

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

QUARTERLY REPORT UNDER SECTION 13
OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Quarter Ended: March 31, 1998 Commission File Number 0-27352

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

Delaware 04-3072298
(State or other jurisdiction of (I.R.S. Employer Identification Number)
organization or incorporation)

620 Memorial Drive
Cambridge, MA 02139
(Address of principal executive offices, including zip code)

(617) 528-7000
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports 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
-- --

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

Common Stock, par value \$.001 per share 5,061,650

Class Outstanding as of April 30, 1998

HYBRIDON, INC.

FORM 10-Q

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HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED CONDENSED BALANCE SHEETS

(UNAUDITED)

ASSETS

	MARCH 31, 1998	December 31, 1997
CURRENT ASSETS:		
Cash and cash equivalents	\$ 439,214	\$ 2,202,202
Accounts receivable	521,887	529,702
Prepaid expenses and other current assets	706,869	1,005,825
	-----	-----
Total current assets	1,667,970	3,737,729
- - - - -	-----	-----
PROPERTY AND EQUIPMENT, AT COST:		
Leasehold improvements	15,912,192	16,027,734
- - -		
Laboratory equipment	6,172,583	6,770,402
Equipment under capital leases	4,905,744	4,879,190
Office equipment	1,935,959	1,947,818
Furniture and fixtures	611,060	645,264
Construction-in-progress	45,409	45,409

	29,582,947	30,315,817
Less--Accumulated depreciation and amortization	12,215,553	11,085,013

	17,367,394	19,230,804

OTHER ASSETS:		
Restricted cash	784,618	3,050,982
Notes receivable from officers	250,100	247,250
Deferred financing costs and other assets	3,246,256	3,354,767
Investment in real estate partnership	5,450,000	5,450,000

	9,730,974	12,102,999
	\$28,766,338	\$35,071,532
Liabilities and Stockholders' Equity (Deficit)		
Current Liabilities:		
Current portion of long-term debt and capital lease obligations	\$ 5,723,036	\$ 7,868,474
Accounts payable	7,572,385	8,051,817
Accrued expenses	12,663,288	11,917,298

Total current liabilities	25,958,709	27,837,589

LONG-TERM DEBT AND CAPITAL LEASE OBLIGATIONS, NET OF CURRENT PORTION	3,249,800	3,282,123
9% CONVERTIBLE SUBORDINATED NOTES PAYABLE	50,000,000	50,000,000
CONVERTIBLE SUBORDINATED NOTES PAYABLE	4,800,000	-
STOCKHOLDERS' EQUITY(DEFICIT):		
Preferred stock, \$.01 par value-		
Authorized--5,000,000 shares		
Issued and outstanding--None	-	-
Series A convertible preferred stock, \$.01 par value-		
Authorized--5,000,000 shares		
Issued and outstanding--910,717 shares pro forma	-	-
Common stock, \$.001 par value-		
Authorized--100,000,000 shares		
Issued and outstanding-- 5,059,650 shares at March 31, 1998, and December 31, 1997 and 11,659,650 shares pro forma	5,060	5,060
Additional paid-in capital	173,129,531	173,695,698
Deficit accumulated during the development stage	(227,337,273)	(218,655,101)
Deferred compensation	(1,039,489)	(1,093,837)
Total stockholders' equity(deficit)	(55,242,171)	(46,048,180)
	\$28,766,338	\$35,071,532

The accompanying notes are an integral part of these consolidated condensed financial statements.

HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED CONDENSED STATEMENTS OF OPERATIONS

(UNAUDITED)

	Three Months Ended March 31,		Cumulative from May 25, 1989 (Inception) to March 31,
	1998	1997	1998
REVENUES:			
Research and development	\$ 150,000	\$593,900	\$ 5,649,263
Product revenue	825,069	348,154	3,782,106
Interest income	17,845	117,412	3,238,584
Royalty and other income	-	-	110,321
	992,914	1,059,466	12,780,274
OPERATING EXPENSES:			
Research and development	6,402,537	11,476,439	171,862,352
General and administrative	1,665,112	3,430,453	49,481,728
Restructuring charge	-	-	11,020,000
Interest	1,607,437	170,207	7,753,467
	9,675,086	15,077,099	240,117,547
Net loss	\$ (8,682,172)	\$ (14,017,633)	(227,337,273)

BASIC AND DILUTED NET LOSS PER COMMON SHARE	\$ (1.72)	\$ (2.78)
	=====	=====

(Note 2)

SHARES USED IN COMPUTING BASIC AND DILUTED NET LOSS PER COMMON SHARE (Note 2)	5,059,650	5,044,946
	=====	=====

The accompanying notes are an integral part of these consolidated condensed financial statements

HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

CONSOLIDATED CONDENSED STATEMENTS OF CASH FLOWS

(UNAUDITED)

	THREE MONTHS ENDED MARCH 31,		Cumulative from May 25, 1989 (Inception) to March 31,
	1998	1997	1998
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	\$ (8,682,172)	\$ (14,017,633)	\$ (227,337,273)
Adjustments to reconcile net loss to net cash used in operating activities-			
Depreciation and amortization	1,130,540	1,227,137	12,316,994
Loss on disposal of fixed assets	359,424	-	359,424
Issuance of common stock for services rendered	-	146,875	146,875
Compensation on grant of stock options, warrants and restricted stock	54,348	133,859	8,178,146
Amortization of discount on convertible promissory notes payable	-	-	690,157
Amortization of deferred financing costs	217,021	274,800	913,490
Noncash interest on convertible promissory notes payable	-	-	260,799
Write-down of assets related to restructuring	-	-	600,000
Changes in operating assets and liabilities-			
Accounts receivable	7,815	(163,984)	(521,887)
Prepaid and other current assets	298,956	(190,277)	(706,869)
Notes receivable from officers	(2,850)	(2,304)	(250,100)
Amounts payable to related parties	-	-	(200,000)
Accounts payable and accrued expenses	266,558	2,376,928	20,235,673
	-----	-----	-----
Net cash used in operating activities	(6,350,360)	(10,214,599)	(185,314,571)
	-----	-----	-----
CASH FLOWS FROM INVESTING ACTIVITIES:			
Decrease (increase) in short-term investments	-	3,785,146	-
Purchases of property and equipment, net	-	(3,831,655)	(29,312,465)
Proceeds from sale of fixed assets	400,000	-	400,000
Investment in real estate partnership	-	-	(5,450,000)
	-----	-----	-----
Net cash provided by (used in) investing activities	400,000	(46,509)	(34,362,465)
	-----	-----	-----
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of convertible preferred stock	-	-	96,584,154
Proceeds from issuance of common stock related to stock options and restricted stock grants	-	47,203	1,260,928
Proceeds from issuance of common stock related to stock warrants	-	-	3,185,816
Net proceeds from issuance of common stock	-	-	52,355,324
Repurchase of common stock	-	-	(263)

Proceeds from notes payable	-	-	9,450,000
Proceeds from issuance of convertible promissory notes payable	4,233,833	-	63,425,577
Proceeds from long-term debt	-	-	662,107
Payments on long-term debt and capital leases	(2,204,315)	(375,874)	(5,570,195)
Proceeds from sale/leaseback	-	-	4,001,018
Decrease (increase) in restricted cash and other assets	2,157,854	445,919	(1,981,277)
(Increase) decrease in deferred financing costs activities	-	-	(3,256,939)
	-----	-----	-----
Net cash provided by (used in) financing activities	4,187,372	117,248	220,116,250
	-----	-----	-----
NET (DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS	(1,762,988)	(10,143,860)	439,214
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD activities	2,202,202	12,633,742	-
	-----	-----	-----
CASH AND CASH EQUIVALENTS, END OF PERIOD	\$ 439,214	\$ 2,489,882	\$ 439,214
	=====	=====	=====
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid for interest	\$ 358,680	\$ 170,207	\$ 3,989,130
	=====	=====	=====

The accompanying notes are an integral part of these consolidated condensed financial statements.

HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED CONDENSED FINANCIAL STATEMENTS

(UNAUDITED)

(1) ORGANIZATION

Hybridon, Inc. (the Company) was incorporated in the State of Delaware on May 25, 1989. The Company is engaged in the discovery and development of novel genetic medicines based primarily on antisense technology. The Company is in the development stage. Since inception, the Company has been engaged primarily in research and development efforts, development of its manufacturing capabilities and organizational efforts, including recruiting of scientific and management personnel and raising capital. To date, the Company has not received revenue from the sale of biopharmaceutical products developed by it based on antisense technology. In order to commercialize its own products, the Company will need to address a number of technological challenges and comply with comprehensive regulatory requirements. Accordingly, it is not possible to predict the amount of funds that will be required or the length of time that will pass before the Company receives revenues from sales of any of these products. All revenues received by the Company to date have been derived from collaboration agreements, interest on investment funds and revenues from the custom contract manufacturing of synthetic DNA and reagent products by the Company's Hybridon Specialty Products Division. As a result, although the Company has begun to generate revenues from its contract manufacturing business, the Company is dependent on the proceeds from possible future sales of equity securities, debt financings and research and development collaborations in order to fund future operations.

On January 22, 1998, the Company commenced a private offering of convertible subordinated notes payable and warrants to purchase common stock. The Company had issued \$4.8 million of such notes as of March 31,

1998. On May 5, 1998, the Company completed the private offering raising total gross proceeds of approximately \$27.3 million for the issuance of approximately 10,195,000 shares of common stock, including shares issued in lieu of cash fees to a placement agent unaffiliated with the Company and its directors, 114,300 shares of Series A convertible preferred stock and warrants to purchase approximately 3,800,000 shares of common stock at \$2.40 per share, including warrants issued to a placement agent unaffiliated with the Company and its directors. The gross proceeds include the conversion of the \$4.8 million of convertible subordinated notes payable outstanding at March 31, 1998 and the conversion of approximately \$6.7 million of accounts payable, capital lease and other obligations outstanding at March 31, 1998. The Company incurred approximately \$1.0 million of out of pocket expenses related to the private offering. The compensation arrangement with Pillar, a Company affiliated with certain directors of the Company, with respect to the offshore component of the private offering (Offshore Offering) has not been finalized by the Company's Board of Directors. However, Pillar is expected to receive fees consisting of (i) 9% of the gross proceeds of such Offshore Offering and (ii) a non-accountable expense allowance equal to 4% of such gross proceeds. Pillar has received approximately \$1.6 million pursuant to these arrangements as of May 5, 1998. Pillar is also expected to receive warrants to purchase approximately 1,112,000 shares of common stock at \$2.40 per share.

On February 6, 1998, the Company commenced an exchange offer to the holders of the 9% Notes to exchange the 9% Notes for Series A convertible preferred stock and certain warrants of the

HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED CONDENSED FINANCIAL STATEMENTS

(UNAUDITED)

(CONTINUED)

Company. In the exchange offer, each \$1,000 of principal amount and accrued but unpaid interest on the 9% Notes may be exchanged, upon terms and subject to the conditions set forth in the Exchange Offer documents, for 10 shares of Series A convertible preferred stock, stated value \$100 per share, and warrants to purchase 25% of the number of shares of common stock into which such Series A convertible preferred stock would be convertible. On May 5, 1998, approximately \$48.6 million principal amount of the 9% Notes and approximately \$2,355,000 of accrued interest on the 9% Notes was tendered to the Company to be exchanged for approximately 510,000 shares of Series A convertible preferred stock and warrants to purchase approximately 3,000,000 shares of common stock at \$4.25 per share.

(2) UNAUDITED INTERIM FINANCIAL STATEMENTS

The unaudited consolidated condensed financial statements included herein have been prepared by the Company, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission and include, in the opinion of management, all adjustments, consisting of normal, recurring adjustments, necessary for a fair presentation of interim period results. Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. The Company believes, however, that its disclosures are adequate to make the information presented not misleading. The results for the interim periods presented are not necessarily indicative of results to be expected for the full fiscal year. It is suggested that these financial statements be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 1997, as filed with the Securities and Exchange Commission.

(3) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Net Loss per Common Share

In February 1997, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 128, Earnings per Share which establishes new standards for calculating and presenting earnings per share. This standard is effective for financial statements for periods ending after December 15, 1997. These condensed financial statements have been prepared and based on the new standard. Basic net loss per share is computed by dividing net loss by the weighted average number of common shares outstanding during the period. Diluted net loss per share for the periods presented is the same as basic net loss per share as the inclusion of the potential common stock equivalents would be antidilutive.

(4) CASH EQUIVALENTS

The Company applies SFAS No. 115, Accounting for Certain Investments in Debt and Equity Securities. Under SFAS No. 115, debt securities that the Company has the positive intent and

HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED CONDENSED FINANCIAL STATEMENTS

(UNAUDITED)

(CONTINUED)

ability to hold to maturity are recorded at amortized cost and are classified as held-to-maturity securities. These securities include cash equivalents and restricted cash. Cash equivalents have original maturities of less than three months. Cash and cash equivalents at March 31, 1998 and December 31, 1997 consisted of the following:

	MARCH 31, 1998	December 31, 1997
Cash and cash equivalents-		
Cash and money market funds	\$ 155,383	\$ 1,702,272
Corporate bond	283,831	499,930
	-----	-----
	\$ 439,214	\$ 2,202,202
	=====	=====
 Restricted cash-		
Certificates of deposit	\$ -	\$ 2,016,364
Savings account	784,618	1,034,618
	-----	-----
	\$ 784,618	\$ 3,050,982
	=====	=====

(5) 9.0% CONVERTIBLE SUBORDINATED NOTES

On April 2, 1997, the Company issued \$50,000,000 of the 9% Notes. As discussed in Note 1, on May 5, 1998 noteholders holding \$48.6 million of principal value of the 9% Notes tendered such notes and approximately \$2,355,000 of accrued interest in exchange for Series A convertible preferred stock and warrants to purchase common stock. As of May 5, 1998, there was \$1.4 million principal amount of 9% Notes outstanding. Under the terms of the 9% Notes, the Company must make semi-annual interest payments on the outstanding principal balance through the maturity date of April 1,

2004. If the 9% Notes are converted prior to April 1, 2000, the Noteholders are entitled to receive accrued interest from the date of the most recent interest payment through the conversion date. The 9% Notes are subordinate to substantially all of the Company's existing indebtedness. The 9% Notes are convertible at any time prior to the maturity date at a conversion price equal to \$35.0625 per share, subject to adjustment under certain circumstances, as defined.

Beginning April 1, 2000, the Company may redeem the 9% Notes at its option for a 4.5% premium over the original issuance price, provided that from April 1, 2000 to March 31, 2001, the 9% Notes may not be redeemed unless the closing price of the common stock equals or exceeds 150% of the conversion price for a period of at least 20 out of 30 consecutive trading days and the 9% Notes redeemed within 60 days after such trading period. The premium decreases by 1.5% each year

HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED CONDENSED FINANCIAL STATEMENTS

(UNAUDITED)

(CONTINUED)

through March 31, 2003. Upon a change of control of the Company, as defined, the Company will be required to offer to repurchase the 9% Notes at 150% of the original issuance price.

(6) NEW ACCOUNTING STANDARDS

Effective January 1, 1998, the Company adopted SFAS No. 130, Reporting Comprehensive Income. SFAS No. 130 requires disclosure of all components of comprehensive income on an annual and interim basis. Comprehensive income is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. The Company's total comprehensive loss for the three month periods ended March 31, 1998 and 1997 were the same as reported net loss for those periods.

In July 1997, the FASB issued SFAS No. 131, Disclosures About Segments of an Enterprise and Related Information. SFAS No. 131 requires certain financial and supplementary information to be disclosed on an annual and interim basis for each reportable segment of an enterprise. SFAS No. 131 is effective for fiscal years beginning after December 15, 1997. Unless impracticable, companies would be required to restate prior period information upon adoption.

In March 1998, the American Institute of Certified Public Accountants (AICPA) issued Statement of Position (SOP) 98-1, Accounting for the Costs of Computer Software Developed or Obtained for Internal Use. SOP 98-1 requires computer software costs associated with internal use software to be expensed as incurred until certain capitalization criteria are met. The Company will adopt SOP 98-1 prospectively beginning January 1, 1999. Adoption of this statement will not have a material impact on the Company's consolidated financial position or results of operations.

In April 1998, the AICPA issued SOP 98-5, Reporting on the Costs of Start-Up Activities. SOP 98-5 requires all costs associated with pre-opening, pre-operating and organization activities to be expensed as incurred. The Company will adopt SOP 98-5 beginning January 1, 1999. Adoption of this Statement will not have a material impact on the Company's consolidated financial position or results of operations.

(7) RESTRUCTURING

Beginning in July 1997, the Company implemented a restructuring plan to reduce expenditures on a phased basis over the balance of 1997 in an effort to conserve its cash resources. As part of this restructuring plan, in addition to terminating the clinical development of GEM 91, the Company's first generation antisense drug for the treatment of AIDS and HIV infection, the Company reduced or suspended selected programs

unrelated to its core advanced chemistry antisense drug development programs, including its ribozyme program. In connection with the reduction in programs, the Company has accrued termination fees related to research contracts and has incurred restructuring charges related to programs that have been suspended or canceled. As part of the restructuring, all outside testing, public relations, travel and entertainment and consulting arrangements were reviewed and where appropriate the terms were renegotiated, contracts canceled or the terms were

HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

NOTES TO CONSOLIDATED CONDENSED FINANCIAL STATEMENTS

(UNAUDITED)

(CONTINUED)

significantly reduced. In addition, the Company terminated the employment of 84 employees at its Cambridge and Milford, Massachusetts facilities since July of 1997 and substantially reduced operations at its Paris, France office and terminated 10 employees at that location in August 1997. In connection with the restructuring the Company entered into two different subleasing arrangements. The Company has subleased one facility in Cambridge, Massachusetts, and a portion of its headquarters located at 620 Memorial Drive, Cambridge, Massachusetts. The Company incurred expenses relating to these subleases for broker fees and renovation expenses incurred in preparing the Memorial Drive space for the new tenant. In addition, the Company accrued the estimated lease loss of subleasing 620 Memorial Drive. The Company accrued the remaining lease costs of its Paris, France office prior to terminating the lease effective March 31, 1998.

The total cash impact of the restructuring amounted to approximately \$5,165,000. The total cash paid as of March 31, 1998 was approximately \$2,394,000 and the remaining amount will be paid in 1998.

(8) NOTE PAYABLE TO A BANK

In December 1996, the Company entered into a five year \$7,500,000 note payable with a bank. The note contains certain financial covenants that require the Company to maintain minimum tangible net worth and minimum liquidity and prohibits the payment of dividends. On April 30, 1998, the Company received a waiver from the bank for the minimum liquidity and minimum tangible net worth requirements. The note is payable in 59 equal installments of \$62,500 commencing on February 1, 1997 with a balloon payment of \$3,812,500, due on January 1, 2002. If at specified times the Company's minimum liquidity is less than \$15,000,000, \$10,000,000 or \$5,000,000, the Company is required to pledge cash collateral to the bank equal to 25%, 50% or 100%, respectively, of the then outstanding balance under the note. During 1997, the Company's minimum liquidity had fallen below \$5,000,000 and the Company deposited \$1,758,542 as collateral under the cash pledge agreement. During 1998, the bank withdrew the full amount of the restricted cash and applied it against the outstanding balance of the note. In connection with the waiver issued on April 30, 1998, the minimum liquidity requirements were amended to provide that if as of the fifteenth and last day of each calendar month the Company does not have minimum liquidity of at least \$8,000,000 or \$4,000,000, as defined, the Company will be required to immediately repay to the bank 35% and 100%, respectively, of the then outstanding balance. Also, in connection with the note, the Company issued five year warrants to purchase 13,000 shares of common stock at an exercise price of \$34.49 per share. These warrants were fully exercisable at December 31, 1997. As of March 31, 1998, approximately \$5,125,000 was outstanding under the note which is classified as a current liability in the accompanying March 31, 1998 balance sheet.

The Company is engaged in the discovery and development of genetic medicines based on antisense technology. The Company commenced operations in February 1990 and since that time has been engaged primarily in research and development efforts, development of its manufacturing capabilities and organizational efforts, including recruitment of scientific and management personnel, and raising capital. To date, the Company has not received revenue from the sale of biopharmaceutical products developed by it. In order to commercialize its own products, the Company will need to address a number of technological challenges and comply with comprehensive regulatory requirements. Accordingly, it is not possible to predict the amount of funds that will be required or the length of time that will pass before the Company receives revenues from sales of any of these products. All revenues received by the Company to date have been derived from collaborative agreements, interest on invested funds and revenues from the custom contract manufacturing of synthetic DNA and reagent products by the Company's HSP Division.

The Company has incurred cumulative losses from inception through March 31, 1998 of approximately \$227.3 million. The Company implemented a restructuring plan in the second half of 1997 which will significantly reduce the Company's operating expenses and cost requirements in 1998 from 1997 levels. However, the Company expects that its research and development expenses will continue to be significant in 1998 and future years as it pursues its core drug development programs and expects to continue to incur operating losses and have significant capital requirements that it will not be able to satisfy with internally generated funds. The Company continues to explore opportunities to reduce operating expenses in an effort to conserve its cash resources. The number of employees has continued to decline, through attrition, resulting in a total of 66 full time employees as of May 5, 1998.

This Quarterly Report on Form 10-Q contains forward-looking statements. For this purpose, any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words "believes", "anticipates", "plans", "expects", "intends", "may", and other similar expressions are intended to identify forward-looking statements. There are a number of important factors that could cause the Company's actual results to differ materially from those indicated by such forward-looking statements. These factors include the matters set forth under the heading "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations - Certain Factors that May Affect Future Results" in the Company's Annual Report on Form 10-K for the year ended December 31, 1997 (the "1997 10-K") which information is incorporated herein by reference.

RESULTS OF OPERATIONS

The Company had total revenues of \$993,000 and \$1,059,000 in the three months ended March 31, 1998 and 1997, respectively. Revenues from research and development collaborations decreased from \$594,000 in the first three months of 1997 to \$150,000 in the corresponding 1998 period primarily due to the termination of the Roche collaboration. Revenue from research and development in the first three months of 1998 consists of revenue from the Company's collaboration with Searle. During the first quarter of 1998 Searle agreed to extend their collaboration with the Company until January 2000, and chose a new target for which the Company has conducted early proof-of-concept studies. Product revenue from HSP increased from \$348,000 in the first quarter of 1997 to \$825,000 in the first quarter of 1998 as a result of an expansion in the customer base and increasing sales to existing customers of Hybridon Specialty Products. The decline in interest income during the 1998 quarter is mainly attributable to lower cash and investments.

The decrease in research and development expenses to \$6,403,000 during the first quarter of 1998 from \$11,476,000 in the first quarter of 1997 reflects the Company's restructuring during the second half of 1997 which included the termination of the clinical development of GEM 91 and the reduction or

suspension of selected programs unrelated to the Company's core advanced chemistry antisense drug development program, including the termination of its ribozyme program. The restructuring resulted in significant reductions in employee-related expenses, clinical and outside testing, consulting, materials and lab expenses. The Company's facility costs were also reduced by the income received from subleasing its unutilized facilities.

General and administrative expenses decreased to \$1,665,000 in the first quarter

of 1998 from \$3,430,000 in the first quarter of 1997. This decrease also resulted primarily from the Company's restructuring program initiated during the first half of 1997 and its effect on employee-related expenses, consulting, and net facilities costs.

The increase in interest expense during the first quarter of 1998 is mainly attributable to the 9% Convertible Subordinated Notes due 2004 ("the 9% Notes") issued in the second quarter of 1997. The Company's interest expense is expected to decrease significantly in the future as a result of the conversion of approximately \$48.6 million of the 9% Notes to Series A Convertible Preferred Stock during the second quarter of 1998.

As a result of the above factors, the Company incurred net losses of \$8,682,000 and \$14,018,000 during the first quarters of 1998 and 1997, respectively.

LIQUIDITY AND CAPITAL RESOURCES

During the three months ended March 31, 1998, the Company's net cash used in operating activities amounted to \$6,350,000. The Company's operating cash requirements were funded primarily through the utilization of unrestricted cash balances, the proceeds from the Company's private placement described in the 1997 10-K and the sale of equipment. A portion of the Company's restricted cash balance was utilized to reduce the related debt and capital lease obligations.

As of May 5, 1998, the Company had raised approximately \$27.3 million in private placement gross proceeds in 1998, including \$6.7 million of which was applied to reduce existing accounts payable and to satisfy lease and other obligations. In addition, approximately \$48.6 million principal amount of its 9% Notes have been tendered to the Company to be exchanged for equity and warrants. The Company believes that these transactions, together with the committed collaborative research and development payments from Searle for 1998, certain research and development funding expected to be received from MethylGene, Inc. and anticipated product sales by the Company's HSP Division and margins on such sales, will be adequate to fund the Company's capital requirements through 1998. See "Item 1. Financial Statements -- Notes to Consolidated Condensed Financial Statements" for a discussion of the Company's 1998 financing activities.

The Company will be required to raise substantial additional funds through external sources, including through collaborative relationships and public or private financings, to support its operations beyond 1998. Except for research and development funding from Searle (which is subject to early termination in certain circumstances) and certain research and development funding expected to be received from MethylGene, Inc., Hybridon has no current external sources of capital, and, as discussed above, expects no product revenues for at least several years from sales of products that it is developing (as opposed to sales of DNA products and reagents manufactured on a custom contract basis by the HSP Division).

No assurance can be given that additional funds will be available to fund the Company's operations in future years, or, if available, that such funds will be available on acceptable terms. If additional funds are raised by issuing equity securities, further dilution to then existing stockholders will result. Additionally, the terms of any such additional financing may adversely affect the holdings or rights of then existing stockholders.

If adequate funds are not available, the Company may be required to further curtail significantly one or more of its core drug development programs, obtain funds through arrangements with collaborative

partners or others that may require the Company to relinquish rights to certain of its technologies, product candidates or products which the Company would otherwise pursue on its own or terminate operations.

