estimating future cash flows to be derived as a direct result of those technologies, and discounting those future streams to their present value. The discount factors used, ranging from 20% to 40%, reflect the business and financial risks of an investment in technologies. Forecasts of future cash flows are based on management's judgment of expected conditions and expected courses of action.

Valuation of in-process research and development acquired in business combinations. Purchase price allocation to in-process research and development represents the estimated fair value of research and development projects that are reasonably believed to have no alternative future use. The value assigned to in-process research and development was determined by independent appraisals by estimating the cost to develop the purchased in-process research and development into commercially feasible products, estimating the percentage of completion at the acquisition date, estimating the resulting net risk-adjusted cash flows from the projects and discounting the net cash flows to their present value. The discount rates used in determining the in-process research and development expenditures reflects a higher risk of investment because of the higher level of uncertainty due in part to the nature of our business and the industry to constantly develop new technology for future product releases and ranged from 25% to 43.5%. The forecasts used by us in valuing in-process research and development were based on assumptions we believed at the time to be reasonable, but which are inherently uncertain and unpredictable. Given the uncertainties of the development process, no assurance can be given that deviations from our estimates will not occur and no assurance can be given that the in-process research and development projects identified will ever reach either technological or commercial success.

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

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

A long-lived asset classified as "held for sale" is initially measured at the lower of carrying amount or fair value less costs to sell. In the period the "held for sale" criteria are met, we recognize an impairment charge for any initial adjustment of the long-lived assets. During each reporting period after the initial measurement, gains or losses resulting from fluctuations in the fair value less costs to sell are recognized. Gains and losses not previously recognized resulting from the sale of a long-lived asset are recognized on the date of sale. Assets to be disposed of are separately presented in the consolidated balance sheet and long-lived assets are no longer depreciated or amortized. The assets and liabilities of a disposal group, which are classified as held for sale, are presented separately in the appropriate asset and liability sections of the balance sheet. Operating results for all periods presented are presented as discontinued operations, net of tax. In accordance with Emerging Issues Task Force Issue No. 87-24, *Allocation of Interest to Discontinued Operations*, we have elected not to allocate interest of our consolidated debt to discontinued operations.

In June 2001, SFAS No. 142, *Goodwill and Other Intangible Assets* was issued. SFAS No. 142 addresses financial accounting and reporting for acquired goodwill and other intangible assets. Among other things, SFAS No. 142 requires that goodwill and intangible assets with indefinite useful lives no longer be amortized, but rather tested annually for impairment or more frequently if events or circumstances indicate that there may be impairment. The goodwill impairment test consists of a comparison of the fair value of our reporting units with their carrying amount. If the carrying amount exceeds its fair value, we are required to perform the second step of the impairment test, as this is an indication that goodwill may be impaired. The impairment loss is measured by comparing the implied fair value of the reporting unit's goodwill with its carrying amount. If the carrying amount exceeds the implied fair value, an impairment loss shall be recognized in an amount equal to the excess. After an impairment loss is recognized, the adjusted carrying amount of the intangible asset shall be its new accounting basis. Subsequent reversal of a previously recognized impairment loss is prohibited. For unamortizable intangible assets if the carrying amount exceeds the fair value of the asset, we would write-down the unamortizable intangible asset to fair value.

During the second quarter of 2005, the asset groups that comprise our Capital Equipment Business segment experienced a significant decrease in revenues and operating profit margins. We believed the decrease in revenues was caused by a general market decrease in demand for capital equipment, excess capacity of certain genomics equipment in the market place, and new applications for certain products had not developed as previously anticipated. These factors led us to revise our expectations of future revenues and operating profit margins for the Capital Equipment Business segment. As a result, with the assistance of third party independent appraisers, we re-evaluated the long-lived assets associated with these asset groups in accordance with SFAS No. 144 and determined that certain intangible assets within these asset groups were impaired as of June 30, 2005. We used an income approach to determine the fair values of the long-lived assets tested for impairment and recorded abandonment and impairment charges within the Capital Equipment Business segment totaling approximately $8.1 million for long-lived assets during the second quarter of 2005. These abandonment and impairment charges have been classified within discontinued operations for the year ended December 31, 2005. Also, as a result of the factors described above, in accordance with SFAS No. 142, we, with the assistance of third-party independent appraisers, re-evaluated the goodwill associated with the Genomic Solutions and Union Biometrica reporting units for impairment as of June 30, 2005. As a result of this goodwill impairment testing, we recorded impairment charges within the Capital Equipment Business segment of approximately $9.3 million for goodwill during the second quarter of 2005. We used a combination of an income approach and a market approach to determine the fair value of our Genomic Solutions and Union Biometrica reporting units. These impairment charges have been classified within discontinued operations for the year ended December 31, 2005.

During the fourth quarter of 2005, certain product lines in the Capital Equipment Business segment did not meet our revenue forecasts and expectations. We believe that the further decline in revenues was due to the relative high price and nature of the products sold by Capital Equipment Business segment which customers, particularly distributors, may not be promoting and purchasing due to the uncertain future of the business. This led to a further reduction in our expectation of future revenues in the Capital Equipment Business segment. As a result, we re-evaluated the goodwill included in this segment in accordance with SFAS No. 142, as well as the fair value of the disposal group in accordance with SFAS No. 144. As a result, an additional goodwill impairment charge of approximately $7.9 million and a write-down of long-lived assets of approximately $3.4 million were recorded during the fourth quarter of 2005. We used a combination of income and market approaches to determine the fair value of the disposal group.

During the year ended December 31, 2006, we utilized a market approach and re-evaluated the fair value less costs to sell of the assets that comprise the Capital Equipment Business segment. Based on this evaluation, we recorded additional asset impairment charges of approximately $3.9 million.

During the year ended December 31, 2007, we utilized a market approach and re-evaluated the fair value less costs to sell of the assets that comprise the Capital Equipment Business segment. Based on management’s evaluation, additional asset impairment charges of approximately $2.9 million were recorded during 2007.

In November 2007, we completed the sale of the assets of our Genomic Solutions Division and the stock of our Belgian subsidiary, MAIA Scientific, both of which were part of our Capital Equipment Business Segment, to Digilab, Inc. The purchase price paid by Digilab under the terms of the Asset Purchase Agreement consisted of $1,000,000 in cash plus additional consideration in the form of an earn-out based on 20% of the revenue generated by the acquired business as it is conducted by Digilab over a three-year period post-transaction. Any earn-out amounts will be evidenced by interest bearing promissory notes due on November 30, 2012. During the fourth quarter, we recorded a loss on sale of $3.1 million. There was no value ascribed to the contingent consideration from the earn-out agreement, as realization is uncertain. The COPAS flow cytometry product line (held by our Union Biometrica US and German subsidiaries, both of which are still included in discontinued operations), was not included in this sale, and we continue to pursue a sale of this product line separately.

During the quarter ended June 30, 2008, we re-evaluated the fair value less costs to sell the remaining assets that comprise the Capital Equipment Business segment. Based on this evaluation, we recorded additional asset impairment charges of $2.9 million.

Stock-based compensation. We account for share-based payment awards in accordance with the provisions of SFAS No. 123(R), which was adopted as of January 1, 2006 using the modified prospective transition method. In accordance with the modified prospective transition method, our consolidated financial statements for periods prior to January 1, 2006 have not been restated to reflect, and do not include, the impact of SFAS No. 123(R).

SFAS No. 123(R) requires companies to estimate the fair value of stock-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in our consolidated statement of operations. Prior to the adoption of SFAS No. 123(R), we accounted for stock-based awards to employees and directors using the intrinsic value method in accordance with Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees*, as allowed under SFAS No. 123, *Accounting for Stock-Based Compensation*. Under the intrinsic value method, no stock-based compensation expense was recognized in our consolidated statement of operations when the exercise price of our stock options granted to employees and directors equaled or exceeded the fair market value of the underlying stock at the date of grant.

Stock-based compensation expense recognized under SFAS No. 123(R) for the three months ended June 30, 2008 and 2007 was $0.6 million, which consisted of stock-based compensation expense related to employee stock options and the employee stock purchase plan. Stock-based compensation expense recognized under SFAS No. 123(R) for the six months ended June 30, 2008 and 2007 was $1.0 million, which consisted of stock-based compensation expense related to employee stock options and the employee stock purchase plan. There was no stock-based compensation expense related to employee stock options or the employee stock purchase plan during the year ended December 31, 2005 because we had not adopted the recognition provisions under SFAS No. 123 and there was no such expense under APB Opinion No. 25.

Stock-based compensation expense recognized is based on the value of the portion of stock-based payment awards that is ultimately expected to vest. Stock-based compensation expense recognized includes compensation expense for stock-based payment awards granted prior to, but not yet vested as of January 1, 2006, based on the grant date fair value estimated in accordance with the pro forma provisions of SFAS No. 123, and compensation expense for the stock-based payment awards granted subsequent to December 31, 2005 based on the grant date fair value estimated in accordance with the provisions of SFAS No. 123(R). Stock-based compensation expense has been reduced for estimated forfeitures. SFAS No. 123(R) requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Upon adoption of SFAS No. 123(R), we elected to retain its method of valuation for stock-based payment awards granted beginning in 2006 using the Black-Scholes option-pricing model (“Black-Scholes model”) which was also previously used for our pro forma information required under SFAS No. 123. Our determination of fair value of stock-based payment awards on the date of grant using an option-pricing model is affected by our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to our expected stock price volatility over the term of the awards and actual and projected employee stock option exercise behaviors.

For awards granted prior to January 1, 2006, we use the accelerated expense recognition method in FIN No. 28, *Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans*. We record expense on a straight-line basis over the requisite service period for all awards granted since the adoption of SFAS No. 123(R) on January 1, 2006.

Recent Accounting Pronouncements

In September 2006, the Financial Accounting Standards Board (FASB) issued SFAS No. 157, *Fair Value Measurements*. This statement defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value. This statement is effective for financial statements issued for fiscal years and interim periods within those fiscal years, beginning after November 15, 2007. The adoption of SFAS No. 157 did not have a material impact on the Company’s consolidated results of operations or financial position.

In February 2008, the FASB issued FASB Staff Position (“FSP”) FAS 157-2, *Effective Date of FASB Statement No. 157*, which delays the effective date of SFAS No. 157 for nonfinancial assets and nonfinancial liabilities that are not remeasured at fair value on a recurring basis (at least annually) until fiscal years beginning after November 15, 2008, and interim periods within those fiscal years.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Liabilities Including an Amendment of FASB Statement No. 115*. SFAS No. 159 permits reporting entities to choose to measure eligible financial assets or liabilities, which include marketable securities available-for-sale and equity method investments, at fair value at specified election dates, or according to a preexisting policy for specific types of eligible items. Unrealized gains and losses for which the fair value option has been elected are reported in earnings. SFAS No. 159 is effective for fiscal years beginning after November 15, 2007. Early adoption is permitted as of the beginning of a fiscal year that begins on or before November 15, 2007. The adoption of SFAS No. 159 did not have a material impact on the Company's consolidated results of operations or financial position.

In December 2007, the FASB issued SFAS No. 141 (revised 2007), *Business Combinations*. SFAS No. 141(R) retains the fundamental requirements of the original pronouncement requiring that the purchase method be used for all business combinations. SFAS 141(R) defines the acquirer as the entity that obtains control of one or more businesses in the business combination, establishes the acquisition date as the date that the acquirer achieves control and requires the acquirer to recognize the assets acquired, liabilities assumed and any noncontrolling interest at their fair values as of the acquisition date. SFAS No. 141(R) also requires that acquisition-related costs be recognized separately from the acquisition. This Statement applies prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008 and may not be applied before that date. The Company is in the process of evaluating the impact the adoption of SFAS No. 141(R) will have its consolidated financial position and results of operations.

In December 2007, the FASB issued SFAS No. 160, *Noncontrolling Interests in Consolidated Financial Statements, An Amendment of ARB No. 51*. SFAS No. 160 amends Accounting Research Bulletin ("ARB") 51 to establish accounting and reporting standards for the noncontrolling interest in a subsidiary and for the deconsolidation of a subsidiary. It also amends certain of ARB 51's consolidation procedures for consistency with the requirements of FASB Statement No. 141(R). This statement is effective for fiscal years, and interim periods within those fiscal years, beginning on or after December 15, 2008. The statement shall be applied prospectively as of the beginning of the fiscal year in which the statement is initially adopted. The Company is currently evaluating SFAS 160 and the impact that it may have on results of operations or financial position.

In April 2008, the FASB issued FSP FAS 142-3, *Determination of the Useful Life of Intangible Assets*. FSP FAS 142-3 amends the factors that should be considered in developing renewal or extension assumptions used to determine the useful life of a recognized intangible asset under SFAS No. 142, *Goodwill and Other Intangible Assets* to improve the consistency between the useful life of a recognized intangible asset under SFAS No. 142 and the period of expected cash flows used to measure the fair value of the asset under SFAS No. 141, *Business Combinations*, other U.S. GAAP. FSP FAS 142-3 is effective for financial statements issued for fiscal years beginning after December 15, 2008, and interim periods within those fiscal years. Early adoption is prohibited. The Company is currently evaluating the impact of FSP FAS 142-3 on its financial statements.

In May 2008, the FASB issued SFAS No. 162, *The Hierarchy of Generally Accepted Accounting Principles.* SFAS No. 162 identifies the sources of accounting principles and the framework for selecting the principles to be used in the preparation of financial statements that are presented in conformity with generally accepted accounting principles in the United States. SFAS No. 162 is effective 60 days following the SEC's approval of the Public Company Accounting Oversight Board amendments to AU Section 411, *The Meaning of Present Fairly in Conformity with Generally Accepted Accounting Principles*. Based on the Company's current operations, the adoption of SFAS No. 162 will not have a material impact on its financial statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

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

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

We are exposed to market risk from changes in interest rates primarily through our financing activities. As of June 30, 2008, we had no debt outstanding under our revolving credit facility.

Under the current terms of our credit facility, we have the ability to borrow in US dollars, Euros, or British pounds sterling. On June 30, 2008, we had no borrowings on our credit facility. As of June 30, 2008, our recently acquired Panlab subsidiary held notes payable of $2.1 million denominated in Euros. These Eurocurrency borrowings are sensitive to changes in currency exchange rates. A 10% appreciation in quarter-ended June 30, 2008 currency exchange rates related to these Eurocurrency borrowings would have resulted in an increase in the cumulative translation adjustments on our balance sheet of $0.2 million relating to the notes held by our Panlab subsidiary.

Item 4. Controls and Procedures.

As required by Rules 13a-15 and 15d-15 under the Securities Exchange Act of 1934, we have evaluated, with the participation of our management, including our Chief Executive Officer and Principal Accounting Officer, the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Our disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and our management necessarily was required to apply its judgment in evaluating and implementing our disclosure controls and procedures. Based upon the evaluation described above, our Chief Executive Officer and Principal Accounting Officer have concluded that they believe that our disclosure controls and procedures were effective, as of the end of the period covered by this report, in providing reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

We continue to review our internal controls over financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business. These efforts have led to various changes in our internal controls over financial reporting. There were no changes in our internal controls over financial reporting that occurred during the quarter ended June 30, 2008 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1A. Risk Factors

There have been no material changes in the risk factors described in "Item 1A—Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2007, as amended, with the exception of the risk factor titled "*If GE Healthcare (formerly Amersham Biosciences) terminates its distribution agreements with us, fails to renew them on favorable terms or fails to perform its obligations under the distribution agreements, it could impair the marketing and distribution efforts for some of our products and result in lost revenues.*"

We note that on April 10, 2008, Biochrom Limited ("Biochrom"), a wholly owned subsidiary of Harvard Bioscience, Inc., and General Electric Company, acting through its GE Healthcare Bio-Sciences business ("GE Healthcare"), entered into a distribution agreement. Under the terms of the agreement, GE Healthcare will serve as the exclusive, worldwide (except Canada) distributor, marketer and seller of a significant portion of the spectrophotometer and DNA/RNA calculator product lines sold by Biochrom, including the recently launched microliter spectrophotomer to which GE Healthcare has exclusive access to on a worldwide basis including Canada.

The term of the agreement expires December 31, 2012, may be extended by GE Healthcare for additional one-year periods and may be terminated by either party upon one year advance written notice after March 27, 2009. Additionally, upon breach of certain terms of the agreement by either party, the agreement may be terminated with a 60-day notice period.

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

On May 15, 2008, the Company held its Annual Meeting of Stockholders. At the meeting, the following matters were voted on by our stockholders, either in person or by proxy, and approved by the following votes:

	Shares Voted For	Votes Withheld
Election of two Class II Directors until the 2011 Annual Meeting of Stockholders and until their successors are duly elected and qualified or until their earlier resignation.		
David Green	17,985,344	9,473,426
John F. Kennedy	16,998,590	10,460,180

Following the Annual Meeting of Stockholders, the composition of the Board of Directors is as follows:

Class I Directors (to serve until 2010 Annual Meeting)
- Robert Dishman
- Neil J. Harte

Class II Directors (to serve until 2011 Annual Meeting)
- David Green
- John F. Kennedy

Class III Directors (to serve until 2009 Annual Meeting)
- Chane Graziano
- Earl R. Lewis
- George Uveges

	Shares Voted For	Shares Voted Against	Abstentions	Broker Non-Votes
Proposal to approve the Harvard Bioscience, Inc. Second Amended and Restated 2000 Stock Option and Incentive Plan to, among other things, increase the number of shares available for issuance thereunder by 2,500,000.	16,782,848	6,358,508	40,728	4,276,686

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Item 6. Exhibits

Exhibit Index

10.1++	Distribution Agreement, dated April 10, 2008, by and between Biochrom Limited and GE Healthcare Biosciences, Corp. (Portions of this Exhibit have been omitted pursuant to a request for confidential treatment and have been separately filed with the Securities and Exchange Commission under Rule 24b-2), as amended
31.1+	Certification of Principal Accounting Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2+	Certification of Chief Executive Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Principal Accounting Officer of Harvard Bioscience, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Chief Executive Officer of Harvard Bioscience, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

+ Filed herewith.

++ Filed herewith. Portions of this exhibit have been omitted pursuant to a request for confidential treatment.

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

SIGNATURES

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

HARVARD BIOSCIENCE, INC.

By: /s/ CHANE GRAZIANO
Chane Graziano
Chief Executive Officer

By: /s/ THOMAS MCNAUGHTON
Thomas McNaughton
Chief Financial Officer & Principal Accounting Officer

Date: February 19, 2009

Confidential treatment has been requested for portions of this exhibit. The copy filed herewith omits the information subject to the confidentiality request. Omissions are designated as [***]. A complete version of this exhibit has been filed separately with the Securities and Exchange Commission.

Strategic Supplier Alliance Agreement

This Strategic Supply Agreement ("Agreement"), effective as of the date of last signature affixed below (the "Effective Date"), is entered into by and between the General Electric Company, a corporation organized under the laws of the State of New York, acting through its GE Healthcare Bio-Sciences business ("GE Healthcare") and Biochrom Limited, a company incorporated in England and having its registered office at 22 Cambridge Science Park, Milton Road, Cambridge CB4 0FJ, England ("Biochrom").

1. Introduction

a. General Conditions of Supply. Pursuant to the terms and conditions of this Agreement and its Attachments, Biochrom shall sell to GE Healthcare, and GE Healthcare shall purchase from Biochrom, those spectrophotometers identified in Attachment C as instruments, branded as Amersham and GE Healthcare offerings (the "Products"), meeting the specifications set forth in Attachment C (the "Specifications"), in such amounts as GE Healthcare may order from time to time during the term of this Agreement. Unless otherwise expressly stated, references to this Agreement include all Attachments hereto.

b. Exclusivity.

1. GE Healthcare shall have exclusive, global rights excluding Canada (the "Territory") to sell, resell, market, distribute and support the Products under the names Novaspec, Ultrospec and Genequant (the "Names"), as defined in Section 19(b) below. Biochrom will provide GE Healthcare with all the rights, information and know-how required to enable GE Healthcare to sell, resell, market, distribute and support the Products. GE Healthcare may, at its sole discretion and under terms and conditions it independently negotiates, utilize third parties for the distribution of Products supplied by Biochrom under this Agreement. Biochrom shall not be limited in its ability to manufacture, supply, market, distribute, sell, resell or support any proprietary or third party product(s) in the Territory which compete(s) directly or indirectly, either on its own or through any party other than GE Healthcare, with the Products during the Term of this Agreement so long as the products do not use the Names or have the same appearance as Products offered to GE Healthcare.

2. Provided GE Healthcare has purchased [***] NanoVue instruments in 2008, a cumulative total of [***] instruments by the end of 2009 and a cumulative total of [***] instruments by the end of 2010 GE Healthcare shall have exclusive rights to sell, resell, market, distribute and support the NanoVue Product worldwide (the "NanoVue Territory"). Failure of GE Healthcare to satisfy the above-mentioned minimum purchase requirements shall automatically revert GE Healthcare's exclusive rights to non-exclusive rights to the patented technology incorporated into the NanoVue. Biochrom will provide GE Healthcare with all the rights, information and know-how required to enable GE Healthcare to sell, resell, market, distribute and support the NanoVue Product. GE Healthcare may, at its sole discretion and under terms and conditions it independently negotiates, utilize third parties for the distribution of Products supplied by Biochrom under this Agreement.

