

FORM 10-Q
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2001

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 1-12830

BioTime, Inc.
(Exact name of registrant as specified in its charter)

California 94-3127919
(State or other jurisdiction of incorporation (IRS Employer
or organization) Identification No.)

935 Pardee Street
Berkeley, California 94710
(Address of principal executive offices)

(510) 845-9535
(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 X 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. 11,579,312 common shares, no par value, as of August 14, 2001.

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PART 1--FINANCIAL INFORMATION

Statements made in this Report that are not historical facts may constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those discussed. Such risks and uncertainties include but are not limited to those discussed in this report under Item 1 of the Notes to Financial Statements, and in BioTime's Annual Report on Form 10-K filed with the Securities and Exchange Commission. Words such as "expects," "may," "will," "anticipates," "intends," "plans," "believes," "seeks," "estimates," and similar expressions identify forward-looking statements.

Item 1. Financial Statements

BIOTIME, INC,
(A Development Stage Company)

CONDENSED BALANCE SHEETS
(Unaudited)

ASSETS	June 30, 2001	December 31, 2000
	-----	-----
CURRENT ASSETS		
Cash and cash equivalents	\$ 192,973	\$ 1,318,338
Prepaid expenses and other current assets	261,873	122,648
	-----	-----
Total current assets	454,846	1,440,986
EQUIPMENT, Net of accumulated depreciation of \$388,133 and \$352,104	195,686	226,598
DEPOSITS AND OTHER ASSETS	9,900	9,900
	-----	-----
TOTAL ASSETS	\$ 660,432	\$ 1,677,484
	=====	=====

LIABILITIES AND SHAREHOLDERS' EQUITY

CURRENT LIABILITIES

Accounts payable and accrued liabilities	\$ 330,561	\$ 359,749
Note Payable	500,000	
	-----	-----
Total current liabilities	830,561	359,749
COMMITMENTS		
SHAREHOLDERS' EQUITY (DEFICIT):		
Preferred Shares, no par value, undesignated as to Series, authorized 1,000,000 shares; none outstanding		
Common Shares, no par value, authorized 40,000,000 shares; issued and outstanding 11,426,604 and 10,891,031	28,943,906	28,360,007
Contributed Capital	93,972	93,972
Deficit accumulated during development stage	(29,208,007)	(27,136,244)
	-----	-----
Total shareholders' equity	(170,129)	1,317,735
	-----	-----
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	\$ 660,432	\$ 1,677,484
	=====	=====
See notes to condensed financial statements		

BIOTIME, INC.
(A Development Stage Company)

CONDENSED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended		Six Months Ended		Period from Inception
	June 30, 2001	June 30, 2000	June 30, 2001	June 30, 2000	(November 30, 1990) to June 30, 2001
	-----	-----	-----	-----	-----
REVENUE:					
License Fee	\$ --	\$ --	\$ --	\$ --	\$ 2,500,000
Royalty	29,958	7,387	62,653	13,119	122,841
	-----	-----	-----	-----	-----
Total revenue	\$ 29,958	\$ 7,387	62,663	13,119	\$ 2,622,841
	-----	-----	-----	-----	-----
EXPENSES:					
Research and development	(541,894)	(930,147)	(1,095,786)	(1,840,077)	(21,041,136)
General and administrative	(613,490)	(448,713)	(1,050,487)	(924,181)	(12,516,872)
	-----	-----	-----	-----	-----
Total expenses	(1,156,384)	(1,378,860)	(2,146,273)	(2,764,258)	(33,558,008)
	-----	-----	-----	-----	-----
INTEREST AND OTHER INCOME:	5,402	41,712	11,857	101,431	1,751,991
	-----	-----	-----	-----	-----
NET LOSS	\$ (1,120,024)	\$ (1,329,761)	\$ (2,071,763)	\$ (2,649,708)	\$(29,183,176)
	=====	=====	=====	=====	=====
BASIC AND DILUTED NET LOSS PER SHARE	\$ (0.10)	\$ (0.12)	\$ (0.18)	\$ (0.24)	
	=====	=====	=====	=====	
COMMON AND EQUIVALENT SHARES USED IN COMPUTING NET LOSS PER SHARE AMOUNTS:					
BASIC AND DILUTED	11,566,691	10,892,247	11,455,350	10,892,022	
	=====	=====	=====	=====	

See notes to condensed financial statements

BIOTIME, INC.
(A Development Stage Company)

STATEMENTS OF SHAREHOLDERS' EQUITY

	Series A Convertible Preferred Shares		Common Shares		Contributed Capital	Deficit Accumulated During Development Stage
	Number of Shares	Amount	Number of Shares	Amount		
BALANCE, November 30, 1990 (date of inception)	--	--	--	--	--	--
NOVEMBER 1990 - JUNE 1991						
Common shares issued for cash			1,312,758	\$ 263		
Common shares issued for stock of a separate entity at fair value			1,050,210	137,400		
Contributed equipment at appraised value					\$ 16,425	
Contributed cash					77,547	
Common shares issued for cash less offering costs			101,175	54,463		
Common shares issued for stock of a separate entity at fair value			100,020	60,000		
JULY 1991 - JUNE 1992						
Common shares issued for services performed			30,000	18,000		
Preferred shares issued for cash less offering costs of \$125,700	360,000	\$474,300				
JULY 1992 - JUNE 1994						
Common shares issued for cash less offering costs of \$1,015,873			2,173,500	4,780,127		
Preferred shares converted into common shares	(360,000)	(474,300)	360,000	474,300		
Dividends declared and paid on preferred shares						\$(24,831)
Common shares issued for cash less offering costs of \$865,826			2,805,600	3,927,074		
JULY 1994 - JUNE 1995:						
Common shares repurchased with cash			(253,800)	(190,029)		
JULY 1995-JUNE 1996:						
Common shares issued for cash			608,697	1,229,670		
Common shares repurchased with cash			(18,600)	(12,693)		
Common shares warrants and options granted for services				356,000		
See notes to financial statements.						(Continued)

BIOTIME, INC.
(A Development Stage Company)

STATEMENTS OF SHAREHOLDERS' EQUITY

(Continued)

	Series A Convertible Preferred Shares		Common Shares		Contributed Capital	Deficit Accumulated During Development Stage
	Number of Shares	Amount	Number of Shares	Amount		
JULY 1996 - JUNE 1997:						
Common shares issued for cash less offering costs of \$170,597			849,327	5,491,583		
Common shares issued for cash (exercise of options and warrants)			490,689	1,194,488		
Common shares warrants and options granted for service				105,000		
JULY 1997 - JUNE 1998:						
Common shares issued for cash (exercise of options)			337,500	887,690		
Common shares warrants and options granted for service				38,050		
Common shares issued for services			500	6,250		
JULY 1998 - DECEMBER 1998:						
Common shares issued for cash (exercise of options and warrants)			84,000	395,730		
Common shares options granted for services				50,000		
Common shares issued for services			1,500	18,750		
NET LOSS						(16,706,505)
BALANCE AT DECEMBER 31, 1998	-	-	10,033,076	19,022,116	93,972	(16,731,336)
Common shares issued for cash (less offering costs of \$128,024)						
			751,654	7,200,602		
Common shares issued for cash and exchange for 2,491 common shares which were canceled (exercise of options)						
			65,509	199,810		
Common shares issued for services						
			792	9,900		
Common shares warrant donated						
				552,000		
Common shares issued for cash (exercise of warrant)						
			40,000	20,000		
Options granted for services						
				195,952		
NET LOSS						(5,479,884)
BALANCE AT DECEMBER 31, 1999	-	-	10,891,031	27,200,380	93,972	(22,211,220)

See notes to financial statements.

(Continued)

BIOTIME, INC.
(A Development Stage Company)

STATEMENTS OF SHAREHOLDERS' EQUITY

(Continued)

	Series A Convertible Preferred Shares		Common Shares		Contributed Capital	Deficit Accumulated During Development Stage
	Number of Shares	Amount	Number of Shares	Amount		
Common Shares issued for services			17,661	131,525		
Exercise of Options			51,000	51,000		
Exercise of Warrants (less issuance cost of \$36,176)			466,912	864,964		
Options granted for services				112,138		
NET LOSS						(4,925,024)
BALANCE AT DECEMBER 31, 2000	-	-	11,426,604	28,360,007	93,972	(27,136,244)
Common Shares issued for services - unaudited		16,941	131,175			
Common shares issued for cash and exchange for 5,590 common shares which were canceled (exercise of options) - unaudited		57,949	16,500			
Exercise of warrants - unaudited		77,818	182,872			
Common shares warrants granted for services - - unaudited			254,595			
Options granted for services - unaudited			(1,243)			
NET LOSS						(2,071,763)
BALANCE AT JUNE 30, 2001	-	\$ -	11,579,312	\$28,943,906	\$ 93,972	\$ (29,208,007)

See notes to financial statements.

(Concluded)

BIOTIME, INC.
(A Development Stage Company)

CONDENSED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six Months Ended June 30,		Period from Inception (November 30, 1990) to June 30, 2001
	2001	2000	
OPERATING ACTIVITIES:			
Net loss	\$(2,071,763)	\$ (2,649,708)	\$(29,183,176)
Adjustments to reconcile net loss to net cash used in operating activities:			
Deferred Revenue	-	-	(1,000,000)
Depreciation	36,029	36,783	388,134
Cost of Donation - warrants	-	-	552,000
Cost of Services - options and warrants	197,178	67,099	1,238,743
Supply Reserves	-	-	200,000
Changes in operating assets and liabilities:			
Research and development supplies on hand	-	-	(200,000)
Prepaid expenses and other current assets	48,122	(3,948)	(74,527)
Deposits and other assets	-	-	(9,900)
Accounts payable	(29,187)	(287,342)	330,562
License fee receivables	-	-	-
Deferred revenue	-	-	1,000,000
	(1,819,621)	(2,837,116)	(26,758,164)
Net cash used in operating activities	(1,819,621)	(2,837,116)	(26,758,164)
INVESTING ACTIVITIES:			
Sale of investments	-	-	197,400
Purchase of short-term investments	-	-	(9,946,203)
Redemption of short-term investments	-	-	9,946,203
Purchase of equipment and furniture	(5,116)	(28,814)	(567,393)
	(5,116)	(28,814)	(369,993)
Net cash used in investing activities	(5,116)	(28,814)	(369,993)
FINANCING ACTIVITIES:			
Borrowings on note payable	500,000	-	500,000
Issuance of preferred shares for cash	-	-	600,000
Preferred shares placement costs	-	-	(125,700)
Issuance of common shares for cash	-	-	23,701,732
Common shares placement costs	-	-	(2,216,497)
Net proceeds from exercise of common share options and warrants	199,372	-	5,011,601
Contributed capital - cash	-	-	77,547
Dividends paid on preferred shares	-	-	(24,831)
Repurchase Common Shares	-	-	(202,722)
	699,372	-	27,321,130
Net cash provided by financing activities	699,372	-	27,321,130
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(1,125,365)	(2,865,930)	192,973
CASH AND CASH EQUIVALENTS:			
At beginning of period	1,318,338	5,292,806	--
At end of period	\$ 192,973	\$ 2,426,876	\$ 192,973

(Continued)

BIOTIME, INC.
(A Development Stage Company)

CONDENSED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six Months Ended June 30,		Period from Inception (November 30, 1990) to June 30, 2001 -----
	2001	2000	
NONCASH FINANCING AND INVESTING ACTIVITIES:			
Receipt of contributed equipment	-	-	\$ 16,425
Issuance of common shares in exchange for shares of common stock of Cryomedical Sciences, Inc. in a stock-for-stock transaction	-	-	\$ 197,400
Granting of options and warrants for services	\$ 254,595	\$ 51,999	\$ 1,129,735
Issuance of common shares in exchange for services	\$ 131,175	\$ 15,100	\$ 297,600

See notes to condensed financial statements.

(Concluded)

BIOTIME, INC.
(A Development Stage Company)

NOTES TO FINANCIAL STATEMENTS

1. GENERAL AND DEVELOPMENT STAGE ENTERPRISE

General - BioTime, Inc. (the Company) was organized on November 30, 1990 as a California corporation. The Company is a biomedical organization, currently in the development stage, which is engaged in the research and development of synthetic plasma expanders, blood volume substitute solutions, and organ preservation solutions for use in surgery, trauma care, organ transplant procedures, and other areas of medicine.

The balance sheet as of June 30, 2001, the statements of operations for the three months and six months ended June 30, 2001 and 2000 and the period from inception (November 30, 1990) to June 30, 2001, the statement of shareholders' equity for the six month period ended June 30, 2001 and the period from inception (November 30, 1990) to June 30, 2001, and the statements of cash flows for the six months ended June 30, 2001 and 2000 and the period from inception (November 30, 1990) to June 30, 2001 have been prepared by the Company without audit. In the opinion of management, all adjustments (consisting only of normal recurring adjustments) necessary to present fairly the financial position, results of operations, shareholders' equity and cash flows at June 30, 2001 and for all periods presented have been made. The balance sheet as of December 31, 2000 is derived from the Company's audited financial statements as of that date. The results of operations for the period ended June 30, 2001 are not necessarily indicative of the operating results anticipated for the full year.

Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted as permitted by regulations of the Securities and Exchange Commission. Certain previously furnished amounts have been reclassified to conform with presentations made during the current periods. It is suggested that these interim condensed financial statements be read in conjunction with the annual audited financial statements and notes thereto included in the Company's Form 10-K for the year ended December 31, 2000.

Certain Significant Risks and Uncertainties - The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Such management estimates include certain accruals. Actual results could differ from those estimates.

The Company's operations are subject to a number of factors that can affect its operating

results and financial condition. Such factors include but are not limited to the following: the results of clinical trials of the Company's products; the Company's ability to obtain United States Food and Drug Administration and foreign regulatory approval to market its products; competition from products manufactured and sold or being developed by other companies; the price of and demand for Company products; the Company's ability to obtain additional financing and the terms of any such financing that may be obtained; the Company's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products; the availability of ingredients used in the Company's products; and the availability of reimbursement for the cost of the Company's products (and related treatment) from government health administration authorities, private health coverage insurers and other organizations.

Development Stage Enterprise - Since November 30, 1990 (inception), the Company has been engaged in research and development activities in connection with the development of synthetic plasma expanders, blood volume substitute solutions and organ preservation products. The Company has limited operating revenues and has incurred operating losses of \$29,183,176 from inception to June 30, 2001. The successful completion of the Company's product development program and, ultimately, achieving profitable operations is dependent upon future events including obtaining adequate capital to finance its future development activities, obtaining regulatory approvals for the products it develops and achieving a level of revenues adequate to support the Company's cost structure.

Reclassification - Certain prior year balances have been reclassified to conform to current year presentation.

2. RECENTLY ISSUED ACCOUNTING STANDARDS

In June 1998, the Financial Accounting Standards Board (the "FASB") issued Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Instruments and Hedging Activities" ("SFAS 133"). SFAS 133, as amended, requires that every derivative instrument, including certain derivative instruments embedded in other contracts, be recorded on the balance sheet at its fair value. Changes in the fair value of derivatives are recorded each period in current earnings or other comprehensive income, depending on whether a derivative is designated as part of a hedge transaction and, if it is, the type of hedge transaction. The Company adopted SFAS 133, as amended, effective January 1, 2001. The adoption of SFAS 133, as amended, did not have a significant impact on the financial position, results of operations or cash flows of the Company as the Company had no stand-alone or embedded derivatives at June 30, 2001, and had not historically entered into any derivative transactions to hedge currency or other exposures.

In September 2000, the FASB issued SFAS No. 140, "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities." SFAS No. 140 replaces SFAS No. 125, "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of

Liabilities." It revises the standards for accounting for securitizations and other transfers of financial assets and collateral and requires certain disclosures, but carries over most of SFAS No. 125's provisions without reconsideration. The Company has adopted the applicable disclosure requirements of SFAS No. 140 in its consolidated financial statements as of March 31, 2001. Adoption of the remaining provisions of SFAS No. 140, which were effective for transactions entered into after March 31, 2001, did not have any impact on the Company's financial position or results of operations.

3. LICENSE AGREEMENT

Abbott Laboratories

In April 1997, BioTime and Abbott Laboratories ("Abbott") entered into an Exclusive License Agreement (the "License Agreement") under which BioTime granted to Abbott an exclusive license to manufacture and sell BioTime's proprietary blood plasma volume expander solution Hextend in the United States and Canada for certain therapeutic uses.

Under the License Agreement, Abbott has paid the Company \$2,500,000 of license fees based upon achievement of specified milestones. Up to \$37,500,000 of additional license fees will be payable based upon annual net sales of Hextend at the rate of 10% of annual net sales if annual net sales exceed \$30,000,000 or 5% if annual net sales are between \$15,000,000 and \$30,000,000. Abbott's obligation to pay license fees on sales of Hextend will expire on the earlier of January 1, 2007 or, on a country by country basis, when all patents protecting Hextend in the applicable country expire or any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

In addition to the license fees, Abbott pays the Company a royalty on annual net sales of Hextend. The royalty rate is 5% plus an additional .22% for each increment of \$1,000,000 of annual net sales, up to a maximum royalty rate of 36%. Abbott's obligation to pay royalties on sales of Hextend will expire in the United States or Canada when all patents protecting Hextend in the applicable country expire and any third party obtains certain regulatory approvals to market a generic equivalent product in that country.

The Company recognizes such revenues in the quarter in which a sales report is received from Abbott, rather than the quarter in which the sales took place, as the Company does not have sufficient sales history to accurately predict quarterly sales. Revenues for the three months ended June 30, 2001 consist of royalties on sales made by Abbott during the three months ended March 31, 2001. Royalties on sales made during the second quarter of 2001 will not be recognized by the Company until the third quarter.

Abbott has agreed that the Company may convert Abbott's exclusive license to a non-exclusive license or may terminate the license outright if certain minimum sales and royalty payments are not met. In order to terminate the license outright, BioTime would pay a termination fee in an amount ranging from the milestone payments made by Abbott to an amount equal to three times prior year net sales, depending upon when termination occurs. Management believes that the probability of payment of any termination fee by the Company is remote.

Horus

On February 13, 2001, BioTime, Inc. and Horus B.V. ("Horus"), a subsidiary of Akzo Nobel, N.V. ("Akzo") entered into an Exclusive License Agreement under which BioTime granted to Horus an exclusive license to manufacture and sell Hextend in all parts of the world except the United States, Canada and Japan. The agreement with Horus was terminated by BioTime during August 2001 after Horus informed BioTime that Horus would not complete necessary manufacturing and supply arrangements, and failed to pay BioTime the initial license fee required to fully implement the agreement.

4. LINE OF CREDIT

During March 2001, BioTime entered into a Revolving Line of Credit Agreement (the "Credit Agreement") with Alfred D. Kingsley, an investor and consultant to the Company, under which BioTime could borrow up to \$1,000,000 for working capital purposes at an interest rate of 10% per annum. As of June 30, 2001, \$500,000 had been drawn down on the line of credit, and the balance was drawn down subsequent to that date. The line of credit was converted to a debenture during August 2001. See Note 7.

In consideration for making the line of credit available, the Company issued to Mr. Kingsley a fully vested warrant to purchase 50,000 common shares at an exercise price of \$8.31. The fair value of this warrant, \$254,595, was determined using the Black-Scholes pricing model with the following assumptions: contractual life of five years; risk-free interest rate of 5.50%; volatility of 87.55%; and no dividends during the expected term. This amount is being amortized to interest expense and will be fully amortized in connection with the conversion of the line of credit to a debenture in August 2001.

5. SHAREHOLDERS' EQUITY

The Board of Directors of the Company adopted the 1992 Stock Option Plan (the "Plan") during September 1992. The Plan was approved by the shareholders at the 1992 Annual Meeting of Shareholders on December 1, 1992. Under the Plan, as amended, the Company has reserved 1,800,000 common shares for issuance under options granted to eligible persons. No options may be granted under the Plan more than ten years after the date the Plan was adopted by the Board of Directors, and no options granted under the Plan may be exercised after the expiration of ten years from the date of grant.

Under the Plan, options to purchase common shares may be granted to employees, directors and certain consultants at prices not less than the fair market value at date of grant for incentive stock options and not less than 85% of fair market value for other stock options. These options expire five to ten years from the date of grant and may be fully exercisable immediately, or may be exercisable according to a schedule or conditions specified by the Board of Directors or the Option Committee. As of June 30, 2001, 460,500 shares were available for future grants under the Option Plan; and options to purchase 441,461 shares had been granted and were outstanding at exercise prices ranging from \$1.13 to \$18.25. Of the options granted to consultants, options to purchase 55,000 common shares vest upon achievement of certain milestones. The Company is amortizing into compensation the estimated fair value of the options granted to consultants (\$323,163 at June 30, 2001), over the period estimated to achieve such milestones (one to two years), subject to remeasurement at the end of each reporting period. Compensation expense was recognized on these options during the three months ended June 30, 2001 of approximately \$8,000 and was recorded as research and development expense.

During April 1998, the Company entered into a financial advisory services agreement with Greenbelt Corp. The agreement provided for an initial payment of \$90,000 followed by an advisory fee of \$15,000 per month that was paid quarterly. On August 11, 2000, the Board of Directors approved the renewal of this agreement for a period of twelve months ending March 31, 2001, but instead of cash compensation Greenbelt Corp. received 30,000 common shares in four quarterly installments of 7,500 shares each. The value of the quarterly installments was recognized in the quarter they are earned. Under the agreement, upon the request of Greenbelt Corp., the Company will file a registration statement to register the shares for public sale.

6. NET LOSS PER SHARE

Basic net loss per share is computed by dividing net loss by the weighted average number of common shares outstanding during the period. Diluted loss per share reflects the potential dilution from securities and other contracts which are exercisable or convertible into common shares. Diluted loss per share for the three and six months ended June 30, 2001 exclude an aggregate of 507,193 common equivalent shares related to options and warrants, as their effect was antidilutive. As a result, there is no difference between basic and diluted calculations of loss per share for all periods presented.

7. SUBSEQUENT EVENTS

During August 2001, the Company received loans, and commitments to loan, \$3,350,000 through the sale of debentures to a group of private investors, including Alfred D. Kingsley who purchased \$1,500,000 of debentures, and Milton Dresner, a director of the Company. Mr. Kingsley's investment included the conversion of the outstanding principal balance of the line of credit, which was \$1,000,000 at the date of the sale of the debentures. The Company plans to seek up to an additional \$1,650,000 of debt financing through the sale of additional debentures, but there is no assurance that the Company will be successful in raising that additional capital.

Interest on the debentures is payable at an annual rate of 10% and is payable semiannually. The principal amount of the debentures will be due and payable on August 1, 2004. BioTime may prepay the debentures, in whole or in part, at any time without premium or penalty. Under the terms of the debentures BioTime has agreed that commencing October 1, 2001 it will restrict its quarterly cash payments for operating expenses to not more than \$450,000 (excluding interest payable on the debentures) plus the amount of cash revenues (excluding interest and dividends) it collects for the quarter. That restriction will expire when BioTime obtains at least \$5,000,000 in cash through sales of equity securities or pays off the debenture indebtedness in full. For this purpose, cash revenues will include royalties, license fees, and other proceeds from the sale or licensing of its products and technology, but will not include interest, dividends, or any monies borrowed or the proceeds from the issue or sale of any debt or equity securities. BioTime has also agreed not to declare or pay any cash dividends on its capital stock or to redeem or repurchase any shares of its capital stock, until it has paid off the debenture indebtedness in full.

Investors who purchased the debentures also received warrants to purchase a total of 515,383 common shares at an exercise price of \$6.50 per share. The warrants will expire if not exercised by August 1, 2004. The Company has the right to call the warrants for redemption at a redemption price of \$0.01 per share if the closing price of the Company's common shares on the American Stock Exchange equals or exceeds 150% of the exercise price for fifteen (15) consecutive trading days and the shares issuable upon the exercise of the warrants have been registered for sale under the Securities Act of 1933, as amended (the "Securities Act").

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

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

Overview

Since its inception in November 1990, the Company has been engaged primarily in research and development activities which have culminated in the commercial launch of Hextend, its lead product, and a clinical trial of PentaLyte. The Company's operating revenues have been generated primarily from licensing fees, including \$2,500,000 received from Abbott Laboratories for the right to manufacture and market Hextend(R) in the United States and Canada. As a result of the developmental nature of its business and the limited sales of its product, since the Company's inception in November 1990 it has incurred \$29,183,176 of losses. The Company's ability to generate substantial operating revenue depends upon its success in developing and marketing or licensing its plasma volume expanders and organ preservation solutions and technology for medical use.

Most of the Company's research and development efforts have been devoted to the Company's first three blood volume replacement products: Hextend,(R) PentaLyte,(R) and HetaCool.(TM) By testing and bringing all three products to the market, BioTime can increase its market share by providing the medical community with solutions to match patients' needs. By developing technology for the use of HetaCool in low temperature surgery, trauma care, and organ transplant surgery, BioTime may also create new market segments for its product line.

The Company's first product, Hextend, is a physiologically balanced blood plasma volume expander, for the treatment of hypovolemia. Hextend is being sold in the United States by Abbott Laboratories under an exclusive license from the Company. Abbott also has the right to sell Hextend in Canada, where an application for marketing approval is pending. Abbott also has a right to obtain licenses to manufacture and sell other BioTime products.

Under its License Agreement with the Company, Abbott will report sales of Hextend and pay the Company the royalties and license fees due on account of such sales within 90 days after the end of each calendar quarter. The Company recognizes such revenues in the quarter in which the sales report is received, rather than the quarter in which the sales took place, as the Company does not have sufficient sales history to accurately predict quarterly sales. Hextend sales are still in the ramp-up phase. Revenues for the three months ended June 30, 2001 were \$29,958 and consist of royalties on sales of \$550,639 made by Abbott during the period beginning January 1, 2001 and ending March 31, 2001. Sales of Hextend during the first quarter of 2001 were impacted by the purchasing practices of certain wholesale distributors who increased their purchases of inventory during the last month of the fourth quarter of 2000, with a corresponding reduction in purchases during the first quarter of the new year.