The Company's future capital requirements will depend on many factors, including continued scientific progress in its research, drug discovery and development programs, the magnitude of these programs, progress with preclinical and clinical trials, sales of DNA products and reagents to third parties by the HSP Division and the margins on such sales, the time and costs involved in obtaining regulatory approvals, the costs involved in filing, prosecuting and enforcing patent claims, competing technological and market developments, the ability of the Company to establish and maintain collaborative academic and commercial research, development and marketing relationships, the ability of the Company to obtain third-party financing for leasehold improvements and other capital

expenditures and the costs of manufacturing scale-up and commercialization activities and arrangements.

HYBRIDON, INC.

PART II

OTHER INFORMATION

Items 1-5 None

Item 6. Exhibits and Reports on Form 8-K

(a) Exhibits

- 4.1 Certificate of Designation of Series A Convertible Preferred Stock, par value \$.01 per share, dated May 5, 1998.
- 4.2 Form of 14% Note Due 2007
- 4.3 Class A Warrant Agreement, dated May 5, 1998
- 4.4 Class B Warrant Agreement, dated May 5, 1998
- 4.5 Class C Warrant Agreement, dated May 5, 1998
- 4.6 Class D Warrant Agreement, dated May 5, 1998
- 11 Computation of Net Loss Per Common Share.
- 27 Financial Data Schedule (EDGAR)
- 99.1 First Amendment to Loan and Security Agreement between Hybridon, Inc. and Silicon Valley Bank.

(b) The following Current Reports on Form 8-K were filed during the three months ended March 31, 1998:

1. On January 12, 1998, the Company filed a Current Report on Form 8-K dated January 12, 1998, reporting that it had commenced a consent solicitation with respect to certain proposed amendments to the Indenture, dated as of March 26, 1997 (the "Original Indenture"), by and between the Company and State Street Bank and Trust Company, as trustee (the "Trustee"), which governs the Company's 9% Convertible Subordinated Notes due 2004 (the "9% Notes").

2. On January 15, 1998, the Company filed a Current Report on Form 8-K dated January 15, 1998, reporting that the Company and the Trustee had entered into a First Supplemental Indenture, dated as of January 13, 1998, which amends the Original Indenture.

3. On January 23, 1998, the Company filed a Current Report on Form 8-K dated January 22, 1998, reporting, among other things, that the Company had commenced a private offering of units (the "Units"), each Unit consisting of \$100,000 principal amount of Notes due 2007 ("Offering Notes") and certain warrants ("Warrants"), to

overseas investors in accordance with Regulations S under the Securities Act of 1933 (the "Overseas Offering").

4. On February 2, 1998, the Company filed a Current Report on Form 8-K dated February 2, 1998 reporting that the Company had satisfied the 20 Unit minimum offering threshold for the Overseas Offering.

5. On February 24, 1998, the Company filed a Current Report on Form 8-K dated February 24, 1998, reporting the closing on February 9, 1998 of \$2,348,000 of Offering Notes and Warrants pursuant to the terms of

the Overseas Offering.

6. On April 9, 1998, the Company filed a Current Report on Form 8-K dated April 9, 1998 reporting the closing on March 27, 1998 of \$200,000 of Offering Notes and Warrants pursuant to the terms of the Overseas Offering.

7. On April 27, 1998, the Company filed a Current Report on Form 8-K dated April 27, 1998, reporting the closing on April 21, 1998 of \$300,000 of Offering Notes and Warrants pursuant to the terms of the Overseas Offering.

8. On April 28, 1998, the Company filed a Current Report on Form 8-K dated April 28, 1998, reporting the closing on April 24, 1998 of \$1,020,000 of Offering Notes and Warrants pursuant to the terms of the Overseas Offering.

9. On May 8, 1998, the Company filed a Current Report on Form 8-K dated May 8, 1998, reporting, inter alia, the closing on May 5, 1998 of approximately 6.6 million shares of Common Stock and 114,300 shares of Series A Convertible Preferred Stock and that approximately \$48.6 million principal amount of its 9% Notes were tendered to the Company to be exchanged for Series A Preferred Stock.

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.

HYBRIDON, INC.

May 15, 1998

Date

/s/ E. Andrews Grinstead III

E. Andrews Grinstead, III
Chairman, President and Chief Executive
Officer (Principal Executive Officer)

May 15, 1998

Date

/s/ Robert G Andersen

Robert G. Andersen
Treasurer (Principal Financial and
Accounting Officer)

HYBRIDON, INC.

EXHIBIT INDEX

- 4.1 Certificate of Designation of Series A Convertible Preferred Stock, par value \$.01 per share, dated May 5, 1998.
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- 4.6 Class D Warrant Agreement, dated May 5, 1998
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27 Financial Data Schedule (EDGAR)

99.1 First Amendment to Loan and Security Agreement between Hybridon, Inc.
and Silicon Valley Bank.

EXHIBIT 4.1

CERTIFICATE OF DESIGNATION

for

SERIES A CONVERTIBLE PREFERRED STOCK

of

HYBRIDON, INC.

Pursuant to Section 151 of the
General Corporation Law of the State of Delaware

HYBRIDON INC., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), does hereby certify that pursuant to the authority conferred on the board of directors of the Corporation (the "Board of Directors") by the Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation") of the Corporation and in accordance with Section 151 of the General Corporation Law of the State of Delaware, the Board of Directors adopted the following resolution establishing a series of 1,500,000 shares of preferred stock of the Corporation designated as "Series A Convertible Preferred Stock":

RESOLVED, that pursuant to the authority conferred on the Board of Directors by the Certificate of Incorporation, a series of preferred stock, par value \$.01 per share, of the Corporation is hereby established and created, and that the designation and number of shares thereof and the voting and other powers, preferences and relative participating, optional or other special rights of, the shares of such series and the qualifications, limitations and restrictions thereof are as follows:

Series A Convertible Preferred Stock

1. Designation and Amount and Definitions. (a) There shall be a series of Preferred Stock designated as "Series A Convertible Preferred Stock" and the number of shares constituting such series shall be 1,500,000. Such series is referred to herein as the "Series A Preferred Stock". Notwithstanding any other provision in this Certificate of Designation of the Series A Preferred Stock (the "Certificate of Designation") to the contrary, such series shall be senior to the common stock, par value \$.001 per share of the Corporation (the "Common Stock") with respect to dividends and the distribution of assets upon liquidation, dissolution or winding up. Such number of shares may be increased or decreased by resolution of the Board of Directors, subject to the provisions of Section 7 hereof; provided, however, that no decrease shall reduce the number of shares of Series A Preferred Stock to fewer than the number of shares then issued and outstanding.

(b) As used in this Certificate of Designation, except as otherwise provided in Subsection 4(c), the following terms shall have the following meanings:

(i) The "Closing Bid Price" for any security for each trading day shall be the reported per share closing bid price of such security regular way on the Stock Market on

such trading day, or, if there were no transactions on such trading day, the average of the reported closing bid and asked

prices, regular way, of such security on the relevant Stock Market on such trading day.

(ii) "Fair Market Value" of any asset (including any security) means the fair market value thereof as mutually determined by the Corporation and the holders of a majority of the Series A Preferred Stock then outstanding. If the Corporation and the holders of a majority of the Series A Preferred Stock then outstanding are unable to reach agreement on any valuation matter, such valuation shall be submitted to and determined by a nationally recognized independent investment bank selected by the Board of Directors and the holders of a majority of the Series A Preferred Stock then outstanding (or, if such selection cannot be agreed upon promptly, or in any event within ten days, then such valuation shall be made by a nationally recognized independent investment banking firm selected by the American Arbitration Association in New York City in accordance with its rules), the costs of which valuation shall be paid for by the Corporation.

(iii) "Market Price" shall mean the average Closing Bid Price for twenty (20) consecutive trading days, ending with the trading day prior to the date as of which the Market Price is being determined (with appropriate adjustments for subdivisions or combinations of shares effected during such period), provided that if the prices referred to in the definition of Closing Bid Price cannot be determined on any trading day, the Closing Bid Price for such trading day will be deemed to equal Fair Market Value of such security on such trading day.

(iv) "Registered Holders" shall mean, at any time, the holders of record of the Series A Preferred Stock.

(v) The "Stock Market" shall mean, with respect to any security, the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, shall mean The Nasdaq National Market System ("NNM") or The Nasdaq SmallCap Market ("SCM" and, together with NNM, "Nasdaq") or, if such security is not quoted on Nasdaq, shall mean the OTC Bulletin Board or, if such security is not quoted on the OTC Bulletin Board, shall mean the over-the-counter market as furnished by any NASD member firm selected from time to time by the Corporation for that purpose.

(vi) A "trading day" shall mean a day on which the relevant Stock Market is open for the transaction of business.

2. Dividends and Distributions. (a) The holders, as of the Dividend Record Date (as defined below), of the Series A Preferred Stock shall be entitled to receive semi-annual dividends on their respective shares of Series A Preferred Stock (aggregating, for this purpose, all shares of Series A Preferred Stock held of record or, to the Corporation's knowledge, beneficially by such holder), payable, at the option of the Corporation, in cash or additional shares of Series A Preferred Stock, at the rate of 6.5% per annum (computed on the basis of a 360-day year of twelve 30 day months) of the Dividend Base Amount (as defined below), payable semi-annually in arrears; provided that, to the extent the declaration or payment of such dividend is prohibited by applicable law, such dividend need not be paid but shall nevertheless accrue and shall be paid promptly when applicable law permits. Such dividends shall accrue from the date of issuance of such share and shall be paid semi-annually on April 1 and October 1 of each year or, if any such day is not a business day, on the next succeeding business day. Such dividends shall

be paid, at the election of the Corporation, either in cash or additional duly authorized, fully paid and non assessable shares of Series A Preferred Stock. In calculating the number of shares of Series A Preferred Stock to be paid with respect to each dividend, the Series A Preferred Stock shall be valued at \$100.00 per share (subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the Series A Preferred Stock). Notwithstanding the foregoing, the Corporation shall not be required to issue fractional shares of Series A Preferred Stock; the Corporation may elect, in its sole discretion, independently for each holder, whether such number of

shares (on an aggregated basis) will be rounded to the nearest whole share (with .5 of a share rounded upward) or whether such holder will be given cash in lieu of any fractional shares. The "Dividend Base Amount" of a share of Series A Preferred Stock shall be \$100.00 plus all accrued but unpaid dividends (subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the Series A Preferred Stock). The "Dividend Record Date" shall mean, for each semi-annual dividend, the March 15 or September 15, as the case may be, immediately preceding the dividend payment date.

(b) In addition to the foregoing, subject to the rights of the holders of any shares of any series or class of capital stock ranking prior, and superior to, or pari passu with, the shares of Series A Preferred Stock with respect to dividends, the holders of shares of Series A Preferred Stock shall be entitled to receive, as, when and if declared by the Board of Directors, out of assets legally available for that purpose, dividends or distributions in cash, stock or otherwise.

(c) The Corporation shall not declare any dividend or distribution on any Junior Stock (as defined below) of the Corporation unless all dividends required by Section 2(a) have been or contemporaneously are declared and paid, or declared and a sum sufficient for the payment thereof set apart for such payment, on the Series A Preferred Stock.

(d) [Reserved]

(e) All dividends or distributions declared upon the Series A Preferred Stock shall be declared pro rata per share.

(f) Any reference to "distribution" contained in this Section 2 shall not be deemed to include any distribution made in connection with or in lieu of any Liquidation Event (as defined below).

(g) No interest, or sum of money in lieu of interest, shall be payable in respect of any dividend payment or payments on the Series A Preferred Stock which may be in arrears (it being understood that this provision does not alter the Corporation's obligations under Section 2(a)).

(h) So long as any shares of the Series A Preferred Stock are outstanding, no dividends, except as described in the next succeeding sentence, shall be declared or paid or set apart for payment on any class or series of stock of the Corporation ranking, as to dividends, on a parity with the Series A Preferred Stock, for any period unless all dividends have been or contemporaneously are declared and paid, or declared and a sum sufficient for the payment thereof set apart for such payment, on the Series A Preferred Stock. When dividends are not paid in full or a sum sufficient for such payment is not set apart, as aforesaid, upon the shares of the Series A Preferred Stock and any other class or series of stock ranking on a parity as to dividends with the Series A Preferred Stock, all dividends declared upon such other stock shall be declared pro rata so that the amounts of dividends per share declared on the Series A Preferred Stock and such other stock shall in all cases bear to each other the same ratio that accrued dividends per share on the shares of the Series A Preferred Stock and on such other stock bear to each other.

(i) So long as any shares of the Series A Preferred Stock are outstanding, no other stock of the Corporation ranking on a parity with the Series A Preferred Stock as to dividends or upon liquidation, dissolution or winding up shall be redeemed, purchased or otherwise acquired for any consideration (or any moneys be paid to or made available for a sinking fund or otherwise for the purchase or redemption of any shares of any such stock) by the Corporation unless the dividends, if any, accrued on all outstanding shares of the Series A Preferred Stock shall have been paid or set apart for payment.

(j) "Junior Stock" shall mean the Common Stock and any shares of preferred stock of any series or class of the Corporation, whether presently outstanding or hereafter issued, which are junior to the shares of Series A Preferred Stock with respect to (i) the distribution of assets on any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, (ii) dividends or (iii) voting.

3. Liquidation Preference. (a) In the event of a (i) liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, (ii) a sale or other disposition of all or substantially all of the assets of

the Corporation or (iii) any consolidation, merger, combination, reorganization or other transaction in which the Corporation is not the surviving entity or shares of Common Stock constituting in excess of 50% of the voting power of the Corporation are exchanged for or changed into stock or securities of another entity, cash and/or any other property (a "Merger Transaction") (items (i), (ii) and (iii) of this sentence being collectively referred to as a "Liquidation Event"), after payment or provision for payment of debts and other liabilities of the Corporation, the holders of the Series A Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, whether such assets are capital, surplus, or earnings, before any payment or declaration and setting apart for payment of any amount shall be made in respect of any Junior Stock of the Corporation, an amount equal to the Dividend Base Amount at such time; provided, however, in the case of a Merger Transaction, such payment may be made in cash, property (valued as provided in Subsection 3(b)) and/or securities (valued as provided in Subsection 3(b)) of the entity surviving such Merger Transaction. In the case of property or in the event that any such securities are subject to an investment letter or other similar restriction on transferability, the value of such property or securities shall be determined by agreement between the Corporation and the holders of a majority of the Series A Preferred Stock then outstanding. If upon any Liquidation Event, whether voluntary or involuntary, the assets to be distributed to the holders of the Series A Preferred Stock shall be insufficient to permit the payment to such shareholders of the full preferential amounts aforesaid, then all of the assets of the Corporation to be distributed shall be so distributed ratably to the holders of the Series A Preferred Stock on the basis of the number of shares of Series A Preferred Stock held. Notwithstanding item (iii) of the first sentence of this Subsection 3(a), any consolidation, merger, combination, reorganization or other transaction in which the Corporation is not the surviving entity but the stockholders of the Corporation immediately prior to such transaction own in excess of 50% of the voting power of the corporation surviving such transaction and own amongst themselves such interest in substantially the same proportions as prior to such transaction, shall not be considered a Liquidation Event provided that the surviving corporation shall make appropriate provisions to ensure that the terms of this Certificate of Designation survive any such transaction. All shares of Series A Preferred Stock shall rank as to payment upon the occurrence of any Liquidation Event senior to the Common Stock and, unless the terms of such series shall provide otherwise, senior to all other series of the Corporation's preferred stock.

(b) Any securities or other property to be delivered to the holders of the Series A Preferred Stock pursuant to Subsection 3(a) hereof shall be valued as follows:

(i) Securities not subject to an investment letter or other similar restriction on free marketability:

(A) If actively traded on a Stock Market, the per share value shall be deemed to be the Market Price of such securities as of the third day prior to the date of valuation.

(B) If not actively traded on a Stock Market, the value shall be the Fair Market Value of such securities.

(ii) For securities for which there is an active public market but which are subject to an investment letter or other restrictions on free marketability, the value shall be the Fair Market Value thereof, determined by discounting appropriately the per share Market Price thereof.

(iii) For all other securities, the value shall be the Fair Market Value thereof.

4. Conversion.

(a) Right of Conversion. Commencing after the expiration of 12 months following the Alternative Equity Closing Date (as hereinafter defined), but not prior thereto, the shares of Series A Preferred Stock shall be convertible, in whole or in part, at the option of the holder thereof and upon notice to the Corporation as set forth in Subsection 4(b), into fully paid and

nonassessable shares of Common Stock and such other securities and property as hereinafter provided. The initial conversion price per share of Common Stock (the "Conversion Price"), shall be equal to the product of 2.125 multiplied by the per share price (the "Stated Common Price") of Common Stock sold by the Corporation in connection with the Alternative Equity Offering (as such term is defined in the Corporation's Offer to Exchange dated February 6, 1998 (the "Original Offer to Exchange"), as amended by the Amendment thereto (the "Amendment") dated March 30, 1998 (collectively, the "Offer to Exchange")) and shall be subject to adjustment as provided herein. The rate at which each share Series A Preferred Stock is convertible at any time into Common Stock (the "Conversion Rate") shall be determined by dividing the then existing Conversion Price (determined in accordance with this Section 4, including the last paragraph hereof) into the Dividend Base Amount.

The Corporation shall prepare a certificate signed by the Chairman or President, and by the Treasurer or an Assistant Treasurer or the Secretary or an Assistant Secretary, of the Corporation setting forth the Conversion Rate as of the date of the closing of the Alternative Equity Offering (the "Alternative Equity Closing Date"), showing in reasonable detail the facts upon which such Conversion Rate is based, and such certificate shall forthwith be filed with the transfer agent of the Series A Preferred Stock.

(b) Conversion Procedures. Any holder of shares of Series A Preferred Stock desiring to convert such shares into Common Stock shall surrender the certificate or certificates evidencing such shares of Series A Preferred Stock at the office of the transfer agent for the Series A Preferred Stock, which certificate or certificates, if the Corporation shall so require, shall be duly endorsed to the Corporation or in blank, or accompanied by proper instruments of transfer to the Corporation or in blank, accompanied by irrevocable written notice to the Corporation that the holder elects so to convert such shares of Series A Preferred Stock and specifying the name or names (with address) in which a certificate or certificates evidencing shares of Common Stock are to be issued. The Corporation need not deem a notice of conversion to be received unless the holder complies with all the provisions hereof. The Corporation will instruct the transfer agent (which may be the Corporation) to make a notation of the date that a notice of conversion is received, which date of receipt shall be deemed to be the date of receipt for purposes hereof.

The Corporation shall, as soon as practicable after such deposit of certificates evidencing shares of Series A Preferred Stock accompanied by the written notice and compliance with any other conditions herein contained, deliver at such office of such transfer agent to the person for whose account such shares of Series A Preferred Stock were so surrendered, or to the nominee or nominees of such person, certificates evidencing the number of full shares of Common Stock to which such person shall be entitled as aforesaid, subject to Section 4(d). Subject to the following provisions of this paragraph, such conversion shall be deemed to have been made as of the date of such surrender of the shares of Series A Preferred Stock to be converted, and the person or persons entitled to receive the Common Stock deliverable upon conversion of such Series A Preferred Stock shall be treated for all purposes as the record holder or holders of such Common Stock on such date; provided, however, that the Corporation shall not be required to convert any shares of Series A Preferred Stock while the stock transfer books of the Corporation are closed for any purpose, but the surrender of Series A Preferred Stock for conversion during any period while such books are so closed shall become effective for conversion immediately upon the reopening of such books as if the surrender had been made on the date of such reopening, and the conversion shall be at the conversion rate in effect on such date. No adjustments in respect of any dividends on shares surrendered for conversion or any dividend on the Common Stock issued upon conversion shall be made upon the conversion of any shares of Series A Preferred Stock.

The Corporation shall at all times, reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of Series A Preferred Stock, such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Series A Preferred Stock.

All notices of conversion shall be irrevocable; provided, however, that if the Corporation has sent notice of an event pursuant to Subsection 4(g) hereof, a holder of Series A Preferred Stock may, at its

election, provide in its notice of conversion that the conversion of its shares of Series A Preferred Stock shall be contingent upon the occurrence of the record date or effectiveness of such event (as specified by such holder), provided that such notice of conversion is received by the Corporation prior to such record date or effective date, as the case may be.

(c) Adjustment of Conversion Rate and Conversion Price.

(i) As used in this Subsection 4(c), the following terms shall have the following meanings:

"Capital Stock" of any Person means the Common Stock or Preferred Stock of such Person. Unless otherwise stated herein or the context otherwise requires, "Capital Stock" means Capital Stock of the Corporation;

"Common Stock" of any Person other than the Corporation means the common equity (however designated), including, without limitation, common stock or partnership or membership interests of, or participation or interests in such Person (or equivalents thereof). "Common Stock" of the Corporation means the Common Stock, par value \$.001 per share, of the Corporation, any successor class or classes of common equity (however designated) of the Corporation into or for which such Common Stock may hereafter be converted, exchanged or reclassified and any class or classes of common equity (however designated) of the Corporation which may be distributed or issued with respect to such Common Stock or successor class of classes to holders thereof generally. Unless otherwise stated herein or the context requires otherwise, "Common Stock" means Common Stock of the Corporation;

"Current Market Price" means, when used with respect to any security as of any date, the last sale price, regular way, or, in case no such sale takes place on such date, the average of the closing bid and asked prices, regular way, of such security in either case as reported for consolidated transactions on the New York Stock Exchange or, if such security is not listed or admitted to trading on the New York Stock Exchange, as reported for consolidated transactions with respect to securities listed on the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, as reported on the Nasdaq National Market, or, if such security is not listed or admitted to trading on the Nasdaq National Market, as reported on the Nasdaq SmallCap Market, or if such security is not listed or admitted to trading on any national securities exchange or the Nasdaq National Market or the Nasdaq SmallCap Market, the average of the high bid and low asked prices of such security in the over-the-counter market, as reported by the National Association of Securities Dealers, Inc. Automated Quotations System or such other system then in use or, if such security is not quoted by any such organization, the average of the closing bid and asked prices of such security furnished by an NASD member firm selected by the Corporation. If such security is not quoted by any such organization and no such NASD member firm is able to provide such prices, the Current Market Price of such security shall be the Fair Market Value thereof;

"Fair Market Value" means, at any date as to any asset, Property or right (including without limitation, Capital Stock of any Person, evidence of indebtedness or other securities, but excluding cash), the fair market value of such item as determined in good faith by the Board of Directors, whose determination shall be conclusive; provided, however, that such determination is described in an Officers' Certificate filed with the transfer agent and that, if there is a Current Market Price for such item on such date, "Fair Market Value" means such Current Market Price (without giving effect to the last sentence of the definition thereof);

"GAAP" means, as of any date, generally accepted

accounting principles in the United States and does not include any interpretations or regulations that have been proposed but that have not become effective;

"Officer" means, with respect to any Person, the Chairman of the Board, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Assistant Secretary or any Vice President of such Person;

"Officers' Certificate" means a certificate signed on behalf of the Corporation by two Officers, one of whom must be the Chairman of the Board, the President, the Treasurer or a Vice-President of the Corporation;

"Person" means any individual, corporation, partnership, association, trust or any other entity or organization, including a government or political subdivision or any agency or instrumentality thereof;

"Preferred Stock" of any Person means the class or classes of equity, ownership or participation interests (however designated) in such Person, including, without limitation, stock, share, partnership and membership interests, which are preferred as to the payment of dividends or distributions by, or as to the distribution of assets upon any voluntary or involuntary liquidation or dissolution of, such Person (or equivalent thereof)

over interests of any other class of interests of such Person. Unless otherwise stated herein or the context otherwise requires, "Preferred Stock" means Preferred Stock of the Corporation;

"Property" of any Person means any and all types of real, personal, tangible, intangible or mixed property owned by such Person whether or not included on the most recent consolidated balance sheet of such Person in accordance with GAAP;

"Subsidiary" of a Person on any date means any other Person of whom such Person owns, directly or indirectly through a Subsidiary or Subsidiaries of such Person, Capital Stock with voting power, acting independently and under ordinary circumstances, entitling such person to elect a majority of the board of directors or other governing body of such other Person. Unless otherwise stated herein or the context otherwise requires, "Subsidiary" means a Subsidiary of the Corporation.

(ii) If the Corporation shall (i) pay a dividend or other distribution, in Common Stock, on any class of Capital Stock of the Corporation, (ii) subdivide the outstanding Common Stock into a greater number of shares by any means or (iii) combine the outstanding Common Stock into a smaller number of shares by any means including, without limitation, a reverse stock split), then in each such case the Conversion Price in effect immediately prior thereto shall be adjusted so that the Registered Holder of any shares of Series A Preferred Stock thereafter surrendered for conversion shall be entitled to receive the number of shares of Common Stock that such Registered Holder would have owned or have been entitled to receive upon the happening of such event had such Series A Preferred Stock been converted immediately prior to the relevant record date or, if there is no such record date, the effective date of such event. An adjustment made pursuant to this Paragraph 4(c)(ii) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date of such subdivision or combination, as the case may be.

(iii) If the Corporation shall (i) issue or distribute (at a price per share less than the Current Market Price per share of such Capital Stock on the date of such issuance or distribution) Capital Stock generally to holders of Common Stock or to holders

of any class or series of Capital Stock which is convertible into or exchangeable or exercisable for Common Stock (excluding an issuance or distribution of Common Stock described in Paragraph 4(c)(ii)) or (ii) issue or distribute generally to such holders rights, warrants, options or convertible or exchangeable securities entitling the holder thereof to subscribe for, purchase, convert into or exchange for Capital Stock at a price per share less than the Current Market Price per share of such Capital Stock on the date of issuance or distribution, then, in each such case, at the earliest of (A) the date the Corporation enters into a firm contract for such issuance or distribution, (B) the record date for the determination of stockholders entitled to receive any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities or (C) the date of actual issuance or distribution of any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities, the Conversion Price shall be reduced by multiplying the Conversion Price in effect immediately prior to such earliest date by:

(A) if such Capital Stock is Common Stock, a fraction the numerator of which is the number of shares of Common Stock outstanding, on such earliest date plus the number of shares of Common Stock which could be purchased at

the Current Market Price per share of Common Stock on the date of such issuance or distribution with the aggregate consideration (based on the Fair Market Value thereof) received or receivable by the Corporation either (A) in connection with such issuance or distribution or (B) upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities (the "Aggregate Consideration"), and the denominator of which is the number of shares of Common Stock outstanding on such earliest date plus the number of shares of Common Stock to be so issued or distributed or to be issued upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities; or

(B) if such Capital Stock is other than Common Stock, a fraction the numerator of which is the Current Market Price per share of Common Stock on such earliest date minus an amount equal to (A) the difference between (1) the Current Market Price per share of such Capital Stock multiplied by the number of shares of such Capital Stock to be so issued and (2) the Aggregate Consideration, divided by (B) the number of shares of Common Stock outstanding on such date, and the denominator of which is the Current Market Price per share of Common Stock on such earliest date.