3. Provided Biochrom is able to meet GE Healthcare's needs for Products as set forth in Section 3(a) below, and provided further that GE Healthcare, in its sole discretion, chooses to operate in the spectrophotometer market, GE Healthcare will use commercially reasonable efforts to sell Products, and will not sell other products that are competitive to the Products during the term of this Agreement;

4. Except as set forth in Section 1(b)(3), GE Healthcare agrees to purchase Products exclusively from Biochrom for the Term. Notwithstanding the above, the parties hereby agree that GE Healthcare, before entering into any agreement with a third party, shall first extend to Biochrom the opportunity for Biochrom to supply to GE Healthcare new spectrophotometers with different specifications from the current Products sold by Biochrom to GE Healthcare in accordance with GE Healthcare's quality requirements, volume requirements, price requirements and delivery timelines ("GE Healthcare's Commercial Requirements"). In the event Biochrom is unable or unwilling to meet GE Healthcare's Commercial Requirements, GE Healthcare shall be free to purchase such spectrophotometers from suppliers other than Biochrom beginning twelve (12) months after GE Healthcare first extends the opportunity to Biochrom.

c. Biochrom shall sell to GE Healthcare all components, spare parts, services, service tools, and software licenses with respect to the Products on a non-exclusive basis.

d. Documents. The following attachments are an integral part of this Agreement (the "Attachments"). The provisions of each Attachment shall be incorporated by reference into and deemed to be part of this Agreement. If any conflict exists between the provisions of this Agreement and of the Attachments, or between the provisions of the Attachments themselves, the order of precedence shall be as follows:

(1) This Agreement

(2) Attachment K (OEM Addendum)

(3) Attachment A (Annual Business Attachment)

(4) Attachment B (Purchased Material Quality Requirements)

(5) Attachment C (Products, Pricing, and Specifications)

(6) Attachment D (Supplier Integrity Statement)

(7) Attachment F (Quality Plan)

e. Additional Addenda. GE Healthcare and Biochrom may enter into one of the following separate Addenda modifying the type of relationship between the parties reflected in the body of this Agreement and its various Attachments. To the extent any such Addendum is separately executed by the parties and makes reference to this Agreement, it shall be deemed to be incorporated by such reference into this Agreement, shall form a part hereof, and shall modify this Agreement as specified in such Addendum. In such event, references herein to this Agreement shall be deemed to include any such Addendum. In the event of conflict between any terms of such Addendum and any other terms of this Agreement and any Attachment, such Addendum shall take precedence.

Check Box (If Applicable)

¢ OEM Purchase Addendum

☐ Contract Manufacturing Addendum

2. Term/Termination

a. Term. The term of this Agreement will commence as of the Effective Date and shall continue until December 31, 2012 (the "Initial Term"). GE Healthcare may extend the Initial Term for additional one (1) year periods (the "Extension Term"). In such event, the Initial Term and the Extension Term, if any, shall be referred herein as the "Term".

b. Termination for Convenience. Neither party shall have the right to terminate this Agreement for convenience during the first twelve (12) months. Thereafter, each party shall provide the other party no less than twelve (12) months' written notice of its intention to terminate the Agreement

c. Termination for Cause by GE Healthcare. If Biochrom breaches any material term of this Agreement and Biochrom fails to correct such breach within sixty (60) days after receiving written notice of such breach from GE Healthcare, GE Healthcare may terminate this Agreement at any time thereafter upon written notice to Biochrom; provided, however, if such breach is not reasonably susceptible to cure within such period, then GE Healthcare shall have the right to terminate this Agreement immediately upon written notice. GE Healthcare may also terminate all unfilled Purchase Orders without any liability except for the price of any Products previously delivered and accepted by GE Healthcare (subject to any set-off available to GE Healthcare). GE Healthcare may also terminate this Agreement upon sixty (60) days written notice to Biochrom if any proceeding under the bankruptcy or insolvency laws is brought against Biochrom, a receiver is appointed for Biochrom or Biochrom makes an assignment for the benefit of creditors. Any such termination shall not relieve Biochrom of its obligations and GE Healthcare shall retain all legal and equitable remedies after such termination.

d. Breach; Default. If Biochrom fails to perform or deliver Products required under this Agreement, or if Biochrom repudiates or breaches any of the material terms hereof, including, but not limited to, Biochrom's warranties, such events shall constitute a breach under Section 2(c). This Section 2(d) shall not be deemed to limit in any manner GE Healthcare's rights to claim material breach by Biochrom under Section 2(c) above.

e. Termination for Cause by Biochrom. If GE Healthcare breaches any material term of this Agreement and GE Healthcare fails to correct such breach within sixty (60) days after receiving written notice of such breach from Biochrom, Biochrom's exclusive remedy shall be to terminate this Agreement in full at any time thereafter upon written notice to GE Healthcare. Biochrom's obligations with respect to Product delivered or Purchase Orders that have been accepted shall not be affected by such termination; provided however that if Biochrom's termination is due to nonpayment by GE Healthcare then Biochrom shall not be obligated to fulfill any other submitted Purchase Orders, unless agreed upon in writing by the parties. Biochrom may also terminate this Agreement upon sixty (60) days written notice to GE Healthcare if any proceeding under the bankruptcy or insolvency laws is brought against GE Healthcare or a receiver is appointed for GE Healthcare or GE Healthcare makes an assignment for the benefit of creditors. Any such termination shall not relieve GE Healthcare of its obligations and Biochrom shall retain all legal and equitable remedies after such termination. The

following events shall constitute a breach under this Section 2(e): (i) if GE Healthcare does not make payments to Biochrom as specified in the Agreement; or (ii) if GE Healthcare repudiates or breaches any of the material terms hereof, including, but not limited to, GE Healthcare warranties. Biochrom has no obligation to provide Product on an ongoing basis if GE Healthcare fails to correct any underpayment of invoices within sixty (60) days.

f. Termination of Purchase Order. GE Healthcare may terminate any Purchase Order (as defined herein) in whole or in part up until thirty (30) days before requested shipment upon written notice to Biochrom.

3. Forecast/Commitment/Quantities

a. Forecasting/Sales Summary. Within fifteen (15) business days of the Effective Date and thereafter within fifteen (15) business days from the beginning of each calendar quarter, GE Healthcare shall submit to Biochrom a non-binding, rolling forecast for the Products for the current and the subsequent quarter, as well as a quarterly sales summary. All forecasts provided by GE Healthcare or mutually developed by the parties for GE Healthcare's requirements for Products shall not be binding in any way on GE Healthcare. GE Healthcare may modify any such forecast at any time in its sole discretion. Biochrom represents and warrants that it has the capacity and expertise necessary to manufacture and deliver to GE Healthcare the initially forecasted volume of Products, and any increased volume of up to ten percent (10%) greater than the initially forecasted amount. Biochrom will have the right to review each forecast and if it cannot meet the forecast Biochrom will notify GEHC within a reasonable commercial time and the parties will agree on a revised forecast.

b. No Obligation. With the sole exception of the Safety Stock described in Section 5(e) below, it is the express understanding of the parties that GE Healthcare shall have no obligation to purchase any minimum amount of Product from Biochrom.

c. GE Healthcare Product Commitment. GE Healthcare's commitment to purchase Products from Biochrom shall be limited to Purchase Orders released by GE Healthcare and accepted by Biochrom pursuant to Section 5 of this Agreement.

d. Material Commitments: Unless agreed otherwise in writing by the parties, GE Healthcare shall not be responsible or in any way liable to Biochrom or any third party with respect to any material commitments or production arrangements in excess of the amounts or in advance of the times necessary to meet GE Healthcare's delivery schedule as set forth in its applicable Purchase Order.

4. Pricing

a. Pricing. The prices specified in Attachment C (the "Prices") include all packaging, labeling (including but not limited to date of manufacture and bar code labeling), insurance, storage, handling, interest charges, service charges, and any other expenses associated with the development, storage, and packaging of any Product and will not be increased until January 1st, 2009. Beginning May 1 of each year, the parties agree to negotiate in good faith adjustments to Prices, if warranted. Any such adjustments shall be: (i) finalized by August 30 of the same year; (ii) documented utilizing the Annual Business Agreement, the form of which is set forth in Attachment A, attached hereto; and (iii) effective January 1 of the following year. If the parties are unable to reach an agreement on any given pricing adjustment ("Pricing Dispute"), either party may submit the Pricing Dispute for resolution by mediation pursuant to the Center for Public Resources Model Procedure for Mediation of Business Disputes as then in effect. The

mediation shall be conducted in New York City. Mediation will continue for at least thirty (30) days unless the mediator chooses to withdraw sooner. At the request of either party, the mediator will be asked to provide an evaluation of the Pricing Dispute and the parties' relative positions. Each party shall bear its own costs of mediation effort. If the Pricing Dispute cannot be resolved through mediation, either party may commence an action to resolve the Pricing Dispute in accordance with Section 23(b).

b. Price/Cost Reductions. Biochrom warrants and represents to GE Healthcare that:

(i) the Prices specified in Attachment C, as amended from time to time, are and will be as low as the prices at which Biochrom is currently selling or will sell (or currently intending to sell) the Products or similar products in the same or similar quantities. If during the Term, Biochrom reduces the price of such Products, in part or in whole, Biochrom shall: (i) promptly notify GE Healthcare in writing of such reduction; and (ii) apply an equivalent reduction in Price to all such Products ordered by GE Healthcare which have not been previously shipped and invoiced at the time of such reduction. The Prices shall thereafter be adjusted to reflect such reduction for the balance of the Term or until the Prices are further adjusted pursuant to this Agreement.

(ii) if GE Healthcare receives a bona fide offer from a third party for similar quantities of the same or similar products or services as those being purchased from Biochrom hereunder at a lower price, Biochrom shall [***]. If Biochrom [***] within [***] of notice from GE Healthcare, GE Healthcare may: (i) terminate this Agreement by giving an additional [***] notice to Biochrom; and/or (ii) [***] upon [***] prior notice.

(iii) it may, in partnership with GE Healthcare, undertake a program to achieve reductions in cost of Products by utilizing cost-effective design, lower cost components, new technology, productivity improvements, and automation of the manufacturing process. To assist each other in this joint program, the parties agree to meet regularly as set forth in Section 9 below to discuss in good faith the opportunities, methodologies and feasibility of reducing costs with a goal of achieving annual price reductions.

c. Taxes. Unless prohibited by law, Biochrom will separately indicate on its Invoice any tax that is required to be imposed on its sale of Products to GE Healthcare.

5. Purchase Orders

a. Purchase Order Contents. A purchase order released by GE Healthcare for Products ("Purchase Orders") may consist of a hard copy in the form to be agreed upon by the parties, an electronic message, or other written communication from GE Healthcare to Biochrom, which complies with the requirements of this Agreement. Purchase Orders released by GE Healthcare shall contain a Purchase Order number, identify the delivery date or dates, and identify the quantities to be released for delivery.

b. Purchase Order Lead Time. GE Healthcare shall submit Purchase Orders to Biochrom with a lead time of at least thirty (30) calendar days. Purchase Orders for delivery within thirty (30) days, must not exceed a forty-five (45) day forecast unless previously agreed to in writing by Biochrom.

c. Changes to Purchase Order. All quantities ordered by GE Healthcare may be revised as requirements change. GE Healthcare may at any time make changes in delivery dates,

shipping instructions, quantities ordered, or other terms of the Purchase Order. GE Healthcare will confirm such changes in writing, and Biochrom will advise GE Healthcare in writing if the changes will result in changes to delivery schedules or other changes.

d. Acceptance of Purchase Order. Biochrom shall be deemed to have accepted a Purchase Order upon receipt from GE Healthcare so long as such Purchase Order complies with the terms of this Agreement. Biochrom shall send a written acknowledgement of such Purchase Order within three (3) business days of receipt of Purchase Order. Biochrom may not reject any Purchase Order submitted by GE Healthcare consistent with the terms of this Agreement.

e. Safety Stock. Biochrom shall maintain a stock of each Product sufficient to meet the next one (1) month's of forecasted orders. Upon the expiry or earlier termination of the Agreement by GE Healthcare, GE Healthcare shall purchase the safety stock at the prices set forth herein; provided however that GE Healthcare shall not be required to purchase more than the equivalent of one (1) month's of GE Healthcare's forecast.

6. Quality and Packaging

a. Quality Plans. The parties are committed to quality in the performance of this Agreement. Accordingly, all Products shall conform to the Purchased Material Quality Requirements set forth in Attachment B, attached hereto and incorporated by reference herein.

b. Packaging and Labeling. Biochrom shall be responsible, at its own expense, for the safe and suitable packaging and labeling of the Products, for complying with the requirements included in Attachment B, any Packaging Specifications included herein as Attachment I, and all applicable laws and regulations relating to the packaging, labeling, and carriage of the Products in the countries of manufacture, shipment and destination to GE Healthcare.

7. Commercial Terms

a. Transportation. Unless otherwise specified by GE Healthcare, Biochrom agrees to ship Products to GE Healthcare's primary distribution center in Sweden, currently located at Björkgatan 30, S-751 84, Uppsala, Sweden using GE Healthcare's designated carrier with transportation charges billed directly to GE Healthcare by the carrier. GE Healthcare will not pay premium transportation charges unless authorized by it in writing. If Biochrom ships Products by an unauthorized method or carrier, Biochrom will pay any freight costs. Biochrom will release rail or truck shipments at the lowest valuation permitted by law.

b. Title and Risk of Loss. Title and risk of loss will pass to GE Healthcare when the Products are delivered to GE Healthcare's designated carrier or when delivered to the agreed carrier if GE Healthcare agrees not to use GE Healthcare's designated carrier.

c. Shipments. Biochrom agrees to make shipments in the quantities and on the dates to meet the requirements of the applicable Purchase Order. Unless otherwise expressly stated, time is of the essence. In the event that any shipment is not made in time for delivery on the date and in the quantity set forth on the applicable Purchase Order, GE Healthcare may: (i) return to Biochrom some or all of the Products in the shipment at Biochrom's risk and expense, including without limitation warehouse or handling costs or (ii) direct Biochrom to make an expedited shipment of additional or replacement

Products, with the difference between any expedited routing and the Purchase Order routing to be paid by Biochrom. Biochrom agrees to notify GE Healthcare immediately if Biochrom has any reason to believe that any Products will not be delivered as ordered, or a shipment will not be made as scheduled.

d. Packing Lists. Each shipment made by Biochrom shall include a packing list containing the Purchase Order number, GE Healthcare product identification and part number, quantity shipped, date of shipment, Country of Origin, Product weight, and such other information as GE Healthcare may reasonably request or is required by applicable law.

e. Inspection Period. All Products delivered to GE Healthcare by Biochrom must meet the terms and conditions of this Agreement and the related Purchase Order. All Products shall be received subject to GE Healthcare's acceptance or rejection on or before the end of the Inspection Period. GE Healthcare may reject any entire order based upon a reasonable sampling of Products. "Inspection Period" means a reasonable time after delivery of any Products, which in no event will be longer than ten (10) business days from date of shipment by Biochrom to allow for the performance of any inspection, installation activities, testing, or trials. Partial or total payment by GE Healthcare for Products under this Agreement prior to the end of the Inspection Period shall not constitute its acceptance thereof, nor shall such payment remove Biochrom's responsibility for any non-conforming items. Biochrom agrees to provide and maintain inspection and process control systems with respect to the manufacture of Products, as provided for under ISO 9001 requirements and Biochrom agrees to keep and make available complete records of all Biochrom's inspection work and process control work for the life of the Products plus seven (7) years.

f. Health and Safety. Biochrom shall ensure that all information held by or reasonably available to it regarding any potential hazards known or believed to exist in the transport, handling, or use of any Products and/or performance of any services shall be received by GE Healthcare in writing prior to delivery of the Products and/or performance of the services.

8. Key Performance Metrics

a. Specifications. GE Healthcare shall measure Biochrom's ability to provide Products in accordance with the Specifications targeting a goal of less than two percent (2.0%) of the Products shipped not meeting Specifications.

The metric shall be calculated as follows:

GE Healthcare will calculate a monthly, three-month rolling Defective Parts Per Million ("DPPM") based on Product receipts coded as "Supplier at Fault" by the GE Healthcare Manufacturing team.

The Numerator shall be the number of products for each Product received by GE Healthcare that has been coded as "Supplier at Fault" by the GE Healthcare Manufacturing team during the three-month period.

The Denominator shall be the total number of completed (received) products for that specific Product.

The parties agree to meet no less frequently than once every quarter at a time and in a manner mutually agreeable to both, to review all performance metrics, including Biochrom's compliance with Specifications. At the end of each year, the parties will review all data for the previous four (4) quarters to determine if modifications are needed in any of the following: (i) manufacturing processes; (ii) quality plan; and (iii) the targeted Specification percentage. Any such modifications shall be made with the mutual consent of the parties.

b. Delivery. GE Healthcare shall measure Biochrom's On-Time Delivery targeting a goal of ninety-nine and one-half percent (99.5%) for any individual calendar quarter.

The metric shall be calculated as follows:

GE Healthcare will calculate a monthly, six-month rolling, On-Time Delivery "corrected" percentage.

"Corrected" shall mean that GE Healthcare will not penalize Biochrom and Biochrom shall not be responsible, if GE Healthcare short cycles Biochrom's Product lead-times (as defined in Oracle).

The Numerator shall be the number of completed deliveries received from Biochrom on or before the requested due date. Incomplete (partial) shipments are not included in the calculation until they are received in full by GE Healthcare.

The Denominator shall be the total number of completed (received) shipments from Biochrom.

The parties agree to meet no less frequently than once every quarter at a time and in a manner mutually agreeable to both, to review all performance metrics, including Biochrom's On-Time Delivery. At the end of each year, the parties will review all data for the previous four (4) quarters to determine if modifications are needed in any one or a combination of the following: (i) lead time requirement; (ii) measurement criteria; and (iii) the targeted On-Time percentage. Any such modifications shall be made with the mutual consent of the parties.

Budget. Biochrom shall deliver Products in accordance with those Prices set forth in Attachment C as amended from time to time by mutual written agreement of the parties. The parties agree to utilize their respective commercially reasonable efforts to work together in good faith through open dialogue to seek opportunities to increase efficiencies and decrease costs to both GE Healthcare and Biochrom.

9. Partnership Review Meetings

GE Healthcare and Biochrom agree to meet no less frequently than once every quarter at a time and a place mutually agreeable to both, to review and evaluate:

- Performance, including metrics
- Sales results and forecasts, including competitive activity and marketing efforts
- Technical performance of the Products in the Field
- New Biochrom product offerings
- Line extensions of the technology into new fields and applications
- Safety stock levels
- Any other subjects beneficial for both Parties' short- and long-term business collaborations.

10. Invoices

Biochrom's Invoices shall contain the Purchase Order number, item number of such release, GE Healthcare part number(s) and revision number, invoice quantity, unit of measure, unit price, total invoice amount, legal name of Biochrom, phone number of Biochrom, address to which remittance should be sent, and other such information as may be required by law or reasonably requested from time to time by GE Healthcare.

11. Payment Terms

a. Payment Terms. GE Healthcare shall settle any invoices, prepared in accordance with this Agreement, arising under this Agreement by wire transfer within forty-five (45) days from invoice date; provided however that in no event shall such invoice date be earlier than that actual date on which Biochrom ships Products to GE Healthcare. All sums to be paid by GE Healthcare under this Agreement shall be in British Pounds Sterling ("GBP"), unless otherwise agreed to by the parties. GE Healthcare at its sole discretion may settle any invoices, prepared in accordance with this Agreement, arising under this Agreement by wire transfer within fifteen (15) days from the invoice date and shall be entitled to a discount of one and two-tenths percent (1.2%) of the total invoice value.

b. Late Payments. In the event GE Healthcare fails to pay invoices in accordance with Section 11(a), Biochrom shall provide notice of late payment. GE Healthcare shall have thirty (30) days from receipt of notice to pay such outstanding invoice without penalty. For each invoice, which remains unpaid, GE Healthcare will pay interest on the outstanding amount at the rate of one percent (1%) per month beginning with the original invoice date. However, if GE Healthcare pays less than ninety-eight percent (98%) of its invoices on-time, Biochrom shall not be obligated to provide any written notice of such outstanding invoices until such time as GE Healthcare returns to paying ninety-eight percent (98%) or more of its invoices on-time.

12. Documentation

a. Customer Copies. Unless agreed otherwise in writing by GE Healthcare, each Product delivered by Biochrom shall include a manual or other form of documentation and when relevant a software license, which contains sufficient information for proper installation and use of the Product. Additional documentation containing any applicable drawings, schematics, software license(s), software documentation, design history files, spare part lists, theory of operation, service troubleshooting diagnostics, testing protocols, or instructions necessary for the installation, operation, and maintenance of the Products (the "Documentation") shall be made available to GE Healthcare for use in servicing the Products. The Documentation shall be in English and in a commercially reasonable format acceptable to GE Healthcare, and delivered to GE Healthcare. Biochrom hereby grants to GE Healthcare the right to use, modify, and distribute sublicenses, and create derivative works of any Documentation provided to GE Healthcare for use with the marketing and sale of the Products. GE Healthcare may not make material changes to the Documentation or modify any Product specifications without Biochrom's prior written approval.

b. Master Copy. Biochrom shall provide to GE Healthcare at no additional charge a complete set of reproducible master copies of all Documentation listed in subsection (a) above, which GE Healthcare may reproduce without charge. If any change in the Product requires a change in the Documentation, Biochrom shall promptly notify GE Healthcare of the change and provide a revised reproducible master copy without charge.