Sales of Hextend during the second quarter ended June 30, 2001 increased to \$669,409. Sales of Hextend for the first six months of 2001 were \$1,220,102, up from \$516,839 during the same period last year, representing a 136% increase. Royalty revenues of \$36,416 received from second quarter sales will be recognized by the Company during third quarter ending September 30, 2001. The Company expects Hextend sales growth to accelerate now that Abbott has augmented its dedicated Hextend sales force and as surgeons and anesthesiologists become more familiar with the benefits that can be attained for their patients by using Hextend.

Because Hextend is a surgical product, sales will be determined by anesthesiologists, surgeons practicing a variety of specialties, and hospital pharmacists. Abbott's marketing strategy is designed to reach this target customer base through sales calls and an advertising campaign focused on the physiological basis of using a plasma-like substance to replace lost blood volume and the ability of Hextend to support vital physiological processes.

As part of the marketing program, Abbott and the Company have financed a number of studies showing the advantages of receiving Hextend and other BioTime products during surgery. As these studies are completed, the results will be presented at medical conferences and articles will be written for publication in medical journals. The Company is also aware of independent studies using Hextend that are being conducted by physicians and hospitals, who may publish their findings in medical journals. The outcome of medical studies and timing of the publication of the results could have an effect on Hextend sales.

The results of recent studies describing the importance of Hextend in the treatment of hypovolemia (low blood volume) in surgery, trauma and shock were presented at the Society for Critical Care Medicine, held in San Francisco during February 2001, and the 21st International Symposium on Intensive Care and Emergency Medicine held during March 2001, in Brussels, Belgium. Compelling evidence describing the advantages of using Hextend to maintain kidney function during cardiovascular surgery was presented at the Society of Cardiovascular Anesthesiologists held in Vancouver early in May 2001. Abbott sales people attended, and there was an exhibit promoting Hextend.

Other important findings have been accepted for presentation at upcoming meetings such as the American Society of Anesthesiologists in New Orleans in October 2001. These findings demonstrate certain advantages of Hextend in maintaining kidney function without the need for dialysis, reducing incidents of deep venous thrombosis, nausea, pain, and maintaining blood clotting function in surgical patients. Articles discussing laboratory studies using Hextend and PentaLyte have appeared in the February 2001 edition of Anesthesia & Analgesia. Another article featuring the results of the Company's clinical study of elderly surgical patients, which compared lactated Ringer's solution and Hextend to saline and hetastarch in saline in the treatment of hypovolemia, has been accepted for publication by a peer reviewed journal. In this study, patients treated with Hextend had significantly better maintenance of acid-base balance and blood biochemistry, as well as better overall outcomes.

Abbott is also working with hospitals to have Hextend approved for use and added to hospital formularies, and has obtained formulary committee approval in hundreds of hospitals. Inclusion on hospital formularies is important because it enables physicians to obtain Hextend without the need

to special order it. Obtaining formulary approval can be a lengthy process and requires diligent efforts by the sales force who not only provide Hextend to the hospital but also can provide the formulary committee with necessary information showing that the product is safe and effective.

Abbott has concentrated on establishing Hextend as the standard plasma volume expander at prominent teaching hospitals and leading medical centers, such as Duke University Medical Center in Durham, North Carolina and Columbia-Presbyterian Medical Center in New York, New York, which have switched to Hextend from 6% hetastarch in saline. BioTime feels that as Hextend use proliferates within the leading US hospitals, other smaller hospitals will follow their lead and accelerate sales growth.

The Company has completed a Phase I clinical trial of Pentalyte and is planning the next phase of its clinical trials in which PentaLyte will be used to treat hypovolemia in surgery.

The Company is also continuing to develop solutions for low temperature surgery. Once a sufficient amount of data from successful low temperature surgery has been compiled, the Company plans to seek permission to use Hextend as a complete replacement for blood under near-freezing conditions. BioTime currently plans to market Hextend for complete blood volume replacement at very low temperatures under the registered trade mark "HetaCool(TM)" after FDA approval is obtained.

BioTime has recently launched a research program using HetaCool in animal models of trauma at the State University of New York Health Science Center in Brooklyn. Preliminary laboratory results there have already supported the feasibility of using HetaCool to treat subjects following severe hemorrhage. The use of HetaCool at near-freezing temperatures also will be studied in animal models of cardiovascular surgery at the Texas Heart Institute in Houston.

BioTime scientists believe that the HetaCool program has the potential to produce a product that could be used in very high fluid volumes (50 liters or more per procedure if HetaCool were used as an organ preservation solution or to temporarily replace substantially all of the patient's circulating blood volume) in cardiovascular surgery, trauma treatment, and organ transplantation. BioTime presented some of its laboratory studies on HetaCool at Combat Fluid Resuscitation 2001, held in Bethesda, MD during June 2001. The conference was sponsored by the Office of Naval Research, the U.S. Army Medical Research and Materiel Command, and the Department of Surgery and the Department of Military and Emergency Medicine of the Uniformed Services University of the Health Sciences. Two other groups reported on their laboratory studies that suggested potential advantages of using Hextend in military trauma cases.

Abbott has an option to obtain a license to market PentaLyte and HetaCool in the United States and Canada, and BioTime would receive additional license fees if those options are exercised, in addition to royalties on subsequent sales of those products. BioTime and certain pharmaceutical companies are discussing potential manufacturing, distributing and marketing agreements for BioTime products in the rest of the world.

In order to commence clinical trials for regulatory approval of new products or new

therapeutic uses of products, it will be necessary for the Company to prepare and file with the FDA an Investigational New Drug Application ("IND") or an amendment to expand a previous filing. Filings with foreign regulatory agencies will be required to commence clinical trials overseas. The Company's application to market Hextend in Canada has been found acceptable for review as a New Drug Submission by the Canadian Health Protection Branch (HPB), and the Company is currently awaiting completion of HPB's review of that application. During the third quarter of 2000, the Company filed its first application for approval in a European Union member nation, Sweden. Regulatory approvals for other countries that are members of the European Union may be obtained through a mutual recognition process. If approvals can be obtained in the requisite number of member nations, then the Company would be permitted to market Hextend in all 16 member nations.

In addition to developing clinical trial programs, the Company plans to continue to provide funding for its laboratory testing programs at selected universities, medical schools and hospitals for the purpose of developing additional uses of Hextend, PentaLyte, HetaCool, and other new products, but the amount of research that will be conducted at those institutions will depend upon the Company's financial status. Because the Company's research and development expenses, clinical trial expenses, and production and marketing expenses will be charged against earnings for financial reporting purposes, management expects that there will be losses from operations from time to time during the near future.

Hextend(R) and PentaLyte(R) are registered trademarks, and HetaCool(TM) is a trademark, of BioTime.

Results of Operations

Revenues

From inception (November 30, 1990) through June 30, 2001, the Company recognized \$2,500,000 of license fee revenues. All license fees based upon milestones under the Abbott License Agreement were earned prior to the quarter ended June 30, 2000. See Note 3 to the accompanying financial statements.

From inception (November 30, 1990) through June 30, 2001, the Company has recognized \$122,841 in royalty revenue based on product sales. For the three months ended June 30, 2001, the Company recognized \$29,958 in royalty revenue, whereas the Company recognized \$7,387 for the three months ended June 30, 2000. This increase is attributable to an increase in product sales. For the six months ended June 30, 2001, the Company recognized \$62,653 in royalty revenue, as compared to the \$13,119 it recognized for royalty revenue for the six months ended June 30, 2000; again, the increase is attributable to an increase in product sales. See Note 3 to the accompanying financial statements.

Operating Expenses

From inception (November 30, 1990) through June 30, 2001, the Company incurred \$21,041,136 of research and development expenses, including salaries, supplies, and other related expense items. Research and development expenses were \$541,894 for the three months ended June 30, 2001, compared to \$930,147 for the three months ended June 30, 2000. For the six months ended June 30, 2001, research and development expenses were \$1,095,786, compared to \$1,840,077 for the

six months ended June 30, 2000. These differences are attributable to a significant decrease in spending with respect to clinical trials and preclinical research. Research and development expenses include laboratory study expenses, clinical trial expenses, salaries, preparation of additional regulatory applications in the United States and Europe, manufacturing of solution for trials, and consultants' fees. It is expected that research and development expenses will increase as the Company commences new clinical studies of its products in the United States and Europe.

From inception (November 30, 1990) through June 30, 2001, the Company incurred \$12,516,872 in general and administrative expenses. General and administrative expenses were \$613,490 for the three months ended June 30, 2001 compared to \$448,713 for the three months ended June 30, 2000. General and administrative expenses increased to \$1,050,487 for the six months ended June 30, 2001 from \$924,181 for the six months ended June 30, 2000. These increases are attributable to a rise in personnel costs. General and administrative expenses include salaries, consultants' fees, and general operating expenses.

Interest and Other Income

From inception (November 30, 1990) through June 30, 2001, the Company generated \$1,751,991 of interest and other income. For the three months ended June 30, 2001, the Company generated \$5,402 of interest and other income, compared to \$41,712 for the three months ended June 30, 2000. The Company generated \$11,857 of interest and other income for the six months ended June 30, 2001, compared to \$101,431 generated for the six months ended June 30, 2000. These decreases are attributable to much lower average cash balances during the first two quarters of 2001.

Liquidity and Capital Resources

Since inception, the Company has primarily financed its operations through the sale of equity securities, licensing fees, and borrowings on a \$1,000,000 line of credit provided by Alfred D. Kingsley, an investor and consultant to the Company. During August 2001, the Company received loans, and commitments to loan, \$3,350,000 through the sale of debentures to a group of private investors, including Mr. Kingsley who purchased \$1,500,000 of debentures, and Milton Dresner, a director of the Company. Mr. Kingsley's investment included the conversion of the outstanding principal balance of the line of credit, which was \$1,000,000 at the date of the sale of the debentures. The Company plans to seek up to an additional \$1,650,000 of debt financing through the sale of additional debentures, but there is no assurance that the Company will be successful in raising that additional capital.

Interest on the debentures is payable at an annual rate of 10% and is payable semiannually. The principal amount of the debentures will be due and payable on August 1, 2004. BioTime may prepay the debentures, in whole or in part, at any time without premium or penalty. Under the terms of the debentures BioTime has agreed that commencing October 1, 2001 it will restrict its quarterly cash payments for operating expenses to not more than \$450,000 (excluding interest payable on the debentures) plus the amount of cash revenues (excluding interest and dividends) it collects for the quarter. That restriction will expire when BioTime obtains at least \$5,000,000 in cash through sales of equity securities or pays off the debenture indebtedness in full. For this purpose, cash revenues will include royalties, license fees, and other proceeds from the sale or licensing of its products and technology, but will not include interest, dividends, or any monies borrowed or the proceeds from the issue or sale of any debt or equity securities. BioTime has also agreed not to declare or pay any cash dividends on its

capital stock or to redeem or repurchase any shares of its capital stock, until it has paid off the debenture indebtedness in full.

Investors who purchased the debentures also received warrants to purchase a total of 515,383 common shares at an exercise price of \$6.50 per share. The warrants will expire if not exercised by August 1, 2004. The Company has the right to call the warrants for redemption at a redemption price of \$0.01 per share if the closing price of the Company's common shares on the American Stock Exchange equals or exceeds 150% of the exercise price for fifteen (15) consecutive trading days and the shares issuable upon the exercise of the warrants have been registered for sale under the Securities Act of 1933, as amended (the "Securities Act").

The Company has engaged Shoreline Pacific, LLC to provide investment banking services. BioTime needs additional equity capital and fees from licensing its products to pharmaceutical companies to continue its current operations, to begin clinical trials of PentaLyte, and to conduct its planned product development and research programs. Sales of additional equity securities could result in the dilution of the interests of present shareholders. The amount of license fees and royalties that may be earned through the licensing and sale of the Company's products and technology, the timing of the receipt of license fee payments, and the future availability and terms of equity financing, is uncertain. The unavailability or inadequacy of financing or revenues to meet future capital needs could force the Company to modify, curtail, delay or suspend some or all aspects of its planned operations.

Most of the Company's employees have agreed to participate in a compensation reduction program designed to permit the Company to conserve cash without implementing an immediate workforce reduction while it seeks new capital. This program, which began during August 2001, includes the deferral of one month of salary for most participants, and a salary reduction for ensuing months. The salary reductions will range from 56% to 78% for participating executive officers, and 14% to 38% for other participating employees. The duration of the program depends upon a number of factors such as the amount of time it takes to raise additional capital, the amount of capital raised, and the willingness of employees to continue to work for the Company at the reduced compensation rates. The Company is also negotiating with its consultants to restructure their compensation arrangements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

The Company did not hold any market risk sensitive instruments as of June 30, 2001, December 31, 2000, or June 30, 2000.

PART II - OTHER INFORMATION

Item 2. Changes in Securities and Use of Proceeds.

Directors of the Company who are not employees receive an annual fee of \$20,000, which may be paid in cash or in common shares, at the election of the director. During the three months ended June 30, 2001, the Company issued 649 common shares to Milton D. Dresner in lieu of a cash fee for serving as a director. The shares were issued without registration under the Securities Act pursuant to the exemption provided in Section 4(2).