Such adjustment shall be made successively whenever any such Capital Stock, rights, warrants, options or convertible or exchangeable securities are so issued or distributed. In determining whether any rights, warrants, options or convertible or exchangeable securities entitle the holders thereof to subscribe for, purchase, convert into or exchange for shares of such Capital Stock at less than such Current Market Price, there shall be taken into account the Fair Market Value of any consideration received or receivable by the Corporation for such rights, warrants, options or convertible or exchangeable securities. If any right, warrant, option or convertible or exchangeable security, the issuance of which resulted in an adjustment in the Conversion Price pursuant to this Paragraph 4(c)(iii), shall expire and shall not have been exercised, the Conversion Price shall immediately upon such expiration be recomputed to the Conversion Price which would have been in effect if such right, warrant, option or convertible or exchangeable securities had never been distributed or issued. Notwithstanding anything contained in this paragraph to the contrary, (i) the issuance of Capital Stock upon the exercise of

such rights, warrants or options or the conversion or exchange of such convertible or exchangeable securities will not cause an adjustment in the Conversion Price if no such adjustment would have been required at the time such right, warrant, option or convertible or exchangeable security was issued or distributed; provided, however, that, if the consideration payable upon such exercise, conversion or exchange and/or the Capital Stock receivable thereupon are changed after the time of the issuance or distribution of such right, warrant, option or convertible or exchangeable security then such change shall be deemed to be the expiration thereof without having been exercised and the issuance or distribution of new options, rights, warrants or convertible or exchangeable securities and (ii) the issuance of convertible preferred stock of the Corporation as a dividend on convertible preferred stock of the Corporation will not cause an adjustment in the Conversion Price if no such adjustment would have been required at the time such underlying convertible preferred stock was issued (or as a result of any subsequent modification to the terms thereof) and the conversion provisions of such convertible stock so issued as a dividend are the same as in such underlying convertible preferred stock.

Notwithstanding any contained in this Certificate of Designation to the contrary, options, rights or warrants issued or distributed by the Corporation, including options, rights or warrants distributed prior to the date of filing of this Certificate of Designation, to holders of Common Stock generally which, until the occurrence of a specified event or events (a "Trigger Event"), (i) are deemed to be transferred with Common Stock, (ii) are not exercisable and (iii) are also issued on a pro rata basis with respect to future issuances of Common Stock, shall be deemed not to have been issued or distributed for purposes of this Subsection 4(c) (and no adjustment to the Conversion Price under this Subsection 4(c) will be required) until the occurrence of the earliest Trigger Event. Upon the occurrence of a Trigger Event, such options, rights or warrants shall continue to be deemed not to have been issued or distributed for purposes of this Subsection 4(c) (and no adjustment to the Conversion Price under this Subsection 4(c) will be required) if and for so long as each Registered Holder who thereafter converts such Registered Holder's Series A Preferred Stock shall be entitled to receive upon such conversion, in addition to the shares of Common Stock issuable upon such conversion, a number of such options, rights or warrants, as the case may be, equal to the number of options, rights or warrants to which a holder of the number of shares of Common Stock equal to the number of shares of Common Stock issuable upon conversion of such Registered Holder's Series A Preferred Stock is entitled to receive at the time of such conversion in accordance with the terms and provisions of, and applicable to, such options, rights or warrants. Upon the expiration of any such options, rights or warrants or at such time, if any, as a Registered Holder is not entitled to receive such options, rights or warrants upon conversion of such Registered Holder's Series A Preferred Stock, an adjustment (if any is required) to the Conversion Price shall be made in accordance with this Paragraph 4(c)(iii) with respect to the issuance of all such options, rights and warrants as of the date of issuance thereof, but subject to the provisions of the preceding paragraph, if any such option, right or warrant, including any such options right or warrants distributed prior to the date of filing of this Certificate of Designation, are subject to events, upon the occurrence of which such options, rights or warrants become exercisable to purchase different securities, evidence of indebtedness, cash, Properties or other assets or different amounts thereof, then, subject to the preceding provision of this paragraph, the date of the occurrence of any and each such event shall be deemed to be the date of distribution and record date with respect to new options, right or warrants with such new purchase rights (and a termination or expiration of the existing options, rights or warrants without exercise thereof). In addition, in the event of any distribution (or deemed distribution) of options, rights or warrants, or any

Trigger Event or other event of the type described in the preceding sentence, that required (or would have required but for the provisions of Paragraph 4(c)(vi) or this paragraph) an adjustment to the Conversion Price under this Subsection 4(c) and such options, rights or warrants shall thereafter have been redeemed or repurchased without having been exercised, then the Conversion Price shall be adjusted upon such redemption or repurchase to give effect to such distribution, Trigger Event or other event, as the case may, as though it had instead been a cash distribution, equal on a per share basis to the result of the aggregate redemption or repurchase price received by holders of such options, rights or warrants divided by the number of shares of Common Stock outstanding as of the date of such repurchase or redemption, made to holders of Common Stock generally as of the date of such redemption or repurchase.

(iv) If the Corporation shall pay or distribute, as a dividend or otherwise, generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock any assets, Properties or rights (including, without limitation, evidences of indebtedness of the Corporation, any

Subsidiary or any other Person, cash or Capital Stock or other securities of the Corporation, any Subsidiary or any other Person, but excluding payments and distributions as described in Paragraphs 4(c)(ii) or (iii), dividends and distributions in connection with a Liquidation Event and distributions consisting solely of cash described in Paragraph 4(c)(v)), then in each such case the Conversion Price shall be reduced by multiplying the Conversion Price in effect immediately prior to the date of such payment or distribution by a fraction, the numerator of which is the Current Market Price per share of Common Stock on the record date for the determination of stockholders entitled to receive such payment or distribution less the Fair Market Value per share of Common Stock on such record date of the assets, Properties or rights so paid or distributed, and the denominator of which is the Current Market Price per share of Common Stock on such record date. Such adjustment shall become effective immediately after such record date. For purposes of this Paragraph 4(c)(iv), such Fair Market Value per share shall equal the aggregate Fair Market Value on such record date of the assets, Properties or rights so paid or distributed divided by the number of shares of Common Stock outstanding on such record date. For all purposes of this Certificate of Designation, adjustments to any security's conversion or exercise price pursuant to such security's original terms shall not be deemed a distribution or dividend to holders thereof.

(v) If the Corporation shall, by dividend or otherwise, make a distribution (other than in connection with the liquidation, dissolution or winding up of the Corporation in its entirety), generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock, consisting solely of cash where (x) the sum of (i) the aggregate amount for such cash plus (ii) the aggregate amount of all cash so distributed (by dividend or otherwise) to such holders within the 12-month period ending on the record date for determining stockholder entitled to receive such distribution with respect to which no adjustment has been made to the Conversion Price pursuant to this Paragraph 4(c)(v) exceeds (y) 10% of the result of the multiplication of (1) the Current Market Price per share of Common Stock on such record date times (2) the number of shares of Common Stock outstanding on such record date, then the Conversion Price shall be reduced, effective immediately prior to the opening of business on the day following such record date, by multiplying the Conversion Price in effect immediately prior to the close of business on the day prior to such record date by a fraction, the numerator of which is the Current Market Price per share of Common Stock on such record date less the aggregate amount of cash per share so distributed and the denominator of which is such Current Market Price; provided, however, that, if the aggregate amount of cash

per share is equal to or greater than such Current Market Price, then, in lieu of the foregoing adjustment, adequate provisions shall be made so that each Registered Holder shall have the right to receive upon conversion (with respect to each share of Common Stock issued upon such conversion and in addition to the Common Stock issuable upon conversion) the aggregate amount of cash per share such Registered Holder would have received had such Registered Holder's Series A Preferred Stock been converted immediately prior to such record date. In no event shall the Conversion Price be increased pursuant to this Paragraph 4(c)(v); provided, however, that if such distribution is not so made, the Conversion Price shall be adjusted to be the Conversion Price which would have been in effect if such distribution had not been declared. For purposes of this Paragraph 4(c)(v), such aggregate amount of cash per share shall equal such sum divided by the number of shares of Common Stock outstanding on such record date.

(vi) The provisions of this Subsection 4(c) shall similarly apply to all successive events of the type described in this Subsection 4(c). Notwithstanding anything contained herein to the contrary, no adjustment in the Conversion Price shall be required unless such adjustment would require an increase or decrease of at least 1% in the Conversion Price then in effect; provided, however, that any adjustments which by reason of this Paragraph 4(c)(vi) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 4 shall be made by the Corporation and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be, and the transfer agent shall be entitled to rely conclusively thereon. Except as provided in this Section 4, no adjustment in the Conversion Price will be made for the issuance of Common Stock or any securities convertible into or exchangeable for Common Stock or carrying the right to purchase Common Stock or any securities not convertible or exchangeable.

(vii) Whenever the Conversion Price is adjusted as provided herein, the Corporation shall promptly file with the transfer agent an Officers' Certificate setting forth the Conversion Price in effect after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Promptly after delivery of such Officers' Certificate, the Corporation shall give or cause to be given to each Registered Holder a notice of such adjustment of the Conversion Price setting forth the adjusted Conversion Price and the date on which such adjustment becomes effective.

(viii) Notwithstanding anything contained herein to the contrary, in any case in which this Subsection 4(c) provides that an adjustment in the Conversion Price shall become effective immediately after a record date for an event, the Corporation may defer until the occurrence of such event (i) issuing to the Registered Holder of any Series A Preferred Stock converted after such record date and before the occurrence of such event the additional shares of Common Stock issuable upon such conversion by reason of the adjustment required by such event over and above the number of shares of Common Stock issuable upon such conversion before giving effect to such adjustment and (ii) paying to such Registered Holder any amount in cash in lieu of any fractional share of Common Stock pursuant to Subsection 4(d).

(ix) Notwithstanding any other provision hereof, no adjustment to the Conversion Price shall be made upon the issuance or exercise or conversion of (1) options or warrants to purchase, in the aggregate, up to 25% of the securities sold in the offerings of securities of the Corporation described in the Original Offer to Exchange or any options or warrants described in the Amendment in respect of the Alternative Equity Offering, in each case issued to (or to the designee of) any placement agent or financial advisor (such options or warrants, the "Offering Warrants"), (2) any equity securities or warrants of the Corporation (including, without limitation, the Series A Preferred Stock, warrants and equity securities underlying

warrants) issued in exchange for 9% Convertible Subordinated Notes due 2004 (the "9% Notes") of the Corporation or accrued interest thereon or pursuant to the conversion or exercise provisions thereof, (3) any warrants issued in connection with the offerings described in the Original Offer to Exchange or the Amendment (collectively, the "Offering"), (4) any warrants issued to Forum Capital Markets, LLC ("Forum") in exchange for or in addition to, or any amendment to, any warrants held by Forum, in each case, pursuant to a letter agreement dated January 5, 1998, between the Corporation and Forum, and any other warrants to purchase Common Stock or shares of Common Stock issued to Forum or its designee, (5) any Series A Preferred Stock issued in the Offering, (6) any Capital Stock issued or cash paid as

dividends on the Series A Preferred Stock or (7) any Capital Stock issued or cash paid upon the mandatory conversion or redemption of any Series A Preferred Stock in accordance with Section 5 of this Certificate of Designation.

(d) No Fractional Shares. No fractional shares or scrip representing fractional shares of Common Stock shall be issued upon conversion of Series A Preferred Stock. If more than one certificate evidencing shares of Series A Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares of Series A Preferred Stock so surrendered. Instead of any fractional share of Common Stock which would otherwise be issuable upon conversion of such aggregate number of shares of Series A Preferred Stock, the Corporation may elect, in its sole discretion, independently for each holder, whether such number of shares of Common Stock will be rounded to the nearest whole share (with a .5 of a share rounded upward) or whether such holder will be given cash, in lieu of any fractional share, in an amount equal to the same fraction of the Market Price of the Common Stock as of the close of business on the day of conversion.

(e) [Reserved]

(f) Reservation of Shares; Transfer Taxes, Etc. The Corporation shall at all times reserve and keep available, out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the conversion of the Series A Preferred Stock, such number of shares of its Common Stock free of preemptive rights as shall be sufficient to effect the conversion of all shares of Series A Preferred Stock from time to time outstanding. The Corporation shall use its best efforts from time to time, in accordance with the laws of the State of Delaware to increase the authorized number of shares of Common Stock if at any time the number of shares of authorized, unissued and unreserved Common Stock shall not be sufficient to permit the conversion of all the then-outstanding shares of Series A Preferred Stock.

The Corporation shall pay any and all issue or other taxes (excluding any income taxes) that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series A Preferred Stock. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issue or delivery of Common Stock (or other securities or assets) in a name other than that in which the shares of Series A Preferred Stock so converted were registered, and no such issue or delivery shall be made unless and until the person requesting such issue has paid to the Corporation the amount of such tax or has established, to the satisfaction of the Corporation, that such tax has been paid or need not be paid.

(g) Prior Notice of Certain Events. In case:

(i) the Corporation shall declare any dividend (or any other distribution); or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of stock of any class or of any other rights or warrants; or

(iii) of any reclassification of Common Stock (other than a subdivision or combination of the outstanding Common Stock, or a change in par value, or from par value to no par value, or from

no par value to par value); or

(iv) of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation shall be required, or of the sale

or transfer of all or substantially all of the assets of the Corporation or of any compulsory share exchange whereby the Common Stock is converted into other securities, cash or other property; or

(v) of any Liquidation Event;

then the Corporation shall cause to be filed with the transfer agent for the Series A Preferred Stock, and shall cause to be mailed to the Registered Holders, at their last addresses as they shall appear upon the stock transfer books of the Corporation, at least 20 days prior to the applicable record date hereinafter specified, a notice stating (x) the date on which a record (if any) is to be taken for the purpose of such dividend, distribution or granting of rights or warrants or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined and a description of the cash, securities or other property to be received by such holders upon such dividend, distribution or granting of rights or warrants or (y) the date on which such reclassification, consolidation, merger, sale, transfer, share exchange or Liquidation Event is expected to become effective, the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities or other property deliverable upon such exchange or Liquidation Event and the consideration, including securities or other property, to be received by such holders upon such exchange; provided, however, that no failure to mail such notice or any defect therein or in the mailing thereof shall affect the validity of the corporate action required to be specified in such notice.

(h) Other Changes in Conversion Rate. The Corporation from time to time may increase the Conversion Rate by any amount for any period of time if the period is at least 20 days and if the increase is irrevocable during the period. Whenever the Conversion Rate is so increased, the Corporation shall mail to the Registered Holders a notice of the increase at least 15 days before the date the increased Conversion Rate takes effect, and such notice shall state the increased Conversion Rate and the period it will be in effect.

The Corporation may make such increases in the Conversion Rate, in addition to those required or allowed by this Section 4, as shall be determined by it, as evidenced by a resolution of the Board of Directors, to be advisable in order to avoid or diminish any income tax to holders of Common Stock resulting from any dividend or distribution of stock or issuance of rights or warrants to purchase or subscribe for stock or from any event treated as such for income tax purposes.

Notwithstanding anything to the contrary herein, in no case shall the Conversion Price be adjusted to an amount less than \$.001 per share, the current par value of the Common Stock into which the Series A Preferred Stock is convertible.

(i) Ambiguities/Errors. The Board of Directors of the Corporation shall have the power to resolve any ambiguity or correct any error in the provisions relating to the convertibility of the Series A Preferred Stock, and its actions in so doing shall be final and conclusive.

5. Mandatory Conversion and Redemption. (a) At any time after the expiration of 12 months after the Alternative Equity Closing Date, the Corporation at its option, may cause the Series A Preferred Stock to be converted in whole or in part, on a pro rata basis, into fully paid and nonassessable shares of Common Stock using a conversion price equal to 200% of the Stated Common Price if the Closing Bid Price (or, if the price referenced in the definition of Closing Bid Price cannot be determined, the Fair Market Value) of the Common Stock shall have equalled or exceeded 250% of the Conversion Price for at least 20 trading days in any 30 consecutive trading day period ending three days prior to the date of notice of conversion (such event, the "Market Trigger"). Any shares of Series A

Preferred Stock so converted shall be treated as having been surrendered by the holder thereof for conversion pursuant to Section 4 on the date of such mandatory conversion (unless previously converted at the option of the holder).

(b) At any time after April 1, 2000, the Corporation, at its option, may redeem the Series A Preferred Stock for cash equal to the Dividend Base Amount at such time, if the Market Trigger has occurred in the period ending three days prior to the date of notice of redemption (unless previously converted at the option of the holder).

(c) No greater than 60 nor fewer than 20 days prior to the date of any such mandatory conversion or redemption, notice by first class mail, postage prepaid, shall be given to the holders of record of the Series A Preferred Stock to be converted or redeemed, addressed to such holders at their last addresses as shown on the stock transfer books of the Corporation. Each such notice shall specify the date fixed for conversion or redemption, the place or places for surrender of shares of Series A Preferred Stock and the then effective Conversion Rate pursuant to Section 4.

Any notice which is mailed as herein provided shall be conclusively presumed to have been duly given by the Corporation on the date deposited in the mail, whether or not the holder of the Series A Preferred Stock receives such notice; and failure properly to give such notice by mail, or any defect in such notice, to the holders of the shares to be converted or redeemed shall not affect the validity of the proceedings for the conversion or redemption of any other shares of Series A Preferred Stock. On or after the date fixed for conversion or redemption (the "Take-Out Date") as stated in such notice, each holder of shares called to be converted or redeemed shall surrender the certificate evidencing such shares to the Corporation at the place designated in such notice for conversion or redemption. After the mailing of such notice, but before the Take-Out Date as stated therein, all rights whatsoever with respect to the shares so called for conversion or redemption (except the right of the holders to convert such shares pursuant to Section 4 and to have such shares converted or redeemed, as the case may be, upon surrender of their certificates therefor, pursuant to this Section 5) shall terminate. On or after the Take-Out Date, notwithstanding that the certificates evidencing any shares properly called for conversion or redemption shall not have been surrendered, such shares shall no longer be deemed outstanding and all rights whatsoever with respect to the shares so called for conversion or redemption (except the right of the holders to have such shares converted or redeemed, as the case may be, upon surrender of their certificates therefor, pursuant to this Section 5) shall terminate.

6. Outstanding Shares. For purposes of this Certificate of Designation, a share of Series A Preferred Stock, when issued, shall be deemed outstanding except (i) from the date, or the deemed date, of surrender of certificates evidencing shares of Series A Preferred Stock, all shares of Series A Preferred Stock converted into Common Stock or redeemed pursuant to Section 5 and (ii) from the date of registration of transfer, all shares of Series A Preferred Stock held of record by the Corporation or any subsidiary of the Corporation.

7. Class Voting Rights. The Corporation shall not, without the affirmative vote or consent of the holders of at least 50% of all outstanding Series A Preferred Stock, voting separately as a class, (i) amend, alter or repeal any provision of the Certificate of Incorporation or the Bylaws of the Corporation so as adversely to affect the relative rights, preferences, qualifications, limitations or restrictions of the Series A Preferred Stock (it being understood that the issuance of securities ranking prior to, or pari passu with, the Series A Preferred Stock (A) upon a Liquidation Event or (B) with respect to the payment of dividends or distributions shall not be considered adversely to affect such relative rights, preferences, qualifications, limitations or restrictions); or (ii) authorize or issue, or increase the authorized amount of, Series A Preferred Stock, other than Series A Preferred Stock issuable in connection with the

Offering, issuable in exchange for 9% Notes or accrued interest thereon or issuable as dividends on Series A Preferred Stock.

8. Status of Acquired Shares. Shares of Series A Preferred Stock received upon conversion or redemption pursuant to Section 4 or Section 5 or otherwise acquired by the Corporation will be restored to the status of

authorized but unissued shares of Preferred Stock, without designation as to class, and may thereafter be issued, but not as shares of Series A Preferred Stock.

9. Preemptive Rights. The Series A Preferred Stock is not entitled to any preemptive or subscription rights in respect of any securities of the Corporation.

10. Severability of Provisions. Whenever possible, each provision hereof shall be interpreted in a manner as to be effective and valid under applicable law, but if any provision hereof is held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating or otherwise adversely affecting the remaining provisions hereof. If a court of competent jurisdiction should determine that a provision hereof would be valid or enforceable if a period of time were extended or shortened or a particular percentage were increased or decreased, then such court may make such changes as shall be necessary to render the provision in question effective and valid under applicable law.

11. Restrictions on Change of Control. Notwithstanding anything to the contrary contained in this Certificate of Designation, without the prior written consent of the Corporation, so long as any 9% Notes remain outstanding under that certain Indenture dated as of March 26, 1997 (as amended, the "Indenture") in respect of the 9% Notes, no holder of Series A Preferred Stock shall have voting rights granted hereunder, be entitled to receive any voting securities of the Corporation pursuant hereto or be entitled to exercise any of the conversion rights set forth herein (each, a "Restricted Event"), to the extent that any such Restricted Event could, in the Corporation's reasonable judgment, either alone or in conjunction with other issuances or holdings of capital stock, warrants or convertible securities of the Corporation, result in a Change of Control (as defined in the Indenture).

[Signature page follows]

IN WITNESS WHEREOF, E. Andrews Grinstead, III, President and Chief Executive Officer of the Corporation, acting for and on behalf of the Corporation, has hereunto subscribed his name this 5th day of May, 1998.

HYBRIDON, INC.

By: /s/ E. Andrews Grinstead, III

Name: E. Andrews Grinstead, III
Title: President and Chief Executive Officer

EXHIBIT 99.1

FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT
BETWEEN
HYBRIDON, INC.
AND
SILICON VALLEY BANK

This First Amendment is made, effective as of the 30th day of March, 1998 to that certain Loan and Security Agreement dated as of December 31, 1996 as amended by consent letter agreement (the "Consent Letter") dated January 15,

1998 (as amended, the "Loan Agreement") between Hybridon, Inc., a Delaware corporation with a principal place of business at 620 Memorial Drive, Cambridge, Massachusetts (the "Borrower") and Silicon Valley Bank (the "Bank"). Capitalized terms used, but not defined in this Amendment shall have the meanings ascribed to them in the Loan Agreement and ancillary documents, instruments and agreements, in the Consent Letter and ancillary documents, instruments and agreements, or if not so defined shall have the meanings ascribed to them in the Uniform Commercial Code, or in the case of financial and accounting terms, in accordance with generally accepted accounting principles.

RECITALS

Pursuant to the Loan Agreement and on the terms and conditions set forth therein, on December 31, 1996, the Bank made a secured term loan to the Borrower in the original face amount of \$7,500,000 (the "Loan"). In connection with a planned offering of Units of investment in the Borrower in January 1998 (the "Original Offering"), the Borrower requested that the Bank waive or amend the application of certain covenants contained in the original Loan Agreement, the Negative Pledge Agreement and certain other and ancillary documents, instruments and agreements executed and delivered in connection with the Loan Agreement. The Bank and the Borrower executed the Consent Letter to memorialize such waivers and amendments. The Borrower has advised the Bank that it wishes to amend the Original Offering (subject to the occurrence of certain conditions described in EXHIBIT A hereto) to provide, among other things, for the issuance in the Amended Offering of common stock, warrants and Series A Preferred Stock only and not for Senior Subordinated Notes. The Borrower has requested that the Bank consent to the amendment of the Original Offering on the terms and conditions set forth in Exhibit A, annexed hereto (the "Amended Offering"), that the Bank waive certain covenant defaults in the Loan Agreement and that the Bank agree to amend certain other provisions of the Loan Agreement to accommodate the Amended Offering. The term "Offering" as used in the Loan Agreement shall include the Amended Offering or any other equity offering or corporate collaboration not involving indebtedness of the Borrower.

The Bank is willing to consent to the amendment of the Offering, waive certain covenant defaults in the Loan Agreement and amend certain other provisions of the Loan Agreement to accommodate the Amended Offering, but only upon the terms and conditions set forth in this Amendment.

AGREEMENT

In consideration of the foregoing, and of the undertakings and obligations of the Borrower and the Bank set forth herein and for other good and valuable consideration, receipt and sufficiency of which are hereby acknowledged, the Borrower and Bank agree as follows:

1. The Borrower shall pay to the Bank on the date of this Amendment in good and immediately collectible funds a waiver fee in the amount of \$35,000.
2. The last sentence of Section 6 of the Consent Letter is hereby amended to provide that the Borrower shall pay to the Bank a monthly Administrative Fee in the amount of \$5,000 which shall be due and payable in good and immediately collectible funds, on the fifteenth of each month (or if not a business day, on the next business day) until the earlier of : (i) full and final payment of the Loan, or (ii) the receipt by the Borrower of net proceeds in the Offering of at least \$30,000,000.
3. The Borrower acknowledges and agrees that the outstanding balance of principal and interest on the Loan as of March 31, 1998 is as set forth in Schedule 3 hereto, and that the Borrower has no claim or offset which would preclude payment of the full amount of the Loan.
4. The Borrower's Obligations to the Bank under the Loan Agreement, as amended by the Consent Letter and hereby, are expressly ratified and confirmed by the Borrower hereby. The Borrower ratifies and confirms all of the representations and warranties made by it in the Loan Agreement, except as expressly disclosed to the Bank, and confirms to the Bank that it is in compliance with the covenants and agreements contained in the Loan Agreement except for its failure to maintain compliance with the covenants waived in Sections 7 and 8 of this Amendment, and except for its failure to comply with Section 6.10(c)

of the Loan Agreement, to the extent that such failure is nevertheless in compliance with the Intellectual Property Security Agreement (the "IP Security Agreement") delivered by the Borrower in connection with the Consent Letter (it being agreed that the provisions of Section 6.10(c) shall be deemed superseded by the analogous provisions of the IP Security Agreement). To the extent possible, this Amendment shall be construed to be consistent with the provisions of the Loan Agreement and Consent Letter; however, to the extent that the provisions of this Amendment expressly conflict with or contradict the provisions of the Consent Letter or the Loan Agreement, the provisions of this Amendment shall be deemed to control.