13. Optional Services with Product.

a. Support. Biochrom shall provide second tier technical and applications support to GE Healthcare for the Products. Biochrom shall respond to GE Healthcare support requests within seventy-two (72) hours when said request is submitted on a week day. Biochrom shall respond to GE Healthcare support requests within ninety-six (96) hours when said request is submitted on a weekend.

14. Warranty

a. Product Warranty. Biochrom represents and warrants that the Products will:

(i) be delivered to GE Healthcare free of all liens, claims, or encumbrances;

(ii) conform strictly to and be manufactured in accordance with all express specifications (including, but not limited to, those Specifications set forth in Attachment C), drawings, plans, instructions, samples, or other descriptions;

(iii) be fit and sufficient for the purpose(s) for which they were manufactured and sold to GE Healthcare

(iv) be 1st quality (upon shipment) and merchantable;

(v) be free from defects in title, design, material, and workmanship, whether latent or otherwise;

(vi) have received all applicable regulatory certifications, including CE marks, as required;

(vii) be manufactured, processed, and assembled by Biochrom or by a third party under Biochrom's direction;

(viii) be safe for their intended use; and

(ix) not contain software code distributed under the GNU Public License (GPL) and do not include any open source software, freeware, or free use software.

b. Intellectual Property Warranty. Biochrom represents and warrants that neither the Products, nor the use of the Products, will infringe any patent or copyright trade secret, trademark, or other proprietary right of any third party. Biochrom also warrants that it has not and will not use or incorporate into Products any intellectual property of others without the party's prior written consent, and that no other third party, including without limitation any local, state, or Federal government holds any property rights or security interests in any Products.

c. Services Warranty. Biochrom represents and warrants that all services to be performed by Biochrom will be performed in a timely, professional, and workman-like manner.

d. Additional Software Warranty. Biochrom represents and warrants that it has not and will not knowingly include in any software, and will use commercially reasonable efforts within industry practices to ensure that such software does not contain any software key function, virus, code, routine, or device that may disable, damage, impair, erase, deactivate, or electronically repossess such software or any equipment or data.

e. Execution and Performance of Agreement.

1. Biochrom represents and warrants that it has the full right, power, and authority to enter into and perform its obligations under this Agreement. Biochrom further represents and warrants that the performance of its obligations under this Agreement will not result in a violation or breach of, and will not conflict with or constitute a default under any agreement, contract, commitment, or obligation to which such party or any of its Affiliates are a party or by which it is bound and that it has not granted and will not grant during the Term of this Agreement or any renewal thereof, including any conflicting rights, license, consent or privilege with respect to the rights granted herein.

2. GE Healthcare represents and warrants that it has full right, power, and authority to enter into and perform its obligations under this Agreement. GE Healthcare further represents and warrants that the performance of its obligations under this Agreement will not result n a violation or breach of, and will not conflict with or constitute a default under any agreement,

contract, commitment, or obligation to which such party or any of its Affiliates are a party or by which it is bound and that it has not granted and will not grant during the Term of this Agreement or any renewal thereof, including any conflicting rights, license, consent, or privilege with respect to the rights granted herein.

f. Survival of Warranties. Biochrom agrees that the warranties set forth in Sections 14(a) through (e) above: (i) survive the inspection, acceptance, and use of the Products by GE Healthcare, its distributors, sub-distributors, channel partners, and customers; (ii) are for the benefit of GE Healthcare and its successors, assigns, distributors, sub-distributors, channel partners, and customers; and (iii) are in addition to any warranties and remedies to which Biochrom may otherwise agree or which are provided by law. Biochrom agrees to extend to GE Healthcare and GE Healthcare's customers any warranties received from Biochrom's suppliers. Biochrom's warranties in Sections 14(a)(ii), (iii), and (v) set forth above shall be for a minimum period of twelve (12) months from the date of sale by GE Healthcare (or eighteen (18) months from the date of Product sale by Biochrom to GE Healthcare), whichever comes first and may be longer for warranties for third party-identified components that extend beyond twelve (12) months. All other warranties of Biochrom set forth herein shall survive indefinitely. Biochrom warrants Products only as set forth in this Agreement and disclaims all other warranties.

g. Returns. GE Healthcare may return or have returned to Biochrom any Product that does not conform to the representations and warranties, using Biochrom's return process, provided that such return process is requested within the warranty period. Any such Product shall be returned to Biochrom's facility with all transportation, insurance, and handling charges (including return shipment to GE Healthcare or end user) paid by GE Healthcare and the risk of loss passing to Biochrom when the Product is delivered to the carrier of GE Healthcare's choice. Biochrom will replace or repair the returned Product to bring the Product in conformance with the warranty, and will return a replacement or repaired Product within five (5) days after receipt of the non-conforming or defective Product. For the avoidance of doubt, all parts costs associated with repairs or replacements shall be borne solely by Biochrom and all other costs associated with the return of Products or replacement Products, including labor costs, shall be borne solely by GE Healthcare. If it will take longer than five (5) days to repair and return the returned Product (or its replacement), Biochrom shall promptly notify GE Healthcare of such circumstance. If Biochrom is unable to repair and return or replace the Product within thirty (30) days, Biochrom shall provide GE Healthcare a Credit as defined in subsection (h) below.

h. Credits. In accordance with this Section 14, Biochrom shall promptly issue a credit to GE Healthcare for any payment GE Healthcare made or against any outstanding invoice with respect to such Product. GE Healthcare may take such credit on any open invoices of Biochrom.

i. Set-off. GE Healthcare may set-off any amount owed from Biochrom against any amount payable at any time by GE Healthcare.

j. Remedies. The remedies contained in this Section 14 are the exclusive remedies available to the parties. under this Agreement.

k. Spare Parts and Service. Biochrom shall utilize its commercially reasonable efforts to maintain for seven (7) years from the date of the last shipment of a Product the

capability to repair the Product and make such repair service available to GE Healthcare and its customers, and furnish documentation, spare parts, service tools, and instruments necessary to service the Product effectively.

l. Service Capability. Biochrom shall test all repaired Products and spare parts using the test plan or procedure set forth in Attachment B.

15. Indemnification

a. Indemnity. Biochrom agrees to defend, indemnify, protect, and hold harmless GE Healthcare and GE Healthcare's customers, affiliates, employees, agents, servants, and representatives from and against any and all claims, damages, losses, liabilities, and expenses, including reasonable attorney's fees and costs, of whatever nature, arising out of or relating to: (i) the breach by Biochrom of any covenant, representation, or warranty contained in this Agreement; (ii) the breach by Biochrom of any covenant, representation, or warranty contained in any Attachment or Addendum forming a part hereto, including Attachment B; or (iii) any negligent act or omission, or willful misconduct of Biochrom or its agents, employees, or subcontractors. GE Healthcare shall notify Biochrom of any such claim, suit, or proceeding, and, at the parties mutual agreement, may assist (at Biochrom's expense) in the defense of the same. GE Healthcare agrees to defend, indemnify, protect, and hold harmless Biochrom and Biochrom's customers, affiliates, employees, agents, servant, and representatives from an against any and all claims, damages, losses, liabilities, and expenses, including reasonable attorney's fees and costs, of whatever nature, arising out of or relating to: (i) the breach by GE Healthcare of any covenant, representation, or warranty contained in this Agreement; (ii) the breach by GE Healthcare of any covenant, representation, or warranty contained in any Attachment or Addendum forming a part hereto: or (iii) any negligent act or omission, or willful misconduct of GE Healthcare or its agents, employees, or subcontractors. Biochrom shall notify GE Healthcare of any such claim, suit or proceeding.

b. Intellectual Property Indemnity. Biochrom agrees to defend, indemnify, protect, and hold harmless GE Healthcare and GE Healthcare's customers, affiliates, employees, agents, servants, and representatives from and against any and all claims, damages, losses, liabilities, and expenses, including reasonable attorney's fees and costs, of whatever nature, resulting from a claim or allegation that the use or sale of a Product infringes or otherwise violates any patent or copyright of any third party.

c. Third Party Indemnity. Biochrom shall immediately notify GE Healthcare if Biochrom knows or has reason to believe that GE Healthcare has been or will be required, as a result of activity arising out of or related to this Agreement, by any court or administrative agency of the United States or any state or by any legal process, to respond to any subpoena, search warrant, discovery or other directive under the authority of such court, administrative agency or process in connection with any proceeding or investigation in which Biochrom or any of its Affiliates, officers, directors, agents, employees, or subcontractors is involved. Whether or not such notice is given by Biochrom, if GE Healthcare is not a party to such proceeding, Biochrom shall assist GE Healthcare in GE Healthcare's attempt to reduce the burdens of compliance with any such directive, and, Biochrom shall reimburse any and all reasonable expenses incurred by GE Healthcare and its Affiliates in complying with any such directive, including, but not limited to, attorneys' fees, travel and lodging expenses and an hourly labor rate as determined by GE Healthcare, in its sole discretion, to estimate consistent with United States Generally Accepted Accounting Principles and Practices ("GAAP") the fully-loaded hourly compensation and benefits payable to employees or agents for all time spent by them in responding to such matters.

16. Compliance

a. Applicable laws. Biochrom represents, warrants, certifies, and covenants that its performance under this Agreement will comply with all applicable laws, ordinances, rules, and regulations, and all conventions and standards, as amended from time to time, of each and all countries where the Products are to be manufactured, or Biochrom performance is to occur, and will provide commercially reasonable assistance for GE Healthcare to comply with all applicable laws, ordinances, rules, and regulations, and all conventions and standards, as amended from time to time, of each and all countries where the Products are to be distributed or sold, including, without limitation, those prohibiting bribery or similar payments or practices, and those related to environmental protection, import and export, duties and customs, wages, hours and conditions of employment, occupational safety, discrimination, sexual harassment, immigration, subcontractor selection, health and safety, toxic substances, hazardous materials, and electrical or electronic equipment. GE Healthcare represents, warrants, certifies and covenants that its performance under this Agreement will comply with all applicable laws, ordinances, rules, and regulations, and all conventions and standards, as amended from time to time, of each and all countries where the Products are to be sold or used, including, without limitation, those prohibiting bribery or similar payments or practices, and those related to environmental protection, import and export, duties and customs, wages, hours and conditions of employment, occupational safety, discrimination, sexual harassment, immigration, subcontractor selection, health and safety, toxic substances, hazardous materials, electrical or electronic equipment, and minority owned businesses.

b. Import/Export. Biochrom represents and warrants that it will comply with all applicable laws, regulations, or requirements of the United States, Sweden and Japan relating to import/export matters. In the event any issues arise regarding the regulations of any other countries the parties agree to address and remedy in good faith. GE Healthcare represents and warrants that it will comply with all applicable laws, regulations, or requirements of the United States and Sweden relating to import/export matters for its shipments of Products from Biochrom. Biochrom will also obtain all applicable permits and licenses necessary to perform its obligations under this Agreement, and upon GE Healthcare's request, will provide GE Healthcare with copies of such permits and licenses. Where Products contain United States components, Biochrom will also provide GE Healthcare with details of the United States content value as a percentage of the Product price upon GE Healthcare's request. Additionally, Biochrom will provide ECCN and Harmonized Tariff numbers assigned to Products upon request.

c. Country of Origin. Biochrom will mark each Product, and, as appropriate, Product packaging, labels, or invoices with the country of origin for the Product, in accordance with the applicable trade and customs laws. Biochrom will also provide acceptable and auditable documentation that establishes the country of origin for Product, including without limitation, certifications of origin for Products qualifying for NAFTA preferential duty provisions, as applicable.

d. WEEE, RoHS And Equivalent Directives. Biochrom shall indicate to GE Healthcare by declaration any Product containing any: (a) lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE), or any other hazardous substances the use of which is restricted under EU Directive 2002/95/EC (27 January 2003) ("RoHS Directive"), as amended, or under any equivalent

directives or regulations. Biochrom represents, warrants, and certifies that (i) none of the Products contain any arsenic, asbestos, benzene, polychlorinated biphenyls (PCBs), carbon tetrachloride, or any chemical restricted under the Montreal Protocol on ozone-depleting substances; and (ii) the Products shall conform with the requirements and specifications set forth in the Specifications described in Attachment C.

17. Change Notice Process

a. GE Healthcare Proposed Changes. GE Healthcare may propose changes to the Products by submitting the proposed changes (identifying those changes which it deems mandatory to make the Product suitable for use) to Biochrom. Biochrom shall respond in writing to GE Healthcare within fourteen (14) days after receipt of such changes with the following information, as applicable: (a) lead time required to implement proposed changes; (b) impact of proposed changes on pricing of Product, including but not limited to any parts, tooling, and testing; (c) impact of proposed changes on scrap material and work in process; (d) any non-recurring engineering or other charges to implement proposed changes; and (e) impact of proposed changes on the lead time of the Product. Within fourteen (14) days after GE Healthcare receives Biochrom's response to GE Healthcare's proposed changes, the parties shall begin discussions with respect to any changes to be made to this Agreement, including all Attachments hereto. For the avoidance of doubt, all costs associated with any changes requested regarding branding changes will be borne by GE Healthcare. If the parties fail to agree upon appropriate changes to the Agreement, the terms in effect prior to the commencement of the negotiations shall remain in full force and effect. If the requested change is significant and necessary for GE Healthcare to continue selling the Product, GE Healthcare, at its election, may remove this Product from the Agreement after providing one hundred eighty (180) day written notice.

b. Biochrom Proposed Changes. Biochrom may propose changes to the Products or the manufacturing process per Attachment B.

18. Confidentiality.

a. Confidential Information. During the Term, each party (the "Recipient") may receive or have access to certain information of the other party (the "Discloser") that is Confidential Information of the Discloser. For purposes of this Agreement, "Confidential Information" shall mean any information disclosed by the Discloser to the Recipient, whether technology-related or business-related, whether furnished before or after the Effective Date and irrespective of the form of communication, that is considered competitive, confidential or proprietary in nature; provided, however, that in order for oral information to be treated as Confidential Information, it must be identified as confidential and proprietary at the time of disclosure, and the substance of the disclosure must be provided in writing within thirty (30) days of the oral disclosure of such information. Information about the functionality of the Products, software or firmware imbedded in or used with the Products, Discloser financial or marketing information, and information about the future product plans will be deemed Confidential Information without the necessity of being marked. All other written information must be conspicuously marked using words such as "confidential" or "proprietary" in order to be treated as Confidential Information. The Recipient will protect the Confidential Information with the same degree of care as the Recipient uses for its own similar information, but no less than a reasonable degree of care. Confidential Information may only be used by those employees of the Recipient who have a need to know such information for the purposes related to this Agreement, and the Recipient shall inform such employees of the confidential nature of such

Confidential Information and the obligations of the Recipient hereunder. The Recipient shall be responsible for any breach of this Agreement by it or its employees to the same extent as though such employees were parties hereto. The parties acknowledge that all intellectual property rights are deemed Confidential Information to be protected indefinitely. The parties also agree that all other information, including but not limited to technical information (which is not intellectual property rights) and forecasts disclosed during the Term or prior to the formation of this Agreement are deemed Confidential Information to be protected for a term of ten (10) years from the date of disclosure.

b. Exclusions. The foregoing confidentiality obligations will not apply to any information that is (a) already known by the Recipient prior to disclosure, (b) independently developed by the Recipient prior to or independent of the disclosure and can be so proven, (c) publicly available through no fault of the Recipient, (d) rightfully received from a third party with no duty of confidentiality, (e) disclosed by the Recipient with the Discloser's prior written approval, or (f) `required to be disclosed pursuant to any final and non-appealable order of a court or governmental agency (such as U.K. ministries or U.S. departments, including the Securities Exchange Commission and U.S. Federal Trade Commission) of competent jurisdiction served on either party, provided that the Recipient gives the Disclosing Party written notice within two (2) days of receipt of such order and at least thirty (30) days prior to the production or disclosure of such Confidential Information.

c. Return of Confidential Information. Within fourteen (14) days after termination of this Agreement each party shall return all Confidential Information of the other party and all copies thereof (in any media) unless a party is required to retain such material under applicable laws or regulations. All information consisting of documents, notes and other writings prepared by one party based on non-public data of the other party shall be destroyed.

d. Development. The confidentiality terms in this Section shall not be construed to limit GE Healthcare's right to independently develop or acquire products without use of Biochrom's Confidential Information.

e. Restrictions on Use of Design Materials and Know How. During the Term Biochrom shall be prohibited from selling to any third party: (i) the NanoVue Product except as per 1.b.2; (ii) the Novaspec, Ultrospec and Genequant Products; provided such third party is outside Canada; (iii) any substantially similar product that incorporates the proprietary technology developed solely, and paid, for by GE Healthcare; (iv) any product which incorporates any GE Healthcare Confidential Information (as defined in this Section); or (v) any product which incorporate the patented technology of the NanoVue. After the Term, and pursuant to Section 19 below, Biochrom shall be prohibited from selling to any third party any product which incorporates any GE Healthcare Confidential Information (as defined in this Section).

19. Intellectual Property/Trademarks

a. GE Healthcare Intellectual Property/Tradenames. All drawings, plans, data, manufacturing aids, testing or other equipment or materials, inventions, technology, trade secrets, know how, reproductions and/or replacements, or other proprietary information, and all intellectual property rights in the foregoing, which GE Healthcare furnishes to Biochrom shall remain GE Healthcare's sole property.

No rights are granted to Biochrom under any GE Healthcare patents, copyrights, trade secrets, or other property rights except as may be expressly agreed to by GE Healthcare in a separate writing. The use of “Amersham,” “GE,” “General Electric Company”, “GE Healthcare” and “NanoVue” are registered trademarks and are to be used by Biochrom only in fulfillment of its obligations hereunder and only at the direction of GE Healthcare. Biochrom shall have no rights to use the name “NanoVue” after the term of this Agreement. Furthermore, Products shall not bear the Biochrom name nor any other identifying service marks or trademarks. It is the understanding of the parties that there are limited instances of the Biochrom name used either on or in conjunction with the Product (such as Certificate of Conformances, Instrument Badges, etc), which will be phased out during 2008. The parties further agree that effective no later than January 1, 2009, no such references to Biochrom shall appear on or in conjunction with the Product.

GE Healthcare grants to Biochrom a license to use the “GE”, “GE Healthcare” ,”General Electric Company”, “Amersham”, and “NanoVue” trademarks, as well as any service marks or logos designated by GE Healthcare, in the production of the Products to be sold by GE Healthcare and as directed by GE Healthcare.

b. Biochrom Intellectual Property/Tradenames. All drawings, plans, data, manufacturing aids, testing or other equipment or materials, inventions, technology, trade secrets, know how, reproductions and/or replacements, or other proprietary information, and all intellectual property rights in the foregoing, owned by Biochrom shall remain Biochrom’s sole property.

No rights are granted to GE Healthcare under any Biochrom patents, copyrights, trade secrets, or other property rights except as set forth in Section 19(b)(i) and (ii) below, or as may be expressly agreed to by Biochrom in a separate writing.

(i) Subject to the terms and conditions of this Agreement, Biochrom hereby grants to GE Healthcare, and GE Healthcare hereby accepts, an exclusive, royalty-free, irrevocable license to sell Products under the Names in the Territory during the Term of this Agreement.

(ii) Subject to the terms and conditions of this Agreement, Biochrom hereby grants to GE Healthcare’s end-users a worldwide, non-exclusive, royalty-free license to Biochrom’s underlying technology, intellectual property, and patents only insofar as is required to enable the end-user’s use of the Products consistent with the use set forth in the Specifications

20. Limitation of Liability

IN NO EVENT WILL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOSS OF USE, LOST BUSINESS AND DATA), WHETHER BASED ON BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY, FUNDAMENTAL BREACH, OR OTHERWISE ARISING OUT OR RELATED TO THIS AGREEMENT, AND WHETHER OR NOT SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

21. Limitation of Damages

WITH THE EXCEPTION OF LIABILITIES UNDER SECTION 15 OR FOR VIOLATIONS OF SECTION 18, NEITHER PARTY WILL BE LIABLE UNDER THIS AGREEMENT FOR ANY AMOUNT GREATER THAN THE AGGREGATE PAYMENTS PAID UNDER THIS AGREEMENT BY GE HEALTHCARE TO BIOCHROM DURING THE CALENDAR YEAR PREVIOUS TO THE DATE ON WHICH THE CLAIM WAS RECEIVED.

22. Notice

Any notice required under this Agreement shall be sent by a nationally recognized overnight courier, or transmitted electronically pursuant to the terms of this Agreement. Notices will be deemed given on the date delivered to the recipient if sent by overnight courier (it being agreed that the sender shall retain proof of transmission or delivery, as the case may be), or when accessible electronically if sent electronically pursuant to the terms of this Agreement. Notices shall be sent to the persons identified (or as otherwise directed in writing by a party):

If to GE Healthcare

Address: 800 Centennial Avenue
City: Piscataway
State: New Jersey
Zip Code: 08855-1327
Attention: Ronald Alves
Fax: 732-457-8231

If to Biochrom

Address: 22 Cambridge Science Park
Milton Road
City: Cambridge
State: CB4 0FJ
England
Attention: James G Heffernan
Fax: 01223 420238

With a copy to

Address: 800 Centennial Avenue
City: Piscataway
State: NJ
Zip: 08855-1325
Attention: General Counsel
Fax: 732-457-8463

With a copy to

Jaffe, Raitte, Heuer & Weiss P.C.
Address: 27777 Franklin Rd.
Suite 2500
City: Southfield
State: MI
Zip: 48034
Attention: Sara Kruse
Fax: 248-351-3082

23. Dispute Resolution

a. Waiver of Jury Trial. THE PARTIES EXPRESSLY WAIVE AND FOREGO ANY RIGHT TO A TRIAL BY JURY.

b. Arbitration. Any dispute, controversy, or claim relating to this Agreement (a "Dispute") will be resolved first through good faith negotiations between the parties. If the Dispute cannot be resolved through good faith negotiation within forty-five (45) days, either party may submit the Dispute to the office of the American Arbitration Association ("AAA") in New York City, New York for binding arbitration in accordance with the AAA's Commercial Arbitration Rules then in effect, as amended by this Agreement. The cost of the arbitration, including the fees and expenses of the arbitrator(s), will be shared equally by the parties, with each party paying its own attorney's fees. The arbitrator(s) will have the authority to apportion liability between the parties, but will not have the authority to award any damages or remedies not available under the express terms of this Agreement. The arbitration award will be presented to the parties in writing, and upon the request of either party, will include findings of fact and conclusions of law. The award may be confirmed and enforced in any court of competent jurisdiction. With regards to any action for breach of confidentiality or intellectual property obligations, nothing in this section shall preclude either party from seeking interim equitable relief in the form of a TRO or preliminary injunction. Any such request by a party of a court for interim equitable relief shall not be deemed a waiver of the obligation to arbitrate hereunder.