During August 2001, the Company issued warrants to purchase 515,383 common shares at an exercise price of \$6.50 to purchasers of the Company's Series 2001-A 10% Debentures due August 1, 2004. The warrants will expire if not exercised by August 1, 2004. The Company has the right to call the warrants for redemption if the closing price of the common shares on the American Stock Exchange equals or exceeds 150% of the exercise price for fifteen (15) consecutive trading days and the shares issuable upon the exercise of the warrants have been registered for sale under the Securities Act. The warrants were issued without registration under the Securities Act pursuant to the exemption provided in Section 4(2).

Item 5. Other Information.

On August 10, 2001, the Company appointed Steven Seinberg as Chief Financial Officer. Mr. Seinberg replaces Victoria Bellport who left the Company for personal reasons. Mr. Seinberg served for over five years as BioTime's Director of Financial and Legal Research, a position that involved, among other duties, contract documentation and management of the Company's intellectual property portfolio. Mr. Seinberg received a B.S. in Finance from San Jose State University in 1989, and a J.D. from Hastings College of the Law in 1994.

Item 6. Exhibits and Reports of Form 8-K

(a) Exhibits.

Exhibit Numbers - - - - -	Description - - - - -
3.1	Articles of Incorporation, as Amended.+
3.3	By-Laws, As Amended.#
4.1	Specimen of Common Share Certificate.+
10.1	Lease Agreement dated July 1, 1994 between the Registrant and Robert and Norah Brower, relating to principal executive offices of the Registrant.*
10.2	Employment Agreement dated June 1, 1996 between the Company and Paul Segall.++

- 10.3 Employment Agreement dated June 1, 1996 between the Company and Hal Sternberg.++
- 10.4 Employment Agreement dated June 1, 1996 between the Company and Harold Waitz.++
- 10.5 Employment Agreement dated June 1, 1996 between the Company and Judith Segall.++
- 10.6 Employment Agreement dated June 1, 1996 between the Company and Victoria Bellport.++
- 10.7 Intellectual Property Agreement between the Company and Paul Segall.+
- 10.8 Intellectual Property Agreement between the Company and Hal Sternberg.+
- 10.9 Intellectual Property Agreement between the Company and Harold Waitz.+
- 10.10 Intellectual Property Agreement between the Company and Judith Segall.+
- 10.11 Intellectual Property Agreement between the Company and Victoria Bellport.+
- 10.12 Agreement between CMSI and BioTime Officers Releasing Employment Agreements, Selling Shares, and Transferring Non-Exclusive License.+
- 10.13 Agreement for Trans Time, Inc. to Exchange CMSI Common Stock for BioTime, Inc. Common Shares.+
- 10.14 1992 Stock Option Plan, as amended.##
- 10.15 Employment Agreement dated April 1, 1997 between the Company and Ronald S. Barkin.^
- 10.16 Intellectual Property Agreement between the Company and Ronald S. Barkin.^
- 10.17 Addenda to Lease Agreement between the Company and Donn Logan.++
- 10.18 Amendment to Employment Agreement between the Company and Paul Segall.^
- 10.19 Amendment to Employment Agreement between the Company and Hal Sternberg.^
- 10.20 Amendment to Employment Agreement between the Company and Harold Waitz.^
- 10.21 Amendment to Employment Agreement between the Company and Judith Segall.^
- 10.22 Amendment to Employment Agreement between the Company and Victoria Bellport.^
- 10.23 Amendment to Employment Agreement between the Company and Ronald S. Barkin.^
- 10.24 Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).###

- 10.25 Modification of Exclusive License Agreement between Abbott Laboratories and BioTime, Inc. (Portions of this exhibit have been omitted pursuant to a request for confidential treatment).^^^
- 10.26 Revolving Line of Credit Agreement between BioTime, Inc. and Alfred D. Kingsley++++
- 10.27 Warrant Agreement between BioTime, Inc. and Alfred D. Kingsley++++
- 10.28 Form of Series 2001-A 10% Debenture due August 1, 2004**
- 10.29 Warrant Agreement between BioTime, Inc. and Purchasers of Series 2001-A Debentures**
- 23.1 Consent of Deloitte & Touche LLP++++

+Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1998.

+ Incorporated by reference to Registration Statement on Form S-1, File Number 33-44549 filed with the Securities and Exchange Commission on December 18, 1991, and Amendment No. 1 and Amendment No. 2 thereto filed with the Securities and Exchange Commission on February 6, 1992 and March 7, 1992, respectively.

Incorporated by reference to Registration Statement on Form S-1, File Number 33-48717 and Post-Effective Amendment No. 1 thereto filed with the Securities and Exchange Commission on June 22, 1992, and August 27, 1992, respectively.

* Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1994.

++ Incorporated by reference to the Company's Form 10-K for the fiscal year ended June 30, 1996.

^ Incorporated by reference to the Company's Form 10-Q for the quarter ended March 31, 1997.

Incorporated by reference to Registration Statement on Form S-8, File Number 333-30603 filed with the Securities and Exchange Commission on July 2, 1997.

^ ^ Incorporated by reference to the Company's Form 10-Q for the quarter ended March 31, 1999.

Incorporated by reference to the Company's Form 8-K, filed April 24, 1997.

^^^ Incorporated by reference to the Company's Form 10-Q for the quarter ended June 30, 1999.

++ Incorporated by reference to the Company's Form 10-K for the year ended December 31, 1999.

++++ Incorporated by reference to the Company's Form 10-K for the year ended December 31, 2000.

** Filed herewith.

(b) Reports on Form 8-K

The Company filed a report on Form 8-K on July 26, 2001 reporting an event under item 5.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BIOTIME, INC.

Date: August 14, 2001

/s/ Paul Segall

Paul Segall
Chief Executive Officer

Date: August 14, 2001

/s/ Steven Seinberg

Steven Seinberg
Chief Financial Officer

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**Filed herewith

This debenture has not been registered under the Securities Act of 1933 or any applicable state securities laws, and may not be offered for sale, sold, transferred, pledged or hypothecated without an effective registration statement under the Securities Act and under any applicable state securities laws, or an opinion of counsel, satisfactory to Borrower, that an exemption from such registration is available.

DEBENTURE

Series 2001-A
Certificate No. ____
Amount \$ _____

Dated: August __, 2001

FOR GOOD AND VALUABLE CONSIDERATION, BioTime, Inc. a California corporation ("Borrower"), promises to pay to the order of _____ or the subsequent registered holder the principal sum of _____ AND NO/100 DOLLARS (\$ _____), together with interest thereon, all as provided below:

1. Series 2001-A Debenture. This Debenture is one of a duly authorized series of Debentures of like tenor and effect issued by Borrower referred to herein as the "Series 2001-A Debentures." Up to \$5,000,000 of the Series 2001-A Debentures (of which this Debenture is a part) may be issued by Borrower.

2. Equal Rank. All Series 2001-A Debentures rank equally and ratably without priority over one another.

3. Maturity. Subject to the other provisions of this Debenture, the principal amount of this Debenture shall be due and payable in full on August 1, 2004 (the "Maturity Date").

4. Manner of Payment/Crediting of Payments. The Borrower will pay interest and principal on this Debenture to the person who is the registered holder of this Debenture at the close of business on the date immediately preceding the next interest payment date specified in this Debenture, or the Maturity Date, as applicable, even if such Debenture is canceled or transferred on the interest payment date or Maturity Date. The Borrower will pay principal and interest in money of the United States that at the time of payment is legal tender for payment of public and private debts. However, the Borrower may pay principal and interest by check payable in such money, and any such check may be mailed to a holder's registered address.

5. Interest.

(a) Interest on the principal amount of this Debenture outstanding from time to time shall accrue at the rate of ten percent (10.00%) per annum (computed on the basis of a 365 day year). Interest accrued on this Debenture shall be due and payable on February 1 and August 1 each year.

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(b) In the event that any payment of principal or interest is not paid within five (5) days from on the date on which the same is due and payable, such payment shall continue as an obligation of the Borrower, and interest thereon from the due date of such payment shall accrue until paid in full at the lesser of (i) fifteen percent (15%) per annum, or (ii) the highest interest rate permitted under applicable law (the "Default Rate"). From and after the Maturity Date or upon acceleration of this Debenture, the entire unpaid principal balance with all unpaid interest accrued thereon, and any and all other fees and charges then due at such maturity, shall bear interest at the Default Rate.

6. Prepayment. Principal and interest accrued on this Debenture may be prepaid in part or in full at any time and from time to time at Borrower's option, without penalty, premium or discount, upon ten (10) days prior notice to the holder.

7. Transfer of Debenture

(a) Borrower may deem and treat the person or persons in whose name this Debenture shall be registered upon the books and records of Borrower as (i) the absolute owner of this Debenture (regardless of whether this Debenture shall be past due, and notwithstanding any notation of ownership, endorsement, or other writing on this Debenture) and (ii) the person entitled to receive payment of or on account of principal and interest due or payable under this Debenture, and for all other purposes; and Borrower shall not be affected by any notice to the contrary unless such notice of transfer is given pursuant to Section 7(c). All such payments shall be valid and effectual to satisfy and discharge the liability on this Debenture to the extent of all sums so paid.

(b) Borrower shall not be bound to recognize any equitable or other claim or interest in this Debenture on the part of any person other than the person or persons in whose name this Debenture shall be registered upon the books and records of Borrower, and Borrower shall not be liable for any registration of transfer of any Debenture which is registered or to be registered in the name of a fiduciary or the nominee of a fiduciary upon instruction from such fiduciary, unless made with the actual knowledge that a fiduciary or nominee is committing a breach of trust in requesting such registration or transfer, or with such knowledge of such facts that its participation therein amounts to bad faith.

(c) The transfer of this Debenture is registrable by the registered holder in person, or by his attorney duly authorized in writing, on the books and records of the Borrower at the address designated in Section 7(d), as such address may be changed from time to time as provided therein, subject to the terms, conditions, and restrictions of transfer set forth in this Debenture, but without payment of any charge other than a sum sufficient to reimburse Borrower for any tax or other governmental charge incident thereto. Such registration of transfer shall be effected only upon compliance with the provisions of this Section 7, and upon surrender and cancellation of this Debenture. Upon any such registration of transfer, a new Debenture or Debentures of the same aggregate principal amount will be issued to the persons entitled thereto in exchange for this Debenture. All Debentures presented for registration of transfer, if so required by Borrower, shall

be accompanied by a written instrument or instruments of transfer, in form reasonably satisfactory to Borrower, duly executed by the registered holder or by his duly authorized attorney, with all signatures acknowledged by a notary public. In all cases of transfer by an attorney, the original power of attorney, duly approved, or a copy thereof, duly certified, shall be deposited and remain with the Borrower. In case of transfer by executors, administrators, guardians or other legal representatives, duly authenticated evidence of their authority shall be produced, and may be required to be deposited and remain with the Borrower in its discretion.

(d) Borrower shall keep and maintain a register or registers in which Borrower shall register Debentures and the transfer of Debentures. All payments of principal, interest, and any other amount due or that becomes due under this Debenture, shall be paid to the holder by check mailed to the holder at his or her address of record. The holder may change the address for payment or for notice by delivery of written notice to Borrower. The address for notice to Borrower shall be 935 Pardee Street, Berkeley, California 94710; Attention: Chief Financial Officer. Borrower may change its address for notice by written notice to holder.

(e) This Debenture may not be sold, pledged, hypothecated, negotiated, assigned, or otherwise transferred except pursuant to an effective registration statement under the Securities Act of 1933, as amended, and pursuant to effective registration or qualification under applicable state securities or "blue sky" laws, unless an exemption from such registration and qualification is available. Borrower will make a stop transfer notation in the register maintained pursuant to this Section 7 with respect to such restrictions on transfer. Borrower may require, as a condition to registration of transfer, that the transferor or transferee deliver to Borrower an opinion of counsel, in form and substance reasonably acceptable to Borrower, to the effect that such transfer is exempt from the registration and qualification provisions of the Securities Act of 1933, as amended, and applicable state securities or "blue sky" laws.

8. Default.

(a) Subject to the provisions of this Section 8, the unpaid principal balance of this Debenture, together with all accrued interest thereon, shall, at the option of the holder of this Debenture, become immediately due and payable upon the occurrence of any of the following events (each an "Event of Default"): (i) the default of Borrower in the payment of any interest due under this Debenture if such default continues for ten (10) calendar days; (ii) the default of Borrower in the payment of any principal due under this Debenture; (iii) the failure of Borrower for a period of 30 days after notice from Debenture holders to observe or perform in any material respect any of the provisions of this Debenture, other than payment of interest or principal; (iv) Borrower instituting or consenting to any proceeding under any Debtor Relief Law (as defined below) with respect to Borrower or any part of Borrower's property or assets, or Borrower becoming the subject of any order for relief in a proceeding under any Debtor Relief Law; (v) the institution of any case or proceeding under any Debtor Relief Law with respect to Borrower or any part of Borrower's property or assets without the consent of Borrower if such case or proceeding continues undismissed or unstayed for sixty (60) calendar days; (vi) the issuance or levy of any judgment, writ, warrant of

attachment or execution or similar process against property or assets of Borrower in the amount of \$25,000 or more, if such process is not released, vacated or fully bonded within 60 calendar days after its issue or levy; (vii) Borrower making an assignment for the benefit of creditors; (viii) the dissolution or liquidation of Borrower, or (ix) Borrower defaults in the payment of principal or interest on any obligation for money owed in excess of \$100,000 if such default continues for a period of ten calendar days. As used in this Debenture, the term "Debtor Relief Law" shall mean the Bankruptcy Code of the United States of America, as amended, or any other applicable liquidation, conservatorship, bankruptcy, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief law affecting the rights of creditors generally.