5. The effective rate of interest to be charged to the Borrower on the Loan (the "Effective Rate") shall continue to be the sum of the Prime Rate plus Five (5%) percent per annum. Provided that there has not occurred and is not continuing an Event of Default, the Effective Rate will be reduced (i) to the Prime Rate plus Three (3%) percent per annum as of the first business day of the month after the month in which less than Fifteen (15%) percent of the Borrower's outstanding accounts payable are over ninety (90) days past due, (ii) to the Prime Rate plus Two (2%) percent per annum as of the first business day of the month after the month in which less than Ten (10%) percent of the Borrower's outstanding accounts payable are over ninety (90) days past due, and (iii) to the Prime Rate plus One (1%) percent per annum as of the first business day of the month after the month in which less than Five (5%) percent of the Borrower's outstanding accounts payable are over ninety (90) days past due. The Borrower shall not be entitled to elect a Libor Rate Loan under the Loan Agreement without the written consent of the Bank which may be withheld in its sole discretion. For purposes of computing the above percentages of accounts payable, credit balances shall be ignored.
6. The following additional reporting requirements of the Borrower are hereby added to Section 6.3 of the Loan Agreement as subsections (g) and (h) thereof:

"(g) the Borrower shall report to the Bank on the fifteenth (15th) and on the last business day of each month (or on the next business day if either is not a business day) the total of its book balance of cash (including cash equivalents and marketable securities), and (h) the

Borrower shall provide to the Bank on or before thirty (30) days after the end of each fiscal quarter a listing of all Intellectual Property owned by it and of all Intellectual Property abandoned or proposed to be abandoned by it within the next thirty (30) days, and will fully cooperate with the Bank in, at the Bank's discretion, amending the Intellectual Property Security Agreement granted to the Bank or in filing a new Intellectual Property Security Agreement covering new Intellectual Property in which the Borrower has acquired any rights."

7. The Bank hereby waives compliance by the Borrower with the Minimum Tangible Net Worth covenant established in Section 6.8 of the Loan Agreement for the quarters ended December 31, 1997 and March 31, 1998. The Bank's agreement to waive this covenant as of the quarter ends set forth in the preceding sentence does not constitute any agreement by the Bank to waive such covenant other than for the quarters indicated, or any other covenant at any time, and shall not be construed to create a course of dealing with respect to such covenant or any other covenant. The Bank also waives the requirement of an unqualified opinion on the Borrower's 1997 fiscal financial statements which would otherwise be required pursuant to Section 6.3(b) of the Loan Agreement.
8. The Bank hereby waives compliance by the Borrower with the Minimum Liquidity covenant established in Section 6.9 of the Loan Agreement with respect to Borrower's Minimum Liquidity at March 31, 1998. The Bank's agreement to waive this covenant for the period set forth in the preceding sentence does not constitute any agreement by the Bank to waive such covenant other than for the period indicated, or any other covenant at any time, and shall not be construed to create a

course of dealing with respect to such covenant or any other covenant. The Minimum Liquidity covenant (as revised hereinafter) shall again be applicable to the Borrower in respect to Borrower's Minimum Liquidity at April 30, 1998 and all testing dates thereafter.

9. Section 6.9 of the Loan Agreement and the Consent Letter are hereby amended to provide that "Minimum Liquidity" shall mean the sum of (i) Borrower's book balance of cash (including cash equivalents and marketable securities, but exclusive of the CRLP Withhold), plus (ii) 50% of Borrower's Accounts Receivable, plus (iii) the sum of all Minimum Liquidity Payments made by the Borrower, including the payment in the amount of \$1,762,825.00 made by the Borrower in January 1998. "Minimum Liquidity Payments" shall mean all prepayments of the Loan made by the Borrower as a result of Borrower's failure to meet the "Minimum Liquidity" required to be maintained by the Borrower pursuant to Section 6.9 of the Loan Agreement. Section 6.9 of the Loan Agreement is hereby amended further to provide that, commencing April 30, 1998, compliance with the Minimum Liquidity covenant shall be tested as of the fifteenth (15th) and as of the last day of each month (or on the next business day if either is not a business day), and that if the Borrower fails to maintain Minimum Liquidity at either of such dates, the Borrower must prepay the Loan by an amount equal to the applicable percentage (based on the actual Minimum Liquidity reported) set forth in Section 6.9. Such payment shall be made on the next business day.
10. At least fifty (50%) of the net proceeds of the Offering and Amended Offering will be deposited in the Borrower's demand deposit or other deposit accounts with the Bank, and at least fifty (50%) of the Borrower's present unencumbered cash will be maintained with the Bank, all such funds to be used in the Borrower's discretion subject to the covenants in the Loan Agreement.
11. A new paragraph is hereby added to Section 7.1 of the Loan Agreement to provide that, provided that there is not a continuing Event of Default, Fifty (50%) percent of the net cash proceeds of any dispositions of assets of the Borrower permitted by the Bank (other than sales of inventory

and licensing of Intellectual Property in the ordinary course of Borrower's business and sales of assets permitted by the Bank with net cash proceeds of less than \$5,000 in any instance, or \$25,000 in any fiscal quarter)shall be applied as a prepayment against the most remote payments due under the Loan, and that the remaining Fifty (50%) percent of such net proceeds may be used in the Borrower's discretion, subject to the covenants in the Loan Agreement. After and during the continuance of an Event of Default, all such payments shall be applied against the most remote payments due under the Loan. With respect to Borrower's interest in CRLP, provided that there is not a continuing Event of Default, Fifty (50%) percent of such net proceeds (estimated to be \$3.4 Million) shall be used by the Borrower to pay past due accounts payable, with the CRLP Withhold to be deposited in a time deposit with the Bank and pledged to the Bank as security for the Loan until the earlier of the time that (i) Borrower has raised net proceeds of at least \$10,000,000 in net proceeds in the Offering, or (ii) the Termination Date, at which time, provided that there has not occurred and is not continuing an Event of Default, such amount will be released to the Borrower to pay past due accounts payable, except if the Borrower has not raised net proceeds of \$10,000,000 in the Offering by the Termination Date or if there is a continuing Event of Default at the time that the Borrower has raised \$10,000,000 in the Offering, the CRLP Withhold shall be applied by the Bank to the most remote payments due under the Loan. The Bank agrees to release its security interest in the Borrower's interest in CRLP to accommodate a sale in accordance with this paragraph.

12. The Bank hereby consents to, and waives any Event of Default that would otherwise arise as a result of, the consummation of the "Alternative Equity Offering" described in Schedule A (the "Alternative Equity Offering"), including without limitation, the compensation to be paid to Pillar Investments, Ltd. referred to

therein. The Bank acknowledges that the Amended Offering does not constitute a termination or abandonment of the Offering for purposes of the Loan Agreement, Consent Letter, Intercreditor Agreement and this Amendment.

13. Section 12.1 is revised to read as follows:

"12.1 Assignments/Participations. This Agreement shall be binding upon and shall inure to the benefit of Borrower and Bank and their respective successors and assigns; PROVIDED THAT Borrower may not assign or transfer any rights or obligations hereunder without Bank's prior written consent. Bank may at any time pledge all or any portion of its rights under this Agreement to any of the Federal Reserve Banks organized under Section 4 of the Federal Reserve Act. No such pledge or enforcement thereof shall release the Bank from its obligations under this Agreement. Bank shall also have the right from time to time without consent of the Borrower to assign all or any portion of its rights hereunder to one or more banks or financial institutions (an "Assignee") and Borrower agrees to execute such documents as Bank shall require to effect such assignment. In addition, at the request of the Bank and such Assignee, the Borrower shall execute and deliver one or more new promissory notes in replacement of, but not in discharge of, the liability evidenced by the promissory note held by the Bank prior to such assignment and shall reflect the amount of the respective commitments and loans held by such Assignee and Bank after giving effect to such assignment. Upon the execution and delivery of appropriate assignment documentation, amendments and other documentation required by the Bank in connection with such assignment, and the payment by the Assignee of the purchase price agreed to by Bank and such Assignee, such Assignee shall become a party to the Loan Agreement and shall have all of the rights and obligations of Bank hereunder and under all related documents to the extent that such rights and obligations have been assigned by the Bank pursuant to the assignment documentation between the Bank and such Assignee, and Bank shall be released from its future obligations hereunder and thereunder to a corresponding extent."

14. Section 1 of the Consent letter is hereby amended to change the reference to the sum of \$35,000,000 in clause i) thereof to the sum of \$30,000,000. The Bank acknowledges that the Offset Right shall be as set forth in the Intercreditor Agreement notwithstanding that the Amended Offering may be pursued in lieu of the Original Offering.

15. The Bank hereby consents to the deferral by the Borrower of the Deferred Payments referred to in Section 9 of the Consent Letter, notwithstanding that the conditions precedent to such deferral referred to in Section 9 may not have been satisfied.

16. The Borrower further acknowledge that all reasonable out-of-pocket costs and expenses of the Bank in connection with negotiation, documentation and administration of this Amendment, including reasonable fees of attorneys engaged to represent the Bank, shall be borne by the Borrower.

17. The Borrower acknowledges and confirms that to the extent that the Borrower may have any claims, offsets, counterclaims, or defenses, asserted or unasserted, the Borrower, for itself, and on behalf of its successors, assigns, parents, subsidiaries, agents, affiliates, predecessors, employees, officers, directors, executors and heirs, as applicable (collectively, the "Borrower Affiliates") releases and forever discharges the Bank, its subsidiaries, affiliates, employees, officers, directors, agents, successors and assigns, both present and former (collectively, the "Bank Affiliates") of and from any and all manner of claims, offsets, counterclaims, defenses, action and actions, cause and causes of action, suits, debts, controversies, damages, judgments, executions, and demands whatsoever, asserted or unasserted, in law or in equity, which against the Bank and/or the Bank Affiliates, they or the Borrower Affiliates ever had to and including the date hereof, upon or by reason of any matter, cause, causes or thing whatsoever, in connection with the Loan and/or any of the transactions and matters related thereto, except for the obligations of the Bank in such documents, instruments and agreements to be performed after the date of this Amendment. The Borrower shall

indemnify, defend and hold the Bank harmless of and from any claim brought or threatened against the Bank by the Borrower or any other person (as well as from attorneys' fees and expenses in connection therewith) on account of the Loan Agreement, the Note, the Consent Letter, the Intellectual Property Security Agreement, Pledge Agreement, Intercreditor Agreement, this Amendment, and any other document, instrument or agreement given in connection with the Loan and any of the transactions and matters related thereto (each of which may be defended, compromised, settled or pursued by the Bank with counsel of the Bank's election reasonably acceptable to the Borrower, but at the expense of the Borrower), except in the case of the Bank's failure to comply with its obligations hereunder or thereunder, its gross negligence or willful misconduct.

18. This Amendment represents the entire agreement between the parties with respect to the modifications contained herein, and shall be construed in accordance with the laws of the Commonwealth of Massachusetts as an agreement under seal. The Borrower has voluntarily entered into this Amendment without coercion or duress of any kind and has been or has had the opportunity to have been represented by legal counsel of their choosing.

WITNESS OUR hands and seals on this 30th day of March, 1998.

HYBRIDON, INC.

By: /s/ F. Andrews Grinstead, III

SILICON VALLEY BANK

By: /s/ Judy Sanchez

Judy Sanchez, Senior Vice President

EXHIBIT 4.2

THE TERMS OF THIS NOTE ARE SUBJECT TO THE TERMS OF A UNIT PURCHASE AGREEMENT, A COPY OF WHICH IS AVAILABLE FROM HYBRIDON, INC. (THE "COMPANY"). THE SECURITIES REPRESENTED BY THIS NOTE HAVE NOT BEEN REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS, AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED OR OTHERWISE TRANSFERRED IN THE ABSENCE OF A REGISTRATION STATEMENT IN EFFECT WITH RESPECT TO THE SECURITIES UNDER THE SECURITIES ACT OR AN EXEMPTION FROM THE SECURITIES ACT. ANY SUCH TRANSFER MAY ALSO BE SUBJECT TO COMPLIANCE WITH APPLICABLE STATE SECURITIES LAWS AND THE LAWS OF OTHER APPLICABLE JURISDICTIONS.

THIS NOTE MAY NOT BE OFFERED OR SOLD IN THE UNITED STATES OR TO A U.S. PERSON OR FOR THE ACCOUNT OR BENEFIT OF A U.S. PERSON PRIOR TO THE EXPIRATION OF THE RESTRICTED PERIOD (AS DEFINED IN THE PURCHASE AGREEMENT), AND NO TRANSFER OR EXCHANGE OF THIS NOTE MAY BE MADE UNTIL AFTER THE LATER OF THE DATE OF EXPIRATION OF THE RESTRICTED PERIOD AND THE DATE ON WHICH THE REQUIRED CERTIFICATION RELATING TO SUCH INTEREST HAS BEEN PROVIDED IN ACCORDANCE WITH THE TERMS OF THE PURCHASE AGREEMENT.

HYBRIDON, INC.

No. ____

NOTE DUE 2007

\$-----

[DATE OF ISSUANCE]

Hybridon, Inc., a Delaware corporation, (the "Company"), for value

received, hereby promises to pay to _____ (the "Holder"), or registered assigns, the principal sum set forth above, with accrued but unpaid interest thereon at a rate equal to fourteen percent (14%) per annum, on December 31, 2007 (the "Maturity Date"); provided, however, that if the offering (the "Unit Offering") of units ("Units") consisting of Notes (as defined below) and Warrants is terminated before the Mandatory Conversion Event (as defined below) has occurred, then the interest rate will increase to eighteen percent (18%) per annum, effective as of the date the Additional Warrants become exercisable. Payment shall be made at such place as designated by the Company upon surrender of this Note, and shall be in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts. This Note is one of a duly authorized issue of Hybridon, Inc. Notes due 2007 (individually a "Note" and collectively the "Notes") in an aggregate original principal

amount of up to \$68,750,000 plus any Notes issued in lieu of cash interest on Notes, issued pursuant to a Unit Purchase Agreement which is available from the Company (the "Purchase Agreement") and similar agreements. The Notes shall be senior in right of payment to the Company's 9% Convertible Subordinated Notes Due 2004 (the "9% Notes") to the extent provided in a First Supplemental Indenture, dated as of January 13, 1998, to an Indenture, dated as of March 26, 1997, pursuant to which such 9% Notes were issued. The Notes shall be subordinated in right of payment to all existing and future Senior Indebtedness of the Company. The Notes are secured by certain assets of the Company pursuant to the Purchase Agreement on a subordinated basis. Capitalized terms used herein without definition have the respective meanings specified therefor in the Purchase Agreement.

SECTION 7. INTEREST.

The Company will pay interest semi-annually in arrears on April 1 and October 1 of each year (each an "Interest Payment Date"), or if any such day is not a Business Day, on the next succeeding Business Day to the registered Holder hereof as of the preceding March 15 or September 15 (each, a "Record Date"). Interest on this Note will accrue from the most recent Interest Payment Date to which interest has been paid or, if no interest has been paid, from the date of its issuance set forth above; provided that if there is no existing Default in the payment of interest, and if this Note is authenticated between a Record Date, and the next succeeding Interest Payment Date, interest shall accrue from such next succeeding Interest Payment Date; provided, further, that the first Interest Payment Date shall be April 1, 1998 or, if interest is paid in cash, October 1, 1998. The Company may, with respect to each Interest Payment Date, at its option and in its sole discretion, in lieu of payment of interest on the Notes in cash, issue additional Notes ("Interest Notes") in an aggregate principal amount equal to the amount of interest not paid in cash on such Interest Payment Date. Each issuance of Interest Notes in lieu of the payment of cash interest on the Notes shall be made pro rata with respect to the outstanding Notes; provided, however, that the Company may at its option pay cash in lieu of issuing Interest Notes in any denomination of less than \$1,000. Interest will be computed on the basis of a 360-day year comprised of twelve 30-day months.

SECTION 8. PREPAYMENT.

This Note (including interest accrued on the principal hereof) may be prepaid by the Company, at any time without penalty or premium.

SECTION 9. MANDATORY CONVERSION

(a) Mandatory Conversion. Upon the occurrence of a Mandatory Conversion Event (as hereinafter defined), and not before such occurrence under any circumstances, the Notes and all accrued interest thereon shall automatically convert into the number of shares of Series B Preferred Stock of the Company in substantially the form attached to the Purchase Agreement as Exhibit C (the "Conversion Securities") equal to the Conversion Amount (as defined below) divided by the then current Conversion Price (as defined below). The "Conversion Amount" shall be the Liquidation Amount (as defined below). The "Liquidation Amount" shall be the aggregate principal amount of, plus any accrued but unpaid interest on,

the Notes held by such Holder. The "Conversion Price" shall initially be \$100,

subject to adjustment as provided below, representing an initial conversion rate (subject to adjustment) of 10 shares of Conversion Securities per \$1,000 of Conversion Amount (the "Conversion Rate").

A "Mandatory Conversion Event" shall be deemed to have occurred, effective immediately, when all of the following shall have occurred:

(i) the holders of \$40,000,000 or more in aggregate principal amount of the 9% Convertible Subordinated Notes due 2004 (the "Subordinated Notes") issued pursuant to the Indenture between the Company and State Street Bank and Trust Company, as Trustee, dated as of March 26, 1997 (the "Indenture"), irrevocably exchange such Subordinated Notes and all accrued but unpaid interest thereon for Series A Preferred Stock of the Company and warrants to purchase Common Stock of the Company; and

(ii) the Company has received proceeds in the Unit Offering, net of cash fees, commissions and expenses, equal to or exceeding \$20,000,000 in the aggregate.

(b) Conversion Procedures. Such conversion shall be deemed to have been made automatically, irrevocably and immediately upon the occurrence of a Mandatory Conversion Event and, upon such Mandatory Conversion Event, Notes shall no longer be deemed outstanding and all rights whatsoever in respect thereof (including the right to receive interest thereon) shall terminate except as provided in the following sentence. The Company shall deliver to each Holder certificates evidencing the number of full shares of Conversion Securities to which such person shall be entitled as provided in Subsection 3(a), subject to Section 4 hereof.

(c) [Reserved]

(d) Reservation of Shares; Transfer Taxes; Etc. The Company shall at all times reserve and keep available, out of its authorized and unissued shares of Conversion Securities, solely for the purpose of effecting the conversion of the Notes, such number of shares of its Conversion Securities free of preemptive rights as shall be sufficient to effect the conversion of all Notes from time to time outstanding. The Company shall use its best efforts from time to time, in accordance with the laws of the State of Delaware, to increase the authorized number of shares of Conversion Securities if at any time the number of shares of Conversion Securities not outstanding shall not be sufficient to permit the conversion of all the then-outstanding Notes.

The Company shall pay any and all issue or other taxes (other than income taxes) that may be payable in respect of any issue or delivery of shares of Conversion Securities on conversion of the Notes. The Company shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issue or delivery of Conversion Securities (or other securities or assets) in a name other than that in which the Notes so converted were registered, and no such issue or delivery shall be made unless and until the person requesting such issue has paid to the Company the amount of such tax or has established, to the satisfaction of the Company, that such tax has been paid.

(e) Other Changes in Conversion Rate. The Company from time to time may increase the Conversion Rate by any amount for any period of time if the period is at least 20

days and if the increase is irrevocable during the period. Whenever the Conversion Rate is so increased, the Company shall mail to the holder of record of this Note a notice of the increase at least 15 days before the date the increased Conversion Rate takes effect, and such notice shall state the increased Conversion Rate and the period it will be in effect.

The Company may make such increases in the Conversion Rate, in addition to those required or allowed by this paragraph (e), as shall be determined by it, as evidenced by a resolution of the Board of Directors of the Company, to be advisable in order to avoid or diminish any income tax to holders of Common Stock resulting from any dividend or distribution of stock or issuance of rights or warrants to purchase or subscribe for stock or from any event treated as such for income tax purposes.

The Company shall not be required to issue fractions of shares of Conversion Securities or other capital stock of the Company upon conversion of any Notes. If any fraction of a share would be issuable on conversion of any Notes (aggregating, for this purpose, all Notes held by a record holder), the number of shares of Conversion Securities issuable shall be rounded to the nearest whole share, with .5 of a share rounded upward.

SECTION 11. EVENTS OF DEFAULT DEFINED.

The following shall each constitute an "Event of Default" hereunder:

(a) the failure of the Company to make any payment of (i) principal of this Note when due and payable and such failure shall continue for five (5) or more days and (ii) interest on this Note when due and payable and such failure shall continue for thirty (30) or more days, whether or not such payment is prohibited by the subordination provisions of this Note or the Purchase Agreement;

(b) the failure of the Company to observe or perform any covenant in this Note or in the Purchase Agreement, and such failure shall have continued unremedied for a period of sixty (60) days after written notice as provided in the last paragraph of this Section 5;

(c) a default occurs (after giving effect to any applicable grace periods or any extension of any maturity date) in the payment when due of principal of, or an acceleration of, any indebtedness for money borrowed by the Company or any of its Subsidiaries (other than an Unrestricted Subsidiary (as defined below) which is not a Significant Subsidiary and provided there is no recourse against the Company or any other Subsidiary with respect to the obligations of such Unrestricted Subsidiary arising as a result of such default) in excess of \$2 million, individually or in the aggregate, if such indebtedness is not discharged, or such acceleration is not annulled, within 30 days after written notice as provided in the last paragraph of this Section 5;

(d) the Company or any of its Significant Subsidiaries, pursuant to or within the meaning of any Bankruptcy Law:

(i) commences a voluntary case,

(ii) consents to the entry of an order for relief against it in an involuntary case,

(iii) consents to the appointment of a Custodian of it or for all or substantially all of its property, and such Custodian is not discharged within 30 days,

(iv) makes a general assignment for the benefit of its creditors, or

(v) admits in writing that it is generally unable to pay its debts as the same become due;

(e) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

(i) is for relief in any involuntary case against the Company or any Significant Subsidiary,

(ii) appoints a Custodian of the Company or any Significant Subsidiary or for all or substantially all of the property of the Company or any Significant Subsidiary, or

(iii) orders the liquidation of the Company or any Significant Subsidiary, and, in each case, the order or decree remains unstayed and in effect for 60 consecutive days.

The term "Bankruptcy Law" means Title 11 of the U.S. Code or any similar federal, foreign or state law for the relief of debtors. The term "Custodian" means any receiver, trustee, assignee, liquidator, examiner or similar official under any Bankruptcy Law. The term "Significant Subsidiary" has the same meaning as significant subsidiary has under Regulation SX under the

Securities Act as in effect on the date hereof. "Unrestricted Subsidiary" means any Subsidiary of the Company which (i) is not wholly-owned by the Company, (ii) is designated as an Unrestricted Subsidiary by the Board of Directors of the Company and (iii) at the time of any investment by the Company in such Subsidiary, in the aggregate holds or comprises less than 20% of the Company's assets as shown on the Company's consolidated balance sheet prepared in accordance with generally accepted accounting principles consistently applied as at the time of such investment.

A Default under Subsection (b) of this Section 5 (other than a Default under Section 8.14 of the Purchase Agreement, which Default shall be an Event of Default with the notice but without the passage of time specified in Subsection (b) of this Section 5) or Subsection (c) of this Section 5 shall not be an Event of Default until (i) the holders of at least 25% in aggregate principal amount of the Notes then outstanding shall have notified the Company of the Default and (ii) the Company shall have failed to cure the Default under such Subsection (b) within 60 days after receipt of the notice or under such Subsection (c) within 10 days after receipt of the notice, respectively. Any such notice must specify the Default, demand that it be remedied and state that the notice is a "Notice of Default."

SECTION 12. REMEDIES UPON EVENT OF DEFAULT.

(a) If an Event of Default (other than an Event of Default specified in Subsections (d) and (e) of Section 5) occurs and is continuing, the Holders of at least 25% in aggregate principal amount of the Notes then outstanding (by notice to the Company and the Secured Party), may declare the unpaid principal of and accrued interest on all the Notes then outstanding to be due and payable. Upon any such declaration, such principal and accrued interest shall be due and payable immediately. If an Event of Default specified in Subsection (d) or (e) of Section 5 occurs, such an amount shall ipso facto become and be immediately due and payable without any declaration or other act on the part of any Holder. The Holders of at least fifty percent (50%) or more in aggregate principal amount of the Notes then outstanding may rescind an acceleration and its consequences if (a) the Company has paid a sum sufficient to pay (i) all overdue interest on all Notes then outstanding and (ii) the principal of the Notes then outstanding which have become due otherwise than by such declaration of acceleration and accrued interest thereon at a rate borne by the Notes and (b) the rescission would not conflict with any judgment or decree and if all existing Events of Default have been cured or waived except nonpayment of principal or interest that has become due solely because of acceleration. No such rescission shall effect any subsequent Default or impair any right consequent thereto.

(b) The Holders of at least fifty percent (50%) or more in aggregate principal amount of the Notes then outstanding may waive an existing Default or Event of Default and its consequences. Upon any such waiver, such Default shall cease to exist and any Event of Default arising therefrom shall be deemed to have been cured for every purpose of this Note and the Purchase Agreement; but no such waiver shall extend to any subsequent or other Default or impair any right consequent thereon.