24. Crisis Management and Business Contingency Planning

a. Business Contingency Plan. Upon GE Healthcare's request, Biochrom shall provide to GE Healthcare a Business Contingency Plan that outlines Biochrom's internal contingency arrangements to ensure GE Healthcare continuity of supply if Biochrom or any of Biochrom's suppliers are unable to provide Products or components to such Products to GE Healthcare.

25. Insurance.

Biochrom Insurance. Without limiting its liability under this Agreement, Biochrom agrees to maintain, during the Term and for five (5) years after the Term, worldwide general liability and property damage liability insurance coverage underwritten by a Best A-rated insurance carrier. Such insurance shall have policy limits of no less than two million GBP (2,000,000£) per occurrence for death or personal injury and two million GBP (2,000,000£) per occurrence for real and personal property damage. Such policy shall include a provision requiring the carrier to notify GE Healthcare in writing at least thirty (30) days prior to any cancellation, termination, or amendment of such insurance coverage. In addition, Biochrom shall maintain Workers' Compensation insurance in the amounts required by law. Within ten (10) days following the Effective Date of this Agreement and upon any subsequent request by GE Healthcare, Biochrom will deliver to GE Healthcare a Certificate of Insurance verifying the foregoing insurance coverage.

26. Miscellaneous.

a. Independent Contractor. The relationship of the parties hereunder shall be that of independent contractors. Nothing in this Agreement shall be deemed to create a partnership, joint venture, or similar relationship between the parties, and no party shall be deemed to be an agent of the other party. Biochrom shall indemnify, defend, and hold harmless GE Healthcare from and against any and all claims by Biochrom employees, contractors, or subcontractors regarding entitlement to any compensation or benefits from GE Healthcare or that GE Healthcare was for any purpose their employer or co-employer, including any claim for taxes or related penalties.

b. Governing Law. This Agreement shall be governed and construed in accordance with the laws of the State of New York, without regard to principles of conflicts of laws. The United Nations Convention on Contracts for International Sales of Goods shall not apply to this Agreement.

c. Force Majeure. Any delay or failure of Biochrom to perform its obligations hereunder shall be excused if and to the extent that it was caused by an event or occurrence beyond Biochrom's reasonable control and without its fault or negligence, such as, by way of example and not by way of limitation, acts of God, actions by any government authority (whether valid or invalid), strike or labor stoppage, transportation or shipping embargo, fires, floods, windstorms, explosions, riots, natural disasters, wars, sabotage, acts of terrorism, or court injunction or order; provided that written notice of such delay (including the anticipated duration of the delay) shall be given by Biochrom to GE Healthcare within thirty (30) days of the occurrence of such event. During the period of such delay or failure to perform by Biochrom, GE Healthcare may acquire substitute or replacement items from one or more alternative sources, and in such event, there may be a proportionate reduction of the quantity of Products required from Biochrom. If the delay lasts more than ninety (90) days or if Biochrom does not provide adequate assurances that the delay will cease within ninety (90) days, GE Healthcare may terminate this Agreement and any applicable Purchase Orders and any funds pre-paid by GE Healthcare shall be promptly returned.

d. Assignment. This Agreement is personal to the parties and shall not be assignable by either party without the prior written consent of the other party. Any such assignment shall be declared null and void. Notwithstanding the foregoing: (i) GE Healthcare and Biochrom may each assign its rights and obligations under this Agreement to an affiliate without the other's prior written consent; and (ii) GE Healthcare may assign its rights and obligations under this Agreement without Biochrom's prior written consent incident to the sale or transfer of all or substantially all of its business provided such buyer is capable of complying with all the obligations set forth in the Agreement and is not a direct competitor of Biochrom's. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, successors, and permitted assigns. Notwithstanding the above, in the event a change in control occurs, either party may terminate this Agreement by immediate written notice to the other party, when such a change of control, in the reasonable opinion of the terminating party, could preclude the other party from substantially performing its obligations under this Agreement.

e. Publicity. Biochrom shall not issue any press release or announcement, use any of GE Healthcare's products or its name or trademarks in promotional activity, or otherwise publicly announce or comment on this Agreement without GE Healthcare's prior written consent. Notwithstanding the foregoing, it is agreed and understood that Biochrom's parent Harvard Bioscience, Inc. ("HBIO") will be required to file this Agreement with the SEC as a Material Agreement upon execution and will be required under SEC rules to disclose certain details of the terms of the Agreement in its filings with the SEC. HBIO agrees to use its best efforts to request confidential treatment be afforded by the SEC for those sections of this Agreement that would, if made public, be detrimental to either parties' operations.

f. Amendment; Waiver; Survival. This Agreement may be modified only by a writing signed by both parties. Any failure to enforce any provision of this Agreement is not a waiver of that provision or of either party's right to later enforce each and every provision. The terms of this Agreement that by their nature are intended to survive its expiration will continue in full force and effect after its expiration.

g. Severability. If any provision of this Agreement is determined to be legally unenforceable or invalid, it shall not affect the validity or enforceability of the remainder of the Agreement, and the remaining provisions will continue in full force and effect. The parties will substitute a provision that most closely approximates the economic intent of the invalid provision.

h. Audit Rights. At GE Healthcare's request, and at the parties' mutual expense, Biochrom will allow GE Healthcare (directly or through third parties) to audit and copy any documents that Biochrom has relating to the performance of its obligations under this Agreement or other applicable legal requirements. GE Healthcare shall also be allowed to audit Biochrom to ensure Biiochrom's fulfillment of its obligations as set forth in Attachment B.

i. New Products. Biochrom shall notify GE Healthcare of other product offerings it has and, if both parties are interested in adding such products to this Agreement, and the parties are able to agree upon terms, such products will be added to Attachment C of this Agreement by amendment. Biochrom agrees to provide to GE Healthcare the

necessary Product information to enable GE Healthcare to effectively market and sell Products including, but not limited to: (i) performance data; (ii) comparative data with key competitor products; (iii) technical descriptions; (iv) product features and benefits; (v) features and benefits comparison with key competitors; and (vi) sales and marketing collateral. The obligations of Biochrom under this Section 26 (i) do not limit the ability of Biochrom to offer products to other persons unless and until such products are added to Attachment C of this Agreement by amendment.

j. New Technology. If, during the Term, Biochrom develops a product that would be a replacement for any Product provided hereunder or an upgrade of any Product, Biochrom agrees to sell said product to GE Healthcare at GE Healthcare's option, for a price to be negotiated in good faith between the parties. Both parties also agree that all appropriate provisions of this Agreement will apply to any such replacement or upgraded product. Nonetheless, except as otherwise expressly provided by this Agreement, Biochrom agrees to continue to make the original Product available to GE Healthcare for twelve (12) months prior to discontinuance.

k. Battle of Forms. EACH PARTY HEREBY OBJECTS TO AND REJECTS THE PROVISIONS OF ANY ACKNOWLEDGEMENT, ORDER ACCEPTANCE, WARRANTY STATEMENT, OR INVOICE WHICH ARE INCONSISTENT WITH OR IN ADDITION TO THE PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT IS THE COMPLETE AND EXCLUSIVE CONTRACT BETWEEN THE PARTIES WITH RESPECT TO THE PRODUCTS AND MAY BE MODIFIED ONLY IN WRITING SIGNED BY AUTHORIZED REPRESENTATIVES OF EACH PARTY. NO PRIOR PROPOSALS, QUOTATIONS, STATEMENTS, FORECASTS, COURSE OF DEALING, OR USAGE OF TRADE WILL BE PART OF THE AGREEMENT BETWEEN THE PARTIES.

l. Previous Agreement. Notwithstanding the above, the Parties acknowledge that nothing in this Agreement shall negate or supercede the surviving provisions of the August 1, 2001 Agreement ("Old Agreement"). For the avoidance of doubt, any warranty claims made with respect to products sold under the Old Agreement shall be remedied in accordance with the terms provided under the Old Agreement

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the Effective Date.

GE HEALTHCARE BIO-SCIENCES CORP.
doing business as GE Healthcare

Signature: /s/ Jan Erneberg
Printed Name: Jan Erneberg
Title: MD
Date: March 27, 2008

BIOCHROM LIMITED

Signature: /s/ James G Heffernan
Printed Name: James G Heffernan
Title: Managing Director
Date: February 19, 2008

Duly Authorized By: Harvard Bioscience

Signature: /s/ Susan Luscinski
Printed Name: Susan Luscinski
Title: Chief Operating Officer Harvard Bioscience, Inc.
Date: February 18, 2008

Attachment A
GE Healthcare - Biochrom
Annual Business Attachment ("ABA")

This Attachment is only used upon the anniversary of the Effective Date of the Agreement to capture any changes intended by the parties.

GE Healthcare / Biochrom Strategic Supplier Alliance Agreement dated: _____ (hereinafter "Agreement")

ABA Revision Number: _____

ABA Effective Date: _____

ABA Term: _____

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1. Pricing.
2. Quality.
3. Delivery.
4. Non-Binding Annual Forecast.
5. Biochrom and GE Healthcare hereby agree that there are no outstanding material commitments as of the date of this Attachment.
6. Any Other Terms (including Safety Stock, Material Commitments, Payment Terms, etc.).

The terms and conditions as stated herein are firm for the term of this Attachment. This Attachment may not be modified except by written amendment by the parties. If the term of this Attachment shall lapse, the terms and conditions of this Attachment shall continue until further updated by the parties, or until the expiration or termination of the Agreement. All other terms and conditions of the Agreement shall remain in full force and effect. In the event of a conflict, this Attachment shall control.

IN WITNESS WHEREOF, the parties hereto have caused this Attachment to the Agreement to be executed by their duly authorized officers or representatives.

GE HEALTHCARE BIO-SCIENCES CORP. **doing business as GE Healthcare**		**BIOCHROM LIMITED**	
Signature:	/s/ Jan Erneberg	Signature:	/s/ James G Heffernan
Printed Name:	Jan Erneberg	Printed Name:	James G Heffernan
Title:	MD	Title:	Managing Director
Date:	March 27, 2008	Date:	February 21, 2008

Attachment B
Purchased Material Quality Requirements

Quality Items

The goal for Biochrom's quality performance is zero defects for each item delivered. The measurement of defects for Biochrom by part may be calculated periodically and either reported directly to Biochrom or available on request. Biochrom will accept returns of material with proper approval, for which they are the original source. GE Healthcare will document the reason for return on a GE Healthcare Shipping Document, which physically accompanies the shipment. Biochrom will follow any processing instructions documented on the GE Healthcare Shipping Document which shall be in accordance with Section 14(g) of the Agreement unless GE Healthcare sends written changes which Biochrom agrees to in writing. Upon reasonable request from GE Healthcare, Biochrom will provide documented plans and/or procedures for rework, repair and testing of defective returns. Upon reasonable request from GE Healthcare, Biochrom will provide documented corrective actions plans to prevent future deviations from specification.

Delivery

The goal for delivery performance on all Products is 100% on-time. A shipment is on time if it is available at the designated shipment point based upon fulfillment of the required lead time, or such other date as mutually agreed upon by the parties. No line item is considered on-time unless it is complete as specified on the purchase order. On-time delivery performance from Biochrom, by part, may be calculated periodically by GE Healthcare and is either reported directly to Biochrom or available on request. In the event of late deliveries, Biochrom will respond to reasonable written requests from GE Healthcare for documented corrective action plans to assure future on-time deliveries.

Compliance

Where required, or otherwise agreed by the Parties, Biochrom will maintain compliance to industry standards and product listings such as UL, CSA, IEC etc., for all Products delivered to GE Healthcare. Additionally, Biochrom will maintain compliance with government regulations including reporting, record keeping and production testing applicable to the manufacture of radiation emitting devices and electromagnetic compatibility for all Products delivered to GE Healthcare. If Electrostatic Discharge (ESD) sensitive devices are supplied to GE Healthcare, Biochrom must have an active ESD program and use proper ESD handling procedures. Applicable components include circuit boards, electronic assemblies with exposed components or connectors, semi-conductors and any other devices that may require ESD protection. Records of the testing done and training provided must be maintained.

Change Notification. Changes proposed by Seller, both material and process changes, which may affect form, fit, function, reliability, serviceability, performance, regulatory compliance, or safety or must be submitted along with a written change notice, for GEHC Sourcing approval. This includes, but is not limited to, changes of sources of material and parts, changes in manufacturing processes, test procedures, manufacturing locations, relocation or replacement of equipment and any similar changes that are anticipated by lower tiered suppliers. Items affected by such changes will not be delivered against any GE Healthcare purchase order before Biochrom receives written approval for the changes from GE Healthcare Sourcing. As a minimum, the change notice must include Biochrom's affected part number, date of implementation, serial number affectivity of the assembly that is changed, reason for the change, specific details of the change and supporting data that demonstrates that reliability has not been impacted negatively. This change notice must be sent to GE Healthcare a minimum of ninety (90) calendar days in advance of the proposed implementation date. GE Healthcare then has fifteen (15) days to respond to Biochrom with approval of the change, disapproval of the change, or a request for samples for evaluation by GE Healthcare.

Packaging and Shipping Methods.

Biochrom shall provide packaging and shipping methods to prevent cosmetic, mechanical and electrical damage to the Products. A packing list showing purchase order number, part number,

total number of articles/boxes shipped, date of shipment and quantity must be affixed to the outside of the container. Peanuts of any kind are not to be used as packaging material for any electrostatic components.

Quality Record Retention.

Biochrom shall maintain clear, clean and accurate records of results of acceptance activities for each Product delivered to GE Healthcare. These records shall include the test/inspection criteria, revision level of documents/equipment/software used, activities performed (planning, routing or traveler sheets), dates of test/inspection, results and identification of the individual(s) conducting the activities. Where applicable, these records should include a list of the equipment used for test/inspection. All records retained for the Product shall be stored by Biochrom until GE Healthcare notifies Biochrom that the product life has ended.

Quality and Safety Reporting.

Biochrom shall maintain a documented reporting system to GE Healthcare when Biochrom has knowledge of any product issue related to safety or quality, which results in the stopping of a shipment or a Product recall. Any actions taken by Biochrom to report a recall to a regulated agency must be communicated to GE Healthcare within twenty-four (24) hours. GE Healthcare has the right to request Biochrom to provide all documents regarding the specific issue including the analysis, root cause and corrective action taken to minimize any risk to GE Healthcare customers.

Quality Systems. Biochrom shall maintain a documented quality system that encompasses the following areas: how quality documents are generated and controlled, how manufacturing processes are controlled, how special or automated processes are validated, how suppliers are controlled, how test equipment is calibrated and controlled, handling of defective material, how corrective action processes are controlled, and how statistical process control is implemented. The ISO 9001:2000 Standard and the FDA Quality System Regulation (Code of Federal Regulations 21 CFR Part 820) are examples of the types of Quality System structure and discipline that should be referenced. GE Healthcare may audit the Biochrom's quality system at periodic intervals upon reasonable written advance notification. GE Healthcare may also request periodic, joint quality assurance meetings at the Biochrom's facility to be updated on the status of product quality and reliability.

This document shall be an addendum to any existing purchase agreement or existing purchase orders between Biochrom and GE Healthcare. Any conflict between the purchase agreement and purchase order regarding material quality requirements shall be resolved pursuant to the terms of this document.

Attachment C
Products, Pricing and Specifications

SECTION I

None of the following products contain any arsenic, asbestos, benzene, polychlorinated biphenyls (PCBs), carbon tetrachloride, or any chemical restricted under the Montreal Protocol on ozone-depleting substances;

Genequant 100
Genequant 1300
Novaspec III
Novaspec Plus
Swift II
Swift II CFR
Ultrospec 10
Ultrospec 20
Ultrospec 500
Ultrospec 1100
Ultrospec 2100
Ultrospec 3100
Ultrospec 3300
Ultrospec 4300
Ultrospec 5300
Ultrospec 6300
NanoVue
Genequant Capillary cell

SECTION II

Products shall conform with the requirements and specifications set forth in the Specifications described below:.

SPECIFICATION: GENEQUANT 100

Wavelength range	190 - 900 nm
Monochromator	Flat grating
Wavelength calibration	Automatic upon switch on
Spectral bandwidth	5 nm
Wavelength accuracy	±2 nm
Wavelength reproducibility	±1 nm
Light sources	Pulsed xenon lamp
Detector	Dual 1024 element CCD arrays
Photometric range	- 0.300 to 2.500A, 0 to 199%T
Photometric linearity	±0.005 Abs or 1% of the reading, whichever is the greater @ 546 nm
Photometric reproducibility	±0.003 Abs (0 to 0.5 Abs), ±0.007 Abs (0.5-1.0 Abs)
Stray light	<0.5% at 220 nm and 340 nm using $NaNO_2$
Zero stability	±0.01 Abs/hour after 20 min warm up @ 340 nm
Noise	0.005 pk to pk 0.002 pms
Digital output	USB port standard
Dimensions	260 x 390 x 100 mm
Weight	<4.5 kg
Power input	18Vdc from a 90-250 V, 50/60 Hz, Max 30 VA mains power pack

SPECIFICATION: GENEQUANT 1300

Wavelength range	190 - 1100 nm
Monochromator	Flat grating
Wavelength calibration	Automatic upon switch on
Spectral bandwidth	5 nm
Wavelength accuracy	±2 nm
Wavelength reproducibility	±1 nm
Light sources	Pulsed xenon lamp
Detector	Dual 1024 element CCD arrays
Photometric range	- 0.300 to 2.500A, 0 to 199%T
Photometric linearity	±0.005 Abs or 1% of the reading, whichever is the greater @ 546 nm
Photometric reproducibility	±0.003 Abs (0 to 0.5 Abs), ±0.007 Abs (0.5-1.0 Abs)
Stray light	<0.5% at 220 nm and 340 nm using $NaNO_2$
Zero stability	±0.01 Abs/hour after 20 min warm up @ 340 nm

Noise	0.005 pk to pk 0.002 pms
Digital output	USB port standard, Bluetooth option
Dimensions	260 x 390 x 100 mm
Weight	<4.5 kg
Power input	18Vdc from a 90-250 V, 50/60 Hz, Max 30 VA mains power pack

SPECIFICATION: NOVASPEC III

Wavelength range	330 - 800 nm
Monochromator	Flat grating
Wavelength calibration	Automatic upon switch on
Spectral bandwidth	7 nm
Wavelength accuracy	±2nm
Wavelength reproducibility	±1nm
Light sources	Pulsed Tungsten halogen
Detector	Diode array
Photometric range	- 0.300 to 2.500A, 0 to 200%T
Photometric linearity	± 2.0 % or ± 0.010A to 1.000A at 546nm, whichever is the greater
Photometric reproducibility	< 0.002 A at 0A and 500nm
Stray Light	< 1%T 340nm according to ANSI/ASTM E387-72
Stability	±0.005A/h at 0A and 546nm after warm-up
Noise	± 0.002A near 0A and ± 0.020A near 2A at 600nm
Analogue output	1V per 1 Abs (±10%), 1V = 0A offset 1V per 100%T (±10%), 0V = 0%T offset
Digital output	9 pin serial
Dimensions	180 x 270 x 390 mm
Weight	1.75 kg
Power input	90-265 V, 50/60 Hz, 15 VA

SPECIFICATION: NOVASPEC PLUS

Wavelength range	330 - 800 nm
Monochromator	Flat grating
Wavelength calibration	Automatic upon switch on
Spectral bandwidth	7 nm
Wavelength accuracy	±2nm
Wavelength reproducibility	±1nm
Light sources	Pulsed Tungsten halogen

Detector	Diode array
Photometric range	- 0.300 to 2.500A, 0.3 to 199%T
Photometric linearity	± 2.0% or ± 0.010A to 1.000A at 546nm, whichever is the greater
Photometric reproducibility	< 0.002 A at 0A and 500nm
Stray Light	< 1%T 340nm according to ANSI/ASTM E387-72
Stability	±0.005A/h at 0A and 546nm after warm-up
Noise	v 0.002A near 0A and ± 0.020A near 2A at 600nm
Analogue output	1V per 1 Abs (±10%), 1V = 0A offset
	1V per 100%T (v10%), 0V = 0%T offset
Digital output	9 pin serial
Dimensions	180 x 270 x 390 mm
Weight	1.75 kg
Power input	90-265 V, 50/60 Hz, 15 VA

SWIFT II

This software operates in the Windows® 95, 98, 2000 and NT environments and comprises a number application modules, listed below.