(b) If an Event of Default specified in clause (iv), (v), (vii), or (viii) of paragraph (a) of this Section 8 occurs, the unpaid principal balance of this Debenture, together with all accrued interest thereon shall become and be immediately due and payable without any declaration or other act on the part of any Debenture holder.

(c) Neither the holder of this Debenture nor the holder of any other Series 2001-A Debentures shall institute any suit or proceeding for the enforcement of the payment of principal or interest under any of the Series 2001-A Debentures unless the holders of more than fifty percent (50%) in principal amount of all then-outstanding Series 2001-A Debentures join in such suit or proceeding. Holders of more than fifty percent (50%) in principal amount of the then outstanding Series 2001-A Debentures may direct the time, method and place of conducting any proceeding for any remedy available to them or exercising any power conferred on them by the Debentures. Notwithstanding the preceding provisions of this paragraph, (i) any Debenture holder may file a claim on their own behalf in any proceeding to which Borrower is subject under the United States Bankruptcy Code or any other Debtor Relief Law; and (ii) if an Event of Default arising from the failure of Borrower to pay interest or principal occurs and continues for a period of thirty days without the commencement of any lawsuit or other proceeding by holders of more than fifty percent (50%) in principal amount of the then outstanding Series 2001-A Debentures, any Debenture holder may commence a lawsuit to enforce payment of principal and interest then due on the holder's Debenture (but not accelerate the Maturity Date of such holder's Debenture or any other Series 2001-A Debentures).

(d) The Borrower will furnish to any holder upon written request and without charge a copy of the list of the names and addresses of the registered holders of Series 2001-A Debentures for a purpose reasonably related to the interest of the holder as a Debenture holder.

9. Mutilated or Missing Debentures. In case any of the certificates evidencing the Debentures shall be mutilated, lost, stolen or destroyed, the Borrower may in its discretion issue and deliver in exchange and substitution for and upon cancellation of the mutilated Debenture, or in lieu of and substitution for the Debenture lost, stolen or destroyed, a new Debenture of like tenor, but only upon receipt of evidence reasonably satisfactory to the Borrower of such loss, theft or destruction of such Debenture and an indemnity or bond, if requested, also reasonably satisfactory to the Borrower. An applicant for such a substitute Debenture shall also comply with such other reasonable regulations and pay such other reasonable charges as the Borrower may prescribe.

10. Law Governing. This Debenture shall be governed by and construed in accordance with the laws of the State of California applicable to contracts entered into in the State of California, by residents of the State of California and intended to be performed entirely within the State of California.

11. Financial Covenants. Commencing on October 1, 2001 until such time, subsequent to the date of original issue of this Debenture, as Borrower (a) obtains at least \$5,000,000 in additional cash in the aggregate through one or more sales of equity securities (including, but not limited to, the sale of capital stock, the sale or exercise of options, warrants or other rights to acquire capital stock, and the conversion or exchange of any debt security or evidence of indebtedness for capital stock), or (b) pays in full the outstanding principal balance of, and all interest accrued on, the Series 2001-A Debentures, Borrower's total cash payments during any calendar quarter (ie. the three month periods ending March 31, June 30, September 30, and December 31 of each year), including, without limitation, payment on account of operating expenses but excluding interest payable on the Series 2001-A Debentures, shall not exceed \$450,000 in excess of all revenues collected by Borrower in cash during such calendar quarter. For the purpose of this Section, revenues shall include royalties, license fees, and other proceeds from the sale or licensing of any tangible or intangible property, but shall not include interest, dividends, and any monies borrowed or the proceeds from the issue or sale of any debt or equity security. Until such time as Borrower pays in full the outstanding principal balance of, and all interest accrued on, the Series 2001-A Debentures, Borrower shall not declare or pay any cash dividend on its capital stock or redeem or repurchase any shares of its capital stock.

12. Amendments, Supplements and Waiver.

(a) Except as provided in the next succeeding paragraph, this Debenture and the other Series 2001-A Debentures may be amended or supplemented with the consent of the holders of at least a majority in principal amount of the Debentures then outstanding, and any existing default or compliance with any provision of the Series 2001-A Debentures, including this Debenture, may be waived with the consent of the holders of a majority in principal amount of the then outstanding Series 2001-A Debentures. If any such amendment or waiver pertains to or affects some but not all of the Series 2001-A Debentures, such consent need be obtained only from the holders of the Debentures so affected. If any such amendment or waiver would affect all of the Series 2001-A Debentures but would do so in a manner that differs materially between the Debentures so affected, then the consent of holders of a majority in principal amount of Debenture affected in a like manner must be obtained to give effect to the amendment or waiver.

(b) Without the written consent of each holder affected, an amendment or waiver may not (with respect to any Debenture held by a non-consenting holder of Debentures) (i) reduce the principal amount or change the fixed maturity of any Debenture; (ii) reduce the rate of or change the time for payment of interest on any Debenture; (iii) waive an Event of Default arising from the failure of Borrower to pay principal of or interest on the Debentures (except a rescission of acceleration of the Debentures by the holders of at least a majority in aggregate principal amount of the Debentures and a waiver of the payment default that resulted from such acceleration); (iv) make

any Debenture payable in money other than that stated in the Debentures; or (v) make any change in the provisions of the Debentures relating to waivers of past defaults or the rights of holders of Debentures to receive payments of principal of or interest on the Debentures, or make any change in the foregoing amendment and waiver provisions.

(c) Notwithstanding the foregoing, without the consent of any holder of Debentures, the Borrower may amend or supplement the Debentures to (i) cure any ambiguity, defect or inconsistency, (ii) to provide for uncertificated Debentures in addition to or in place of certificated Debentures, (iii) to provide for the assumption of the Borrower's obligations to holders of Debentures in the case of a merger or consolidation, (iv) to provide any collateral for the benefit of the holders of Debentures, (v) to make any change that would provide any additional rights or benefits to the holders of Debentures or that does not adversely affect the legal rights of any such holder, and (vi) to comply with the Trust Indenture Act of 1939, if such law becomes applicable to the Debentures.

13. Release of Shareholders, Officers and Directors. This Debenture is the obligation of Borrower only, and no recourse shall be had for the payment of this Debenture or the interest thereon against any shareholder, officer or director of Borrower, either directly or through Borrower, by virtue of any statute for the enforcement of any assessment or otherwise, all such liability of shareholders, directors and officers as such being released by holder by the acceptance of this Debenture.

14. Fees and Charges of Attorneys and Others. In the event that the holders of the Series 2001-A Debentures employ attorneys, accountants, appraisers, consultants, or other professional assistance, in connection with any of the following, then, the reasonable amount of costs, expenses, and fees incurred by such Debenture holders shall be payable on demand; provided, that Borrower shall not be obligated to pay the fees and expenses of more than one firm of attorneys, accountants, appraisers, consultants and other professionals representing all of the Debenture holders as a group. Costs, expenses, and reasonable fees of professionals covered by this provision include such charges for the following:

(a) The preparation, modification, or renewal of the Series 2001-A Debentures and that certain Warrant Agreement, of even date, executed by Borrower in connection with the issuance of common stock purchase warrants to the persons to whom the 2001-A Debentures were originally issued and sold (the "Warrant Agreement").

(b) Any litigation, dispute, proceeding or action, whether instituted by the Debenture holders, Borrower, or any other person, relating to the Series 2001-A Debentures, including representation of Debenture holders in any bankruptcy, insolvency, or reorganization case or proceeding instituted by or against Borrower, and any attempt by Debenture holders to enforce any rights against Borrower under the Series 2001-A Debentures;

(c) In the event of any controversy, claim, or dispute relating to the Series 2001-A Debentures, including but not limited to any action to construe or enforce the terms of the Series 2001-A Debentures, the prevailing party shall be entitled to recover its reasonable costs, expenses, and attorney fees;

(d) In the event of bankruptcy or insolvency proceedings (whether state or federal) instituted by or against Borrower, the Debenture holders may recover all costs, expenses, and reasonable attorney fees incurred to protect or defend their rights under the Debentures, and other documents underlying the loan transactions whether such costs, expenses, and attorney fees be contractual or bankruptcy related, including costs, expenses, and attorney fees for meetings, sessions, matters, proceedings and litigation involving issues solely distinct to federal bankruptcy law, rules and proceedings as well as other federal and state litigation and proceedings; and

(e) The preparation and filing of all reports required to be filed by Debenture holders under the Securities Exchange Act of 1934, as amended, during the term of this Debenture in connection with the ownership, acquisition, or disposition of the warrants, common shares, or other equity securities issued by Borrower pursuant to the Warrant Agreement.

15. Miscellaneous.

(a) Borrower waives (i) presentment, demand, protest, notice of dishonor, and all other notices; (ii) any release or discharge arising from any extension of time, or discharge of a prior party; and (iii) any other cause of release or discharge other than actual payment in full of all indebtedness evidenced by or arising under this Debenture.

(b) The rights and remedies of the holder as provided in this Debenture and in law or equity shall be cumulative and concurrent, and may be pursued singularly, successively, or together at the sole discretion of the holder subject to the provisions of Section 8, and may be exercised as often as occasion therefor shall occur; and the failure to exercise any such right or remedy shall in no event be construed as a waiver or a release of any such right or remedy.

(c) The terms, covenants, and conditions contained in this Debenture shall be binding upon the heirs, executors, administrators, successors, and assigns of Borrower, and shall inure to the benefit of the heirs, executors, administrators, successors and assigns of holder.

(d) If any provisions of this Debenture would require the Borrower to pay interest on the indebtedness evidenced by or arising under this Debenture at a rate exceeding the highest rate

allowable by applicable law, Borrower shall instead pay interest under this Debenture at the highest rate permitted by applicable law.

IN WITNESS WHEREOF, Borrower has signed and sealed this Debenture on the date first set forth above.

BIOTIME, INC.

By: _____

Title: _____

By: _____

Title: _____

Warrant Agreement

Dated as of August 13, 2001

WARRANT AGREEMENT, dated as of August 13, 2001, between BioTime, Inc., a California corporation (the "Company"), and the persons named on Exhibit A (the "Lenders").

The Company proposes to issue Common Stock Purchase Warrants, as hereinafter described (the "Warrants"), to purchase up to an aggregate of 769,231 of its Common Shares, no par value (the "Common Stock") (the shares of Common Stock issuable upon exercise of the Warrants being referred to herein as the "Warrant Shares"), in connection with the issue and sale of Series 2001-A Debentures to the Lenders (the "Debentures").

In consideration of the foregoing and for the purpose of defining the terms and provisions of the Warrants and the respective rights and obligations thereunder of the Company and each registered owner of a Warrant (the "Holder"), the Company and the Lenders hereby agree as follows:

Section 1. Issuance of Warrants; Term of Warrants. Concurrently with the execution and delivery of this Agreement and the issue of the Debentures, the Company is issuing and delivering to each Lender a Warrant to purchase a number of Warrant Shares determined by dividing the principal amount of Debentures purchased by such Lender by the initial Warrant Price (as shown in Section 4). The Warrant shall be represented by a certificate in substantially the form of Exhibit A hereto. Subject to the terms of this Agreement, a Holder of any of such Warrant (including any Warrants into which a Warrant may be divided) shall have the right, which may be exercised at any time prior to 5:00 p.m., New York Time on August 1, 2004 (the "Expiration Date"), to purchase from the Company the number of fully paid and nonassessable Warrant Shares which the Holder may at the time be entitled to purchase upon exercise of any of such Warrant.

Section 2. Form of Warrant. The text of the Warrants and of the Purchase Form shall be substantially as set forth in Exhibit A attached hereto. The price per Warrant Share and the number of Warrant Shares issuable upon exercise of each Warrant are subject to adjustment upon the occurrence of certain events, all as hereinafter provided. The Warrants shall be executed on behalf of the Company by its Chairman of the Board, President or one of its Vice Presidents, under its corporate seal reproduced thereon attested by its Secretary or any Assistant Secretary. The signature of any such officers on the Warrants may be manual or facsimile, provided, however, that the signature of any such officers must be manual until such time as a warrant agent is appointed.

2.1 Signatures; Date of Warrants. Warrants bearing the manual or facsimile signatures of individuals who were at any time the proper officers of the Company shall bind the Company, notwithstanding that such individuals or any one of them shall have ceased to hold such offices prior to the delivery of such Warrants or did not hold such offices on the date of this Agreement. In the event that the Company shall appoint a warrant agent to act on its behalf in connection with the division, transfer, exchange or exercise of Warrants, the Warrants issued after the date of such appointment shall be dated as of the date of countersignature thereof by the warrant agent upon division, exchange, substitution or transfer. Until such time as the Company

shall appoint a warrant agent, Warrants shall be dated as of the date of execution thereof by the Company either upon initial issuance or upon division, exchange, substitution or transfer.