(c) If the Company defaults in a payment of interest on the Notes, the Company shall pay defaulted interest (plus interest on such defaulted interest, to the extent lawful, at the rate borne by this Note) in any lawful manner. The Company shall pay the defaulted interest to the Holders of the Notes on a special record date. The Company shall fix or cause to be fixed any such special record date and payment date, which specified record date shall not be less than 10 days prior to the payment date for such defaulted interest, and shall promptly mail or cause to be mailed to each Holder a notice that states the special record date, the payment date and the amount of defaulted interest to be paid.

(d) No remedy herein conferred upon the Holder of this Note is intended to be exclusive of any other remedy and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute or otherwise.

(e) In any suit for the enforcement of any right or remedy under this Note or the Purchase Agreement, a court in its discretion may require the filing by any party litigant in the suit of an undertaking to pay the costs of the suit, and the court in its discretion may assess reasonable costs, including

reasonable attorneys' fees, against any party litigant in the suit, having due regard to the merits and good faith of the claims or defenses made by the party litigant. This Subsection 6(e) does not apply to a suit by Holders of more than 10% in aggregate

principal amount of the then outstanding Notes or any suit for the enforcement of the mandatory conversion right set forth in Section 3.

SECTION 13. NOTE REGISTER.

(a) The Company shall keep at its principal executive office a register (herein sometimes referred to as the "Note Register"), in which, subject to such reasonable regulations as it may prescribe, but at its expense (other than transfer taxes, if any), the Company shall provide for the registration and transfer of this Note.

(b) Whenever this Note shall be surrendered at the principal executive office of the Company for transfer or exchange, accompanied by a written instrument of transfer in form reasonably satisfactory to the Company duly executed by the Holder hereof or his attorney duly authorized in writing, and, subject to compliance with applicable securities laws, the Company shall execute and deliver in exchange therefor a new Note or Notes, as may be requested by such Holder, in the same aggregate unpaid principal amount and payable on the same date as the principal amount of the Note or Notes so surrendered; each such new Note shall be dated as of the date to which interest has been paid on the unpaid principal amount of the Note or Notes so surrendered and shall be in such principal amount and registered in such name or names as such Holder may designate in writing.

(c) Upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Note and of indemnity reasonably satisfactory to it, and upon reimbursement to the Company of all reasonable expenses incidental thereto, and upon surrender and cancellation of this Note (in case of mutilation) the Company will make and deliver in lieu of this Note a new Note of like tenor and unpaid principal amount and dated as of the date to which interest has been paid on the unpaid principal amount of this Note in lieu of which such new Note is made and delivered.

SECTION 14. MISCELLANEOUS.

(a) Amendments and Waivers. The holders of at least fifty percent (50%) or more in principal amount of outstanding Notes or the Secured Party on behalf of the holders of the Notes may waive or otherwise consent to the amendment of any of the provisions hereof, provided that no such waiver or amendment may reduce the principal amount of or interest on any of the Notes or change the stated maturity of the principal or reduce the percentage of holders of Notes necessary to waive or amend the provisions of this Note, without the consent of each holder of any Note affected thereby.

(b) Restrictions on Transferability. In addition to the restrictions set forth in the Purchase Agreement, the securities represented by this Note have been acquired for investment and have not been registered under the Securities Act of 1933, as amended, or the securities laws of any state or other jurisdiction. Without such registration, such securities may not be sold, pledged, hypothecated or otherwise transferred, except pursuant to exemptions from the Securities Act of 1933, as amended, and the securities laws of any state or other jurisdiction.

(c) Forbearance from Suit. No holder of Notes shall institute any suit or proceeding for the enforcement of the payment of principal or interest unless the holders of at least 25% in principal amount of all of the outstanding Notes join in such suit or proceeding.

(d) No Recourse Against Others. No directors, officer, employee, incorporator or stockholder of the Company, as such, shall have any liability for any obligations of the Company under this Note, the Purchase Agreement or for any claim based on, in respect of, or by reason of, such obligations or their creation. The Holder of this Note by accepting this Note waives and releases all such liability. The waiver and release are part of the consideration for the issuance of this Note.

(e) Subordination. The Holder by accepting this Note agrees that the payment (by set-off or otherwise) of principal of and interest on the Notes is subordinated in right of payment, to the extent and in the manner provided in Section 9 of the Purchase Agreement, to the prior payment in full of all obligations in respect of Senior Indebtedness of the Company, whether outstanding on the date of the Purchase Agreement or thereafter incurred.

(f) Denominations. This Note is issuable in minimum denominations of \$1,000 and integral multiples of \$1,000 in excess thereof, except as otherwise provided in Section 1 hereof.

(g) Governing Law. This Note shall be governed by, and construed in accordance with, the laws of the State of New York, excluding the body of law relating to conflict of laws. Notwithstanding anything to the contrary contained herein, in no event may the effective rate of interest collected or received by the Holder exceed that which may be charged, collected or received by the Holder under applicable law.

(h) Interpretation. If any term or provision of this Note shall be held invalid, illegal or unenforceable, the validity of all other terms and provisions hereof shall in no way be affected thereby.

(i) Successors and Assigns. This Note shall be binding upon the Company and its successors and assigns and shall inure to the benefit of the Holder and its successors and registered assigns.

(j) Notices. All notices, requests, consents and demands shall be made in writing and shall be mailed postage prepaid, or delivered by hand, to the Company or to the Holder thereof at their respective addresses set forth below or to such other address as may be furnished in writing to the other party hereto:

If to the Holder: At the address shown on Schedule A attached hereto

If to the Company: Hybridon, Inc.
620 Memorial Drive
Cambridge, Massachusetts 02139
Attention: E. Andrews Grinstead, III

(k) Saturdays, Sundays, Holidays. If any date that may at any time be specified in this Note as a date for the making of any payment of principal or interest under this Note shall fall on Saturday, Sunday or on a day which in New York or Massachusetts or California shall be a legal holiday, then the date for the making of that payment shall be the next subsequent day which is not a Saturday, Sunday or legal holiday.

(l) Purchase Agreement. This Note is subject to the terms contained in the Purchase Agreement and the registered Holder of this Note is entitled to the benefits of such Purchase Agreement to the extent provided therein and may, in addition to any rights hereunder, enforce the agreements of the Company contained therein and exercise the remedies provided for thereby or otherwise available in respect thereof.

(m) No Adverse Interpretation of Other Agreements. This Note and the Purchase Agreement may not be used to interpret another note, indenture, loan or debt agreement of the Company or a Subsidiary. Any such note, indenture, loan or debt agreement may not be used to interpret this Note or the Purchase Agreement.

IN WITNESS WHEREOF, this Note has been executed and delivered on the date first above written by the duly authorized representative of the Company.

HYBRIDON, INC.

By: _____

(c) "Corporate Office" shall mean the office of the Warrant Agent (or its successor) at which, at any particular time, its principal business shall be administered, which office is located at the date hereof at 85 Challenger Road, Overpeck Centre, Ridgefield Park, New Jersey, 07660.

(d) "Exercise Date" shall mean, as to any Class A Warrant, the date on which the Warrant Agent shall have received both (a) the Warrant Certificate representing such Class A Warrant, with the subscription form thereon duly executed by the Registered Holder thereof or his attorney duly authorized in writing, and (b) payment in cash, or by official bank or certified check made payable to the Company, of an amount in lawful money of the United States of America equal to the applicable Purchase Price.

(e) [Reserved]

(f) "Fair Market Value" means, with respect to any security or other asset, the fair market value set by, or determined in a manner established by, the Board of Directors of the Company.

(g) "Initial Warrant Exercise Date" shall mean, as to each Class A Warrant, the date which is 12 months after the Alternative Equity Closing Date (as hereinafter defined).

(h) "Market Price" shall mean the average Closing Bid Price, for twenty (20) consecutive trading days, ending with the trading day prior to the date as of which the Market Price is being determined (with appropriate adjustments for subdivisions or combinations of shares effected during such period), provided that if the prices referred to in the definition of Closing Bid Price cannot be determined for such period, "Market Price" shall mean Fair Market Value.

(i) The "Purchase Price" per share of Common Stock shall mean the product of 2.125 multiplied by the per share price of Common Stock sold by the Company in connection with the Alternative Equity Offering (as such term is defined in the Amendment), subject to

adjustment from time to time pursuant to the provisions of Section 9, and subject to the Company's right to reduce the Purchase Price upon notice to all Registered Holders.

(j) [Reserved]

(k) "Registered Holder" shall mean, as to any Class A Warrant and as of any particular date, the person in whose name the certificate representing the Class A Warrant shall be registered on that date on the books maintained by the Warrant Agent pursuant to Section 6.

(l) The "Stock Market" shall mean the principal national securities exchange on which the Common Stock is listed or admitted to trading or, if the Common Stock is not listed or admitted to trading on any national securities exchange, shall mean The Nasdaq National Market System or The Nasdaq SmallCap Market (collectively, "Nasdaq") or, if the Common Stock is not quoted on Nasdaq, shall mean the OTC Bulletin Board or, if the Common Stock is not quoted on the OTC Bulletin Board, shall mean the over-the-counter market as furnished by any NASD member firm selected from time to time by the Company for that purpose.

(m) A "trading day" shall mean a day on which the Stock Market is open for the transaction of business.

(n) "Transfer Agent" shall mean ChaseMellon Shareholder Services, L.L.C., as the Company's transfer agent, or its authorized successor, as such.

(o) "Warrant Coverage Quantity" shall mean 25% of the quotient of (i) the initial aggregate Dividend Base Amount (as defined in the Certificate of Designation for the Series A Preferred Stock) of the Series A Preferred Stock issued pursuant to the Exchange Offer, divided by (ii) the Purchase Price without giving effect to any adjustments to such Purchase Price occurring after the date hereof.

(p) "Warrant Expiration Date" shall mean 5:00 P.M. (New York time) on the day prior to the fourth anniversary of the Initial Warrant Exercise Date; provided that if such date shall in the State of New York be a holiday or

a day on which banks are authorized or required to close, then "Warrant Expiration Date" shall mean 5:00 P.M. (New York time) on the next following day which in the State of New York is neither a holiday nor a day on which banks are authorized or required to close. Upon notice to all Registered Holders, the Company shall have the right to extend the Warrant Expiration Date.

(q) Unless otherwise stated, section references used within this Warrant Agreement refer to sections of this Warrant Agreement.

SECTION 2. Warrants and Issuance of Warrant Certificates.

(a) A Class A Warrant initially shall entitle the Registered Holder of the Warrant Certificate representing such Class A Warrant to purchase one share of Common Stock upon the exercise thereof, in accordance with the terms hereof, subject to modification and adjustment as provided in Section 9.

(b) The Class A Warrants issued pursuant to the Exchange Offer will immediately be detachable and separately transferable from the shares of Series A Preferred Stock also issued pursuant thereto.

(c) Within five business days after the date that 9% Notes are irrevocably exchanged pursuant to the Exchange Offer, Warrant Certificates representing the number of Class A Warrants to be issued pursuant to the Exchange Offer shall be executed by the Company and delivered to the Warrant Agent. Within five business days of receipt of the Warrant Certificates by the Warrant Agent, the Warrant Agent shall send the Warrant Certificates to the Registered Holders. The Company shall issue a written order, signed by its Chairman of the Board, President or any Vice President and by its Secretary or an Assistant Secretary, to the Warrant Agent directing that the Warrant Certificates shall be countersigned, issued and delivered by the Warrant Agent in accordance with the preceding sentence.

(d) From time to time, until the Warrant Expiration Date, the Transfer Agent shall countersign and deliver stock certificates in required whole number denominations of Common Stock, subject to adjustment as described herein, upon the exercise of Class A Warrants in accordance with this Agreement.

(e) From time to time, until the Warrant Expiration Date, the Warrant Agent shall countersign and deliver Warrant Certificates in required whole number denominations to the persons entitled thereto in connection with any transfer or exchange permitted under this Agreement; provided that no Warrant Certificates shall be issued except (i) those initially issued hereunder, (ii) those issued on or after the Initial Warrant Exercise Date, upon the exercise of fewer than all Class A Warrants represented by any Warrant Certificate, to evidence any unexercised Class A Warrants held by the exercising Registered Holder, (iii) those issued upon any transfer or exchange pursuant to Section 6; (iv) those issued in replacement of lost, stolen, destroyed or mutilated Warrant Certificates pursuant to Section 7 and (v) at the option of the Company, in such form as may be approved by its Board of Directors, to reflect any adjustment to, or change in: the Purchase Price; the number of shares of Common Stock purchasable upon exercise of the Class A Warrants; or the Warrant Expiration Date.

SECTION 3. Form and Execution of Warrant Certificates.

(a) The Warrant Certificates shall be substantially in the form annexed hereto as Exhibit A (the provisions of which are hereby incorporated herein) and may have such letters, numbers or other marks of identification or designation and such legends, summaries or

endorsements printed, lithographed or engraved thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which the Class A Warrants may be listed, or to conform to usage or to the requirements of Section 2. The Warrant Certificates shall be dated the date of issuance thereof (whether upon initial issuance, transfer, exchange or in lieu of mutilated, lost, stolen, or destroyed Warrant Certificates) and issued in registered form. Warrant Certificates shall be numbered serially with the letters AW on Class A Warrants of all denominations.

(b) Warrant Certificates shall be executed on behalf of the Company by its Chairman of the Board, President or any Vice President and by its Secretary or an Assistant Secretary, by manual signatures or by facsimile signatures printed thereon. Warrant Certificates shall be manually countersigned by the Warrant Agent and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed any of the Warrant Certificates shall cease to be an officer of the Company or to hold the particular office referenced in the Warrant Certificate before the date of issuance of the Warrant Certificates or before countersignature by the Warrant Agent and issuance and delivery thereof, such Warrant Certificates may nevertheless be countersigned by the Warrant Agent, issued and delivered with the same force and effect as though the person who signed such Warrant Certificates had not ceased to be an officer of the Company or to hold such office. After countersignature by the Warrant Agent, Warrant Certificates shall be delivered by the Warrant Agent to the Registered Holder without further action by the Company, except as otherwise provided herein.

SECTION 4. Exercise. Each Class A Warrant may be exercised by the Registered Holder thereof at any time on or after the Initial Warrant Exercise Date, but not after the Warrant Expiration Date, upon the terms and subject to the conditions set forth herein and in the applicable Warrant Certificate. A Class A Warrant shall be deemed to have been exercised immediately prior to the close of business on the Exercise Date and the person entitled to receive the securities deliverable upon such exercise shall be treated for all purposes as the holder of those securities upon the exercise of the Class A Warrant as of the close of business on the Exercise Date. As soon as practicable on or after the Exercise Date, the Warrant Agent shall deposit the proceeds received from the exercise of a Class A Warrant and shall notify the Company in writing of the exercise of the Class A Warrants. Promptly following, and in any event within five business days after the date of such notice from the Warrant Agent, the Warrant Agent, on behalf of the Company, shall cause to be issued and delivered by the Transfer Agent, to the person or persons entitled to receive the same, a certificate or certificates for the securities deliverable upon such exercise (plus a certificate for any remaining unexercised Class A Warrants of the Registered Holder). In the case of payment made in the form of a check drawn on an account of such investment banks and brokerage houses as the Company shall approve in writing to the Warrant Agent, certificates shall promptly be issued without prior notice to the Company nor any delay. Upon the exercise of any Class A Warrant and clearance

of the funds received, the Warrant Agent shall promptly remit the payment received for the Class A Warrant (the "Warrant Proceeds") to the Company or as the Company may otherwise direct in writing.

SECTION 5. Reservation of Shares; Listing; Payment of Taxes; etc.

(a) The Company covenants that it will at all times reserve and keep available out of its authorized Common Stock, solely for the purpose of issue upon exercise of Class A Warrants, such number of shares of Common Stock as shall then be issuable upon the exercise of all outstanding Class A Warrants. The Company covenants that all shares of Common Stock which shall be issuable upon exercise of the Class A Warrants shall, at the time of delivery (assuming full payment of the Purchase Price thereof), be duly and validly issued, fully paid, nonassessable and free from all issuance taxes, liens and charges with respect to the issue thereof including, without limitation, adverse claims whatsoever (with the exception of claims arising through the acts of the Registered Holders themselves and except as arising from applicable Federal and state securities laws) and that the Company shall have paid all taxes, if any, in respect of the original issuance thereof (except as otherwise provided in Subsection 5(c)).

(b) The Registered Holders of Class A Warrants shall have the registration rights provided in the Offer to Exchange. The Class A Warrants shall not be exercisable in any state where such exercise would be unlawful.

(c) The Company shall pay all documentary, stamp or similar taxes and other similar governmental charges (but in no case income taxes) that may be imposed with respect to the issuance of Class A Warrants, or the issuance or delivery of any shares upon exercise of the Class A Warrants; provided, however, that if the shares of Common Stock are to be delivered in a name other than the name of the Registered Holder of the Warrant Certificate representing any Class A Warrant being exercised, then no such delivery shall be made unless the person requesting the same has paid to the Warrant Agent the amount of transfer taxes

or charges incident thereto, if any.

(d) The Warrant Agent is hereby irrevocably authorized to requisition the Company's Transfer Agent from time to time for certificates representing shares of Common Stock issuable upon exercise of the Class A Warrants, and the Company will authorize the Transfer Agent to comply with all such proper requisitions. The Company will file with the Warrant Agent a statement setting forth the name and address of the Transfer Agent of the Company for shares of Common Stock issuable upon exercise of the Class A Warrants.

SECTION 6. Exchange and Registration of Transfer.

(a) Warrant Certificates may be exchanged for other Warrant Certificates representing an equal aggregate number of Class A Warrants of the same class or may be

transferred in whole or in part. Warrant Certificates to be exchanged shall be surrendered to the Warrant Agent at its Corporate Office, and upon satisfaction of the terms and provisions hereof, the Company shall execute, and the Warrant Agent shall countersign, issue and deliver in exchange therefor, the Warrant Certificate or Warrant Certificates that the Registered Holder making the exchange shall be entitled to receive.

(b) The Warrant Agent shall keep at its office books in which, subject to such reasonable regulations as it may prescribe, it shall register Warrant Certificates and any transfers thereof in accordance with its regular practice. Upon due presentment for registration of transfer of any Warrant Certificate at such office, the Company shall execute and the Warrant Agent shall issue and deliver to the transferee or transferees, a new Warrant Certificate or Warrant Certificates representing an equal aggregate number of Class A Warrants.

(c) With respect to all Warrant Certificates presented for registration or transfer, or for exchange or exercise, the subscription form on the reverse thereof shall be duly endorsed, or be accompanied by a written instrument or instruments of transfer and subscription, in form satisfactory to the Company and the Warrant Agent, duly executed by the Registered Holder or his attorney-in-fact duly authorized in writing.

(d) A service charge may be imposed by the Warrant Agent on holders for any exchange or registration of transfer of Warrant Certificates of such holders. In addition, the Company may require payment by such holder of a sum sufficient to cover any tax or governmental or other charge that may be imposed in connection therewith.

(e) All Warrant Certificates surrendered for exercise, or for exchange in case of mutilated Warrant Certificates, shall be promptly cancelled by the Warrant Agent and thereafter retained by the Warrant Agent in a manner consistent with its customary practices until termination of this Warrant Agreement or resignation as Warrant Agent or disposed of or destroyed at the direction of the Company.

(f) Prior to due presentment for registration of transfer thereof, the Company and the Warrant Agent may deem and treat the Registered Holder of any Warrant Certificate as the absolute owner thereof and of each Class A Warrant represented thereby (notwithstanding any notations of ownership or writing thereon made by anyone other than a duly authorized officer of the Company or the Warrant Agent) for all purposes and shall not be affected by any notice to the contrary.

SECTION 7. Loss or Mutilation. Upon receipt by the Warrant Agent of evidence satisfactory to it of the ownership of and loss, theft, destruction or mutilation of any Warrant Certificate and (in case of loss, theft or destruction) of indemnity satisfactory to it, and (in the case of mutilation) upon surrender and cancellation thereof, the Company shall execute and the Warrant Agent shall (in the absence of notice to the Company and/or Warrant Agent

that the Warrant Certificate has been acquired by a bona fide purchaser) countersign and deliver to the Registered Holder in lieu thereof a new Warrant

Certificate of like tenor representing an equal aggregate number of Class A Warrants. Applicants for a substitute Warrant Certificate shall comply with such other reasonable regulations and pay such other reasonable charges as the Warrant Agent may prescribe.

SECTION 8. [Reserved]

SECTION 9. Adjustment of Purchase Price and Number of Shares of Common Stock or Class A Warrants. Upon, and only upon, each adjustment of the Purchase Price pursuant to this Section 9, the total number of shares of Common Stock purchasable upon the exercise of each Class A Warrant shall (subject to the provisions contained in Subsection 9(c)) be such number of shares (calculated to the nearest tenth) purchasable at the Purchase Price in effect immediately prior to such adjustment multiplied by a fraction, the numerator of which shall be the Purchase Price in effect immediately prior to such adjustment and the denominator of which shall be the Purchase Price in effect immediately after such adjustment.

(a) The Company may elect, upon any adjustment of the Purchase Price hereunder, to adjust the number of Class A Warrants outstanding, in lieu of the adjustment in the number of shares of Common Stock purchasable upon the exercise of each Class A Warrant as herein provided, so that each Class A Warrant outstanding after such adjustment shall represent the right to purchase one share of Common Stock. Each Class A Warrant held of record prior to such adjustment of the number of Class A Warrants shall become that number of Class A Warrants (calculated to the nearest tenth) equal to a fraction, the numerator of which shall be the Purchase Price in effect immediately prior to such adjustment and the denominator of which shall be the Purchase Price in effect immediately after such adjustment. Upon each adjustment of the number of Class A Warrants pursuant to this Section 9, the Company shall, as promptly as practicable, cause to be distributed to each Registered Holder of Warrant Certificates on the date of such adjustment Warrant Certificates evidencing, subject to Section 10, the number of additional Class A Warrants to which such Holder shall be entitled as a result of such adjustment or, at the option of the Company, cause to be distributed to such Holder in substitution and replacement for the Warrant Certificates held by him prior to the date of adjustment (and upon surrender thereof, if required by the Company) new Warrant Certificates evidencing the number of Class A Warrants to which such Holder shall be entitled after such adjustment.

(b) Irrespective of any adjustments or changes in the Purchase Price or the number of shares of Common Stock purchasable upon exercise of the Class A Warrants, the Warrant Certificates theretofore and thereafter issued shall, unless the Company shall exercise its option to issue new Warrant Certificates pursuant to Subsection 2(e), continue to express the same Purchase Price per share, number of shares purchasable thereunder as when the same were originally issued.

(c) As used in this Section 9, the following terms shall have the following meanings:

"Capital Stock" of any Person means the Common Stock or Preferred Stock of such Person. Unless otherwise stated herein or the context otherwise requires, "Capital Stock" means Capital Stock of the Company;

"Common Stock" of any Person other than the Company means the common equity (however designated), including, without limitation, common stock or partnership or membership interests of, or participation or interests in such Person (or equivalents thereof). "Common Stock" of the Company means the Common Stock, par value \$.001 per share, of the Company, any successor class or classes of common equity (however designated) of the Company into or for which such Common Stock may hereafter be converted, exchanged or reclassified and any class or classes of common equity (however designated) of the Company which may be distributed or issued with respect to such Common Stock or successor class or classes to holders thereof generally. Unless otherwise stated herein or the context requires otherwise, "Common Stock" means Common Stock of the Company;

"Current Market Price" means, when used with respect to any security as of any date, the last sale price, regular way, or, in

case no such sale takes place on such date, the average of the closing bid and asked prices, regular way, of such security in either case as reported for consolidated transactions on the New York Stock Exchange or, if such security is not listed or admitted to trading on the New York Stock Exchange, as reported for consolidated transactions with respect to securities listed on the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, as reported on the Nasdaq National Market, or, if such security is not listed or admitted to trading on the Nasdaq National Market, as reported on the Nasdaq SmallCap Market, or if such security is not listed or admitted to trading on any national securities exchange or the Nasdaq National Market or the Nasdaq SmallCap Market, the average of the high bid and low asked prices of such security in the over-the-counter market, as reported by the National Association of Securities Dealers, Inc. Automated Quotations System or such other system then in use or, if such security is not quoted by any such organization, the average of the closing bid and asked prices of such security furnished by an NASD member firm selected by the Company. If such security is not quoted by any such organization and no such NASD member firm is able to provide such prices, the Current Market Price of such security shall be the Fair Market Value thereof;

"Fair Market Value" means, at any date as to any asset, Property or right (including without limitation, Capital Stock of any Person, evidence of indebtedness or other securities, but excluding cash), the fair market value of such item as determined in good faith by the Board of Directors, whose determination shall be conclusive; provided, however, that such determination is described in an Officers' Certificate filed with the transfer agent and that, if there is a Current Market Price for such item on such date, "Fair Market Value" means such Current Market Price (without giving effect to the last sentence of the definition thereof);

"GAAP" means, as of any date, generally accepted accounting principles in the United States and does not include any interpretations or regulations that have been proposed but that have not become effective;

"Officer" means, with respect to any Person, the Chairman of the Board, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Assistant Secretary or any Vice President of such Person;

"Officers' Certificate" means a certificate signed on behalf of the Company by two Officers, one of whom must be the Chairman of the Board, the President, the Treasurer or a Vice-President of the Company;

"Person" means any individual, corporation, partnership, association, trust or any other entity or organization, including a government or political subdivision or any agency or instrumentality thereof;

"Preferred Stock" of any Person means the class or classes of equity, ownership or participation interests (however designated) in such Person, including, without limitation, stock, share, partnership and membership interests, which are preferred as to the payment of dividends or distributions by, or as to the distribution of assets upon any voluntary or involuntary liquidation or dissolution of, such Person (or equivalent thereof) over interests of any other class of interests of such Person. Unless otherwise stated herein or the context otherwise requires, "Preferred Stock" means Preferred Stock of the Company;

"Property" of any Person means any and all types of real, personal, tangible, intangible or mixed property owned by such Person whether or not included on the most recent consolidated

balance sheet of such Person in accordance with GAAP;

"Subsidiary" of a Person on any date means any other Person of whom such Person owns, directly or indirectly through a Subsidiary or Subsidiaries of such Person, Capital Stock with voting power, acting independently and under ordinary circumstances, entitling such person to elect a majority of the board of directors or other governing body of such other Person. Unless otherwise stated herein or the context otherwise requires, "Subsidiary" means a Subsidiary of the Company.