Full name	Module name	Abbreviation	Folder Name
Wavelength Scanning	SCAN	WS	Wavescan
Reaction Kinetics	KIN	RK	Kinetics
Quantification	QUANT	QA	Quantity
Time Drive	TIME	TD	Tdrive
Multi Wavelength	MULTI	MW	Multi
Fraction Analysis	FRAC	FA	Fraction
Culture	CULTURE	CU	Culture
Melting temperature	Tm	Tm	Tm

SWIFT II CFR

This software operates in the Windows® 2000 and XP environments and comprises a number of application modules, listed below.

Full name	Module name	Abbreviation	Folder Name
Wavelength Scanning	SCAN	WS	Wavescan
Reaction Kinetics	KIN	RK	Kinetics
Quantification	QUANT	QA	Quantity
Time Drive	TIME	TD	Tdrive
Multi Wavelength	MULTI	MW	Multi
Fraction Analysis	FRAC	FA	Fraction
Culture	CULTURE	CU	Culture
Melting temperature	Tm	Tm	Tm
CFR Administrator	CFR Admin	CFR Admin	

Instrument Control is associated with each of these application modules. This simulates the display of a stand-alone instrument, representing basic operation mode. After installation of the software, this should be the first module examined (Folder name is Instrument).

- The Application utilizes the **security model** provided with Windows® 2000/XP. Users are identified by there Windows® login name & password, eliminating the need for separate password list. The Windows® 2000/XP handles the authentication and data security based on the privileges.
- The Application enables administrator to **set permissions and access rights** for each Windows® user group.
- **CFR Admin module** provides system administrators with, user management capabilities and to enable the required security functions to be established.
- **Dialog boxes** display parameters, control options and results. The applications make use of the new style controls, especially the tabbed dialog boxes, which allow the various dialog box contents to be grouped into logical pages. The new Windows Controls are used throughout the applications to enhance the program.
- The applications all accept **drag and drop**, allowing files to be dropped onto the application. The files are loaded automatically, and processed in a manner suitable to the window type upon which it falls.
- The **colours and line styles** for each application can be defined using the dialog box in the Setup page. In some cases text sizes can also be defined, for ease of use and visibility.
- **Printouts** are divided into three categories; these are Index (group) Reports, Graph (individual) Reports and Spreadsheet Reports. The report can be broken down into different printable components that can be customised to suit. The graphs can be customised independently of the display, and the contents of the report can be defined to include parameters, graphs, and results and data points. The colours of the graph can be defined (including line styles), and the grid can be turned On/Off. Add-in sections can also be defined and allow the contents of an existing .TXT file to be added to the printouts.
- The **colours** of the graph can be defined (including line styles), and the grid can be turned On/Off. The axis can be defined independently of the scaling modes. Labels and Results formatting can be switched On/Off, and if relevant, the display modes can be specified.
- **Schemes** for the above options can be defined to suit user preference and recalled for use when appropriate, making for ease of use in a multi user environment.
- All results obtained with the software can be saved in a format that is compatible with Microsoft **Excel**.
- **Graphical results** are copied to clipboard in a metafile format for ease of importing into, and scaling within, other software packages.
- The Application provides exporting data into various formats including Microsoft® Excel Spread Sheets and Adobe® Acrobat®
- On line, context sensitive **help** is available.

The software has been produced in accordance with the **ISO 9001** certification of the manufacturer.

- The principle of Good Laboratory Practice (GLP) is that a record is kept of instrument performance. The audit trail, or automatic run log as it can be known, is a record of the software manipulations that are carried out in order to obtain the experimental result. In particular, it is a means of ensuring that data points are not edited to give, for example, a better straight line than was actually obtained during an analysis.
- The Audit **Logs** in the application are divided into two categories; **File level log** keeps track of the operations performed on the particular file (Ex: - - Save, Print, Math Operations etc.). **Application Level Log** keeps track of the operations performed by different modules (Ex: - Login time, Logoff time, mode of operation etc.)
- If requested, the instrument will go through a GLP self test routine upon switch on and calibration. A GLP print out is available on request.

SPECIFICATION: Ultrospec 2100

Wavelength range	190 - 900nm
Monochromator	1200 lines/mm Aberration corrected concave grating
Maximum scanning speed	3000 nm/minute
Spectral bandwidth	< 3nm
Wavelength accuracy	± 1nm
Wavelength reproducibility	± 0.5nm
Light source	xenon lamp
Detectors	two silicon photodiodes
Photometric range	- 3.000 to 3.000A, -9999 to 9999 concentration units, 0.1 to 200%T
Photometric accuracy	± 0.5% or ± 0.003A to 3.000A at 546 nm, whichever is the larger
Photometric reproducibility	within 0.5% of absorbance value to 3.000A at 546 nm
Stability	± 0.001A per hour at 340nm at 0A
Stray light	<0.05%T at 220nm using NaI and <0.05%T at 340nm using $NaNO_2$
Digital output	9 pin serial and Centronics parallel
Sample compartment size	210 x 140 x 80mm
Dimensions	510 x 350 x 160mm
Weight	13kg
Power requirements	100 - 240V AC ± 10%, 50/60Hz, 80VA

SPECIFICATION: Ultrospec 3100

Wavelength range	190 - 900nm
Monochromator	1200 lines/mm Aberration corrected concave grating
Maximum scanning speed	3000 nm/minute
Spectral bandwidth	< 3nm
Wavelength accuracy	± 1nm
Wavelength reproducibility	± 0.5nm
Light source	xenon lamp
Detectors	two silicon photodiodes
Photometric range	- 3.000 to 3.000A, -99999 to 99999 concentration units, 0.1 to 200%T

Photometric accuracy	± 0.5% or ± 0.003A to 3.000A at 546 nm, whichever is the larger
Photometric reproducibility	within 0.5% of absorbance value to 3.000A at 546nm
Stability	± 0.001A per hour at 340nm at 0A
Stray light	<0.05%T at 220nm using NaI and <0.05%T at 340nm using $NaNO_2$
Digital output	9 pin serial and Centronics parallel
Sample compartment size	210 x 140 x 80mm
Dimensions	520 x 370 x 230mm
Weight	13kg
Power requirements	90 - 265V AC ± 10%, 50/60Hz, 80VA

SPECIFICATION: Ultrospec 3300

Wavelength range	190 -1100nm in 0.1nm data intervals
Monochromator	1200 lines/mm Aberration corrected concave grating
Maximum scanning speed	7300 nm/minute at 2 nm intervals
Spectral bandwidth	< 1.8nm
Wavelength accuracy	± 0.7nm
Wavelength reproducibility	± 0.2nm
Light source	Tungsten halogen and deuterium lamps
Detectors	silicon photodiode
Photometric range	- 3.000 to 3.000A, -99999 to 99999 concentration units, 0.1 to 200%T
Photometric accuracy	± 0.5% or ± 0.003A to 3.000A at 546 nm, whichever is the larger
Photometric reproducibility	within 0.5% of absorbance value to 3.000A at 546nm
Stability	± 0.001A per hour at 340nm at 0A after warm up (deuterium lamp)
Stray light	<0.025%T at 220nm using NaI and <0.025%T at 340nm using $NaNO_2$
Digital output	9 pin serial and Centronics parallel
Sample compartment size	210 x 140 x 80mm
Dimensions	520 x 370 x 230mm
Weight	13kg
Power requirements	90 - 265V AC, 50/60Hz, 150VA

SPECIFICATION: Ultrospec 4300

Wavelength range	190 - 1100nm, in 0.1 nm steps
Monochromator	1200 lines/mm Aberration corrected concave grating
Spectral bandwidth	1.8 nm
Scan speeds	6200 nm/minute survey scan at 1.0 nm steps down to 405 nm/minute fine detail scan at 0.1 nm steps
Wavelength accuracy	± 0.7 nm
Wavelength reproducibility	± 0.2nm
Light sources	tungsten halogen and deuterium lamps
Detector	silicon photodiode
Photometric range	- 3.000 to 3.000A, 0.01 to 99999 concentration units, 0.1 to 200%T
Photometric accuracy (linearity)	± 0.5% or ± 0.003A to 2.000A at 546 nm, whichever is the greater
Photometric reproducibility	within 0.5% of absorbance value to 3.000A at 546nm
Noise	± 0.001A near 0A at 546nm, ± 0.002A near 2A at 546nm
Baseline flatness	± 0.003A
Stability	± 0.001A per hour at 340nm near OA after warm-up (tungsten lamp)
Stray light	< 0.025%T at 220nm using NaI and < 0.025%T at 340nm using $NaNO_2$
Digital output	9 pin Serial
Sample compartment size	210 x 140 x 80mm
Dimensions	500 x 360 x 190mm
Weight	13kg
Power requirements	90-265 V AC, 50/60Hz, 150VA

SPECIFICATION: Ultrospec 5300

Wavelength range	190 - 1100nm, in 0.1 nm steps
Monochromator	1200 lines/mm Aberration corrected concave grating
Spectral bandwidth	1.0 nm
Scan speeds	2100 nm/minute survey scan at 1.0 nm steps down to 135 nm/minute fine detail scan at 0.1 nm steps
Wavelength accuracy	± 0.5 nm
Wavelength reproducibility	± 0.2nm
Light sources	tungsten halogen and deuterium lamps
Detector	silicon photodiode
Photometric range	- 3.000 to 3.000A, 0.01 to 99999 concentration units, 0.1 to 200%T
Photometric accuracy (linearity)	± 0.5% or ± 0.003A to 2.000A at 546 nm, whichever is the greater
Photometric reproducibility	within 0.5% of absorbance value to 3.000A at 546nm
Noise	± 0.001A near 0A at 546nm, ± 0.002A near 2A at 546nm
Baseline flatness	± 0.003A
Stability	± 0.001A per hour at 340nm near 0A after warm-up (tungsten lamp)
Stray light	< 0.025%T at 220nm using NaI and < 0.025%T at 340nm using $NaNO_2$
Digital output	9 pin Serial
Sample compartment size	210 x 140 x 80mm
Dimensions	500 x 360 x 190mm
Weight	13kg
Power requirements	90-265 V AC, 50/60Hz, 150VA

SPECIFICATION AND WARRANTY: Ultrospec 6300

Wavelength range	190 -1100nm in 0.1nm data intervals
Monochromator	1200 lines/mm Aberration corrected concave grating
Maximum scanning speed	2450 nm/minute at 2 nm intervals
Spectral bandwidth	1.0nm
Wavelength accuracy	± 0.5nm
Wavelength reproducibility	± 0.2nm
Light source	Tungsten halogen and deuterium lamps
Detectors	silicon photodiode
Photometric range	- 3.000 to 3.000A, -99999 to 99999 concentration units, 0.1 to 200%T
Photometric accuracy	± 0.5% or ± 0.003A to 3.000A at 546 nm, whichever is the larger
Photometric reproducibility	within 0.5% of absorbance value to 3.000A at 546nm
Stability	± 0.001A per hour at 340nm at 0A after warm up (deuterium lamp)
Stray light	<0.025%T at 220nm using NaI and <0.025%T at 340nm using $NaNO_2$
Digital output	9 pin serial and Centronics parallel
Sample compartment size	210 x 140 x 80mm
Dimensions	520 x 370 x 230mm
Weight	13kg
Power requirements	90 - 265V AC, 50/60Hz, 150VA

SPECIFICATION: ULTROSPEC 10

Wavelength	600nm
Bandwidth	40nm
Range	Optical Density –0.3A to 1.99A
Accuracy	<±0.05A at 1A using Neutral Density Filters
Repeatability	±0.02A at 1A
Cuvette holder	Fixed with drain hole. Accepts 10mm pathlength semi micro and macro cuvettes or 14-17mm round tubes.
Output	RS232

Memory	99 readings
Display	Custom LCD
Power requirements	External power adaptor (110 to 220V, 50/60Hz, 20VA) or internal rechargeable NiMH battery
Approximate dimensions	180 x 150 x 60mm
Weight	0.6kg

SPECIFICATION: ULTROSPEC 20

Wavelength range	440 – 680nm
Standard gelatin filters	440, 470, 490, 520, 550, 580, 590 and 680nm
Bandwidth	40nm
Range	Absorbance –0.3A to 1.99A % Transmission – 0 – 199% T
Accuracy	<±0.05A at 1A using Neutral Density Filters
Repeatability	±0.02A at 1A using cuvettes
Operational modes	Absorbance, Transmission, Kinetics
Cuvette holder	Fixed with drain hole. Accepts 10mm pathlength semi micro and macro cuvettes or 16mm round tubes. Can accept 10-12mm tubes with optional adapters
Output	0 – 2V for 0 – 2Abs or 0 – 1.99V for 0 –199%T (via 2 x 4mm sockets, ~ 100mV offset in the output voltage) RS232
Power requirements	External power adaptor (110 to 220V, 50/60Hz, 20VA) or internal rechargeable NiMH battery (mains/battery version only)
Approximate dimensions	180 x 150 x 60mm
Weight	0.6kg

SPECIFICATION: NanoVue

Wavelength range	200-1100 nm (scanning 200-950 nm)
Monochromator	Flat grating
Wavelength calibration	Automatic upon switch on
Wavelength accuracy	±2 nm across range, ±1 nm from 240nm to 330nm
Wavelength reproducibility	±0.5 nm
Light sources	Pulsed xenon lamp
Detector	Dual 1024 element CCD arrays
Photometric range	0 to 125 A(10mm pathlength equivalence)
Photometric accuracy	±1% at 257nm at 0.7-0.8A
Digital output	USB port standard, Bluetooth option
Dimensions	260 x 390 x 100 mm
Weight	<4.5 kg
Power input	18Vdc from a 90-250 V, 50/60 Hz, Max 30 VA mains power pack

SPECIFICATION: GENEQUANT CAPILLIARY CELL

- Use of the capillary cell enables the user to avoid the time and sample wasted in dilution of concentrated nucleic acid material isolated from, for example, a minprep or PCR amplification procedure prior to quantification at 260 nm. Dilution is normally carried out to bring the sample absorbance, typically up to 40 OD, to within the standard spectrophotometric range, typically up to 3 OD, when using a standard 10 mm pathlength cell.
- The pathlength of the quartz capillaries used in the capillary cell is 0.5mm. This pathlength therefore gives an absorbance reading that is one-twentieth the reading given by the same sample in a standard 10mm pathlength cell. Use of the capillary cell is ideal for samples of low volume and high concentrations and measurements on samples as small as 3 µl in volume may be performed. Diluted samples will typically give variable absorbance readings and therefore poor reproducibility because the readings will approach the noise level of the spectrophotometer used.

SPECIFICATION: Ultrospec 500 asnd 1100

Wavelength range	325- 900 nm (Ultrospec 500 *pro*) or 200 – 900 nm (Ultrospec 1100 *pro*)
Monochromator	Plane grating with 1200 lines/mm
Wavelength calibration	automatic upon switch on
Spectral bandwidth	5 nm
Wavelength accuracy	±2nm
Wavelength reproducibility	± 0.5nm
Light sources	tungsten halogen and deuterium arc (Ultrospec 1100 *pro*)
Detector	single solid state silicon photodiode
Photometric range	- 0.300 to 3.000A, 0.01 to 99999 concentration units, 0.1 to 200%T
Photometric linearity	±0.5% or ± 0.005A to 2.000A at 546nm, whichever is the greater
Photometric reproducibility	0.5% of absorbance value to 2.000A at 546nm
Stray Light	typically <0.2%T at 220nm using NaI, <0.2%T at 340nm using $NaNO_2$ according to ANSI/ASTM E387-72
Stability	±0.002A/h at 0A and 546nm after warm-up, typically 30 minutes
Noise	± 0.001A near 0A and ± 0.002A near 2A at 600nm
Scan speed	250 nm/minute
Analogue output	100mV per 1.000A via interface lead
Digital output	Centronics parallel as standard 9 pin serial via interface adapter lead
Dimensions	370 x 430 x 130 mm
Weight	6 kg
Power requirements	90-265 V, 50/60 Hz, 100 VA

GE Healthcare shall receive the full benefit of any component or material price savings resulting from the use of GE preferred suppliers or suppliers identified by GE Healthcare on Products purchased by GE Healthcare. During the first year of a savings benefit Biochrom will calculate the benefit amount quarterly within fifteen (15) days of quarter end and issue GE Healthcare a corresponding credit, which GE Healthcare may use in the following year to apply against invoice payments. Following the first year of savings, the Price to GE Healthcare will be reduced to reflect the savings benefit.

Biochrom shall be entitled to the full benefit of any component or material price savings resulting from the use of GE Healthcare preferred suppliers or suppliers identified by GE Healthcare on products sold by Biochrom to other customers.

Instruments

	Part Number	2008 GE Healthcare Transfer Price
GE Healthcare Spectros		
Ultrospec 10	80-2116-30	[***]
Ultrospec 20	80-2116-36	[***]
Novaspec III	80-2118-00	[***]
Novaspec Plus	80-2117-50	[***]
Novaspec Plus + HCH	80-2117-51	[***]
Ultrospec 500 pro	80-2112-50	[***]
Genequant III (100)	80-2130-00	[***]
Genequant III (100) + Printer	80-2130-01	[***]
Genequant III (100) + Bluetooth	80-2130-02	[***]
Genequant III (1300)	80-2120-00	[***]
Genequant III (1300) + Printer	80-2120-01	[***]
Genequant III (1300) + Bluetooth	80-2120-02	[***]
NanoVue	80-2140-00	[***]
NanoVue + Printer	80-2140-01	[***]
NanoVue + Bluetooth	80-2140-02	[***]
NanoVue (US)	80-2140-20	[***]
NanoVue + Printer (US)	80-2140-21	[***]
NanoVue + Bluetooth (US)	80-2140-22	[***]
Ultrospec 1100 pro	80-2112-00	[***]
Ultrospec 2100 pro	80-2112-21	[***]
Ultrospec 3100 pro	80-2112-31	[***]
Ultrospec 3300 pro	80-2112-33	[***]
Ultrospec 4300 pro	80-2112-43	[***]
Ultrospec 5300 pro	80-2117-70	[***]
Ultrospec 6300 pro	80-2117-60	[***]

Product Description	ProductID	2008 GE Transfer Price
Deuterium Lamp Assy	80-2106-17	[***]
Deuterium Lamp Assy	80-2109-11	[***]
Sipper - Ultrospec 2000 Series	80-2106-15	[***]
Sipper - Ultrospec Pro Series	80-2112-15	[***]
Concave Diffraction Grating	80-2106-80	[***]
Power Supply Assy (Ce)Supp til	80-2107-39	[***]
Deuterium Lamp Assy Gqpro	80-2109-86	[***]
10mm Peltier Heated Cell Holde	80-2106-13	[***]
Swift II - Method V2.6	80-2108-31	[***]
Main Pcb Replacemnt Gq Pro+Cur	80-2114-51	[***]
Deuterium Lamp Genequant	80-2104-56	[***]
Deuterium Lamp And Mount Asy v	80-2100-58	[***]
Printer Paper (Packet 5) Therm	80-2009-80	[***]
Temperature Control Unit	80-2105-49	[***]
Microvolume Cell Holder (50 uL	80-2106-09	[***]
Swift II Cfr Compliant Softwar	80-2117-57	[***]
Ultramicrovol Cell Hldr, 2ax a	80-2106-06	[***]
10mm Single Cell Holder	80-2106-05	[***]
Dpu414 Parallel 220/240V Print	80-2108-80	[***]
Main Pcb Assy 4082 SuppTill07	80-2110-35	[***]
Serv Filter Kit Only All Brnds	80-2116-67	[***]
Tm Progr Heated C Holdr+ s/w	80-2106-14	[***]
Tungsten Halogen Lamp	80-2106-16	[***]
Serial I/F Adptr Lead +ss s/w	80-2109-02	[***]
Printer Stand Ultrospec 2100 P	80-2112-13	[***]
Main Pcb Assembly	80-2110-11	[***]
RS232C I/F Cable M/F 9-9	80-2105-97	[***]
Keyboard + Window Supp til08	80-2106-50	[***]
Main Pcb Assy, U2100Pro	80-2111-22	[***]
Swift 1000 V2.06	80-2110-00	[***]
6 Posn Peltier Heated Cell Ch	80-2106-04	[***]
Tungsten Lamp 20W 12V	80-2022-94	[***]
GQ Calibration Check Filter Se	80-2109-88	[***]
Xenon Lamp	80-2111-29	[***]
Spreadsheet Interface Software	80-2110-73	[***]
Grating Holographic	80-2073-87	[***]
Water Heatd Cell Holder,10-40m	80-2106-08	[***]
Deuterium Lamp & Collar	80-2103-29	[***]
MAIN PCB 4040 (CE)	80-2107-34	[***]
Lamp Assy U100 Pro Spares	80-2115-33	[***]
Epson-Ibm Parallel I/F Lead	80-2071-87	[***]