2.2 Countersignature of Warrants. In the event that the Company shall appoint a warrant agent to act on its behalf in connection with the division, transfer, exchange or exercise of Warrants, the Warrants issued after the date of such appointment shall be countersigned by the warrant agent (or any successor to the warrant agent then acting as warrant agent) and shall not be valid for any purpose unless so countersigned. Warrants may be countersigned, however, by the warrant agent (or by its successor as warrant agent hereunder) and may be delivered by the warrant agent, notwithstanding that the persons whose manual or facsimile signatures appear thereon as proper officers of the Company shall have ceased to be such officers at the time of such countersignature, issuance or delivery. The warrant agent (if so appointed) shall, upon written instructions of the Chairman of the Board, the President, an Executive or Senior Vice President, the Treasurer or the Controller of the Company, countersign, issue and deliver the Warrants and shall countersign and deliver Warrants as otherwise provided in this Agreement.

Section 3. Exercise of Warrants; Listing.

3.1 Exercise of Warrants. A Warrant may be exercised upon surrender of the certificate or certificates evidencing the Warrants to be exercised, together with the form of election to purchase on the reverse thereof duly filled in and signed, which signature shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc., to the Company at its principal office (or if appointed, the principal office of the warrant agent) and upon payment of the Warrant Price (as defined in and determined in accordance with the provisions of Section 4 and Section 10) to the Company (or if appointed, to the warrant agent for the account of the Company), for the number of Warrant Shares in respect of which such Warrants are then exercised. Payment of the aggregate Warrant Price (defined in Section 4 herein) shall be made in cash or by certified or bank cashier's check or by delivery of Debentures in such amount (including principal and accrued interest). In the event that the principal amount of Debentures delivered as payment of the Warrant Price exceeds the Warrant Price, the Company shall issue and deliver to the Holder a new Debenture in the amount not applied toward the Warrant Price.

(a) Subject to Section 5, upon the surrender of the Warrant and payment of the Warrant Price as aforesaid, the Company (or if appointed, the warrant agent) shall promptly cause to be issued and delivered to or upon the written order of the Holder and in such name or names as the Holder may designate, a certificate or certificates for the number of full Warrant Shares so purchased upon the exercise of such Warrant, together with cash, as provided in Section 12, in respect of any fractional Warrant Shares otherwise issuable upon such surrender. Such certificate or certificates shall be deemed to have been issued and any person so designated to be named therein shall be deemed to have become a holder of record of such Warrant Shares as of the date of the surrender of such Warrants and payment of the Warrant Price, as aforesaid. The rights of purchase represented by the Warrant shall be exercisable, at the election of the Holder thereof, either in full or from time to time in part and, in the event that a certificate evidencing

the Warrant is exercised in respect of less than all of the Warrant Shares purchasable on such exercise at any time prior to the date of expiration of the Warrant, a new certificate evidencing the unexercised portion of the Warrant will be issued, and the warrant agent (if so appointed) is hereby irrevocably authorized to countersign and to deliver the required new Warrant certificate or certificates pursuant to the provisions of this Section 3 and Section 2.2, and the Company, whenever required by the warrant agent (if appointed), will supply the warrant agent with Warrant certificates duly executed on behalf of the Company for such purpose.

3.2 Listing of Shares on Securities Exchange; Exchange Act Registration. The Company will promptly use its best efforts to cause the Warrant Shares to be listed, subject to official notice of issuance, on all national securities exchanges on which the Common Stock is listed and whose rules and regulations require such listing, as soon as possible following the date hereof. The Company will promptly notify the Holders in the event that the Company plans to register the Warrants with the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Section 4. Warrant Price. Subject to any adjustments required by Section 10, the price per share at which Warrant Shares shall be purchasable upon exercise of a Warrant (as to any particular Warrant, the "Warrant Price") shall be six dollars and fifty-cents (\$6.50) per share.

Section 5. Payment of Taxes. The Company will pay all documentary stamp taxes, if any, attributable to the initial issuance of Warrant Shares upon the exercise of Warrants; provided, however, that the Company shall not be required to pay any tax or taxes which may be payable in respect of any transfer involved in the issue or delivery of any Warrant or certificates for Warrant Shares in a name other than that of the registered Holder of such Warrants.

Section 6. Redemption of Warrants.

6.1 Right to Redeem. The Warrants may be redeemed by the Company, at its election, at any time after June 30, 2002 if (a) a registration statement under Section 18.1 or a registration statement under Section 18.2 that includes Warrants and Warrant Shares is then effective under the Securities Act of 1933, as amended, and (b) the closing price of the Common Stock on a national securities exchange (including the Nasdaq Stock Market National Market System), or the average bid price as quoted in Nasdaq Stock Market if the Common Shares are not listed on a national securities exchange, equals or exceeds 150% of the Warrant Price for any fifteen (15) consecutive trading days ending not more than thirty (30) days prior to the date of the notice given pursuant to Section 6.2.

6.2 Notice of Redemption. Notice of proposed redemption of the Warrants shall be sent by or on behalf of the Company, by first class mail, postage prepaid, to the Holders of record of the Warrants at the addresses of such Holders appearing in the records of the Company or the warrant agent, if any. Such notice shall be sent not less than forty-five (45) days prior to the date fixed by the Company for redemption (the "Redemption Date"). Such notice shall notify the Holder of the Warrants that the Company will redeem the Warrants, and shall state (i) the date

of redemption, (ii) the redemption price, (iii) the place or places at which the redemption price shall be paid upon presentation and surrender of the Warrants, and (iv) the name and address of the warrant agent, if any, and the name and address of any bank or trust company appointed by the Company to receive and disburse the redemption price.

6.3 Effect of Redemption. From and after the Redemption Date, the Warrants shall no longer be deemed outstanding and all rights of the Holder of the Warrants shall cease and terminate, except for the right of the registered Holder to receive payment of the redemption price of one cent (\$0.01) per Warrant Share upon presentation and surrender of the Warrants.

6.4 Abatement of Redemption. The Redemption Date shall abate, and the notice of redemption shall be of no effect, if the closing price or average bid price of the Common Stock, as applicable under Section 6.1, does not equal or exceed 120% of the Warrant Price on the Redemption Date and each of the five trading days immediately preceding the Redemption Date, but the Company shall have the right to redeem the Warrants at a future date if the conditions set forth in Section 6.1 are subsequently met and a new notice setting a new Redemption Date is sent to Warrant holders as provided in Section 6.2.

Section 7. Transferability of Warrants.

7.1 Registration. Each Warrant shall be numbered and shall be registered on the books of the Company (the "Warrant Register") as issued. The Company and the warrant agent (if appointed) shall be entitled to treat the Holder of any Warrant as the owner in fact thereof for all purposes and shall not be bound to recognize any equitable or other claim or interest in such Warrant on the part of any other person, and shall not be liable for any registration of transfer of any Warrant which is registered or to be registered in the name of a fiduciary or the nominee of a fiduciary upon the instruction of such fiduciary, unless made with the actual knowledge that a fiduciary or nominee is committing a breach of trust in requesting such registration or transfer, or with such knowledge of such facts that its participation therein amounts to bad faith. Each Warrant shall initially be registered in the name of the Lender to whom it is originally issued.

7.2 Restrictions on Exercise and Transfer. The Warrants may not be exercised, sold, pledged, hypothecated, transferred or assigned, in whole or in part, unless a registration statement under the Securities Act of 1933, as amended (the "Act"), and under any applicable state securities laws is effective therefor or, an exemption from such registration is then available. Any exercise, sale, pledge, hypothecation, transfer, or assignment in violation of the foregoing restriction shall be deemed null and void and of no binding effect. The Company shall be entitled to obtain, as a condition precedent to its issuance of any certificates representing Warrant Shares or any other securities issuable upon any exercise of a Warrant, a letter or other instrument from the Holder containing such covenants, representations or warranties by such Holder as reasonably deemed necessary by Company to effect compliance by the Company with the requirements of applicable federal and/or state securities laws.

7.3 Transfer. Subject to Section 7.2, the Warrants shall be transferable only on the Warrant Register upon delivery thereof duly endorsed by the Holder or by his duly authorized attorney or representative, or accompanied by proper evidence of succession, assignment or authority to transfer, which endorsement shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc. In all cases of transfer by an attorney, the original power of attorney, duly approved, or a copy thereof, duly certified, shall be deposited and remain with the Company (or the warrant agent, if appointed). In case of transfer by executors, administrators, guardians or other legal representatives, duly authenticated evidence of their authority shall be produced, and may be required to be deposited and remain with the Company (or the warrant agent, if appointed) in its discretion. Upon any registration of transfer, the Company shall execute and deliver (or if appointed, the warrant agent shall countersign and deliver) a new Warrant or Warrants to the persons entitled thereto.

Section 8. Exchange of Warrant Certificates. Each Warrant certificate may be exchanged, at the option of the Holder thereof, for another Warrant certificate or Warrant certificates in different denominations entitling the Holder or Holders thereof to purchase a like aggregate number of Warrant Shares as the certificate or certificates surrendered then entitle each Holder to purchase. Any Holder desiring to exchange a Warrant certificate or certificates shall make such request in writing delivered to the Company at its principal office (or, if a warrant agent is appointed, the warrant agent at its principal office) and shall surrender, properly endorsed, the certificate or certificates to be so exchanged. Thereupon, the Company (or, if appointed, the warrant agent) shall execute and deliver to the person entitled thereto a new Warrant certificate or certificates, as the case may be, as so requested, in such name or names as such Holder shall designate.

Section 9. Mutilated or Missing Warrants. In case any of the certificates evidencing the Warrants shall be mutilated, lost, stolen or destroyed, the Company may in its discretion issue and deliver (and, if appointed, the warrant agent shall countersign and deliver) in exchange and substitution for and upon cancellation of the mutilated Warrant certificate, or in lieu of and substitution for the Warrant certificate lost, stolen or destroyed, a new Warrant certificate of like tenor, but only upon receipt of evidence reasonably satisfactory to the Company and the warrant agent (if so appointed) of such loss, theft or destruction of such Warrant and an indemnity or bond, if requested, also reasonably satisfactory to them. An applicant for such a substitute Warrant certificate shall also comply with such other reasonable regulations and pay such other reasonable charges as the Company (or the warrant agent, if so appointed) may prescribe.

Section 10. Adjustment of Warrant Price and Number of Warrant Shares. The number and kind of securities purchasable upon the exercise of each Warrant and the Warrant Price shall be subject to adjustment from time to time upon the happening of certain events, as hereinafter defined.

10.1 Adjustments. The number of Warrant Shares purchasable upon the exercise of each Warrant and the Warrant Price shall be subject to adjustment as follows:

(a) In the event that the Company shall (i) pay a dividend in shares of Common Stock or make a distribution in shares of Common Stock, (ii) subdivide its outstanding shares of Common Stock, (iii) combine its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) reclassify or change (including a change to the right to receive, or a change into, as the case may be (other than with respect to a merger or consolidation pursuant to the exercise of appraisal rights), shares of stock, other securities, property, cash or any combination thereof) its Common Stock (including any such reclassification or change in connection with a consolidation or merger in which the Company is the surviving corporation), the number of Warrant Shares purchasable upon exercise of each Warrant immediately prior thereto shall be adjusted so that the Holder of each Warrant shall be entitled to receive the kind and number of Warrant Shares or other securities of the Company or other property which he would have owned or have been entitled to receive after the happening of any of the events described above, had such Warrant been exercised immediately prior to the happening of such event or any record date with respect thereto. An adjustment made pursuant to this paragraph (a) shall become effective immediately after the effective date of such event retroactive to the record date, if any, for such event.

(b) In case the Company shall issue rights, options or warrants to all holders of its outstanding Common Stock, without any charge to such holders, entitling them to subscribe for or purchase shares of Common Stock at a price per share which is lower at the record date mentioned below than the then current market price per share of Common Stock (as defined in paragraph (d) below), the number of Warrant Shares thereafter purchasable upon the exercise of each Warrant shall be determined by multiplying the number of Warrant Shares theretofore purchasable upon exercise of each Warrant by a fraction, of which the numerator shall be the number of shares of Common Stock outstanding on the date of issuance of such rights, options or warrants plus the number of additional shares of Common Stock offered for subscription or purchase in connection with such rights, options or warrants, and of which the denominator shall be the number of shares of Common Stock outstanding on the date of issuance of such rights, options or warrants plus the number of shares which the aggregate offering price of the total number of shares of Common Stock so offered would purchase at the current market price per share of Common Stock at such record date. Such adjustment shall be made whenever such rights, options or warrants are issued, and shall become effective immediately after the record date for the determination of stockholders entitled to receive such rights, options or warrants.