(d) If the Company shall (i) pay a dividend or other distribution, in Common Stock, on any class of Capital Stock of the Company, (ii) subdivide the outstanding Common Stock into a greater number of shares by any means or (iii) combine the outstanding Common Stock into a smaller number of shares by any means including, without limitation, a reverse stock split), then in each such case the Purchase Price in effect immediately prior thereto shall be adjusted so that the Registered Holder of any Class A Warrants thereafter surrendered for exercise shall be entitled to receive the number of shares of Common Stock that such Registered Holder would have owned or have been entitled to receive upon the happening of such event had such Class A Warrants been exercised immediately prior to the relevant record date or, if there is no such record date, the effective date of such event. An adjustment made pursuant to this Subsection 9(d) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date of such subdivision or combination, as the case may be.

(e) If the Company shall (i) issue or distribute (at a price per share less than the Current Market Price per share of such Capital Stock on the date of such issuance or distribution) Capital Stock generally to holders of Common Stock or to holders of any class or series of Capital Stock which is convertible into or exchangeable or exercisable for Common Stock (excluding an issuance or distribution of Common Stock described in Subsection 9(d) or (ii) issue or distribute generally to such holders rights, warrants, options or convertible or exchangeable securities entitling the holder thereof to subscribe for, purchase, convert into or exchange for Capital Stock at a price per share less than the Current Market Price per share of such Capital Stock on the date of issuance or distribution, then, in each such case, at the earliest of (A) the date the Company enters into a firm contract for such issuance or distribution, (B) the record date for the determination of stockholders entitled to receive any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities or (C) the date of actual issuance or distribution of any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities, the Purchase Price shall be reduced by multiplying the Purchase Price in effect immediately prior to such earliest date by:

(i) if such Capital Stock is Common Stock, a fraction the numerator of which is the number of shares of Common Stock outstanding, on such earliest date plus the number of shares of Common Stock which could be purchased at the Current Market Price per share of Common Stock on the date of such issuance or distribution with the aggregate consideration (based on the Fair Market Value thereof) received or receivable

by the Company either (A) in connection with such issuance or distribution or (B) upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities (the "Aggregate Consideration"), and the denominator of which is the number of shares of Common Stock outstanding on such earliest date plus the number of shares of Common Stock to be so issued or distributed or to be issued upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities; or

(ii) if such Capital Stock is other than Common Stock, a fraction the numerator of which is the Current Market Price per share of Common Stock on such earliest date minus an amount equal to (A) the difference between (1) the Current Market Price per share of such

Capital Stock multiplied by the number of shares of such Capital Stock to be so issued and (2) the Aggregate Consideration, divided by (B) the number of shares of Common Stock outstanding on such date, and the denominator of which is the Current Market Price per share of Common Stock on such earliest date.

Such adjustment shall be made successively whenever any such Capital Stock, rights, warrants, options or convertible or exchangeable securities are so issued or distributed. In determining whether any rights, warrants, options or convertible or exchangeable securities entitle the holders thereof to subscribe for, purchase, convert into or exchange for shares of such Capital Stock at less than such Current Market Price, there shall be taken into account the Fair Market Value of any consideration received or receivable by the Company for such rights, warrants, options or convertible or exchangeable securities. If any right, warrant, option or convertible or exchangeable security, the issuance of which resulted in an adjustment in the Purchase Price pursuant to this Subsection 9(e), shall expire and shall not have been exercised, the Purchase Price shall immediately upon such expiration be recomputed to the Purchase Price which would have been in effect if such right, warrant, option or convertible or exchangeable securities had never been distributed or issued. Notwithstanding anything contained in this paragraph to the contrary, (i) the issuance of Capital Stock upon the exercise of such rights, warrants or options or the conversion or exchange of such convertible or exchangeable securities will not cause an adjustment in the Purchase Price if no such adjustment would have been required at the time such right, warrant, option or convertible or exchangeable security was issued or distributed; provided, however, that, if the consideration payable upon such exercise, conversion or exchange and/or the Capital Stock receivable thereupon are changed after the time of the issuance or distribution of such right, warrant, option or convertible or exchangeable security then such change shall be deemed to be the expiration thereof without having been exercised and the issuance or distribution of new options, rights, warrants or convertible or exchangeable securities and (ii) the issuance of convertible preferred stock of the Company as a dividend on convertible preferred stock of the Company will not cause an adjustment in the Purchase Price if no such adjustment would have been required at the time such underlying convertible preferred stock was issued (or as a result of any subsequent modification to the terms

thereof) and the conversion provisions of such convertible stock so issued as a dividend are the same as in such underlying convertible preferred stock.

Notwithstanding anything contained in this Warrant Agreement to the contrary, options, rights or warrants issued or distributed by the Company, including options, rights or warrants distributed prior to the date of this Warrant Agreement, to holders of Common Stock generally which, until the occurrence of a specified event or events (a "Trigger Event"), (i) are deemed to be transferred with Common Stock, (ii) are not exercisable and (iii) are also issued on a pro rata basis with respect to future issuances of Common Stock, shall be deemed not to have been issued or distributed for purposes of this Section 9 (and no adjustment to the Purchase Price under this Section 9 will be required) until the occurrence of the earliest Trigger Event. Upon the occurrence of a Trigger Event, such options, rights or warrants shall continue to be deemed not to have been issued or distributed for purposes of this Section 9 (and no adjustment to the Purchase Price under this Section 9 will be required) if and for so long as each Registered Holder who thereafter exercises such Registered Holder's Class A Warrants shall be entitled to receive upon such exercise, in addition to the shares of Common Stock issuable upon such exercise, a number of such options, rights or warrants, as the case may be, equal to the number of options, rights or warrants to which a holder of the number of shares of Common Stock equal to the number of shares of Common Stock issuable upon exercise of such Registered Holder's Class A Warrants is entitled to receive at the time of such exercise in accordance with the terms and provision of, and applicable to, such options, rights or warrants. Upon the expiration of any such options, rights or warrants or at such time, if any, as a Registered Holder is not entitled to receive such options, rights or warrants upon exercise of such Registered Holder's Class A Warrants, an adjustment (if any is required) to the Purchase Price shall be made in accordance with this Subsection 9(e) with respect to the issuance of all such options, rights and warrants as of the date of issuance thereof, but subject to the provisions of the preceding paragraph, if any such option, right or warrant, including any such options right or warrants distributed prior to the date of this Warrant Agreement, are subject to events, upon the occurrence of which such options, rights or warrants become

exercisable to purchase different securities, evidence of indebtedness, cash, Properties or other assets or different amounts thereof, then, subject to the preceding provision of this paragraph, the date of the occurrence of any and each such event shall be deemed to be the date of distribution and record date with respect to new options, right or warrants with such new purchase rights (and a termination or expiration of the existing options, rights or warrants without exercise thereof). In addition, in the event of any distribution (or deemed distribution) of options, rights or warrants, or any Trigger Event or other event of the type described in the preceding sentence, that required (or would have required but for the provisions of Subsection 9(h) or of this paragraph) an adjustment to the Purchase Price under this Section 9 and such options, rights or warrants shall thereafter have been redeemed or repurchased without having been exercised, then the Purchase Price shall be adjusted upon such redemption or repurchase to give effect to such distribution, Trigger Event or other event, as the case may, as though it had instead been a cash distribution, equal on a per share basis to the result of the aggregate redemption or repurchase price received

by holders of such options, rights or warrants divided by the number of shares of Common Stock outstanding as of the date of such repurchase or redemption, made to holders of Common Stock generally as of the date of such redemption or repurchase.

(f) If the Company shall pay or distribute, as a dividend or otherwise, generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock any assets, Properties or rights (including, without limitation, evidences of indebtedness of the Company, any Subsidiary or any other Person, cash or Capital Stock or other securities of the Company, any Subsidiary or any other Person, but excluding payments and distributions as described in Subsections 9(d) or (e), dividends and distributions in connection with a Liquidation Event (as defined in the Certificate of Designation for the Series A Preferred Stock) and distributions consisting solely of cash described in Subsection 9(g), then in each such case the Purchase Price shall be reduced by multiplying the Purchase Price in effect immediately prior to the date of such payment or distribution by a fraction, the numerator of which is the Current Market Price per share of Common Stock on the record date for the determination of stockholders entitled to receive such payment or distribution less the Fair Market Value per share of Common Stock on such record date of the assets, Properties or rights so paid or distributed, and the denominator of which is the Current Market Price per share of Common Stock on such record date. Such adjustment shall become effective immediately after such record date. For purposes of this Subsection 9(f), such Fair Market Value per share shall equal the aggregate Fair Market Value on such record date of the assets, Properties or rights so paid or distributed divided by the number of shares of Common Stock outstanding on such record date. For all purposes of this Warrant Agreement, adjustments to any security's exercise or exercise price pursuant to such security's original terms shall not be deemed a distribution or dividend to holders thereof.

(g) If the Company shall, by dividend or otherwise, make a distribution (other than in connection with the liquidation, dissolution or winding up of the Company in its entirety), generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock, consisting solely of cash where (x) the sum of (i) the aggregate amount for such cash plus (ii) the aggregate amount of all cash so distributed (by dividend or otherwise) to such holders within the 12-month period ending on the record date for determining stockholder entitled to receive such distribution with respect to which no adjustment has been made to the Purchase Price pursuant to this Subsection 9(g) exceeds (y) 10% of the result of the multiplication of (1) the Current Market Price per share of Common Stock on such record date times (2) the number of shares of Common Stock outstanding on such record date, then the Purchase Price shall be reduced, effective immediately prior to the opening of business on the day following such record date, by multiplying the Purchase Price in effect immediately prior to the close of business on the day prior to such record date by a fraction, the numerator of which is the Current Market Price per share of Common Stock on such record date less the aggregate amount of cash per share so distributed and the denominator of which is such Current Market Price; provided, however, that, if the

aggregate amount of cash per share is equal to or greater than such Current Market Price, then, in lieu of the foregoing adjustment, adequate provisions shall be made so that each Registered Holder shall have the right to receive upon exercise (with respect to each share of Common Stock issued upon such exercise and in addition to the Common Stock issuable upon exercise) the aggregate amount of cash per share such Registered Holder would have received had such Registered Holder's Class A Warrant been exercised immediately prior to such record date. In no event shall the Purchase Price be increased pursuant to this Subsection 9(g); provided, however, that if such distribution is not so made, the Purchase Price shall be adjusted to be the Purchase Price which would have been in effect if such distribution had not been declared. For purposes of this Subsection 9(g), such aggregate amount of cash per share shall equal such sum divided by the number of shares of Common Stock outstanding on such record date.

(h) The provisions of this Section 9 shall similarly apply to all successive events of the type described in this Section 9. Notwithstanding anything contained herein to the contrary, no adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least 1% in the Purchase Price then in effect; provided, however, that any adjustments which by reason of this Subsection 9(h) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 9 shall be made by the Company and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be, and the Transfer Agent shall be entitled to rely conclusively thereon. Except as provided in this Section 9, no adjustment in the Purchase Price will be made for the issuance of Common Stock or any securities convertible into or exchangeable for Common Stock or carrying the right to purchase Common Stock or any securities so convertible or exchangeable.

(i) Whenever the Purchase Price is adjusted as provided herein, the Company shall promptly file with the Warrant Agent an Officers' Certificate setting forth the Purchase Price in effect after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Promptly after delivery of such Officers' Certificate, the Company shall give or cause to be given to each Registered Holder a notice of such adjustment of the Purchase Price setting forth the adjusted Purchase Price and the date on which such adjustment becomes effective. The Warrant Agent may rely on the information in such Officers' Certificate as true and correct and has no duty or obligation independently to verify the amounts or calculations set forth therein.

(j) Notwithstanding anything contained herein to the contrary, in any case in which this Section 9 provides that an adjustment in the Purchase Price shall become effective immediately after a record date for an event, the Company may defer (and shall promptly give the Warrant Agent notice of any such deferral) until the occurrence of such event (i) issuing to the Registered Holder of any Class A Warrants exercised after such record date and before the occurrence of such event the additional shares of Common Stock issuable upon such exercise by reason of the adjustment required by such event over and above the number of shares of

Common Stock issuable upon such exercise before giving effect to such adjustment and (ii) paying to such Registered Holder any amount in cash in lieu of any fractional share of Common Stock pursuant to Section 10.

(k) Notwithstanding any other provision hereof, no adjustment to the Purchase Price shall be made upon the issuance or exercise or conversion of (1) options or warrants to purchase, in the aggregate, up to 25% of the securities sold in the offerings of securities of the Company described in the Original Offer to Exchange or any options or warrants described in the Amendment in respect of the Alternative Equity Offering, in each case issued to (or to the designee of) any placement agent or financial advisor (such options or warrants, the "Offering Warrants"), (2) any equity securities or warrants of the Company (including, without limitation, the Series A Preferred Stock, warrants and equity securities underlying warrants) issued in exchange for 9% Notes or accrued interest thereon or pursuant to the conversion or exercise provisions thereof, (3) any warrants issued in connection with the offerings described in the Original Offer to Exchange or the Amendment (collectively, the "Offering"), (4) any warrants issued to Forum Capital Markets, LLC ("Forum") in exchange for or in addition to, or any amendment to, any warrants held by Forum, in each case, pursuant to a letter agreement dated January 5, 1998, between the Company

and Forum, and any other warrants to purchase Common Stock or shares of Common Stock issued to Forum or its designee, (5) any Series A Preferred Stock issued in the Offering, (6) any Capital Stock issued or cash paid as dividends on the Series A Preferred Stock or (7) any Capital Stock issued or cash paid upon the mandatory conversion or redemption of any Series A Preferred Stock in accordance with Section 5 of the Certificate of Designation for the Series A Preferred Stock.

(1) Any determination as to whether an adjustment in the Purchase Price in effect hereunder is required pursuant to Section 9, or as to the amount of any such adjustment, if required, shall be binding upon the holders of the Class A Warrants and the Company if made in good faith by the Board of Directors of the Company.

SECTION 10. Fractional Warrants and Fractional Shares. No fractional shares or scrip representing fractional shares of Common Stock shall be issued upon exercise of Class A Warrants. If more than one certificate evidencing Class A Warrants shall be surrendered for exercise at one time by the same holder, the number of full shares issuable upon exercise thereof shall be computed on the basis of the aggregate number of Class A Warrants so surrendered. Instead of any fractional share of Common Stock which would otherwise be issuable upon exercise of such aggregate number of Class A Warrants, the Company may elect in its sole discretion, independently for each holder, whether such number of shares of Common Stock will be rounded to the nearest whole share (with .5 of a share rounded upward) or whether such holder will be given cash, in lieu of any fractional share, in an amount equal to the same fraction of the Market Price of the Common Stock as of the Exercise Date.

SECTION 11. Warrant Holders Not Deemed Stockholders. No holder of Class A Warrants shall, as such, be entitled to vote or to receive dividends or be deemed the holder of Common Stock that may at any time be issuable upon exercise of such Class A Warrants for any purpose whatsoever, nor shall anything contained herein be construed to confer upon the holder of Class A Warrants, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issue or reclassification of stock, change of par value or change of stock to no par value, consolidation, merger or conveyance or otherwise), or to receive notice of meetings, or to receive dividends or subscription rights, until such Holder shall have exercised such Class A Warrants and been issued shares of Common Stock in accordance with the provisions hereof.

SECTION 12. Rights of Action. All rights of action with respect to this Agreement are vested in the respective Registered Holders of the Class A Warrants, and any Registered Holder of a Class A Warrant, without consent of the Warrant Agent or of the holder of any other Class A Warrant, may, in his own behalf and for his own benefit, enforce against the Company his right to exercise his Class A Warrants for the purchase of shares of Common Stock in the manner provided in the Warrant Certificate and this Agreement.

SECTION 13. Agreement of Warrant Holders. Every holder of any Class A Warrant, by his acceptance thereof, consents and agrees with the Company, the Warrant Agent and every other holder of any Class A Warrant that:

(a) The Class A Warrants are transferable only on the registry books of the Warrant Agent by the Registered Holder thereof in person or by his or her attorney duly authorized in writing and only if the Warrant Certificates representing such Class A Warrants are surrendered at the office of the Warrant Agent, duly endorsed or accompanied by a proper instrument of transfer satisfactory to the Warrant Agent, in its sole discretion, together with payment of any applicable transfer taxes; and

(b) The Company and the Warrant Agent may deem and treat the person in whose name the Warrant Certificate is registered as the holder and as the absolute, true and lawful owner of the Class A Warrants represented thereby for all purposes, and neither the Company nor the Warrant Agent shall be affected by any notice or knowledge to the contrary, except as otherwise expressly provided in Section 6.

SECTION 14. Cancellation of Warrant Certificates. If the Company shall purchase or acquire any Class A Warrant or Class A Warrants, the Warrant Certificate or Warrant Certificates evidencing the same, by redemption or

otherwise, shall thereupon be delivered to the Warrant Agent and canceled by it and retired. The Warrant Agent shall also cancel the Warrant Certificate or Warrant Certificates following exercise of any or all of the

Class A Warrants represented thereby or delivered to it for transfer, split up, combination or exchange.

SECTION 15. Concerning the Warrant Agent. The Warrant Agent acts hereunder as agent and in a ministerial capacity for the Company, and its duties shall be determined solely by the provisions hereof. The Warrant Agent does not hereby assume any obligation, relationship, agency or trust for or with any of the holders of Warrant Certificates or beneficial owners of Class A Warrants. The Warrant Agent shall not, by issuing and delivering Warrant Certificates, or by any other act hereunder, be deemed to make any representations as to the validity, value or authorization of the Warrant Certificates or the Class A Warrants represented thereby or of any securities or other property delivered upon exercise of any Class A Warrant or whether any stock issued upon exercise of any Class A Warrant is fully paid and nonassessable.

The Warrant Agent shall not at any time be under any duty or responsibility to any holder of Warrant Certificates to make or cause to be made any adjustment of the Purchase Price provided in this Agreement, or to determine whether any fact exists that may require any such adjustments, or with respect to the nature or extent of any such adjustment, when made, or with respect to the method employed in making the same. It shall not (i) be liable for any recital or statement of facts contained herein or for any action taken, suffered or omitted by it in reliance on any Warrant Certificate or other document or instrument believed by it in good faith to be genuine and to have been signed or presented by the proper party or parties, (ii) be responsible for any failure on the part of the Company to comply with any of its covenants and obligations contained in this Agreement or in any Warrant Certificate, or (iii) be liable for any act or omission in connection with this Agreement except for its own negligence or willful misconduct.

The Warrant Agent may at any time consult with counsel satisfactory to it (who may be counsel for the Company) and shall incur no liability or responsibility for any action taken, suffered or omitted by it in good faith in accordance with the opinion or advice of such counsel.

Any notice, statement, instruction, request, direction, order or demand of the Company shall be sufficiently evidenced by an instrument signed by the Chairman of the Board, President, or any Vice President and the Secretary, or any Assistant Secretary (unless other evidence in respect thereof is herein specifically prescribed). The Warrant Agent shall not be liable for any action taken, suffered or omitted by it in accordance with such notice, statement, instruction, request, direction, order or demand believed by it to be genuine.

The Company agrees to pay the Warrant Agent reasonable compensation for its services hereunder and to reimburse it for its reasonable expenses hereunder as governed by a separate agreement to be entered into between the Warrant Agent and the Company; the

Company further agrees to indemnify the Warrant Agent and save it harmless against any and all losses, expenses and liabilities, including judgments, costs and reasonable counsel fees and expenses, for anything done or omitted by the Warrant Agent in the execution of its duties and powers hereunder except losses, expenses and liabilities arising as a result of the Warrant Agent's negligence or willful misconduct.

The Warrant Agent may resign its duties and be discharged from all further duties and liabilities hereunder (except liabilities arising as a result of the Warrant Agent's own negligence or willful misconduct), after giving 30 days' prior written notice to the Company. At least 15 days prior to the date such resignation is to become effective, the Warrant Agent shall cause a copy of such notice of resignation to be mailed to the Registered Holders of each Warrant Certificate at the Company's expense. Upon such resignation, or any inability of the Warrant Agent to act as such hereunder, the Company shall appoint a new warrant agent in writing. If the Company shall fail to make such appointment within a period of 15 days after it has been notified in writing of such resignation by the resigning Warrant Agent, then the Registered Holder of any Warrant Certificate may apply to any court of competent jurisdiction for the

appointment of a new warrant agent. Any new warrant agent, whether appointed by the Company or by such a court, shall be a bank or trust company having capital and surplus, as shown by its last published report to its stockholders, of not less than \$10,000,000 or a stock transfer company. After acceptance in writing of such appointment by the new warrant agent is received by the Company, such new warrant agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named herein as the Warrant Agent, without any further assurance, conveyance, act or deed; but if for any reason it shall be necessary or expedient to execute and deliver any further assurance, conveyance, act or deed, the same shall be done at the expense of the Company and shall be legally and validly executed and delivered by the resigning Warrant Agent. Not later than the effective date of any such appointment, the Company shall file notice thereof with the resigning Warrant Agent and shall forthwith cause a copy of such notice to be mailed to the Registered Holder of each Warrant Certificate.

Any entity into which the Warrant Agent or any new warrant agent may be converted or merged or any entity resulting from any consolidation to which the Warrant Agent or any new warrant agent shall be a party or any entity succeeding to the trust business of the Warrant Agent shall be a successor warrant agent under this Agreement without any further act, provided that such entity is eligible for appointment as successor to the Warrant Agent under the provisions of the preceding paragraph. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed to the Company and to the Registered Holder of each Warrant Certificate.

The Warrant Agent, its subsidiaries and affiliates, and any of its or their officers or directors, may buy and hold or sell Class A Warrants or other securities of the Company and otherwise deal with the Company in the same manner and to the same extent and with like

effects as though it were not Warrant Agent. Nothing herein shall preclude the Warrant Agent from acting in any other capacity for the Company or for any other legal entity.

SECTION 16. Modification of Agreement. The parties hereto and the Company may by supplemental agreement make any changes or corrections in this Agreement (i) that they shall deem appropriate to cure any ambiguity or to correct any defective or inconsistent provision or manifest mistake or error herein contained; (ii) to reflect an increase in the number of Class A Warrants which are to be governed by this Agreement resulting from a subsequent offering of Company securities which includes Class A Warrants having the same terms and conditions as the Class A Warrants, originally covered by or subsequently added to this Agreement under this Section 16; or (iii) that they may deem necessary or desirable and that shall not adversely affect the interests of the holders of Warrant Certificates; provided, however, that this Agreement shall not otherwise be modified, supplemented or altered in any respect except with the consent in writing of the Registered Holders of Warrant Certificates representing more than 50% of the Class A Warrants then outstanding; and provided, further, that no change in the number or nature of the securities purchasable upon the exercise of any Class A Warrant, or the Purchase Price therefor, or the acceleration of the Warrant Expiration Date, shall be made without the consent in writing of the Registered Holder of the Warrant Certificate representing such Class A Warrant, other than such changes as are specifically prescribed by this Agreement as originally executed or are made in compliance with applicable law.

SECTION 17. Notices. All notices, requests, consents and other communications hereunder shall be in writing and shall be deemed to have been made when delivered or mailed by means of first class registered or certified mail, postage prepaid as follows: if to the Registered Holder of a Warrant Certificate, at the address of such holder as shown on the registry books maintained by the Warrant Agent; and if to the Company, at 620 Memorial Drive, Cambridge, Massachusetts, 02139, or at such other address as may have been furnished to the Warrant Agent in writing by the Company; if to the Warrant Agent, at its Corporate Office, Attention: Relationship Manager.

SECTION 18. Restrictions on Change of Control. Notwithstanding anything to the contrary contained in this Agreement, without the prior written consent of the Company, so long as any 9% Notes remain outstanding under that certain Indenture dated as of March 26, 1997 (as amended, the "Indenture") in respect of the 9% Notes, no holder of Class A Warrants shall be entitled to exercise such Class A Warrants to the extent such exercise could, in the Company's reasonable judgment, either alone or in conjunction with other

issuances or holdings of capital stock, other warrants or convertible securities of the Company, result in a Change of Control (as defined in the Indenture).

SECTION 19. Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York, without reference to principles of conflict of laws.

SECTION 20. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the Company, the Warrant Agent and their respective successors and assigns, and the holders from time to time of Warrant Certificates. Nothing in this Agreement is intended nor shall be construed to confer upon any other person any right, remedy or claim, in equity or at law, or to impose upon any other person any duty, liability or obligation.

SECTION 21. Termination. This Agreement shall terminate at the close of business on the Warrant Expiration Date of all the Class A Warrants or such earlier date upon which all Class A Warrants have been exercised or redeemed, except that the Warrant Agent shall account to the Company for cash held by it and Section 15 shall survive such termination.

SECTION 22. Counterparts. This Agreement may be executed in several counterparts, which taken together shall constitute a single document.

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

HYBRIDON, INC.

By: /s/ E. Andrews Grinstead

Authorized Officer

CHASEMELLON SHAREHOLDER
SERVICES, L.L.C., as Warrant Agent

By: /s/ Lynore Le Conche

Authorized Officer

EXHIBIT A

[FORM OF FACE OF CLASS A WARRANT CERTIFICATE]

THE TERMS OF THIS WARRANT ARE SUBJECT TO THE TERMS OF A WARRANT AGREEMENT, A COPY OF WHICH IS AVAILABLE FROM HYBRIDON, INC. (THE "COMPANY"). THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS, AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED OR OTHERWISE TRANSFERRED IN THE ABSENCE OF A REGISTRATION STATEMENT IN EFFECT WITH RESPECT TO THE SECURITIES UNDER THE SECURITIES ACT OR AN EXEMPTION FROM THE SECURITIES ACT. ANY SUCH TRANSFER MAY ALSO BE SUBJECT TO COMPLIANCE WITH APPLICABLE STATE SECURITIES LAWS AND THE LAWS OF OTHER APPLICABLE JURISDICTIONS.