2 Position Manual Cell Changer	80-2109-04	[***]
U3100 Keyboard Assy Spare AB	80-2112-11	[***]
Xenon Psu Pcb Assy	80-2111-26	[***]
8 Posn Water Heated Cell Chang	80-2109-70	[***]
Printer Stand	80-2109-96	[***]
Main PCB Assy, U3100	80-2111-20	[***]
VGA Display 31/3300	80-2111-67	[***]
U2100 Keyboard Assy Spare AB	80-2112-12	[***]
Keyboard-G/Q Pro & Pro + Spare	80-2116-64	[***]
Keybrd/Display Assy New. Till0	80-2110-17	[***]
U3300Pro Keybrd & Window AB	80-2114-44	[***]
PVC Software for GeneQuant 100	80-2120-20	[***]
Grating Assy. Support Till Aug	80-2077-48	[***]
Filter Update Kit+Slv v1.5	80-2110-28	[***]
Hplc Cell Holder And Flowcell	80-2106-11	[***]
Power Supply +15V 5.5A Spares	80-2114-34	[***]
Filter Wheel & Motor Assy till	80-2077-51	[***]
Dpu-414 Serial 220/240V Printe	80-2108-79	[***]
Xenon Lamp GQ1300/100	80-2130-12	[***]
Keyboard & Window Supp till08	80-2111-31	[***]
Filter 10 Dia * 1 Thk Supp Til	80-2078-04	[***]
Photometer Pcb Assy Supp til08	80-2108-09	[***]
Power Supply	80-2111-28	[***]
Keyboard + Window AB Supp til0	80-2106-57	[***]
Filter Quadrt Assy Supp end08	80-2107-48	[***]
Photometer Pcb Assy	80-2109-38	[***]
Power Supply +24V 1.6A Spares	80-2114-35	[***]
Display Replacement Gq Pro	80-2114-50	[***]
Cylindrical Cell Holder	80-2106-10	[***]
Dc-Dc Converter Assy	80-2111-27	[***]
Co-Pro Pcb Assy U3300 Pro PTR	80-2117-12	[***]
Inverter Pcb Assy Spares Item	80-2114-36	[***]
Photometer Sig Chan Assy U2100	80-2114-91	[***]
Photometer Pcb Support Till 20	80-2077-69	[***]
Gq1300 Main Pcb	80-2120-16	[***]
GQ100 Main Pcb	80-2130-10	[***]
Support Plinth Ultrospec Pro S	80-2112-14	[***]
FILTER QUADRANT	80-2109-41	[***]
Lamp-Select Motor	80-2109-39	[***]
U500Pro Keyboard Ab Spare	80-2116-86	[***]
Test Tube Adapters (10,12,16mm	80-2117-47	[***]
Cover Spring Update Kit	80-2115-42	[***]
10mm Electr Heated Cell Holder	80-2106-12	[***]
Main PCB 4080	80-2104-57	[***]
Top Cover Assy 4082 Supp Till0	80-2110-32	[***]

Gq1300/100 Display	80-2120-17	[***]
Control Eprom Assy U1100	80-2118-39	[***]
Photometer Pcb'S 4082	80-2110-33	[***]
Qual/Perf Verif Logbook For Bi	80-2109-50	[***]
Filter Quadrant Assy, Xe	80-2111-39	[***]
Tungsten Dtw Pcb Assy Spares	80-2114-33	[***]
Membrane Keypad (U10)	80-2118-99	[***]
Display - Genequant	80-2106-23	[***]
U1100 Pro Keyboard Ab Spare	80-2116-84	[***]
Vdas Photodiode Array Assembly	80-2118-75	[***]
Top Cover Assy Classic	80-2114-46	[***]
Multi-Size Sample Holder Nova2	80-2077-57	[***]
Psu 18V Gq1300/100	80-2120-12	[***]
Filter Wheel Assy 4082	80-2110-34	[***]
Control EProm V1.9	80-2112-06	[***]
Hitachi LCD Display	80-2111-23	[***]
50mm Single Cell Holder	80-2106-07	[***]
U3300 Mains Input Components	80-2118-78	[***]
Chart Recorder Lead	80-2109-03	[***]
Spectrophotometry Demo Kit	80-2108-64	[***]
Membrane Keyboard	80-2090-96	[***]
SINGLE CELL HOLDER - USE	80-2108-10	[***]
Display Assy 1100 Pro	80-2114-38	[***]
Filter Motor Assembly	80-2118-15	[***]
Filter Wheel S/A Support till0	80-2077-52	[***]
Pump Tubing (Pkt Of 6)	80-2080-74	[***]
PTR Lamp Select Motor	80-2117-29	[***]
Filter 10 Dia * 1 Thk Supp til	80-2078-03	[***]
Lamp Select Mirror 4090	80-2108-62	[***]
Dust Cover	80-2109-13	[***]
GQ1300/100 Keypad	80-2130-15	[***]
Filter Quadrant Assy U1100/500	80-2114-37	[***]
Printer Cable (Seiko) 9Way M-F	80-2118-18	[***]
CHART RECORDER CABLE	80-2105-95	[***]
Filter Motor Assembly	80-2106-46	[***]
Filter Motor Assembly	80-2109-40	[***]
Adj Lens Target	80-2001-13	[***]
Keyboard - Genequant II	80-2106-22	[***]
Keyboard - Genequant	80-2106-21	[***]
Fitting Kit Extnl Sample Deliv	80-2109-08	[***]
Collimating Mirror	80-2104-54	[***]
50mm Pathlength Cell Holder	80-2109-05	[***]
Lamp Holder - Support to Aug09	80-2005-85	[***]
Lens Cleaning Cloth	80-2046-49	[***]
Lamp Access Cover supp til 08	80-2108-60	[***]
Contrl Eprom Assy V1.8 IC106	80-2110-54	[***]
Side Arm Spring Clip For GQ	80-2105-64	[***]

Attachment D
Supplier Integrity Statement

[see separate attachment]

A Message from GE Healthcare

General Electric Company and its GE Healthcare business ("GE") are committed to unyielding Integrity and high standards of business conduct in everything we do, especially in our dealings with our suppliers, service providers and consultants (collectively "suppliers"). Integrity is the foundation upon which we build our business success – our quality products and services, our forthright relations with customers and suppliers and, ultimately, our winning record. GE's quest for excellence begins and ends with our commitment to ethical conduct.

GE bases supplier relationships on lawful, efficient and fair practices, and expects its suppliers to adhere to applicable legal requirements in their business relationships, including those with their employees, with their local communities and with GE. The quality of our supplier relationships often has a direct bearing on the quality of our customer relationships. Likewise, the quality of our suppliers' products and services affects the quality of our own products and services.

To help GE suppliers understand the GE commitment to unyielding Integrity and the standards of business conduct that all GE suppliers must meet, GE has prepared this ***Integrity Guide for Suppliers, Service Providers and Consultants***. The ***Guide*** is divided into four sections:

- **GE Code of Conduct**
- **GE Compliance Obligations**
- **Responsibilities of GE Suppliers**
- **How to Raise an Integrity Concern**

Suppliers should carefully review this Guide, especially the section, **Responsibilities of GE Suppliers**. Suppliers are responsible for ensuring that they and their employees and representatives comply with the standards of conduct required of GE suppliers. Please contact the GE manager you work with or any GE Compliance Resource if you have any questions about this Guide or the standards of conduct required of GE suppliers.

GE Code of Conduct

GE's commitment to total, unyielding Integrity is set forth in GE's Compliance Handbook, Integrity: ***The Spirit and The Letter of Our Commitment*** (the "***Spirit & Letter***"). The policies set forth in the Spirit & Letter govern the conduct of all GE employees and are supplemented by compliance procedures and guidelines adopted by GE components. All GE employees must comply not only with the "letter" of the Company's compliance policies, but also with their "spirit."

The "spirit" of GE's Integrity commitment is set forth in the GE Code of Conduct, which each GE employee has made a personal commitment to follow:

- Obey applicable laws and regulations governing our business conduct worldwide.
- Be honest, fair and trustworthy in all of your GE activities and relationships.
- Avoid all conflicts of interest between work and personal affairs.
- Foster an atmosphere in which equal opportunity extends to every member of the diverse GE community.
- Strive to create a safe workplace and to protect the environment.
- Through leadership at all levels, sustain a culture where ethical conduct is recognized, valued and exemplified by all employees.

At GE, nothing – not customer service, competitiveness, direct orders from a supervisor or "making the numbers" – is more important than Integrity.

GE Compliance Obligations

All GE employees are obligated to comply with the requirements – the "letter"– of GE's compliance policies set forth in the Spirit & Letter. **These policies implement the GE Code of Conduct and are supplemented by compliance procedures and guidelines adopted by GE businesses**. A summary of some of the key compliance obligations of GE employees follows:

CONFLICTS OF INTEREST

- Financial, business, or other non-work related activities must be lawful and free of conflicts with one's responsibilities to GE.
- All personal or family relationships, including those of significant others, with current or prospective suppliers you select, manage or evaluate, must be reported to GE management.
- GE equipment, information or other property must not be used to conduct personal or non-GE business without prior permission from GE management.

IMPROPER PAYMENTS

- GE employees must always adhere to the highest standards of honesty and integrity in all contacts on behalf of GE. They must never offer bribes, kickbacks, illegal political contributions or other improper payments to any customer, government official or third party. They must follow the laws of the United States and other countries relating to these matters.
- GE employees must not give significant gifts or provide any extravagant entertainment to a customer or supplier without prior GE management approval. They must make sure all business entertainment and gifts are lawful and disclosed to the other party's employer.
- They must employ only reputable people and firms as GE representatives and understand and obey any requirements governing the use of third party representatives.

SUPPLIER RELATIONSHIPS

- GE employees must only utilize suppliers that comply with applicable legal requirements in their business relationships, including those with their employees, their local environments and with GE.
- GE employees must follow applicable laws and government regulations covering supplier relationships.
- GE employees must provide a competitive opportunity for suppliers to earn a share of GE's purchasing volume, including small businesses and businesses owned by the disadvantaged, minorities and women.

COMPLYING WITH COMPETITION LAWS

- GE employees must never propose or enter into any agreement with a GE competitor to fix prices, terms and conditions of sale, costs, profit margins, or other aspects of the competitive process.
- GE employees must not propose or enter into any agreements or understandings with GE customers restricting resale prices.

FOLLOWING INTERNATIONAL TRADE CONTROLS

- GE employees must understand and follow applicable international trade control and customs laws and regulations, including those in the Integrity Guide for Suppliers, Service Providers, and Consultants relating to licensing, shipping and import documentation and reporting and record retention requirements.
- GE employees must never participate in boycotts or other restrictive trade practices sanctioned under U.S. law.
- GE employees must make sure all transactions are screened in accordance with applicable export/import requirements; and that any apparent conflict between U.S. and applicable local law requirements is promptly disclosed to GE counsel.

INSIDER TRADING OR DEALING & STOCK TIPPING

- GE employees must never buy, sell or suggest to someone else that they should buy or sell stock or other securities of any company (including GE) while aware of significant or material nonpublic information (inside information) about that company. Information is significant or material when it is likely that an ordinary investor would consider the information important in making an investment decision.
- GE employees must not pass on or disclose inside information unless necessary for the conduct of GE business — and never pass on or disclose such information if he or she suspects that the information will be used for an improper trading purpose. GE employees must always try to avoid inadvertent disclosures of material non-public information.

FINANCIAL CONTROLS AND RECORDS

- GE employees must keep and report all GE records, including any time records, in an accurate, timely, complete, and confidential manner. GE employees may not release GE records to third parties unless authorized by GE management.
- GE employees must cooperate with GE's auditors and give them full access to any records you maintain reflecting GE transactions and business activities.
- Financial statements and reports prepared for or on behalf of GE (including any component) must fairly present the financial position, results of operations, and/or other financial data for the periods and/or the dates specified.

FAIR EMPLOYMENT PRACTICES

- **GE employees must extend equal opportunity, fair treatment and a harassment free work environment to all employees, co-workers, consultants and other business associates without regard to their race, color, religion, national origin, sex, age, disability, veteran status or other characteristic protected by law**.

ENVIRONMENT, HEALTH AND SAFETY

- GE employees must learn how to conduct their activities in compliance with all applicable environmental and worker health and safety laws and regulations and conduct their activities accordingly.
- They must **ensure that all new product designs or changes or services offerings are reviewed for compliance with GE guidelines**.
- GE employees must **use care in handling hazardous materials or operating processes or equipment that use hazardous materials to prevent unplanned releases into the workplace or the environment**.
- GE employees must **report to GE management all spills of hazardous materials; any concern that GE products are unsafe; and any potential violation of environmental, health or safety laws, regulations or company practices or requests to violate established EHS procedures**.

INTELLECTUAL PROPERTY

- **GE employees must identify and protect commercially significant GE intellectual property**.
- **GE employees must respect valid patents, copyrighted materials and other protected intellectual property of others**.

PRIVACY

- GE employees must comply with all applicable consumer and other data protection laws, regulations and treaties.
- GE employees must provide individual consumers with reasonable notices in compliance with local law.

MONEY LAUNDERING PREVENTION

- GE employees must comply with all applicable laws that prohibit money laundering and that require the reporting of cash or other suspicious transactions.
- They must follow their business' "Know Your Customer" procedure and obtain adequate information about prospective customers, joint venture partners and affiliates to demonstrate that they are involved in legitimate business activities and that their funds come from legitimate sources.
- They must follow their business' rules on acceptable forms of payment.
- Learn to identify and carefully watch for warning signs that may indicate money laundering or other illegal activities or violations of GE policies.

Responsibilities of GE Suppliers

GE will only do business with suppliers that comply with all applicable legal requirements as well as applicable GE Policy requirements (The Spirit and the Letter of Our Commitment), including those relating to labor, environment, health and safety, intellectual property rights and improper payments. Accordingly, suppliers that transact business with GE Healthcare are expected to adhere to standards of business conduct consistent with those described in this section of the Guide. Your commitment to full compliance with these standards is the foundation of a mutually beneficial business relationship with GE Healthcare.

In addition to supplier compliance with its contractual obligations under any purchase order or agreement with GE, GE requires and expects that each ***GE supplier shall comply with all applicable legal requirements and GE Policy requirements. GE also requires that its supplier ensure that their sub-tier-suppliers similarly comply with the same legal requirements and GE policy. These requirements include (but are not limited to):***

- **Code of Conduct**. Maintaining and enforcing written company policies requiring adherence to lawful business practices, including a prohibition against bribery of government officials.
- **Minimum Age**. Employing workers above any applicable minimum age requirement.
- **Forced Labor**. Not using forced, prison or indentured labor, or workers subject to any form of compulsion or coercion.
- **Environmental Compliance**. Commitment to observing applicable environmental laws and regulations.

Actions that GE will consider evidence of a commitment to observing applicable environmental laws and regulations include:

— maintaining and enforcing written and comprehensive environmental management programs which are subject to periodic audit;

— continuing compliance with all required environmental permits; and

— strictly not permitting any discharge to the environment in violation of law, issued/required permits, or that would otherwise have an adverse impact on the environment.

- **Health & Safety**. Providing workers with a workplace that complies with applicable health and safety standards as well as appropriate living conditions.
- **Business Practices and Dealings with GE**. Suppliers may NOT offer or provide, directly or indirectly, anything of value, including cash, bribes or kickbacks, to any GE employee, representative or customer or government official in connection with any GE procurement, transaction or business dealing. Such prohibition includes the offering or providing of any consulting, employment or similar position by a supplier to any GE employee (or their family member or significant other) involved with a GE procurement. GE also requires that a GE supplier NOT offer or provide GE employees and representatives with any gifts, other than gifts of nominal value to commemorate or recognize a particular GE-supplier business transaction or activity. In particular, a GE supplier shall not offer, invite or permit GE employees and representatives to participate in any supplier or supplier-sponsored contest, game or promotion.
- **Business Entertainment of GE Employees and Representatives**. Suppliers must respect and comply with the business entertainment (including travel and living) policies established by GE and which govern GE employees and representatives. A GE supplier is expected to understand the business entertainment policies of the applicable GE component or operation before offering or providing any GE employee or representative any business entertainment. Business entertainment should never be offered to a GE employee and representative by a supplier under circumstances that create the appearance of an impropriety.
- **Collusive Conduct and GE Procurements**. Adhering to all applicable competition laws. They must avoid prohibited communications or entering into agreements with competitors that can affect competition. Specifically, they may not share or exchange any price, cost or other competitive information or undertake any other collusive conduct with any other third party supplier or bidder to GE with respect to any proposed, pending or current GE procurement. Suppliers must be mindful to avoid even the appearance of improper conduct.
- **Intellectual & Other Property Rights**. Respecting the intellectual and other property rights of others, especially GE. In that regard, a GE supplier shall:

— only use GE information and property (including tools, drawings and specifications) for the purpose for which they are provided to the supplier and for no other purposes.

— take appropriate steps to safeguard and maintain the confidentiality of GE proprietary information, including maintaining it in confidence and in secure work areas and not disclosing it to third parties (including other customers, subcontractors, etc.) without the prior written permission of GE.

— only transmit GE information over the Internet on an encrypted basis.

— observe and respect all GE patents, trademarks and copyrights and comply with such restrictions or prohibitions on their use as GE may from time to time establish.

- **Export and International Trade Controls & Customs Matters**. GE and its affiliates are subject to numerous United States Trade and Export Controls. Any export of services, technology (including technical information) or financial transactions with individuals or entities sanctioned by the U.S. government may be subject to U.S. Export and Trade Controls or other applicable laws. Suppliers should familiarize themselves with requirements applicable to GE and its affiliates with respect to services performed for GE and may not transfer GE technical information to any third party without the express, written permission of GE. Suppliers must comply with all applicable export controls laws and regulations in the export or re-export of GE technical information, including any restrictions on access and use applicable to non-U.S. nationals, and must ensure that all invoices and any customs or similar documentation submitted to GE or governmental authorities in connection with transactions involving GE accurately describe the goods and services provided or delivered and the price thereof. Suppliers may not participate in any boycotts or restrictive trade practices prohibited by U.S. laws.
- **Privacy**. Complying with privacy and data protection laws with respect to data and personal information of GE customers, employees and other suppliers.
- **Money Laundering Prevention**. Complying with applicable anti-money laundering laws and regulations and GE policies established for money laundering prevention. In that regard, suppliers shall:
    1. Implement due diligence standards and processes in writing in order to obtain sufficient information about GE customers, borrowers, as well as third parties.
    2. Designate acceptable form of payment and assume that payments collected on behalf of GE come from legitimate and legal sources in accordance with GE Source of Funds policies.
    3. Develop acceptable processes to ensure that suspicious activity of any borrower or other third party is reported to GE and, if required, to proper government authorities.
- **Prohibition of Use of Sub-Tier Suppliers or Third Parties to Evade Requirements**. The use of sub-tier suppliers or other third parties to evade legal requirements applicable to the supplier and any of the standards set forth in this Section of the Guide is not permitted.

The foregoing standards are subject to modification at the discretion of GE. Please contact the GE manager you work with or any GE Compliance Resource if you have any questions about these standards and/or their application to particular circumstances. ***Each GE supplier is responsible for ensuring that the supplier, its employees, representatives and sub-tier suppliers understand and comply with these standards***. GE will only do business with those suppliers that comply with applicable legal requirements and reserves the right, based on its assessment of information then available to GE, to terminate, without liability to GE, any pending purchase order or contract with any supplier that does not comply with the standards set forth in this section of the ***Guide***.

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How to Raise an Integrity Concern

Each GE supplier is expected to promptly inform GE of any Integrity concern involving GE, whether or not the concern involves the supplier, as soon as the supplier has knowledge of such Integrity concern. A GE supplier shall also take such steps as GE may reasonably request to assist GE in the investigation of any Integrity concern involving GE or its employees and the supplier. An Integrity concern may be raised by a GE supplier with cognizant GE management, GE or GE Healthcare Helplines, or any GE Compliance Resource (i.e., Company legal counsel or auditor).

I. **Define your concern**: Who or what is the concern? When did it arise? What are the relevant facts?

II. **Raise the concern** – ***prompt reporting is crucial:***

- Discuss with a GE Healthcare Manager
- A GE or GE Healthcare Compliance Resource will promptly review and investigate the concern.

III. GE Policy forbids retaliation against any person reporting an Integrity concern

GE's quest for competitive excellence begins and ends with our commitment to ethical conduct.

AGREED TO AND ACCEPTED BY SUPPLIER

BY: **/s/ James G. Heffernan**
TITLE: **Group Managing Director**
DATE: **February 21, 2008**
SUPPLIER NAME: **Biochrom LTD**

Attachment F
Quality Plan

Quality Manual

ISO 13485:2003
ISO 9001:2000

Issue level:	15
Revision level:	C
Date:	July 2007
Approved by:	M. Ellis (Quality System Manager)

Issue: 15
Revision description:

- D: 13485:2003 Scope added
- C: Details for clinical product controls added
- B: Revised due to procedure removal
- A: Organisation chart removed

Issue: 14

Revision description:

A: Manual re-written to address new standard

Issue: 13

Revision description:

A: Manual re-written to address new standard, and encompass continual process development within organisation.

B: Sec.7.3 Design & Development; process definitions and related procedures reviewed and clarified.
Process chart support services responsibility redefined

C: Sec.8.5.3 Preventive Action reference sources expanded to include H&S, and Disaster Recovery Plan

D: Sec. 3.0 Quality Policy Statement revised Organogram up-dated.

E: Organogram up-dated.

1.0 INTRODUCTION

1.1 CONTENTS LIST

This quality manual consists of the following sections:

Introduction:-

1: Contents List

2: Background / History

3: Quality Policy / Scope / Process path

Section 4: Quality Management System

Section 5: Management Responsibility

Section 6: Resource Management

Section 7: Product Realisation

Section 8: Measurement, Analysis & Improvement

2.0 COMPANY BACKGROUND / HISTORY

Biochrom, originally known as LKB Biochrom, was established in 1970 to develop and manufacture Amino Acid Analysers, a technology in which Biochrom enjoys a leading position to this day.