(c) In case the Company shall distribute to all holders of its shares of Common Stock, (including any distribution made in connection with a merger in which the Company is the surviving corporation), evidences of its indebtedness or assets (excluding cash, dividends or distributions payable out of consolidated earnings or earned surplus and dividends or distributions referred to in paragraph (a) above) or rights, options or warrants, or convertible or exchangeable securities containing the right to subscribe for or purchase shares of Common Stock (excluding those referred to in paragraph (b) above), then in each case the number of Warrant Shares thereafter purchasable upon the exercise of each Warrant shall be determined by multiplying the number of Warrant Shares theretofore purchasable upon the exercise of each

Warrant by a fraction, of which the numerator shall be the then current market price per share of Common Stock (as defined in paragraph (d) below) on the date of such distribution, and of which the denominator shall be the then current market price per share of Common Stock, less the then fair value (as determined by the Board of Directors of the Company or, in the case of Warrants held by the Lender, an independent investment banker which shall be mutually agreeable to the parties, whose determination, in each case, shall be conclusive) of the portion of the assets or evidences of indebtedness so distributed or of such subscription rights, options or warrants, or of such convertible or exchangeable securities applicable to one share of Common Stock. Such adjustment shall be made whenever any such distribution is made, and shall become effective on the date of distribution retroactive to the record date for the determination of shareholders entitled to receive such distribution.

(d) For the purpose of any computation under paragraphs (b) and (c) of this Section 10.1, the current market price per share of Common Stock at any date shall be the average of the daily last sale prices for the 20 consecutive trading days ending one trading day prior to the date of such computation. The closing price for each day shall be the last reported sales price regular way or, in case no such reported sale takes place on such day, the average of the closing bid and asked prices regular way for such day, in each case on the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading or, if not so listed or admitted to trading, the last sale price of the Common Stock on the Nasdaq Stock Market or any comparable system. If the current market price of the Common Stock cannot be so determined, the Board of Directors of the Company shall reasonably determine the current market price on the basis of such quotations as are available.

(e) No adjustment in the number of Warrant Shares purchasable hereunder shall be required unless such adjustment would require an increase or decrease of at least one percent (1%) in the number of Warrant Shares purchasable upon the exercise of each Warrant; provided, however, that any adjustments which by reason of this paragraph (e) are not required to be made shall be carried forward and taken into account in the determination of any subsequent adjustment. All calculations shall be made with respect to the number of Warrant Shares purchasable hereunder, to the nearest tenth of a share and with respect to the Warrant Price payable hereunder, to the nearest whole cent.

(f) Whenever the number of Warrant Shares purchasable upon the exercise of each Warrant is adjusted, as herein provided, the Warrant Price payable upon exercise of each Warrant shall be adjusted by multiplying such Warrant Price immediately prior to such adjustment by a fraction, of which the numerator shall be the number of Warrant Shares purchasable upon the exercise of each Warrant immediately prior to such adjustment, and of which the denominator shall be the number of Warrant Shares purchasable immediately thereafter.

(g) No adjustment in the number of Warrant Shares purchasable upon the exercise of each Warrant need be made under paragraphs (b) and (c) if the Company issues or distributes to each Holder of Warrants the rights options, warrants, or convertible or exchangeable securities, or evidences of indebtedness or assets referred to in those paragraphs

which each Holder of Warrants would have been entitled to receive had the Warrants been exercised prior to the happening of such event or the record date with respect thereto. No adjustment need be made for a change in the par value of the Warrant Shares.

(h) For the purpose of this Section 10.1, the term "shares of Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Company at the date of this Agreement, or (ii) any other class of stock resulting from successive changes or reclassifications of such shares consisting solely of changes in par value, or from par value to no par value, or from no par value to par value. In the event that at any time, as a result of an adjustment made pursuant to paragraph (a) above, the Holders shall become entitled to purchase any securities of the Company other than shares of Common Stock, thereafter the number of such other shares so purchasable upon exercise of each Warrant and the Warrant Price of such shares shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Warrant Shares contained in paragraphs (a) through (i), inclusive, and the provisions of Section 3 and Section 10.2 through Section 10.5, inclusive, with respect to the Warrant Shares, shall apply on like terms to any such other securities.

(i) Upon the expiration of any rights, options, warrants or conversion or exchange privileges, if any thereof shall not have been exercised, the Warrant Price and the number of Warrant Shares purchasable upon the exercise of each Warrant shall, upon such expiration, be readjusted and shall thereafter be such as it would have been had it been originally adjusted (or had the original adjustment not been required, as the case may be) as if (A) the only shares of Common Stock so issued were the shares of Common Stock, if any, actually issued or sold upon the exercise of such rights, options, warrants or conversion or exchange rights and (B) such shares of Common Stock, if any, were issued or sold for the consideration actually received by the Company upon such exercise plus the aggregate consideration, if any, actually received by the Company for the issuance, sale or grant of all such rights, options, warrants or conversion or exchange rights whether or not exercised.

10.2 Voluntary Adjustment by the Company. The Company may at its option, at any time during the term of the Warrants, reduce the then current Warrant Price to any amount deemed appropriate by the Board of Directors of the Company.

10.3 Notice of Adjustment. Whenever the number of Warrant Shares purchasable upon the exercise of each Warrant or the Warrant Price of such Warrant Shares is adjusted, as herein provided, the Company shall, or in the event that a warrant agent is appointed, the Company shall cause the warrant agent promptly to, mail by first class, postage prepaid, to each Holder notice of such adjustment or adjustments. Such notice shall set forth the number of Warrant Shares purchasable upon the exercise of each Warrant and the Warrant Price of such Warrant Shares after such adjustment, setting forth a brief statement of the facts requiring such adjustment and setting forth the computation by which such adjustment was made.

10.4 No Adjustment for Dividends. Except as provided in Section 10.1, no adjustment in respect of any dividends shall be made during the term of a Warrant or upon the exercise of a Warrant.

10.5 Preservation of Purchase Rights Upon Merger, Consolidation, etc. In case of any consolidation of the Company with or merger of the Company into another corporation or in case of any sale, transfer or lease to another corporation of all or substantially all the property of the Company, the Company or such successor or purchasing corporation, as the case may be, shall execute an agreement that each Holder shall have the right thereafter, upon such Holder's election, either (i) upon payment of the Warrant Price in effect immediately prior to such action, to purchase upon exercise of each Warrant the kind and amount of shares and other securities and property (including cash) which he would have owned or have been entitled to receive after the happening of such consolidation, merger, sale, transfer or lease had such Warrant been exercised immediately prior to such action (such shares and other securities and property (including cash) being referred to as the "Sale Consideration") or (ii) to receive, in cancellation of such Warrant (and in lieu of paying the Warrant price and exercising such Warrant), the Sale Consideration less a portion thereof having a fair market value (as reasonably determined by the Company) equal to the Warrant Price (it being understood that, if the Sale Consideration consists of more than one type of shares, other securities or property, the amount of each type of shares, other securities or property to be received shall be reduced proportionately); provided, however, that no adjustment in respect of dividends, interest or other income on or from such shares or other securities and property shall be made during the term of a Warrant or upon the exercise of a Warrant. The Company shall mail by first class mail, postage prepaid, to each Holder, notice of the execution of any such agreement. Such agreement shall provide for adjustments, which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Section 10. The provisions of this paragraph shall similarly apply to successive consolidations, mergers, sales, transfers or leases. The warrant agent (if appointed) shall be under no duty or responsibility to determine the correctness of any provisions contained in any such agreement relating to the kind or amount of shares of stock or other securities or property receivable upon exercise of Warrants or with respect to the method employed and provided therein for any adjustments and shall be entitled to rely upon the provisions contained in any such agreement.

10.6 Statement on Warrants. Irrespective of any adjustments in the Warrant Price or the number or kind of shares purchasable upon the exercise of the Warrants, Warrants issued before or after such adjustment may continue to express the same price and number and kind of shares as are stated in the Warrants initially issuable pursuant to this Agreement.

Section 11. Reservation of Warrant Shares; Purchase and Cancellation of Warrants.

11.1 Reservation of Warrant Shares. There have been reserved, and the Company shall at all times keep reserved, out of its authorized Common Stock, a number of shares of Common Stock sufficient to provide for the exercise of the rights of purchase represented by the outstanding Warrants and any additional Warrants issuable hereunder. The Transfer Agent for the Common Stock and every subsequent transfer agent for any shares of the Company's capital stock issuable upon the exercise of any of the rights of purchase aforesaid will be irrevocably authorized and directed at all times to reserve such number of authorized shares as shall be required for such purpose. The Company will keep a copy of this Agreement on file with the Transfer Agent for the Common Stock and with every subsequent transfer agent for any shares of the

Company's capital stock issuable upon the exercise of the rights of purchase represented by the Warrants. The warrant agent, if appointed, will be irrevocably authorized to requisition from time to time from such Transfer Agent the stock certificates required to honor outstanding Warrants upon exercise thereof in accordance with the terms of this Agreement. The Company will supply such Transfer Agent with duly executed stock certificates for such purposes and will provide or otherwise make available any cash which may be payable as provided in Section 12. The Company will furnish such Transfer Agent a copy of all notices of adjustments and certificates related thereto, transmitted to each Holder pursuant to Section 10.3.

11.2 Purchase of Warrants by the Company. The Company shall have the right, except as limited by law, other agreements or herein, with the consent of the Holder, to purchase or otherwise acquire Warrants at such times, in such manner and for such consideration as it may deem appropriate.

11.3 Cancellation of Warrants. In the event the Company shall purchase or otherwise acquire Warrants, the same shall thereupon be cancelled and retired. The warrant agent (if so appointed) shall cancel any Warrant surrendered for exchange, substitution, transfer or exercise in whole or in part.

Section 12. Fractional Interests. The Company shall not be required to issue fractional Warrant Shares on the exercise of Warrants. If more than one Warrant shall be presented for exercise in full at the same time by the same Holder, the number of full Warrant Shares which shall be issuable upon the exercise thereof shall be computed on the basis of the aggregate number of Warrant Shares purchasable on exercise of the Warrants so presented. If any fraction of a Warrant Share would, except for the provisions of this Section 12, be issuable on the exercise of any Warrant (or specified portion thereof), the Company shall pay an amount in cash equal to the average of the daily closing sale prices (determined in accordance with paragraph (d) of Section 10.1) per share of Common Stock for the 20 consecutive trading days ending one trading day prior to the date the Warrant is presented for exercise, multiplied by such fraction.

Section 13. No Rights as Shareholders; Notices to Holders. Nothing contained in this Agreement or in any of the Warrants shall be construed as conferring upon the Holders or their transferees the right to vote or to receive dividends or to consent or to receive notice as shareholders in respect of any meeting of shareholders for the election of directors of the Company or any other matter, or any rights whatsoever as shareholders of the Company. If, however, at any time prior to the expiration of the Warrants and prior to their exercise, any of the following events shall occur:

(a) the Company shall declare any dividend payable in any securities upon its shares of Common Stock or make any distribution (other than a regular cash dividend,

as such dividend may be increased from time to time, or a dividend payable in shares of Common Stock) to the holders of its shares of Common Stock; or

(b) the Company shall offer to the holders of its shares of Common Stock on a pro rata basis any cash, additional shares of Common Stock or other securities of the Company or any right to subscribe for or purchase any thereof; or

(c) a dissolution, liquidation or winding up of the Company (other than in connection with a consolidation, merger, sale, transfer or lease of all or substantially all of its property, assets, and business as an entirety) shall be proposed,

then in any one or more of said events the Company shall (i) give notice in writing of such event as provided in Section 15 and (ii) if the Warrants have been registered pursuant to the Act, cause notice of such event to be published once in The Wall Street Journal (national edition), such giving of notice and publication to be completed at least 10 days prior to the date fixed as a record date or the date of closing the transfer books for the determination of the stockholders entitled to such dividend, distribution, or subscription rights or for the determination of stockholders entitled to vote on such proposed dissolution, liquidation or winding up or the date of expiration of such offer. Such notice shall specify such record date or the date of closing the transfer books or the date of expiration, as the case may be. Failure to publish, mail or receive such notice or any defect therein or in the publication or mailing thereof shall not affect the validity of any action in connection with such dividend, distribution or subscription rights, or such proposed dissolution, liquidation or winding up, or such offer.

Section 14. Appointment of Warrant Agent. At such time as the Company shall register Warrants under the Act, the Company shall appoint a warrant agent to act on behalf of the Company in connection with the issuance, division, transfer and exercise of Warrants. At such time as the Company appoints a warrant agent, the Company shall enter into a new Warrant Agreement with the warrant agent pursuant to which all new Warrants will be issued upon registration of transfer or division, which will reflect the appointment of the warrant agent, as well as additional customary provisions as shall be reasonably requested by the warrant agent in connection with the performance of its duties. In the event that a warrant agent is appointed, the Company shall (i) promptly notify the Holders of such appointment and the place designated for transfer, exchange and exercise of the Warrants, and (ii) take such steps as are necessary to insure that Warrants issued prior to such appointment may be exchanged for Warrants countersigned by the warrant agent.

Section 15. Notices; Principal Office. Any notice pursuant to this Agreement by the Company or by any Holder to the warrant agent (if so appointed), or by the warrant agent (if so appointed) or by any Holder to the Company, shall be in writing and shall be delivered in person, or mailed first class, postage prepaid (a) to the Company, at its office, Attention: President or (b) to the warrant agent, at its offices as designated at the time the warrant agent is appointed. The address of the principal office of the Company is 935 Pardee Street, Berkeley, California 94710. Any notice mailed pursuant to this Agreement by the Company or the warrant agent to the

Holder shall be in writing and shall be mailed first class, postage prepaid, or otherwise delivered, to such Holders at their respective addresses on the books of the Company or the warrant agent, as the case may be. Each party hereto and any Holder may from time to time change the address to which notices to it are to be delivered or mailed hereunder by notice to the other party.