No. AWA _____ Class A Warrants

VOID AFTER MAY 4, 2003

CLASS A WARRANT CERTIFICATE FOR PURCHASE
OF COMMON STOCK

HYBRIDON, INC.

This certifies that FOR VALUE RECEIVED

_____ or registered assigns (the "Registered Holder") is
the owner of the number of Class A Warrants ("Class A Warrants") specified

above. Each Class A Warrant represented hereby initially entitles the Registered Holder to purchase, subject to the terms and conditions set forth in this Warrant Certificate and the Warrant Agreement (as hereinafter defined), one fully paid and nonassessable share of Common Stock, par value \$.001 per share ("Common Stock"), of Hybridon, Inc., a Delaware corporation (the "Company"), at any time between May 5, 1999, and the Expiration Date (as hereinafter defined), upon the presentation and surrender of this Warrant Certificate with the Subscription Form on the reverse hereof duly executed, at the corporate office of ChaseMellon Shareholder Services, L.L.C., as Warrant Agent, or its successor (the "Warrant Agent"), accompanied by payment of the Purchase Price (as defined in the Warrant Agreement) in lawful money of the United States of America in cash or by official bank or certified check made payable to the Company.

This Warrant Certificate and each Class A Warrant represented hereby are issued pursuant to, and are subject in all respects to, the terms and conditions set forth in the Warrant Agreement (the "Warrant Agreement"), dated May 5, 1998, by and among the Company and the Warrant Agent.

In the event of certain contingencies provided for in the Warrant Agreement, the Purchase Price and/or the number of shares of Common Stock subject to purchase upon the exercise of each Class A Warrant represented hereby are subject to modification or adjustment. Furthermore, this Warrant may not be exercised in certain circumstances described in Section 18 of the Warrant Agreement.

Each Class A Warrant represented hereby is exercisable at the option of the Registered Holder, but no fractional shares of Common Stock will be issued. In the case of the exercise of fewer than every Class A Warrant represented hereby, the Company shall cancel this Warrant Certificate upon the surrender hereof and shall execute and deliver a new Warrant Certificate or Warrant Certificates of like tenor, which the Warrant Agent shall countersign, for the balance of such Class A Warrants.

The term "Expiration Date" shall mean 5:00 P.M. (New York time) on May 4, 2003, or such earlier date as the Class A Warrants shall be redeemed. If such date shall in the State of New York be a holiday or a day on which banks are authorized to close, then the Expiration Date shall mean 5:00 P.M. (New York time) the next following day which in the State of New York is not a holiday or a day on which banks are authorized to close. Upon notice to all Registered Holders of the Class A Warrants, the Company shall have the right to extend the Expiration Date.

The Class A Warrants represented hereby shall not be exercisable in any state where such exercise would be unlawful.

This Warrant Certificate is exchangeable, upon the surrender hereof by the Registered Holder at the corporate office of the Warrant Agent, for a new Warrant Certificate or Warrant Certificates of like tenor representing an equal aggregate number of Class A Warrants, each of such new Warrant Certificates to represent such number of Class A Warrants as shall be designated by such Registered Holder at the time of such surrender. Upon due presentment with any applicable transfer fee per certificate in addition to any tax or other governmental charge imposed in connection therewith, for registration of transfer of this Warrant Certificate at such office, a new Warrant Certificate or Warrant Certificates representing an equal aggregate number of Class A Warrants will be issued to the transferee in exchange therefor, subject to the limitations provided in the Warrant Agreement.

The Registered Holder shall not be entitled to any rights of a stockholder of the Company in respect of any unexercised Class A Warrants held by such Registered Holder,

including, without limitation, the right to vote or to receive dividends or other distributions, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided in the Warrant Agreement.

Prior to due presentment for registration of transfer hereof, the Company and the Warrant Agent may deem and treat the Registered Holder as the absolute owner hereof and of each Class A Warrant represented hereby (notwithstanding any notations of ownership or writing hereon made by anyone other than a duly authorized officer of the Company or the Warrant Agent) for

all purposes and shall not be affected by any notice to the contrary.

This Warrant Certificate shall be governed by and construed in accordance with the laws of the State of New York.

This Warrant Certificate is not valid unless countersigned by the Warrant Agent.

IN WITNESS WHEREOF, the Company has caused this Warrant Certificate to be duly executed, manually or in facsimile, by two of its officers thereunto duly authorized and a facsimile of its corporate seal to be imprinted hereon.

HYBRIDON, INC.

Dated:

By: _____

By: _____

[seal]

Countersigned:

CHASEMELLON SHAREHOLDER SERVICES, L.L.C.,
as Warrant Agent

By: _____

Authorized Officer

[FORM OF REVERSE OF WARRANT CERTIFICATE]

TRANSFER FEE: \$ _____ PER CERTIFICATE ISSUED

SUBSCRIPTION FORM

To Be Executed by the Registered Holder
in Order to Exercise Class A Warrants

The undersigned Registered Holder hereby irrevocably elects to exercise _____ Class A Warrants represented by this Warrant Certificate, and to purchase the securities issuable upon the exercise of such Class A Warrants, and requests that certificates for such securities shall be issued in the name of

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER

[please print or type name and address]

and be delivered to

[please print or type name and address]

and if such number of Class A Warrants shall not be all the Class A Warrants evidenced by this Warrant Certificate, that a new Warrant Certificate for the balance of such Class A Warrants be registered in the name of, and delivered to,

the Registered Holder at the address stated below.

The undersigned represents that the exercise of the within Class A Warrant was solicited by a member of the National Association of Securities Dealers, Inc. If not solicited by an NASD member, please write "unsolicited" in the space below.

(Name of NASD Member)

Dated: -----

X

Address

Taxpayer Identification Number

Signature Guaranteed

ASSIGNMENT

To Be Executed by the Registered Holder
in Order to Assign Class A Warrants

FOR VALUE RECEIVED, _____ hereby
sells, assigns and transfers unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER

[please print or type name and address]

_____ of the Class A Warrants represented by this
Warrant Certificate, and hereby irrevocably constitutes and appoints

Attorney to transfer this Warrant Certificate on the books of the Company, with
full power of substitution in the premises.

Dated: -----

X

Signature Guaranteed

THE SIGNATURE TO THE ASSIGNMENT OR THE SUBSCRIPTION FORM MUST CORRESPOND TO THE
NAME AS WRITTEN UPON THE FACE OF THIS WARRANT CERTIFICATE IN EVERY PARTICULAR,
WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER, AND MUST BE
GUARANTEED BY A MEMBER OF THE MEDALLION STAMP PROGRAM.

EXHIBIT 4.4

FORM OF WARRANT AGREEMENT

AGREEMENT, dated as of this fifth day of May, 1998, by and among

HYBRIDON, INC., a Delaware corporation ("Company"), CHASEMELLON SHAREHOLDER SERVICES, L.L.C., a New Jersey limited liability company, as warrant agent ("Warrant Agent"), and PILLAR INVESTMENTS LTD. (the "Placement Agent")..

W I T N E S S E T H

WHEREAS, the Alternative Equity Closing Conditions referred to in Supplement and Amendment No. 2 dated April 1, 1998 (the "Amendment") to the Confidential Term Sheet of the Company dated January 15, 1998 (the "Original Term Sheet") have been satisfied;

WHEREAS, each Class B Warrant initially entitles the Registered Holder (as defined below) thereof to purchase one (1) share of Common Stock at the Purchase Price (as defined below);

WHEREAS, the Company desires the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing so to act, in connection with the issuance, registration, transfer, exchange and redemption of the Class B Warrants, the issuance of certificates representing the Class B Warrants, the exercise of the Class B Warrants, and the rights of the holders thereof;

NOW THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purpose of defining the terms and provisions of the Class B Warrants and the certificates representing the Class B Warrants and the respective rights and obligations thereunder of the Company, the holders of certificates representing the Class B Warrants and the Warrant Agent, the parties hereto agree as follows:

SECTION 1. Definitions. As used herein, the following terms shall have the following meanings, unless the context shall otherwise require:

(a) "Common Stock" shall mean stock of the Company of any class, whether now or hereafter authorized, which has the right to participate in the distribution of earnings and assets of the Company without limit as to amount or percentage, which at the date hereof consisted of 100,000,000 authorized shares of Common Stock, par value \$.001 per share.

(b) The "Closing Bid Price," for each trading day, shall be the reported per share closing bid price of the Common Stock regular way on the Stock Market on such trading day or, if there were no transactions on such trading day, shall mean the average of the reported

per share closing bid and asked prices, regular way, of the Common Stock on the Stock Market on such trading day.

(c) "Corporate Office" shall mean the office of the Warrant Agent (or its successor) at which, at any particular time, its principal business shall be administered, which office is located at the date hereof at 85 Challenger Road, Overpeck Centre, Ridgely Park, New Jersey, 07660.

(d) "Exercise Date" shall mean, as to any Class B Warrant, the date on which the Warrant Agent shall have received both (a) the Warrant Certificate representing such Class B Warrant, with the subscription form thereon duly executed by the Registered Holder thereof or his attorney duly authorized in writing, and (b) payment in cash, or by official bank or certified check made payable to the Company, of an amount in lawful money of the United States of America equal to the applicable Purchase Price.

(e) [Reserved]

(f) "Fair Market Value" means, with respect to any security or other asset, the fair market value set by, or determined in a manner established by, the Board of Directors of the Company.

(g) "Initial Warrant Exercise Date" shall mean, as to each Class B Warrant, the Alternative Equity Financing Closing Date (as defined in the Amendment).

(h) "Market Price" shall mean the average Closing Bid Price, for twenty (20) consecutive trading days, ending with the trading day prior to the date as of which the Market Price is being determined (with appropriate adjustments for subdivisions or combinations of shares effected during such

period), provided that if the prices referred to in the definition of Closing Bid Price cannot be determined for such period, "Market Price" shall mean Fair Market Value.

(i) "Purchase Price" shall mean 120% of \$2.00, subject to adjustment from time to time pursuant to the provisions of Section 9, and subject to the Company's right to reduce the Purchase Price upon notice to all Registered Holders.

(j) [Reserved]

(k) "Registered Holder" shall mean, as to any Class B Warrant and as of any particular date, the person in whose name the certificate representing the Class B Warrant shall be registered on that date on the books maintained by the Warrant Agent pursuant to Section 6.

(l) The "Stock Market" shall mean the principal national securities exchange on which the Common Stock is listed or admitted to trading or, if the Common Stock is not listed or admitted to trading on any national securities exchange, shall mean The Nasdaq National

Market System or The Nasdaq SmallCap Market (collectively, "Nasdaq") or, if the Common Stock is not quoted on Nasdaq, shall mean the OTC Bulletin Board or, if the Common Stock is not quoted on the OTC Bulletin Board, shall mean the over-the-counter market as furnished by any NASD member firm selected from time to time by the Company for that purpose.

(m) A "trading day" shall mean a day on which the Stock Market is open for the transaction of business.

(n) "Transfer Agent" shall mean ChaseMellon Shareholder Services, L.L.C., as the Company's transfer agent, or its authorized successor, as such.

(o) [Reserved]

(p) "Warrant Expiration Date" shall mean 5:00 P.M. (New York time) on the day prior to the fifth anniversary of the Initial Warrant Exercise Date; provided that if such date shall in the State of New York be a holiday or a day on which banks are authorized or required to close, then "Warrant Expiration Date" shall mean 5:00 P.M. (New York time) on the next following day which in the State of New York is neither a holiday nor a day on which banks are authorized or required to close. Upon notice to all Registered Holders, the Company shall have the right to extend the Warrant Expiration Date.

(q) Unless otherwise stated, section references used within this Warrant Agreement refer to sections of this Warrant Agreement.

SECTION 2. Warrants and Issuance of Warrant Certificates.

(a) A Class B Warrant initially shall entitle the Registered Holder of the Warrant Certificate representing such Class B Warrant to purchase one share of Common Stock upon the exercise thereof, in accordance with the terms hereof, subject to modification and adjustment as provided in Section 9.

(b) The Class B Warrants issued pursuant hereto will immediately be detachable and separately transferable from the shares of Common Stock included in the Alternative Equity Units (as defined in the Amendment).

(c) Within five business days after the Alternative Equity Financing Closing Date, Warrant Certificates representing the number of Class B Warrants to be issued pursuant to the Exchange Offer shall be executed by the Company and delivered to the Warrant Agent. Within five business days of receipt of the Warrant Certificates by the Warrant Agent, the Warrant Agent shall send the Warrant Certificates to the Registered Holders. The Company shall issue a written order, signed by its Chairman of the Board, President or any Vice President and by its Secretary or an Assistant Secretary, to the Warrant Agent directing that the Warrant Certificates shall be countersigned, issued and delivered by the Warrant Agent in accordance with the preceding sentence.

(d) From time to time, until the Warrant Expiration Date, the Transfer Agent shall countersign and deliver stock certificates in required

whole number denominations of Common Stock, subject to adjustment as described herein, upon the exercise of Class B Warrants in accordance with this Agreement.

(e) From time to time, until the Warrant Expiration Date, the Warrant Agent shall countersign and deliver Warrant Certificates in required whole number denominations to the persons entitled thereto in connection with any transfer or exchange permitted under this Agreement; provided that no Warrant Certificates shall be issued except (i) those initially issued hereunder, (ii) those issued on or after the Initial Warrant Exercise Date, upon the exercise of fewer than all Class B Warrants represented by any Warrant Certificate, to evidence any unexercised Class B Warrants held by the exercising Registered Holder, (iii) those issued upon any transfer or exchange pursuant to Section 6; (iv) those issued in replacement of lost, stolen, destroyed or mutilated Warrant Certificates pursuant to Section 7 and (v) at the option of the Company, in such form as may be approved by its Board of Directors, to reflect any adjustment to, or change in: the Purchase Price; the number of shares of Common Stock purchasable upon exercise of the Class B Warrants; or the Warrant Expiration Date.

SECTION 3. Form and Execution of Warrant Certificates.

(a) The Warrant Certificates shall be substantially in the form annexed hereto as Exhibit A (the provisions of which are hereby incorporated herein) and may have such letters, numbers or other marks of identification or designation and such legends, summaries or endorsements printed, lithographed or engraved thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which the Class B Warrants may be listed, or to conform to usage or to the requirements of Section 2. The Warrant Certificates shall be dated the date of issuance thereof (whether upon initial issuance, transfer, exchange or in lieu of mutilated, lost, stolen, or destroyed Warrant Certificates) and issued in registered form. Warrant Certificates shall be numbered serially with the letters AW on Class B Warrants of all denominations.

(b) Warrant Certificates shall be executed on behalf of the Company by its Chairman of the Board, President or any Vice President and by its Secretary or an Assistant Secretary, by manual signatures or by facsimile signatures printed thereon. Warrant Certificates shall be manually countersigned by the Warrant Agent and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed any of the Warrant Certificates shall cease to be an officer of the Company or to hold the particular office referenced in the Warrant Certificate before the date of issuance of the Warrant Certificates or before countersignature by the Warrant Agent and issuance and delivery thereof, such Warrant Certificates may nevertheless be countersigned by the Warrant Agent, issued and delivered with the same force and effect as though the person who signed such Warrant Certificates had not ceased to be an officer of the Company or to hold such office. After countersignature by the

Warrant Agent, Warrant Certificates shall be delivered by the Warrant Agent to the Registered Holder without further action by the Company, except as otherwise provided herein.

SECTION 4. Exercise. Each Class B Warrant may be exercised by the Registered Holder thereof at any time on or after the Initial Warrant Exercise Date, but not after the Warrant Expiration Date, upon the terms and subject to the conditions set forth herein and in the applicable Warrant Certificate. A Class B Warrant shall be deemed to have been exercised immediately prior to the close of business on the Exercise Date and the person entitled to receive the securities deliverable upon such exercise shall be treated for all purposes as the holder of those securities upon the exercise of the Class B Warrant as of the close of business on the Exercise Date. As soon as practicable on or after the Exercise Date, the Warrant Agent shall deposit the proceeds received from the exercise of a Class B Warrant and shall notify the Company in writing of the exercise of the Class B Warrants. Promptly following, and in any event within five business days after the date of such notice from the Warrant Agent, the Warrant Agent, on behalf of the Company, shall cause to be issued and delivered by the Transfer Agent, to the person or persons entitled to receive the same, a certificate or certificates for the securities deliverable upon such exercise (plus a certificate for any remaining unexercised Class B Warrants of the Registered Holder). In the case of payment made in the form of a check drawn on

an account of such investment banks and brokerage houses as the Company shall approve in writing to the Warrant Agent, certificates shall promptly be issued without prior notice to the Company nor any delay. Upon the exercise of any Class B Warrant and clearance of the funds received, the Warrant Agent shall promptly remit the payment received for the Class B Warrant (the "Warrant Proceeds") to the Company or as the Company may otherwise direct in writing.

SECTION 5. Reservation of Shares; Listing; Payment of Taxes; etc.

(a) The Company covenants that it will at all times reserve and keep available out of its authorized Common Stock, solely for the purpose of issue upon exercise of Class B Warrants, such number of shares of Common Stock as shall then be issuable upon the exercise of all outstanding Class B Warrants. The Company covenants that all shares of Common Stock which shall be issuable upon exercise of the Class B Warrants shall, at the time of delivery (assuming full payment of the Purchase Price thereof), be duly and validly issued, fully paid, nonassessable and free from all issuance taxes, liens and charges with respect to the issue thereof including, without limitation, adverse claims whatsoever (with the exception of claims arising through the acts of the Registered Holders themselves and except as arising from applicable Federal and state securities laws) and that the Company shall have paid all taxes, if any, in respect of the original issuance thereof (except as otherwise provided in Subsection 5(c)).

(b) The Registered Holders of Class B Warrants shall have the registration rights provided in the Unit Purchase Agreement attached as Supplemental Exhibit D to the Amendment. The Class B Warrants shall not be exercisable in any state where such exercise would be unlawful.

(c) The Company shall pay all documentary, stamp or similar taxes and other similar governmental charges (but in no case income taxes) that may be imposed with respect to the issuance of Class B Warrants, or the issuance or delivery of any shares upon exercise of the Class B Warrants; provided, however, that if the shares of Common Stock are to be delivered in a name other than the name of the Registered Holder of the Warrant Certificate representing any Class B Warrant being exercised, then no such delivery shall be made unless the person requesting the same has paid to the Warrant Agent the amount of transfer taxes or charges incident thereto, if any.

(d) The Warrant Agent is hereby irrevocably authorized to requisition the Company's Transfer Agent from time to time for certificates representing shares of Common Stock issuable upon exercise of the Class B Warrants, and the Company will authorize the Transfer Agent to comply with all such proper requisitions. The Company will file with the Warrant Agent a statement setting forth the name and address of the Transfer Agent of the Company for shares of Common Stock issuable upon exercise of the Class B Warrants.

SECTION 6. Exchange and Registration of Transfer.

(a) Warrant Certificates may be exchanged for other Warrant Certificates representing an equal aggregate number of Class B Warrants of the same class or may be transferred in whole or in part. Warrant Certificates to be exchanged shall be surrendered to the Warrant Agent at its Corporate Office, and upon satisfaction of the terms and provisions hereof, the Company shall execute, and the Warrant Agent shall countersign, issue and deliver in exchange therefor, the Warrant Certificate or Warrant Certificates that the Registered Holder making the exchange shall be entitled to receive.

(b) The Warrant Agent shall keep at its office books in which, subject to such reasonable regulations as it may prescribe, it shall register Warrant Certificates and any transfers thereof in accordance with its regular practice. Upon due presentment for registration of transfer of any Warrant Certificate at such office, the Company shall execute and the Warrant Agent shall issue and deliver to the transferee or transferees, a new Warrant Certificate or Warrant Certificates representing an equal aggregate number of Class B Warrants.

(c) With respect to all Warrant Certificates presented for registration or transfer, or for exchange or exercise, the subscription form on the reverse thereof shall be duly endorsed, or be accompanied by a written instrument or instruments of transfer and subscription, in form satisfactory to the Company and the Warrant Agent, duly executed by the Registered Holder or his

attorney-in-fact duly authorized in writing.

(d) A service charge may be imposed by the Warrant Agent on holders for any exchange or registration of transfer of Warrant Certificates of such holders. In addition, the Company may require payment by such holder of a sum sufficient to cover any tax or governmental or other charge that may be imposed in connection therewith.

(e) All Warrant Certificates surrendered for exercise, or for exchange in case of mutilated Warrant Certificates, shall be promptly cancelled by the Warrant Agent and thereafter retained by the Warrant Agent in a manner consistent with its customary practices until termination of this Warrant Agreement or resignation as Warrant Agent or disposed of or destroyed at the direction of the Company.

(f) Prior to due presentment for registration of transfer thereof, the Company and the Warrant Agent may deem and treat the Registered Holder of any Warrant Certificate as the absolute owner thereof and of each Class B Warrant represented thereby (notwithstanding any notations of ownership or writing thereon made by anyone other than a duly authorized officer of the Company or the Warrant Agent) for all purposes and shall not be affected by any notice to the contrary.

SECTION 7. Loss or Mutilation. Upon receipt by the Warrant Agent of evidence satisfactory to it of the ownership of and loss, theft, destruction or mutilation of any Warrant Certificate and (in case of loss, theft or destruction) of indemnity satisfactory to it, and (in the case of mutilation) upon surrender and cancellation thereof, the Company shall execute and the Warrant Agent shall (in the absence of notice to the Company and/or Warrant Agent that the Warrant Certificate has been acquired by a bona fide purchaser) countersign and deliver to the Registered Holder in lieu thereof a new Warrant Certificate of like tenor representing an equal aggregate number of Class B Warrants. Applicants for a substitute Warrant Certificate shall comply with such other reasonable regulations and pay such other reasonable charges as the Warrant Agent may prescribe.

SECTION 8. [Reserved]

SECTION 9. Adjustment of Purchase Price and Number of Shares of Common Stock or Class B Warrants. Upon, and only upon, each adjustment of the Purchase Price pursuant to this Section 9, the total number of shares of Common Stock purchasable upon the exercise of each Class B Warrant shall (subject to the provisions contained in Subsection 9(c)) be such number of shares (calculated to the nearest tenth) purchasable at the Purchase Price in effect immediately prior to such adjustment multiplied by a fraction, the numerator of which shall be the Purchase Price in effect immediately prior to such adjustment and the denominator of which shall be the Purchase Price in effect immediately after such adjustment.

(a) The Company may elect, upon any adjustment of the Purchase Price hereunder, to adjust the number of Class B Warrants outstanding, in lieu of the adjustment in the number of shares of Common Stock purchasable upon the exercise of each Class B Warrant as herein provided, so that each Class B Warrant outstanding after such adjustment shall represent the right to purchase one share of Common Stock. Each Class B Warrant held of record prior to such adjustment of the number of Class B Warrants shall become that number of Class B Warrants (calculated to the nearest tenth) equal to a fraction, the numerator of which shall be the Purchase Price in effect immediately prior to such adjustment and the denominator of which shall be the Purchase Price in effect immediately after such adjustment. Upon each adjustment of the

number of Class B Warrants pursuant to this Section 9, the Company shall, as promptly as practicable, cause to be distributed to each Registered Holder of Warrant Certificates on the date of such adjustment Warrant Certificates evidencing, subject to Section 10, the number of additional Class B Warrants to which such Holder shall be entitled as a result of such adjustment or, at the option of the Company, cause to be distributed to such Holder in substitution and replacement for the Warrant Certificates held by him prior to the date of adjustment (and upon surrender thereof, if required by the Company) new Warrant Certificates evidencing the number of Class B Warrants to which such Holder shall be entitled after such adjustment.

(b) Irrespective of any adjustments or changes in the Purchase Price or the number of shares of Common Stock purchasable upon exercise of the Class B Warrants, the Warrant Certificates theretofore and thereafter issued shall, unless the Company shall exercise its option to issue new Warrant Certificates pursuant to Subsection 2(e), continue to express the same Purchase Price per share, number of shares purchasable thereunder as when the same were originally issued.