In 1974, Biochrom came to Cambridge, becoming only the second company to take up residence on the new Cambridge Science Park, now world renowned for innovation in high technology and life sciences.

During the early 1980's, the company introduced a range of UV / Visible spectrophotometers, whose names Ultrospec and Novaspec, quickly became established in the life sciences community. Over 40,000 of these instruments have been sold worldwide, mostly via Biochrom's long standing life sciences distribution partner, Amersham Biosciences.

In 1993, the company launched the first UV spectrophotometer dedicated to nucleic acid analysis, Genequant, and over 10,000 units have subsequently been sold world-wide.

In 1999, Biochrom became part of Harvard Biosciences, launching a new range of UV / Visible spectrophotometers for general analytical applications to complement the current well-renowned life science instruments, via a developing and expanding distributor network.

In 2002 Biochrom acquired WPA a local business manufacturing a range of UV / Visible spectrophotometers and electrochemistry instrumentation. WPA branded products are now manufactured at the Biochrom Cambridge site and sold through the already established WPA network of distributors.

Also in 2002 Biochrom expand its product ranges, in the shape of microtitre plate readers, washers and liquid dispensers, provided by Asys a company subsidiary located in Austria.

Biochrom has been greatly assisted in this rapid and continuous growth and product development over the past 20 years by certification initially to ISO 9001-1987 and thence to ISO 9001:1994. Biochrom is now certified to ISO 9001:2000, 13485 and the EU Directive 98/79 EC 1998 for In-vitro Diagnostic Devices.

3.0 QUALITY POLICY

Is stated as follows:-

We strive to be perceived by our customers as a company whose products, services and support consistently exceed those of our competitors.

We are working to build a company that is regarded by its employees as one they are proud to work for, that communicates with them, listens and responds appropriately, values them and invests in them.

In the event that one of our customers has a problem with our products or our actions, we will react immediately and decisively to overcome it.

We will always do what we have agreed to do, keeping our customers informed of progress.

We want to be the preferred supplier for our products and services in our chosen field.

3.1 SCOPE

The scope of the current certification is defined as follows:-

9001:2000

“Design, manufacture and in-house repair and servicing of analytical instruments: Manufacture of support chemicals for analytical instruments.”

3.2 **PROCESS PATH**

See Appendix 1.

4.0 **QUALITY MANAGEMENT SYSTEM**

4.1 **GENERAL REQUIREMENTS**

The quality management system shall establish, document, maintain, monitor and measure processes and procedures, and will continually seek to improve its effectiveness in accordance with the requirements of the companies ISO system , as a result of analysis and implementation of planned actions.

4.2 **DOCUMENTATION REQUIREMENTS**

4.2.1 The company’s quality system shall include a quality policy, statement of quality objectives, quality manual referencing documented procedures, the procedures, and effective operational documents for purposes of process control, improvement and record keeping.

Procedures: QSM404 – Document Control
QSM408 – Quality Records

4.2.2 **Quality Manual**

The Management Representative, on behalf of the Managing Director, shall maintain the manual, procedure referencing, and review the necessary interactions between the processes required to fulfil contractual requirement.

The scope of the current certificate is to be found in Section 1.3.

4.2.3 **Control of Documents**

Records required by the system shall be controlled, reference sec. 4.2.4.

Documents required by the system shall be controlled, as defined in procedure QSM404.

British & International Standards and related quality system supplements used within the company are listed and maintained at current issue level by the Quality Systems Manager.

Relevant current issues will be available at all appropriate points of use, irrespective of the nature of the documentation.

Functions / organisations will have access to relevant background information upon which to base regular review and approval, unless otherwise specified.

Procedures: QSM404 – Document Control
QSM408 – Quality Records
BDP621 – Specification & Drawing Control

4.2.4 **Control of records**

The relevant operating procedure defines all appropriate operational records documentation, and criteria for control of those records.

Procedure: QSM408 – Quality Records

5.0 MANAGEMENT RESPONSIBILITY

5.1 MANAGEMENT COMMITMENT

The company shall demonstrate its commitment to continuous improvement through the establishment and review of a Quality Policy, defined and measured quality objectives, regular, documented management reviews, the effective management of appropriate resources, and demonstrable communication of all relevant issues within the company.

Procedure: QSM409 – Management Review

5.2 CUSTOMER FOCUS

The company shall determine specified, and where possible, unspecified customer requirements, with regard to statutory and regulatory requirements. Customer perception of company performance and delivered quality will also be monitored.

5.3 QUALITY POLICY

The Quality Policy shall define the company management’s commitment to continuous improvement and provide the framework for quality objectives, all to be regularly reviewed for suitability by means of the management review.

Procedure: QSM409 – Management Review

5.4 PLANNING

5.4.1 **Quality Objectives**

The company will establish and measure quality objectives, (operationally known as Key Performance Indicators), derived from senior management review, the quality manual, and will consider the following, where applicable:-

Procedure: QSM409 – Management Review

5.4.2 **Quality management system planning**

Company management shall ensure that the quality manual, procedures and objectives will meet the requirements of the companies ISO system, and that change, enhancement and improvement will not compromise the integrity of the system.

5.5 ORGANISATION

5.5.1 Responsibility and authority

An organisation chart showing functional relationships, authorities and responsibilities will be maintained. (Appendix 1)

5.5.2 Management Representative

Senior management will appoint a Management Representative, who will report to said senior management on the performance and effectiveness of the quality system.

The Management Representative will have the necessary authority and responsibility to ensure the effectiveness of the Quality Management System, and that the requirements of ISO systems are met and maintained, and will be responsible for system administration.

The Management Representative's accountabilities will be reviewed and maintained.

5.6 MANAGEMENT REVIEW

The Quality Management System will be reviewed at defined intervals by senior management with executive responsibilities. Management Reviews will review subjects defined by, but not be limited to, criteria described as follows:-

Procedure: QSM409 – Management Review

6.0 RESOURCE MANAGEMENT

6.1 PROVISION OF RESOURCES

The company will identify and provide the resources required, to implement and maintain the Quality Management System, and continually improve its effectiveness.

6.2 HUMAN RESOURCES

6.2.1 Management will ensure competence is achieved by means of suitable training, provided for all personnel performing work affecting product quality.

6.2.2 Training

Processes for competence, awareness and training are defined as follows:-

Procedures: BTR201 – Identification of Training Needs
BTR202 – Recruitment
BTR203 – New Employee Induction

6.3/4 **INFRASTRUCTURE / WORK ENVIRONMENT**

Buildings, workplaces and equipment will be provided and maintained where appropriate to ensure continued process capability, the total providing an environment which allows for, and contributes to, defined product conformity.

Procedures: QSM414 – Health & Safety Management Audit
BIT1001 – Tape back-up system for Network Servers

7.0 PRODUCT REALISATION

7.1 PLANNING OF PRODUCT REALISATION

This section describes how an enquiry or order is assessed to ensure that the customer's specified and implied requirements can be fully satisfied, and how such activities are co-ordinated. The company shall have a regard for quality objectives, processes, documents, resources, monitoring, validation, verification and test activities, in order to achieve realisation.

7.2 CUSTOMER RELATED PROCESS

7.2.1 Determination of requirements related to the product

Prior to the submission of a tender (quotation), or the formal acceptance of the order, a review of the customer's requirements will be undertaken, as defined in 7.2.2.

Order acceptance and review will apply to all incoming orders to the company, from distributors, end user customers, including non-standard product.

7.2.2/3 Reviewof requirements related to the product / Customer Communication

Customer orders will be reviewed to ensure that customer requirements are understandable, can be fulfilled, and that agreement can be reached between both parties where variances occur between order details and published sales information. Amendments to sales orders will be handled in a controlled manner.

This review will confirm the following criteria, but will not be limited to:-

Distribution agreements, order documentation, customer specifications, product sales groupings and classifications, regulatory requirements, relevant national and in-house standards, procedures and delivery requirements.

Procedures: BSM707 – Part Grouping Structures
BSM711 – Contracts with Distributors
BSM714 – AAA Order Review
BPL510 - Order Acceptance
BPL507 – Amendments to Purchase / Sales orders

7.3 DESIGN & DEVELOPMENT

7.3.1 Design & development planning

All design activities performed in Biochrom Ltd. will be executed in a controlled manner, with full communication and exchange of information to all personnel, (including any approved sub-contractor), involved in the design.

Plans will be developed using Market Requirement specifications, Requirements and Definitions phase reviews; appropriately chosen staff will form project teams, plus key representatives of critical suppliers, under the direction of a project leader reporting the to the Research & Development Director.

Processes and criteria for design activities are defined as follows:-

Procedures: BDP613 – The Project File
BDP631 – Project Control

Within projects particular details are further defined as follows:-

Procedures: BDP608 – Software Overview
BDP614 – Product Definition & Design Overview Documents
BDP621 – Specification & Drawing Control
BDP629 – Software User Interface Specification

7.3.2 **Design & development inputs**

Inputs will be defined with the aid of product definition documents, software user interface specifications, software functional requirements specifications, for the current project, and document contents required to be carried forward from previous product projects. Special consideration must be given to products that fall into the category of IVD during the input of risk analysis.

Procedure: BDP610 – Software Test Plans & Master Test Scripts
BDP633 – Risk Management

7.3.3 **Design & development outputs**

Outputs will be defined with the aid of working documents, drawings, engineering specifications, software overviews and risk management, leading to review at High level, Detail and Integration phase reviews.

Procedure: BDP617 – Transport Test of Products
BDP620 – Paint & Finish Solvent Susceptibility
BDP621 – Specification & Drawing Control
BDP633 – Risk Management
BPE804 – Control of Build-files

7.3.4 **Design & development review**

Reviews will take place in a structured and controlled manner, using the development review procedure documents as defined in procedure BDP631. Reviews, both formal and informal, will be recorded, reviewed, necessary actions taken and implemented, outputs further recorded, reviewed, and assessed for impact upon already completed elements of a project.

Procedure: BDP631 – Project Control

7.3.5 **Design & development verification**

The R & D Director will appoint suitably qualified personnel to write specific product, chemical product, and / or software verification / test plans, in accordance with procedure BDP631.

Tests will be performed by suitably qualified personnel to ensure that design and development outputs meet the design and development inputs as defined in the Product Definition Document.

Results will be reviewed, via the Verification phase review, and necessary actions recorded, implemented, recorded again, reviewed and if satisfactory, documented and held with the relevant project file.

Procedures: BDP606 – Software Numbering, Archiving & Releasing
BDP610 – Software Test Plans & Master Test Scripts
BDP613 – The Project File
BDP614 – Product Definition Documents
BDP621 – Specification & Drawing Control
BDP631 – Project Control

7.3.6 **Design & development validation**

The R & D Director will appoint suitably qualified personnel to write specific product, chemical product, and / or software validation / test plans, in accordance with procedure BDP631.

Validation of associated product manuals, (if applicable), will be included.

Validation will take place prior to product release.

Validation results will be reviewed, via the Validation & Launch Readiness phase review and necessary actions recorded, implemented, recorded again, reviewed and if satisfactory, documented and held with the relevant project file.

Procedures: BDP610 – Software Test Plans & Master Test Scripts
BDP613 – The Project File
BDP631 – Project Control
BSM708 – Market Readiness Review
BMT327 – Production Readiness Review

7.3.7 **Control of design & development changes**

Such changes will be identified normally, but not be limited to individual design phase reviews, which reviews will record changes, review, verify and validate as required, with due regard for the impact upon previously validated elements of the project.

Procedures: BDP622 - Modifications
BDP631 – Project Control

7.4 **PURCHASING**

7.4.1 **Purchasing Process**

This section describes the way in which the company ensures purchased product conforms to specified requirements.

7.4.2 **Purchasing Information**

Purchasing documents will contain a clear description of the product or service ordered.

Descriptions will contain, as appropriate, drawing references, catalogue numbers, identification codes and titles, grades, styles, process and skill requirements, inspection instructions, packing instructions and associated quality system requirements.

All purchasing documents will be reviewed prior to release to the sub-contractor.

Procedures: BPL505 – Purchasing – Production Material
BPL507 – Amendments to Purchase / Sales Orders
BPL509 – Purchasing Alternative Parts

7.4.3 **Verification of Purchased Product**

All sub-contractors will be evaluated to determine their ability to meet specified requirements; approval will take the form of an initial evaluation followed by regular performance monitoring.

The sub-contractor's quality system and any specific quality assurance criteria will be observed and noted.

A schedule of all approved sub-contractors will be maintained.

Procedure: BPL508 – Supplier Selection

7.5 **PRODUCTION & SERVICE PROVISION**

7.5.1 **Control of production & service provision**

All production activities, including labelling and packing will be planned and defined prior to execution, by means of customer requirement specifications, work instructions, process requirements, drawing references, standards, specifications, control plans, the company integrated business system, and measuring and monitoring criteria.

Procedures:

BMT304 – Manufacturing Control

BMT310 – Serial no, packing, manufactured chemical, labelling and CD printing

BMT327 – Production Readiness Review

BPE810 – Software Control

7.5.2 **Validation of processes for production & service provision**

Production activities will be monitored by means of stage and final test / inspection.

Special processes which can not always be verified by inspection and testing, will be carried out by competent, trained personnel, under defined and controlled conditions, and will be monitored and reviewed.

Procedures: BMT304 – Manufacturing Control
BPE811 – Handling of Electro static devices
BTR201 –Identification of Training Needs.

7.5.3 Identification & Traceability

All products and sub-assemblies are identified throughout the production process.

Identification is achieved by direct identification, (ie. a serial number), by location identification, (storage bins / vessels), and / or by use of associated documentation.

All chemical products are to be allocated unique batch numbers, which allow traceability to constituent parts. Lot traceability procedure BMT313 specifies actions to be taken throughout manufacturing, storage and shipping processes, to ensure maintenance of traceability.

Procedures: BMT303 – Storage & Handling
BMT304 – Manufacturing Control
BMT305 – Testing of Sub assemblies
BMT313 – Traceability
BMT314 – Issues from Stores
BMT323 – Unplanned Receipts into Stock
BPE803 – Change of Build-files
BPE804 – Control of Build-files
BPE805 – EPROM Replication & Issue Control
BPE812 – Updating Serial Number Data
BMT326 – CD ROM Replication & Issue Control
BMT328 – Control of Chemical Build / Method Files
BMT329 – Writing of Chemical Build / Method Files
BMT330 – Change of Chemical Build / Method Files

7.5.4 Customer Property

All customer supplied material and / or instruments and accessories, will be identified as such upon receipt, inspected for transit damage, quantity delivered, and the presence of appropriate documentation.

Procedure: BMT315 – Control of Customer Supplied Material

7.5.5 Preservation of Product

This section describes the manner in which product quality and identification is maintained during all stages of handling, storage, packaging and preservation.

The processes and criteria are defined as follows:-

Procedures: BMT303 – Storage and Handling
BMT304 – Manufacturing Control
BMT314 – Issues from Stores
BMT323 – Unplanned receipts into stock
BMT311 – Manufacturing Static Protection

7.6 CONTROL OF MONITORING & MEASURING DEVICES

All inspection, measuring, test equipment, and test software that is used to demonstrate a product's conformance to specification is calibrated to establish its measurement uncertainty.

Test hardware such as jigs and fixtures, used as a form of inspection, are checked at prescribed intervals, to ensure that it is not damaged and is suitable for use.

Records are kept and maintained of all calibration and checks carried out.

Equipment that needs to be calibrated or checked is identified by a positive recall system and is made available for recalibration or check on or before its calibration due date.

The processes and criteria are defined as follows:-

Procedure: BMT324 – Preventive Maintenance & Housekeeping Instructions
QSM405 – Calibration & Checking of Manufacturing Aids

8.0 MEASUREMENT, ANALYSIS & IMPROVEMENT

8.1 General

The company shall implement monitoring, measurement, analysis and improvement processes required to ensure product conformity, to ensure overall conformity and improvement of the effectiveness of the quality system.

8.2 Monitoring & measurement

8.2.1 Customer satisfaction

The company will monitor performance in respect of satisfying customer requirements by means of a review of the established quality objectives at a management review.

Procedure: BSM715 – Customer Complaints
QSM411 – Internal Complaints

8.2.2 Internal audit

An audit programme will be maintained to ensure that all aspects of the Quality Management System are audited; the frequency of audits will be determined according to the results of previous audits and the significance of individual system activities. All aspects of the Quality Management System will be audited at least one per year, by means of a "process" driven audit.

The processes and criteria are defined as follows:-

Procedure: QSM412 – Internal Quality Audits

8.2.3 **Monitoring & measurement of processes**

Wherever possible, the company shall monitor all significant processes for effectiveness, by means of internal audit, and other key performance activity / reporting, such that process outputs contribute meaningfully to defined company quality objectives.

Procedure: QSM412 – Internal Quality Audits

8.2.4 **Monitoring & measurement of product**

All material used in company products has been verified as conforming to specified requirements.

No products are released from the company without the appropriate quality criteria being satisfactorily completed.

Manufacturing operate a system of operator control, all operators being trained and authorised to perform quality controls on products that they produce.

All chemical products are only quality tested by appropriately trained and qualified chemical quality personnel.

Procedures: BMT301 – Goods Receiving
BMT302 – Straylight Turret & Holmium Filters
BMT304 – Manufacturing Control
BMT305 – Testing of Sub-assemblies
QSM403 – Optical Absorbance Filters
QSM408 – Quality Records

8.3 **Control of nonconforming product**

All non-conforming products will be identified and segregated by labels and location.

In exceptional circumstances, non-conforming product and / or materials may be used by the approval of a concession note. A concession will only be authorised when the non-conformity will not detract from the performance of the product.

The processes and criteria are defined as follows:-

Procedures: BMT316 – Control of Non-conforming Product
QSM407 – Concessions
QSM413 – Product Recall
QSM415 – Sales Stop

Special consideration must be given to nonconforming product bearing the notified body registration number 0088.

The processes and criteria are defined in the following procedures:-

Procedures: BMT316 – Control of Non-conforming Product
QSM413 – Product Recall
QSM415 – Sales Stop
BSM715 – Customer Complaints

8.4 Analysis of data

The company shall devise suitable and effective methods for analysing appropriate data, collated from processes and key performance indicators, contributing to the overall effectiveness of product and improvement of the quality management system.

Procedures defining processes from which data is most likely to be collated are:-

Procedures: BMT304 – Manufacturing Control
BPL508– Supplier Selection
BSM715 – Customer Complaints
QSM410 – Corrective Action
QSM411 – Internal Complaints

8.5 Improvement

8.5.1 Continual improvement

The company shall continually improve the effectiveness of the quality system by means of effective analysis of key performance indicators and external measures such as customer complaints, by means of regular management review, which shall determine the effectiveness of current measures and outline the need for implementation of action plans.

Procedures: BSM715 – Customer Complaints
QSM409 – Management Review
QSM410 – Corrective Action
QSM411 – Internal Complaints

8.5.2 **Corrective action**

Manufacturing processes, concessions, service reports (if available), and customer complaints will be analysed in order that trends may be highlighted, and necessary actions be planned and implemented to prevent recurrence.

Corrective action resulting from the analysis of the above data sources, will be handled by the corrective action procedure, and if necessary the modification procedure.

Procedures: BDP 622 – Modifications
BSM715 – Customer Complaints
BSS907– Modifications Strike Level Register
BSS908– Returns & Repair System
QSM407 – Concessions
QSM410 – Corrective Action
QSM411 – Internal Complaints
QSM413 – Product Recall
QSM415 – Sales Stop

8.5.3 **Preventive action**

Periodically, an analysis of nonconformity will be undertaken to determine suitable preventive measures to prevent actual or potential non-conformities. Sources to be used will be supplier deficiencies, internal rejects, concessions, customer complaints and internal audit reports.

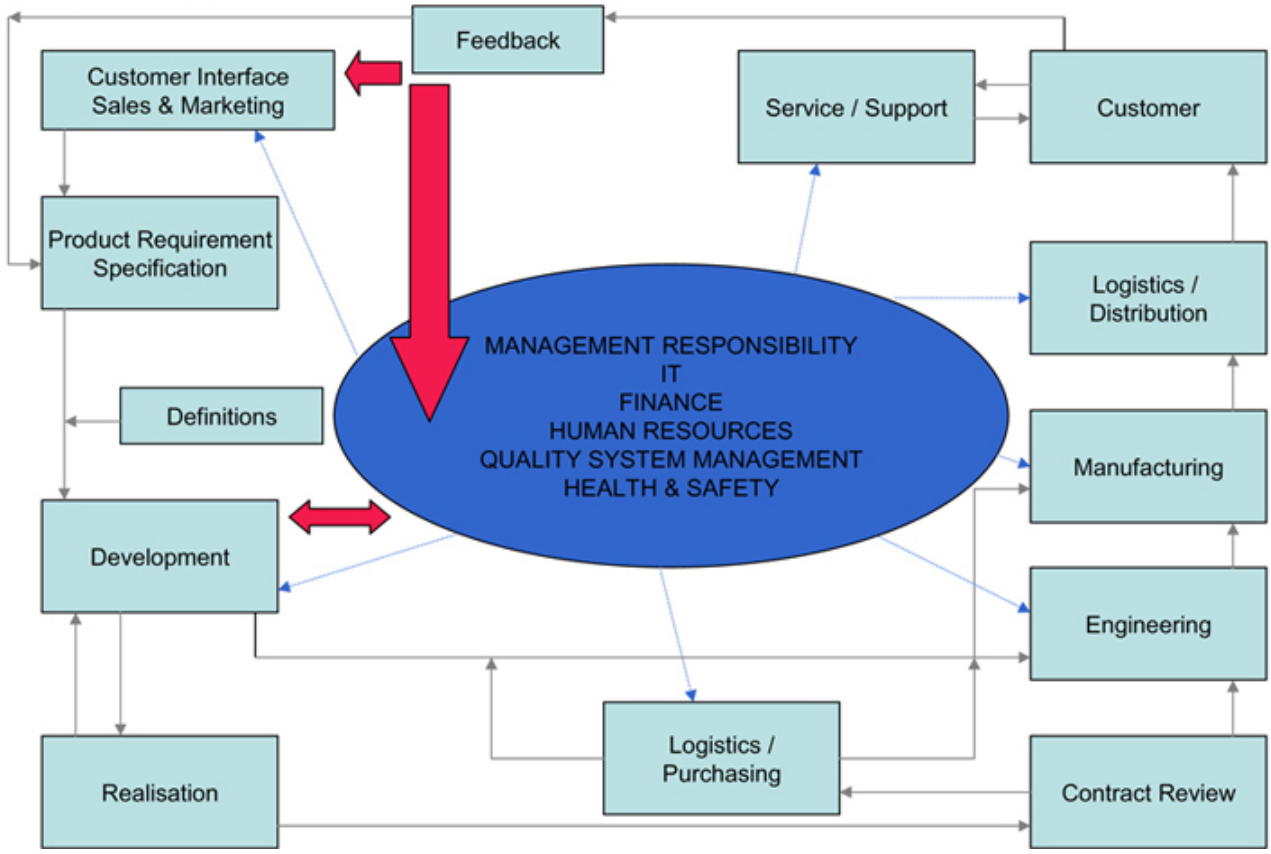
Where preventive measures analysis results in procedure change, changes will be highlighted in the normal way to appropriate personnel, with the reasons for the change.