Section 16. Successors. Except as expressly provided herein to the contrary, all the covenants and provisions of this Agreement by or for the benefit of the Company and the Lender shall bind and inure to the benefit of their respective successors and permitted assigns hereunder.

Section 17. Merger or Consolidation of the Company. The Company will not merge or consolidate with or into, or sell, transfer or lease all or substantially all of its property to, any other corporation unless the successor or purchasing corporation, as the case may be (if not the Company), shall expressly assume, by supplemental agreement, the due and punctual performance and observance of each and every covenant and condition of this Agreement to be performed and observed by the Company.

Section 18. Registration Rights.

18.1 Filing of Registration Statement. The Company agrees, at its expense, to file a registration statement with the Securities and Exchange Commission to register the Warrants and the Warrant Shares under the Act, and to take such other actions as may be necessary to allow the Warrants and the Warrant Shares to be freely tradable, without restrictions, in compliance with all regulatory requirements. Such registration statement shall be filed promptly and the Company will use its best efforts to cause the registration statement to become effective within 120 days after the date of this Agreement. The Company will make all filings required under applicable state securities or "blue sky" laws so that the Warrants and Warrant Shares being registered shall be registered or qualified for sale under the securities or blue sky laws of such jurisdictions as shall be reasonably appropriate for distribution of the Warrants and Warrant Shares covered by the registration statement. The registration statement shall be a "shelf" registration pursuant to Rule 415 (or similar rule that may be adopted by the Securities and Exchange Commission) and shall provide that each Holder's plan of distribution is to offer and sell Warrant Shares from time to time at market prices or prices related to market prices; provided, that the registration statement may be amended to provide for an underwritten public offering of Warrant Shares if the Holders submit to the Company a written notice to such effect with a copy of the applicable underwriting documents and such other relevant information concerning the offering as the Company may request. The Company shall keep such registration statement effective until the earlier of (a) completion of the distribution or distributions being made pursuant thereto, and (b) such time as all of the Holders are eligible to sell their Warrant Shares under Rule 144(k) under the Act. The Company shall utilize Form S-3 if it qualifies for such use. The Company will furnish to the Holders of Warrants and Warrant Shares registered for sale under the Act (the "Selling Securities Holders") such numbers of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Act and such other related documents as the Selling Securities Holders may reasonably request in order to effect the sale of the Warrants and Warrant Shares. To effect any offering pursuant to a registration statement under this Section, the Company shall enter into an agreement containing customary

representations and warranties, and indemnification and contribution provisions, all for the benefit of Selling Securities Holders, and, in the case of an Underwritten public offering, an underwriting agreement with an investment banking firm selected by the Selling Security Holders and reasonably acceptable to the Company, containing such customary representations and warranties, and indemnification and contribution provisions

18.2 "Piggy-Back Registration." If, at any time, the Company proposes to register any of its securities under the Act (otherwise than pursuant to Section 18.1 or on a Form S-8 if such form cannot be used for registration of the Warrant or Warrant Shares pursuant to its terms), and the registration statement described in Section 18.1 shall not then be effective under the Act, the Company shall, as promptly as practicable, give written notice to the Lender. The Company shall include in such registration statement the Warrants and any Warrant Shares proposed to be sold by the Selling Securities Holders. Notwithstanding the foregoing, if the offering of the Company's securities is to be made through underwriters, the Company shall not be required to include the Warrants and Warrant Shares if and to the extent that the managing underwriter reasonably believes in good faith that such inclusion would materially adversely affect such offering unless the Selling Securities Holders agree to postpone their sales until 10 days after the distribution is completed.

18.3 Costs of Registration. The Company shall pay the cost of the registration statements filed pursuant to this Agreement, including without limitation all registration and filing fees, fees and expenses of compliance with securities or blue sky laws (including counsel's fees and expenses in connection therewith), printing expenses, messenger and delivery expenses, internal expenses of the Company, listing fees and expenses, and fees and expenses of the Company's counsel, independent accountants and other persons retained or employed by the Company. Selling Securities Holders shall pay any underwriters discounts applicable to the Warrants and Warrant Shares.

Section 19. Legends. The Warrants and Warrant Shares issued pursuant to this Agreement shall bear an appropriate legend, conspicuously disclosing the restrictions on exercise and transfer under Section 7.2 of this Agreement until the same are registered for sale under the Act. The Company agrees that upon the sale of the Warrants and Warrant Shares pursuant to a registration statement or an exemption, upon the presentation of the certificates containing such a legend to its transfer agent, it will remove such legend. The Company further agrees to remove the legend at such time as registration under the Act shall no longer be required.

Section 20. Applicable Law. This Agreement and each Warrant issued hereunder shall be governed by and construed in accordance with the laws of the State of California, without giving effect to principles of conflict of laws.

Section 21. Benefits of this Agreement. Nothing in this Agreement shall be construed to give to any person or corporation other than the Company, the warrant agent (if appointed) and the Holders any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the warrant agent and the Holders of the Warrants.

Section 22. Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

Section 23. Captions. The captions of the Sections and subsections of this Agreement

have been inserted for convenience only and shall have no substantive effect.

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

BIOTIME, INC.

By: s/Paul Segall

Name: Paul Segall, Ph.D

Title: Chairman and Chief Executive Officer

Attest:

By: s/Judith Segall

Name: Judith Segall

Title: Secretary

EXHIBIT A

THIS WARRANT HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR UNDER APPLICABLE STATE SECURITIES LAWS. THIS WARRANT MAY NOT BE EXERCISED, SOLD, PLEDGED, HYPOTHECATED, TRANSFERRED OR ASSIGNED EXCEPT UNDER AN EFFECTIVE REGISTRATION STATEMENT UNDER SUCH ACT AND APPLICABLE STATE SECURITIES LAWS, UNLESS AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

VOID AFTER 5:00 P.M. NEW YORK TIME, August 1, 2004

Certificate No.

Warrant to Purchase
[Insert number of Shares]
Shares of Common Stock

BIOTIME, INC.
COMMON STOCK PURCHASE WARRANTS

This certifies that, for value received, [Insert name of Holder] or registered assigns (the "Holder"), is entitled to purchase from BioTime, Inc. a California corporation (the "Company"), at a purchase price per share [Insert Warrant Price determined pursuant to Sections 4 and 10 of the Warrant Agreement] (the "Warrant Price"), the number of its Common Shares, no par value per share (the "Common Stock"), shown above. The number of shares purchasable upon exercise of the Common Stock Purchase Warrants (the "Warrants") and the Warrant Price are subject to adjustment from time to time as set forth in the Warrant Agreement referred to below. Outstanding Warrants not exercised prior to 5:00 p.m., New York time, on August 1, 2004 shall thereafter be void.

Subject to restriction specified in the Warrant Agreement, Warrants may be exercised in whole or in part by presentation of this Warrant Certificate with the Purchase Form on the reverse side hereof duly executed, which signature shall be guaranteed by a bank or trust company or a broker or dealer which is a member of the National Association of Securities Dealers, Inc., and simultaneous payment of the Warrant Price (or as otherwise set forth in Section 10.5 of the Warrant Agreement) at the principal office of the Company (or if a warrant agent is appointed, at the principal office of the warrant agent). Payment of the Warrant Price shall be made in cash or by certified or bank cashier's check or by delivery of Debentures in such amount as provided in Section 3 of the Warrant Agreement. As provided in the Warrant Agreement, the Warrant Price and the number or kind of shares which may be purchased upon the exercise of the Warrant evidenced by this Warrant Certificate are, upon the happening of certain events, subject to modification and adjustment.

The Warrants evidenced by this Warrant Certificate may be redeemed by the Company, at its election, at any time after June 30, 2002, if (a) a registration statement under Section 18.1 of the

Warrant Agreement or a registration statement under Section 18.2 of the Warrant Agreement that includes Warrants and Warrant Shares is then effective under the Securities Act of 1933, as amended, and (b) the closing price of the Common Stock on a national securities exchange (including the Nasdaq Stock Market National Market System), or the average bid price as quoted in Nasdaq Stock Market if the Common Shares are not listed on a national securities exchange, equals or exceeds 150% of the Warrant Price for any fifteen (15) consecutive trading days ending not more than thirty (30) days prior to the date of the notice given pursuant to Section 6.2 of the Warrant Agreement. From and after the date specified by the Company for redemption of the Warrants (the "Redemption Date"), the Warrants evidenced by this Warrant Certificate shall no longer be deemed outstanding and all rights of the Holder of this Warrant Certificate shall cease and terminate, except for the right of the registered Holder to receive payment of the redemption price of one cent (\$0.01) per Warrant Share upon presentation and surrender of this Warrant Certificate. The Redemption Date shall abate, and the notice of redemption shall be of no effect, if the closing price or average bid price of the Common Stock, as applicable under Section 6.1 of the Warrant Agreement, does not equal or exceed 120% of the Warrant Price on the Redemption Date and the five trading days immediately preceding the Redemption Date, but the right Company shall have the right to redeem the Warrants at a future date if the conditions set forth in Section 6.1 of the Warrant Agreement are subsequently met and a new notice setting a new Redemption Date is sent to Warrant holders.

This Warrant Certificate is issued under and in accordance with a Warrant Agreement dated as of August 13, 2001 between the Company and the persons named as "Lenders" therein, and is subject to the terms and provisions contained in the Warrant Agreement, to all of which the Holder of this Warrant Certificate by acceptance of this Warrant Certificate consents. A copy of the Warrant Agreement may be obtained by the Holder hereof upon written request to the Company. In the event that pursuant to Section 14 of the Warrant Agreement a warrant agent is appointed and a new warrant agreement entered into between the Company and such warrant agent, then such new warrant agreement shall constitute the Warrant Agreement for purposes hereof and this Warrant Certificate shall be deemed to have been issued pursuant to such new warrant agreement.

Upon any partial exercise of the Warrant evidenced by this Warrant Certificate, there shall be issued to the Holder hereof a new Warrant Certificate in respect of the shares of Common Stock as to which the Warrant evidenced by this Warrant Certificate shall not have been exercised. This Warrant Certificate may be exchanged at the office of the Company (or the warrant agent, if appointed) by surrender of this Warrant Certificate properly endorsed either separately or in combination with one or more other Warrant Certificates for one or more new Warrant Certificates evidencing the right of the Holder thereof to purchase the aggregate number of shares as were purchasable on exercise of the Warrants evidenced by the Warrant Certificate or Certificates exchanged. No fractional shares will be issued upon the exercise of any Warrant, but the Company will pay the cash value thereof determined as provided in the Warrant Agreement. This Warrant Certificate is transferable at the office of the Company (or the warrant agent, if appointed) in the manner and subject to the limitations set forth in the Warrant Agreement.

The Holder hereof may be treated by the Company, the warrant agent (if appointed) and all other persons dealing with this Warrant Certificate as the absolute owner hereof for any purpose and as the person entitled to exercise the rights represented hereby, or to the transfer hereof on the books of the Company, any notice to the contrary notwithstanding, and until such transfer on such books, the Company (and the warrant agent, if appointed) may treat the Holder hereof as the owner for all purposes.

Neither the Warrant nor this Warrant Certificate entitles any Holder to any of the rights of a stockholder of the Company.

[This Warrant Certificate shall not be valid or obligatory for any purpose until it shall have been countersigned by the warrant agent.]*

DATED: BIOTIME, INC.

(Seal) By: _____
Title: _____

Attest: _____

[COUNTERSIGNED:

WARRANT AGENT

By: _____]*
Authorized Signature

- - - - -

* To be part of the Warrant only after the appointment of a warrant agent pursuant to Section 14 of the Warrant Agreement.

PURCHASE FORM

(To be executed upon exercise of Warrant)

To BioTime, Inc.:

The undersigned hereby irrevocably elects to exercise the right of purchase represented by the within Warrant Certificate for, and to purchase thereunder, _____ shares of Common Stock, as provided for therein, and tenders herewith payment of the Warrant Price in full in the form of cash or a certified or bank cashier's check or outstanding Series 2001-A Debentures in the amount of \$_____.

Please issue a certificate or certificates for such shares of Common Stock in the name of, and pay any cash for any fractional share to:

(Please Print Name)

(Please Print Address)

(Social Security Number or
Other Taxpayer Identification Number)

(Signature)

NOTE: The above signature should correspond exactly with the name on the face of this Warrant Certificate or with the name of the assignee appearing in the assignment form below.

And, if said number of shares shall not be all the shares purchasable under the within Warrant Certificate, a new Warrant Certificate is to be issued in the name of said undersigned for the balance remaining of the share purchasable thereunder less any fraction of a share paid in cash.

ASSIGNMENT

(To be executed only upon assignment of Warrant Certificate)

For value received, _____ hereby sells, assigns and transfers unto _____ the within Warrant Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint _____ attorney, to transfer said Warrant Certificate on the books of the within-named Company, with full power of substitution in the premises.

Dated: _____

(Signature)

NOTE: The above signature should correspond exactly with the name on the face of this Warrant Certificate.