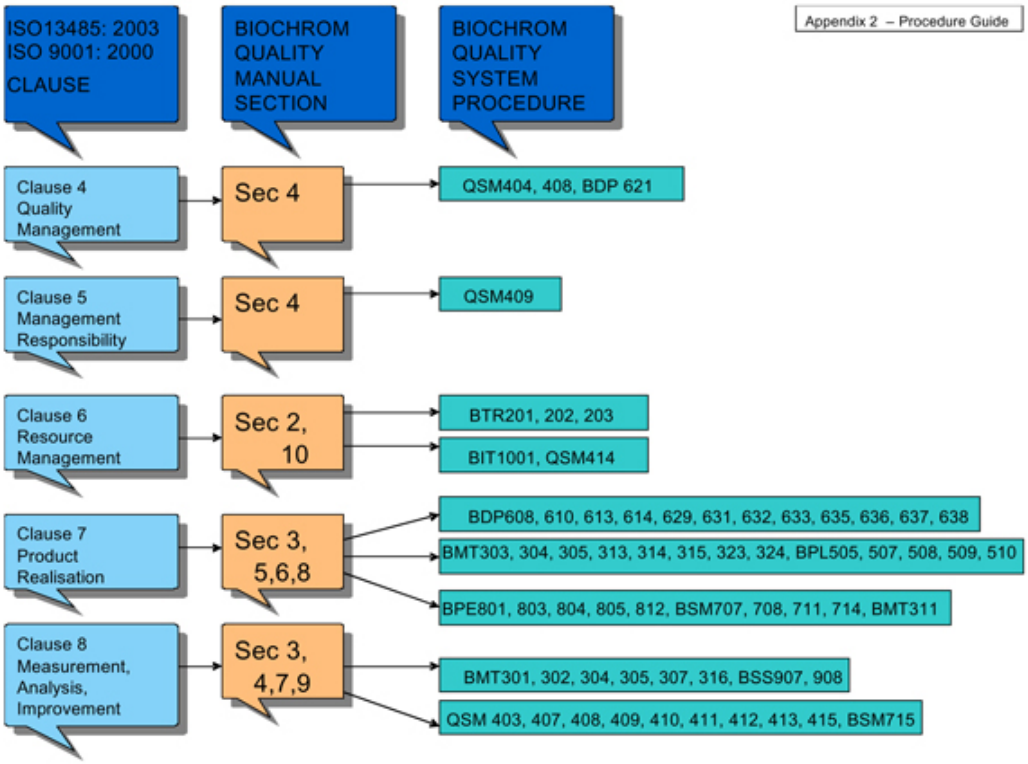
Actions implemented will be reviewed for effectiveness via the internal audit process.

Procedures: BPL508 – Supplier Selection
BSM715 – Customer Complaints
QSM407 – Concessions
QSM410 – Corrective Action
QSM411 – Internal Complaints
QSM412 – Internal Quality Audits
QSM414 – H&S Management Audit
Company H&S Procedures
Company H&S Risk Assessments

It is to be noted that H&S Procedures and Risk Assessments are not ISO controlled documents, but are subject to an ISO procedure review in respect of H&S, and management review.

Appendix 1 – Process Path




ISO13485: 2003
ISO 9001: 2000
CLAUSE
BIOCHROM QUALITY MANUAL SECTION
BIOCHROM QUALITY SYSTEM PROCEDURE
Clause 4 Quality Management
Sec 4
QSM404, 408, BDP 621
Clause 5 Management Responsibility
Sec 4
QSM409
Clause 6 Resource Management
Sec 2, 10
BTR201, 202, 203
BIT1001, QSM414
Clause 7 Product Realisation
Sec 3, 5,6,8
BDP608, 610, 613, 614, 629, 631, 632, 633, 635, 636, 637, 638
BMT303, 304, 305, 313, 314, 315, 323, 324, BPL505, 507, 508, 509, 510
BPE801, 803, 804, 805, 812, BSM707, 708, 711, 714, BMT311
Clause 8 Measurement, Analysis, Improvement
Sec 3, 4,7,9
BMT301, 302, 304, 305, 307, 316, BSS907, 908
QSM 403, 407, 408, 409, 410, 411, 412, 413, 415, BSM715

Attachment K
OEM Addendum

This OEM Purchase Addendum (this "Addendum"), effective as of the date of last signature affixed below ("Effective Date"), is made by and between the General Electric Company, a corporation organized under the laws of the state of New York, acting through its GE Healthcare business ("GE Healthcare"), and Biochrom Limited ("Biochrom"). ***This Addendum forms a part of that certain Strategic Supplier Alliance Agreement, dated even date herewith (the "Agreement"), by and between GE Healthcare and Biochrom.***

1. Defined Terms. Capitalized terms used herein but not otherwise defined herein shall have the meanings assigned to such terms in the Agreement.

2. General. This Addendum specifies additional terms and conditions under which Biochrom will sell, license and support the Products. The Products are regarded as "Original Equipment Manufacturer" products that will be sold separately or incorporated into other GE Healthcare products for resale in the Territory under GE Healthcare's private label. The Products and the GE Healthcare products with which the Product may be incorporated will be marketed, sold, serviced, and supported by GE Healthcare's field organization and channel partners, subject to the marketing, sales, service, and support obligations of Biochrom under this Addendum and the Agreement. In the event of conflict between this Addendum and any other terms or conditions of the Agreement or any Attachment thereto, the Agreement shall control.

3. Marketing Rights Warranty. Biochrom warrants that it has the unrestricted right to manufacture, sell, service, market, and deliver to GE Healthcare in the Territory the Products, including any replacement parts, components or sub-assemblies for the Products. Further, Biochrom hereby warrants that it is under no restriction, and that it will not assume or assert any such restriction, which would prevent GE Healthcare and its affiliates from marketing the Products anywhere in the Territory.

4. Private Labeling. Biochrom will ensure that the Products contain the GE Healthcare Marks (as such term is later defined herein), lot number and packaging specified by GE Healthcare and conforming to GE Healthcare specifications for external appearance (which will not require any material change in form or dimensions of the Products or require commercially unreasonable actions). Except as provided herein, Supplier will have no other right or license in any GE Healthcare Marks. Private labeling of the Products shall include but shall not be limited to: (1) manuals with the GE Healthcare format, logo and font; (2) GE Healthcare logos in all user interface and screens; (3) GE Healthcare logo for the main system rating / ID plate; and (4) "Made for GE Healthcare" labels on all components with a rating/ID plate.

5. Country of Origin Marking. Biochrom will mark each Product, or the container if there is no room on the Product, with the country of origin. Biochrom will, in marking Products, comply with the requirements of the customs authorities of the country of receipt.

6. Documentation License. Biochrom hereby grants GE Healthcare a non-exclusive, non-transferable, fully paid up license to use, reproduce, distribute and prepare derivative works in GE Healthcare's name all documentation and other information related to the Products prepared by Biochrom, other than Confidential Information, furnished by Biochrom under the Agreement. GE Healthcare has the right to use or modify Biochrom's Product documentation or excerpts therefrom, for instance as follows: Functional description, Instruction sheet and

product labels, Operators aids, Promotion information, and Product/Function description. Biochrom shall provide GE Healthcare with this Product documentation free of charge both as a print version and on data media in readable form. These rights with respect to such documentation will extend to GE Healthcare and its affiliates, distributors, sub-distributors, field organization, channel partners, and customers or users of the Products or GE Healthcare products incorporating the Products ("Eligible Persons"). GE Healthcare may reproduce such documentation without Biochrom's logo or other identification of source, subject to affixing copyright notices to all copies of documentation.

7. No Rights In Marks. Except as otherwise specified in the private labeling section above, nothing in the Agreement or this Addendum should be construed to grant either party any rights in the trademarks, trade names or service marks of the other party. Biochrom acknowledges, however, that GE Healthcare may use the name of the Products in advertising and marketing the Products or any GE Healthcare product that incorporates the Product. In addition, GE Healthcare will be able to use Biochrom's trademarks on GE Healthcare's website and for use with any documentation or marketing materials for the Product. The Products will be affixed with copyright notices sufficient to give notice as to the rights of the parties in their respective products.

8. Software/Firmware. The price for any Products purchased under the Agreement includes a perpetual, paid-up, worldwide, irrevocable license to GE Healthcare and Eligible Persons to distribute, copy, have copied, license, sub-license and use in the marketing, distribution, sale, operation, support, maintenance and repair of the Products, any software and/or firmware supplied by Biochrom to GE Healthcare or incorporated into, or included or bundled with, the Product, including updates to such software or firmware. Biochrom hereby grants to GE Healthcare all sublicense rights required to market and sell the Products in accordance with the Agreement. All rights granted hereunder shall survive any termination of the Agreement as long as the applicable party remains in compliance with the terms of use for such Products. Nothing in the Agreement shall be construed as a sale of any rights in the software. Biochrom shall promptly make available to GE Healthcare (and at least simultaneously to the time it makes similar updates available to other customers or distributors of its products that use similar software or firmware) all updates relating to such software or firmware, including detailed descriptions and installation instructions.

9. Non-recurring Engineering Costs. Biochrom shall provide at no charge to GE Healthcare reasonable engineering support, including support for integration efforts of the Products with the GE Healthcare product, unless otherwise agreed to in writing by the parties.

10. Parts Pricing. During the Term and until the end of the seven (7) year following the last shipment of a Product under the Agreement, the prices for any replacement parts, components or sub-assemblies of the Products (to the extent not otherwise provided pursuant to an applicable warranty obligation) will be Biochrom's published prices, less a discount of [***], unless the parties otherwise agree to a price schedule for such items.

11. Duty To Remove Marks Or Destroy Noncomplying Products. Biochrom agrees not to sell, transfer, distribute, or otherwise convey any part, component, Product or service bearing or incorporating any GE Healthcare trademark, trade name or service mark, part numbers or other identifiers, including any GE Healthcare packaging, copyrights or code ("GE Healthcare Marks"), to any party other than to GE Healthcare or any affiliate of GE Healthcare. Biochrom will remove from all rejected, returned or unpurchased Products, which are not intended to be

returned to GE Healthcare any such GE Healthcare Marks, even if such removal would require destruction of the Products. Biochrom further agrees not to represent that such Products are built for GE Healthcare or to GE Healthcare specifications. Biochrom will defend and indemnify GE Healthcare against any claims, losses, liabilities, costs or expenses that GE Healthcare may incur as a result of Biochrom's breach of this obligation.

12. Shortages. In the event of a shortage or shortages in allocated quantities of components, common to Biochrom's other product lines and utilized in the manufacture of the Product, Biochrom agrees to allocate components to GE Healthcare, based on the proportional share of GE Healthcare's prior six months of shipments.

13. Service Availability. Biochrom agrees to make its service personnel available to GE Healthcare personnel (via phone, e-mail and/or fax) during regular business hours at no cost to GE Healthcare to address support obligations under the Agreement. If required, on an emergency basis, Biochrom agrees on a worldwide basis to make on-site service available at an additional charge to GE Healthcare. The cost for on-site service shall be determined on a case-by-case basis.

14. Training. GE Healthcare maintains the right to train its service organization with respect to installation, operation, maintenance and repair of the Products, as deemed appropriate by GE Healthcare, while maintaining full warranty benefits provided by Biochrom. This in no way obligates Biochrom to warranty instruments damaged by GE Healthcare personnel.

15. Requests for Service. All requests for service from customers shall be directed to GE Healthcare, who may arrange for the customer to ship the applicable Product directly to Biochrom. Biochrom will repair and return Product in accordance with GE Healthcare instructions and Biochrom will bill GE Healthcare. The rates for service shall be agreed upon from time-to-time by GE Healthcare and Biochrom.

16. Product Certification.

    (i) Biochrom shall manufacture the Products in strict conformance with all agreed applicable requirements, such as CE Marking, UL, IEC, CSA, MHLW, CCC, or equivalent applicable regulatory body, each as may be modified from time to time, and maintain the same at Biochrom's sole expense. Unless agreed to otherwise in writing, if a party proposes a change in purchase specification, that party shall be responsible for any additional Product certification or regulatory approval costs that may be necessary. See the Compliance section of Attachment B.

    (ii) Upon GE Healthcare's request, Biochrom shall provide GE Healthcare, GE Healthcare's notified body, or the appropriate regulatory authority, with a copy of all regulatory certification reports including, but not limited to, technical documentation (set up according to Annexes II.4, or III from EU Directives 90/385/CEE- 93/42/CEE; Annexe VII from Directive 93/42/CEE; the annexe from Directive 2003/32/CE; and Annexe III from Directive 98/79/CE). Biochrom shall also comply, at its own costs, with international quality standards ISO9001:2000 as may be modified from time to time.

17. Provision of Information by Biochrom. Biochrom shall, at the request of GE Healthcare, provide GE Healthcare with all relevant information on Product reliability and performance, at no cost to GE Healthcare.

18. Regulatory Approvals and other Governmental Registrations. Biochrom shall be solely responsible for identifying, obtaining, and maintaining at its sole cost and expense all applicable clearances and approvals that are required for the development, manufacture, or sale of any Product in the United States, Sweden and Japan, and Biochrom represents and warrants that it has obtained all such approvals for any Product existing as of the Effective Date. For countries Biochrom does not hold regulatory approvals for, test reports and all necessary data to meet the country specific regulatory requirements have to be prepared and made available to GE Healthcare on request, and GE Healthcare shall apply, in its name and at its cost, for all governmental registrations required for GE Healthcare to market Products during the Term as a distributor in such countries, unless the applicable laws of a particular country require that such registrations be obtained by and in the name of the manufacturer of the applicable product, in which event Biochrom shall apply for such approvals at GE Healthcare's cost. Biochrom shall reasonably cooperate with GE Healthcare in its efforts to obtain such approvals. Biochrom agrees that GE Healthcare shall have access to all of Biochrom's non-confidential regulatory submissions for the Products to the extent necessary to exercise its rights or fulfill its obligations hereunder.

19. Complaint Handling. GE Healthcare will be responsible for the coordination of customer complaint investigations. As determined by GE Healthcare, Biochrom will investigate customer complaints at no charge and supply GE Healthcare with a written report summarizing the cause for the complaint and any corrective actions required within 14 days of receipt by Biochrom of such complaint, it being understood that, depending on the nature of the complaint and investigation, the initial (14-day) response may be limited in scope and then followed up by a complete response as soon as reasonably practicable thereafter.

20. Recalls and Field Corrections. In the event of any recall, product withdrawal or field correction of any Product that is required the parties agree that (a) they shall promptly notify each other and (b) they shall fully cooperate with each other concerning the necessity and nature of such action. GE Healthcare shall be the point of contact for purchasers of any Product (whether directly or through its distributors) and for coordination of any recall or field correction activities involving such Products. In the event that any Product requires field correction or is recalled as a result of (a) the supply by Biochrom of any Product not complying with the terms and conditions of the Agreement (including all representations, covenants, and warranties included in the Agreement) or (b) the negligent or intentionally wrongful act or omission of Biochrom or its affiliates or their representatives, then Biochrom shall bear all costs and expenses, including but not limited to the costs and expenses related to such recall or field correction, communications and meetings with all required regulatory agencies, replacement stock, service labor, installation, travel, notifying customers of such recall and any replacement product to be delivered to those same customers, including shipping costs. To the extent that any such recall or field correction is due in part to the negligent or intentional acts or omissions of GE Healthcare, GE Healthcare shall be responsible for such costs and expenses equitably in proportion to its fault.

21. Third-Party Infringement. In the event there is infringement by a third party of any Biochrom patent for the Product ("Third Party Infringement") and GE Healthcare becomes aware of such infringement, GE Healthcare may give Biochrom written notice to that effect, including with such written notice evidence establishing a prima facie case of infringement by such third party.

Biochrom shall bear all expenses of any suit brought by it based upon such infringement and shall retain all damages or other monies awarded or received in settlement of such suit. If, after the expiration of ninety (90) days from the date of such notice, Biochrom has not obtained a discontinuance of such infringement or brought suit against the third party infringer, then the parties shall appoint by mutual agreement an attorney with at least 15 years experience in litigating patent infringement lawsuits in the United States, who is a partner at a law firm with a nationally recognized intellectual property practice and who has no prior relationship with either party ("Independent Patent Counsel"). Such Independent Patent Counsel shall evaluate the identified Third Party Infringement and advise the parties in writing by not later than 60 days after his or her appointment whether he or she believes there is a reasonable likelihood of success in pursuing a claim for the Third Party Infringement. The cost of Independent Patent Counsel shall be shared equally by the parties. If Independent Patent Counsel determines that there is a reasonable likelihood of success and by the 30th day after such advice Biochrom has still not obtained a discontinuance of such infringement or brought suit against the third party infringer, then GE Healthcare shall have the right, but not the obligation, to bring suit against such infringer. Biochrom will cooperate with GE Healthcare in any such suit for infringement brought by GE Healthcare against such third party, and shall have the right to consult with GE Healthcare and to participate in and be represented by independent counsel in such litigation at its own expense. GE Healthcare shall bear all expenses of such suit, and shall retain any damages or other monies awarded or received in consequence of such litigation.

22. Lifetime Buy Rights. Biochrom acknowledges its obligation to manufacture, supply and support the Products without interruption for the Term. If, however, after the third year of shipment of such Products, Biochrom seeks to discontinue the supply or support of any Product (a "Discontinued Product"), Biochrom will give notice to GE Healthcare no less than six months in advance of the last date the Discontinued Product can be ordered. After receipt of notice of discontinuance, GE Healthcare may Purchase from Supplier such quantity of the Discontinued Product as GE Healthcare deems necessary for its future requirements.

23. In the event GE Healthcare decide to cease selling one of its products, GE Healthcare will give Biochrom no less than six months' advance written notice.

24.

IN WITNESS WHEREOF, the undersigned have executed this Addendum as of the Effective Date.

Biochrom Limited	GE Healthcare Bio-Sciences Corp.
By: /s/ James G Heffernan	By: /s/ Jan Erneberg
Name: James G Heffernan	Name: Jan Erneberg
Title: Managing Director	Title: MD
Date: February 21, 2008	Date: March 27, 2008

EXHIBIT 31.1

Certification

I, Thomas McNaughton, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: February 19, 2009

/s/ Thomas McNaughton

Thomas McNaughton
Chief Financial Officer & Principal Accounting Officer

EXHIBIT 31.2

Certification

I, Chane Graziano, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: February 19, 2009

/s/ Chane Graziano

Chane Graziano
Chief Executive Officer

EXHIBIT 32.1

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

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies to his knowledge that the Company's quarterly report on Form 10-Q/A for the quarterly period ended June 30, 2008 to which this certification is being furnished as an exhibit (the "Report"), as filed with the Securities and Exchange Commission on the date hereof, fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. This certification is provided solely pursuant to 18 U.S.C. Section 1350 and Item 601(b)(32) of Regulation S-K ("Item 601(b)(32)") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act. In accordance with clause (ii) of Item 601(b)(32), this certification (A) shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and (B) shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Date: February 19, 2009

/s/ Thomas McNaughton

Name: Thomas McNaughton
Title: *Chief Financial Officer & Principal Accounting Officer*

EXHIBIT 32.2

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

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies to his knowledge that the Company's quarterly report on Form 10-Q/A for the quarterly period ended June 30, 2008 to which this certification is being furnished as an exhibit (the "Report"), as filed with the Securities and Exchange Commission on the date hereof, fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. This certification is provided solely pursuant to 18 U.S.C. Section 1350 and Item 601(b)(32) of Regulation S-K ("Item 601(b)(32)") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act. In accordance with clause (ii) of Item 601(b)(32), this certification (A) shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and (B) shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Date: February 19, 2009

/s/ Chane Graziano

Name: Chane Graziano
Title: Chief Executive Officer