(c) As used in this Section 9, the following terms shall have the following meanings:

"Capital Stock" of any Person means the Common Stock or Preferred Stock of such Person. Unless otherwise stated herein or the context otherwise requires, "Capital Stock" means Capital Stock of the Company;

"Common Stock" of any Person other than the Company means the common equity (however designated), including, without limitation, common stock or partnership or membership interests of, or participation or interests in such Person (or equivalents thereof). "Common Stock" of the Company means the Common Stock, par value \$.001 per share, of the Company, any successor class or classes of common equity (however designated) of the Company into or for which such Common Stock may hereafter be converted, exchanged or reclassified and any class or classes of common equity (however designated) of the Company which may be distributed or issued with respect to such Common Stock or successor class or classes to holders thereof generally. Unless otherwise stated herein or the context requires otherwise, "Common Stock" means Common Stock of the Company;

"Current Market Price" means, when used with respect to any security as of any date, the last sale price, regular way, or, in case no such sale takes place on such date, the average of the closing bid and asked prices, regular way, of such security in either case as reported for consolidated transactions on the New York Stock Exchange or, if such security is not listed or admitted to trading on the New York Stock Exchange, as reported for consolidated transactions with respect to securities listed on the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted

to trading on any national securities exchange, as reported on the Nasdaq National Market, or, if such security is not listed or admitted to trading on the Nasdaq National Market, as reported on the Nasdaq SmallCap Market, or if such security is not listed or admitted to trading on any national securities exchange or the Nasdaq National Market or the Nasdaq SmallCap Market, the average of the high bid and low asked prices of such security in the over-the-counter market, as reported by the National Association of Securities Dealers, Inc. Automated Quotations System or such other system then in use or, if such security is not quoted by any such organization, the average of the closing bid and asked prices of such security furnished by a NASD member firm selected by the Company. If such security is not quoted by any such organization and no such NASD member firm is able to provide such prices, the Current Market Price of such security shall be the Fair Market Value thereof;

"Fair Market Value" means, at any date as to any asset, Property or right (including without limitation, Capital Stock of any Person, evidence of indebtedness or other securities, but excluding cash), the fair market value of such item as determined in good faith by the Board of Directors, whose determination shall be conclusive; provided, however, that such determination is described in an Officers' Certificate filed with the transfer agent and that, if there is a Current Market Price for such item on such date, "Fair Market Value" means such Current Market Price (without giving effect to the last sentence of the definition thereof);

"GAAP" means, as of any date, generally accepted accounting principles in the United States and does not include any interpretations or regulations that have been proposed but that have not become effective;

"Officer" means, with respect to any Person, the Chairman of the Board, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Assistant Secretary or any Vice President of such Person;

"Officers' Certificate" means a certificate signed on behalf of the Company by two Officers, one of whom must be the Chairman of the Board, the President, the Treasurer or a Vice-President of the Company;

"Person" means any individual, corporation, partnership, association, trust or any other entity or organization, including a government or political subdivision or any agency or instrumentality thereof;

"Preferred Stock" of any Person means the class or classes of equity, ownership or participation interests (however designated) in such Person, including, without limitation, stock, share, partnership and membership interests, which are preferred as to the payment of dividends or distributions by, or as to the

distribution of assets upon any voluntary or involuntary liquidation or dissolution of, such Person (or equivalent thereof) over interests of any other class of interests of such Person. Unless otherwise stated herein or the context otherwise requires, "Preferred Stock" means Preferred Stock of the Company;

"Property" of any Person means any and all types of real, personal, tangible, intangible or mixed property owned by such Person whether or not included on the most recent consolidated balance sheet of such Person in accordance with GAAP;

"Subsidiary" of a Person on any date means any other Person of whom such Person owns, directly or indirectly through a Subsidiary or Subsidiaries of such Person, Capital Stock with voting power, acting independently and under ordinary circumstances, entitling such person to elect a majority of the board of directors or other governing body of such other Person. Unless otherwise stated herein or the context otherwise requires, "Subsidiary" means a Subsidiary of the Company.

(d) If the Company shall (i) pay a dividend or other distribution, in Common Stock, on any class of Capital Stock of the Company, (ii) subdivide the outstanding Common Stock into a greater number of shares by any means or (iii) combine the outstanding Common Stock into a smaller number of shares by any means including, without limitation, a reverse stock split), then in each such case the Purchase Price in effect immediately prior thereto shall be adjusted so that the Registered Holder of any Class B Warrants thereafter surrendered for exercise shall be entitled to receive the number of shares of Common Stock that such Registered Holder would have owned or have been entitled to receive upon the happening of such event had such Class B Warrants been exercised immediately prior to the relevant record date or, if there is no such record date, the effective date of such event. An adjustment made pursuant to this Subsection 9(d) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date of such subdivision or combination, as the case may be.

(e) If the Company shall (i) issue or distribute (at a price per share less than the Current Market Price per share of such Capital Stock on the date of such issuance or distribution) Capital Stock generally to holders of Common Stock or to holders of any class or series of Capital Stock which is convertible into or exchangeable or exercisable for Common Stock (excluding an issuance or distribution of Common Stock described in Subsection 9(d) or (ii) issue or distribute generally to such holders rights, warrants, options or convertible or exchangeable securities entitling the holder thereof to subscribe

for, purchase, convert into or exchange for Capital Stock at a price per share less than the Current Market Price per share of such Capital Stock on the date of issuance or distribution, then, in each such case, at the earliest of (A) the date the Company enters into a firm contract for such issuance or distribution, (B) the record date for the determination of stockholders entitled to receive any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities or (C) the date of

actual issuance or distribution of any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities, the Purchase Price shall be reduced by multiplying the Purchase Price in effect immediately prior to such earliest date by:

(i) if such Capital Stock is Common Stock, a fraction the numerator of which is the number of shares of Common Stock outstanding, on such earliest date plus the number of shares of Common Stock which could be purchased at the Current Market Price per share of Common Stock on the date of such issuance or distribution with the aggregate consideration (based on the Fair Market Value thereof) received or receivable by the Company either (A) in connection with such issuance or distribution or (B) upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities (the "Aggregate Consideration"), and the denominator of which is the number of shares of Common Stock outstanding on such earliest date plus the number of shares of Common Stock to be so issued or distributed or to be issued upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities; or

(ii) if such Capital Stock is other than Common Stock, a fraction the numerator of which is the Current Market Price per share of Common Stock on such earliest date minus an amount equal to (A) the difference between (1) the Current Market Price per share of such Capital Stock multiplied by the number of shares of such Capital Stock to be so issued and (2) the Aggregate Consideration, divided by (B) the number of shares of Common Stock outstanding on such date, and the denominator of which is the Current Market Price per share of Common Stock on such earliest date.

Such adjustment shall be made successively whenever any such Capital Stock, rights, warrants, options or convertible or exchangeable securities are so issued or distributed. In determining whether any rights, warrants, options or convertible or exchangeable securities entitle the holders thereof to subscribe for, purchase, convert into or exchange for shares of such Capital Stock at less than such Current Market Price, there shall be taken into account the Fair Market Value of any consideration received or receivable by the Company for such rights, warrants, options or convertible or exchangeable securities. If any right, warrant, option or convertible or exchangeable security, the issuance of which resulted in an adjustment in the Purchase Price pursuant to this Subsection 9(e), shall expire and shall not have been exercised, the Purchase Price shall immediately upon such expiration be recomputed to the Purchase Price which would have been in effect if such right, warrant, option or convertible or exchangeable securities had never been distributed or issued. Notwithstanding anything contained in this paragraph to the contrary, (i) the issuance of Capital Stock upon the exercise of such rights, warrants or options or the conversion or exchange of such convertible or exchangeable securities will not cause an adjustment in the Purchase Price if no such adjustment would have been required at the time such right, warrant, option or convertible or exchangeable security was issued or distributed; provided, however, that, if the consideration payable upon such exercise, conversion or exchange and/or the Capital Stock receivable thereupon are changed after the time of the issuance or distribution of such right, warrant, option or convertible or exchangeable

security then such change shall be deemed to be the expiration thereof without having been exercised and the issuance or distribution of new options, rights, warrants or convertible or exchangeable securities and (ii) the issuance of convertible preferred stock of the Company as a dividend on convertible preferred stock of the Company will not cause an adjustment in the Purchase Price if no such adjustment would have been required at the time such underlying convertible preferred stock was issued (or as a result of any subsequent

modification to the terms thereof) and the conversion provisions of such convertible stock so issued as a dividend are the same as in such underlying convertible preferred stock.

Notwithstanding anything contained in this Warrant Agreement to the contrary, options, rights or warrants issued or distributed by the Company, including options, rights or warrants distributed prior to the date of this Warrant Agreement, to holders of Common Stock generally which, until the occurrence of a specified event or events (a "Trigger Event"), (i) are deemed to be transferred with Common Stock, (ii) are not exercisable and (iii) are also issued on a pro rata basis with respect to future issuances of Common Stock, shall be deemed not to have been issued or distributed for purposes of this Section 9 (and no adjustment to the Purchase Price under this Section 9 will be required) until the occurrence of the earliest Trigger Event. Upon the occurrence of a Trigger Event, such options, rights or warrants shall continue to be deemed not to have been issued or distributed for purposes of this Section 9 (and no adjustment to the Purchase Price under this Section 9 will be required) if and for so long as each Registered Holder who thereafter exercises such Registered Holder's Class B Warrants shall be entitled to receive upon such exercise, in addition to the shares of Common Stock issuable upon such exercise, a number of such options, rights or warrants, as the case may be, equal to the number of options, rights or warrants to which a holder of the number of shares of Common Stock equal to the number of shares of Common Stock issuable upon exercise of such Registered Holder's Class B Warrants is entitled to receive at the time of such exercise in accordance with the terms and provision of, and applicable to, such options, rights or warrants. Upon the expiration of any such options, rights or warrants or at such time, if any, as a Registered Holder is not entitled to receive such options, rights or warrants upon exercise of such Registered Holder's Class B Warrants, an adjustment (if any is required) to the Purchase Price shall be made in accordance with this Subsection 9(e) with respect to the issuance of all such options, rights and warrants as of the date of issuance thereof, but subject to the provisions of the preceding paragraph, if any such option, right or warrant, including any such options right or warrants distributed prior to the date of this Warrant Agreement, are subject to events, upon the occurrence of which such options, rights or warrants become exercisable to purchase different securities, evidence of indebtedness, cash, Properties or other assets or different amounts thereof, then, subject to the preceding provision of this paragraph, the date of the occurrence of any and each such event shall be deemed to be the date of distribution and record date with respect to new options, right or warrants with such new purchase rights (and a termination or expiration of the existing options, rights or warrants without exercise thereof). In addition, in the event of any distribution (or deemed distribution) of options, rights or warrants, or any Trigger Event or other event of the type described in the preceding sentence, that required (or would have required but for the provisions of Subsection 9(h) or of this paragraph) an adjustment to the Purchase Price under this Section 9 and such options, rights or warrants shall thereafter have been redeemed or repurchased

without having been exercised, then the Purchase Price shall be adjusted upon such redemption or repurchase to give effect to such distribution, Trigger Event or other event, as the case may, as though it had instead been a cash distribution, equal on a per share basis to the result of the aggregate redemption or repurchase price received by holders of such options, rights or warrants divided by the number of shares of Common Stock outstanding as of the date of such repurchase or redemption, made to holders of Common Stock generally as of the date of such redemption or repurchase.

(f) If the Company shall pay or distribute, as a dividend or otherwise, generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock any assets, Properties or rights (including, without limitation, evidences of indebtedness of the Company, any Subsidiary or any other Person, cash or Capital Stock or other securities of the Company, any Subsidiary or any other Person, but excluding payments and distributions as described in Subsections 9(d) or (e), dividends and distributions in connection with a Liquidation Event (as defined in the Company's Certificate of Designation (the "Series A Certificate of Designation") for the Series A Convertible Preferred Stock, par value \$.01 per share (the "Series A Preferred Stock") and distributions consisting solely of cash described in Subsection 9(g), then in each such case the Purchase Price shall be reduced by multiplying the Purchase Price in effect immediately prior to the date of such payment or distribution by a fraction, the numerator of which is the Current Market Price per share of Common Stock on the record date for the determination of stockholders entitled

to receive such payment or distribution less the Fair Market Value per share of Common Stock on such record date of the assets, Properties or rights so paid or distributed, and the denominator of which is the Current Market Price per share of Common Stock on such record date. Such adjustment shall become effective immediately after such record date. For purposes of this Subsection 9(f), such Fair Market Value per share shall equal the aggregate Fair Market Value on such record date of the assets, Properties or rights so paid or distributed divided by the number of shares of Common Stock outstanding on such record date. For all purposes of this Warrant Agreement, adjustments to any security's exercise or exercise price pursuant to such security's original terms shall not be deemed a distribution or dividend to holders thereof.

(g) If the Company shall, by dividend or otherwise, make a distribution (other than in connection with the liquidation, dissolution or winding up of the Company in its entirety), generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock, consisting solely of cash where (x) the sum of (i) the aggregate amount for such cash plus (ii) the aggregate amount of all cash so distributed (by dividend or otherwise) to such holders within the 12-month period ending on the record date for determining stockholder entitled to receive such distribution with respect to which no adjustment has been made to the Purchase Price pursuant to this Subsection 9(g) exceeds (y) 10% of the result of the multiplication of (1) the Current Market Price per share of Common Stock on such record date times (2) the number of shares of Common Stock outstanding on such record date, then the Purchase Price shall be reduced, effective immediately prior to the opening of business on the day following such record date, by multiplying the Purchase Price in effect immediately prior to the close of business on the day prior to such record

date by a fraction, the numerator of which is the Current Market Price per share of Common Stock on such record date less the aggregate amount of cash per share so distributed and the denominator of which is such Current Market Price; provided, however, that, if the aggregate amount of cash per share is equal to or greater than such Current Market Price, then, in lieu of the foregoing adjustment, adequate provisions shall be made so that each Registered Holder shall have the right to receive upon exercise (with respect to each share of Common Stock issued upon such exercise and in addition to the Common Stock issuable upon exercise) the aggregate amount of cash per share such Registered Holder would have received had such Registered Holder's Class B Warrant been exercised immediately prior to such record date. In no event shall the Purchase Price be increased pursuant to this Subsection 9(g); provided, however, that if such distribution is not so made, the Purchase Price shall be adjusted to be the Purchase Price which would have been in effect if such distribution had not been declared. For purposes of this Subsection 9(g), such aggregate amount of cash per share shall equal such sum divided by the number of shares of Common Stock outstanding on such record date.

(h) The provisions of this Section 9 shall similarly apply to all successive events of the type described in this Section 9. Notwithstanding anything contained herein to the contrary, no adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least 1% in the Purchase Price then in effect; provided, however, that any adjustments which by reason of this Subsection 9(h) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 9 shall be made by the Company and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be, and the Transfer Agent shall be entitled to rely conclusively thereon. Except as provided in this Section 9, no adjustment in the Purchase Price will be made for the issuance of Common Stock or any securities convertible into or exchangeable for Common Stock or carrying the right to purchase Common Stock or any securities so convertible or exchangeable.

(i) Whenever the Purchase Price is adjusted as provided herein, the Company shall promptly file with the Warrant Agent an Officers' Certificate setting forth the Purchase Price in effect after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Promptly after delivery of such Officers' Certificate, the Company shall give or cause to be given to each Registered Holder a notice of such adjustment of the Purchase Price setting forth the adjusted Purchase Price and the date on which such adjustment becomes effective. The Warrant Agent may rely on the information in such Officers' Certificate as true and correct and has no duty or obligation independently to verify the amounts or calculations set forth therein.

(j) Notwithstanding anything contained herein to the contrary, in any case in which this Section 9 provides that an adjustment in the Purchase Price shall become effective immediately after a record date for an event, the Company may defer (and shall promptly give the Warrant Agent notice of any such deferral) until the occurrence of such event (i) issuing to the Registered Holder of any Class B Warrants exercised after such record date and before the occurrence of such event the additional shares of Common Stock issuable upon such exercise by

reason of the adjustment required by such event over and above the number of shares of Common Stock issuable upon such exercise before giving effect to such adjustment and (ii) paying to such Registered Holder any amount in cash in lieu of any fractional share of Common Stock pursuant to Section 10.

(k) Notwithstanding any other provision hereof, no adjustment to the Purchase Price shall be made upon the issuance or exercise or conversion of (1) options or warrants to purchase, in the aggregate, up to 25% of the securities sold in the offerings of securities of the Company described in the Original Term Sheet or any options or warrants described in the Amendment in respect of the Alternative Equity Financing (as defined in the Amendment), in each case issued to (or to the designee of) any placement agent or financial advisor, (2) any equity securities or warrants of the Company (including, without limitation, the Series A Preferred Stock, warrants and equity securities underlying warrants) issued in exchange for the Company's 9% Convertible Subordinated Notes due 2004 (the "9% Notes") or accrued interest thereon or pursuant to the conversion or exercise provisions thereof, (3) any warrants issued in connection with the offerings described in the Original Term Sheet or the Amendment (collectively, the "Offering"), (4) any warrants issued to Forum Capital Markets, LLC ("Forum") in exchange for or in addition to, or any amendment to, any warrants held by Forum, in each case, pursuant to a letter agreement dated January 5, 1998, between the Company and Forum, and any other warrants to purchase Common Stock or shares of Common Stock issued to Forum or its designee, (5) any Series A Preferred Stock issued in the Offering, (6) any Capital Stock issued or cash paid as dividends on the Series A Preferred Stock or (7) any Capital Stock issued or cash paid upon the mandatory conversion or redemption of any Series A Preferred Stock in accordance with Section 5 of the Series A Certificate of Designation.

(l) Any determination as to whether an adjustment in the Purchase Price in effect hereunder is required pursuant to Section 9, or as to the amount of any such adjustment, if required, shall be binding upon the holders of the Class B Warrants and the Company if made in good faith by the Board of Directors of the Company.

SECTION 10. Fractional Warrants and Fractional Shares. No fractional shares or scrip representing fractional shares of Common Stock shall be issued upon exercise of Class B Warrants. If more than one certificate evidencing Class B Warrants shall be surrendered for exercise at one time by the same holder, the number of full shares issuable upon exercise thereof shall be computed on the basis of the aggregate number of Class B Warrants so surrendered. Instead of any fractional share of Common Stock which would otherwise be issuable upon exercise of such aggregate number of Class B Warrants, the Company may elect in its sole discretion, independently for each holder, whether such number of shares of Common Stock will be rounded to the nearest whole share (with .5 of a share rounded upward) or whether such holder will be given cash, in lieu of any fractional share, in an amount equal to the same fraction of the Market Price of the Common Stock as of the Exercise Date.

SECTION 11. Warrant Holders Not Deemed Stockholders. No holder of Class B Warrants shall, as such, be entitled to vote or to receive dividends or be deemed the holder of

Common Stock that may at any time be issuable upon exercise of such Class B Warrants for any purpose whatsoever, nor shall anything contained herein be construed to confer upon the holder of Class B Warrants, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issue or reclassification of stock, change of par value or change of stock to no par value, consolidation, merger or conveyance or otherwise), or to receive notice of meetings, or to receive dividends or

subscription rights, until such Holder shall have exercised such Class B Warrants and been issued shares of Common Stock in accordance with the provisions hereof.

SECTION 12. Rights of Action. All rights of action with respect to this Agreement are vested in the respective Registered Holders of the Class B Warrants, and any Registered Holder of a Class B Warrant, without consent of the Warrant Agent or of the holder of any other Class B Warrant, may, in his own behalf and for his own benefit, enforce against the Company his right to exercise his Class B Warrants for the purchase of shares of Common Stock in the manner provided in the Warrant Certificate and this Agreement.

SECTION 13. Agreement of Warrant Holders. Every holder of any Class B Warrant, by his acceptance thereof, consents and agrees with the Company, the Warrant Agent and every other holder of any Class B Warrant that:

(a) The Class B Warrants are transferable only on the registry books of the Warrant Agent by the Registered Holder thereof in person or by his or her attorney duly authorized in writing and only if the Warrant Certificates representing such Class B Warrants are surrendered at the office of the Warrant Agent, duly endorsed or accompanied by a proper instrument of transfer satisfactory to the Warrant Agent, in its sole discretion, together with payment of any applicable transfer taxes; and

(b) The Company and the Warrant Agent may deem and treat the person in whose name the Warrant Certificate is registered as the holder and as the absolute, true and lawful owner of the Class B Warrants represented thereby for all purposes, and neither the Company nor the Warrant Agent shall be affected by any notice or knowledge to the contrary, except as otherwise expressly provided in Section 6.

SECTION 14. Cancellation of Warrant Certificates. If the Company shall purchase or acquire any Class B Warrant or Class B Warrants, the Warrant Certificate or Warrant Certificates evidencing the same, by redemption or otherwise, shall thereupon be delivered to the Warrant Agent and canceled by it and retired. The Warrant Agent shall also cancel the Warrant Certificate or Warrant Certificates following exercise of any or all of the Class B Warrants represented thereby or delivered to it for transfer, split up, combination or exchange.

SECTION 15. Concerning the Warrant Agent. The Warrant Agent acts hereunder as agent and in a ministerial capacity for the Company, and its duties shall be determined solely by the provisions hereof. The Warrant Agent does not hereby assume any obligation,

relationship, agency or trust for or with any of the holders of Warrant Certificates or beneficial owners of Class B Warrants. The Warrant Agent shall not, by issuing and delivering Warrant Certificates, or by any other act hereunder, be deemed to make any representations as to the validity, value or authorization of the Warrant Certificates or the Class B Warrants represented thereby or of any securities or other property delivered upon exercise of any Class B Warrant or whether any stock issued upon exercise of any Class B Warrant is fully paid and nonassessable.

The Warrant Agent shall not at any time be under any duty or responsibility to any holder of Warrant Certificates to make or cause to be made any adjustment of the Purchase Price provided in this Agreement, or to determine whether any fact exists that may require any such adjustments, or with respect to the nature or extent of any such adjustment, when made, or with respect to the method employed in making the same. It shall not (i) be liable for any recital or statement of facts contained herein or for any action taken, suffered or omitted by it in reliance on any Warrant Certificate or other document or instrument believed by it in good faith to be genuine and to have been signed or presented by the proper party or parties, (ii) be responsible for any failure on the part of the Company to comply with any of its covenants and obligations contained in this Agreement or in any Warrant Certificate, or (iii) be liable for any act or omission in connection with this Agreement except for its own negligence or willful misconduct.

The Warrant Agent may at any time consult with counsel satisfactory to it (who may be counsel for the Company) and shall incur no liability or responsibility for any action taken, suffered or omitted by it in good faith in accordance with the opinion or advice of such counsel.

Any notice, statement, instruction, request, direction, order or demand of the Company shall be sufficiently evidenced by an instrument signed by the Chairman of the Board, President, or any Vice President and the Secretary, or any Assistant Secretary (unless other evidence in respect thereof is herein specifically prescribed). The Warrant Agent shall not be liable for any action taken, suffered or omitted by it in accordance with such notice, statement, instruction, request, direction, order or demand believed by it to be genuine.

The Company agrees to pay the Warrant Agent reasonable compensation for its services hereunder and to reimburse it for its reasonable expenses hereunder as governed by a separate agreement to be entered into between the Warrant Agent and the Company; the Company further agrees to indemnify the Warrant Agent and save it harmless against any and all losses, expenses and liabilities, including judgments, costs and reasonable counsel fees and expenses, for anything done or omitted by the Warrant Agent in the execution of its duties and powers hereunder except losses, expenses and liabilities arising as a result of the Warrant Agent's negligence or willful misconduct.

The Warrant Agent may resign its duties and be discharged from all further duties and liabilities hereunder (except liabilities arising as a result of the Warrant Agent's own negligence or willful misconduct), after giving 30 days' prior written notice to the Company. At least 15 days prior to the date such resignation is to become effective, the Warrant Agent shall

cause a copy of such notice of resignation to be mailed to the Registered Holders of each Warrant Certificate at the Company's expense. Upon such resignation, or any inability of the Warrant Agent to act as such hereunder, the Company shall appoint a new warrant agent in writing. If the Company shall fail to make such appointment within a period of 15 days after it has been notified in writing of such resignation by the resigning Warrant Agent, then the Registered Holder of any Warrant Certificate may apply to any court of competent jurisdiction for the appointment of a new warrant agent. Any new warrant agent, whether appointed by the Company or by such a court, shall be a bank or trust company having capital and surplus, as shown by its last published report to its stockholders, of not less than \$10,000,000 or a stock transfer company. After acceptance in writing of such appointment by the new warrant agent is received by the Company, such new warrant agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named herein as the Warrant Agent, without any further assurance, conveyance, act or deed; but if for any reason it shall be necessary or expedient to execute and deliver any further assurance, conveyance, act or deed, the same shall be done at the expense of the Company and shall be legally and validly executed and delivered by the resigning Warrant Agent. Not later than the effective date of any such appointment, the Company shall file notice thereof with the resigning Warrant Agent and shall forthwith cause a copy of such notice to be mailed to the Registered Holder of each Warrant Certificate.

Any entity into which the Warrant Agent or any new warrant agent may be converted or merged or any entity resulting from any consolidation to which the Warrant Agent or any new warrant agent shall be a party or any entity succeeding to the trust business of the Warrant Agent shall be a successor warrant agent under this Agreement without any further act, provided that such entity is eligible for appointment as successor to the Warrant Agent under the provisions of the preceding paragraph. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed to the Company and to the Registered Holder of each Warrant Certificate.

The Warrant Agent, its subsidiaries and affiliates, and any of its or their officers or directors, may buy and hold or sell Class B Warrants or other securities of the Company and otherwise deal with the Company in the same manner and to the same extent and with like effects as though it were not Warrant Agent. Nothing herein shall preclude the Warrant Agent from acting in any other capacity for the Company or for any other legal entity.

SECTION 16. Modification of Agreement. The parties hereto and the Company may by supplemental agreement make any changes or corrections in this Agreement (i) that they shall deem appropriate to cure any ambiguity or to correct any defective or inconsistent provision or manifest mistake or error herein contained; (ii) to reflect an increase in the number of Class B Warrants which are to be governed by this Agreement resulting from a subsequent offering of Company securities which includes Class B Warrants having the same terms and conditions as the Class B Warrants, originally covered by or subsequently added

to this Agreement under this Section 16; or (iii) that they may deem necessary or desirable and that shall not adversely affect the interests of the holders of Warrant Certificates; provided, however, that this Agreement shall not otherwise be modified, supplemented or altered in any respect except with the consent in

writing of the Registered Holders of Warrant Certificates representing more than 50% of the Class B Warrants then outstanding; and provided, further, that no change in the number or nature of the securities purchasable upon the exercise of any Class B Warrant, or the Purchase Price therefor, or the acceleration of the Warrant Expiration Date, shall be made without the consent in writing of the Registered Holder of the Warrant Certificate representing such Class B Warrant, other than such changes as are specifically prescribed by this Agreement as originally executed or are made in compliance with applicable law.

SECTION 17. Notices. All notices, requests, consents and other communications hereunder shall be in writing and shall be deemed to have been made when delivered or mailed by means of first class registered or certified mail, postage prepaid as follows: if to the Registered Holder of a Warrant Certificate, at the address of such holder as shown on the registry books maintained by the Warrant Agent; and if to the Company, at 620 Memorial Drive, Cambridge, Massachusetts, 02139, or at such other address as may have been furnished to the Warrant Agent in writing by the Company; if to the Warrant Agent, at its Corporate Office, Attention: Relationship Manager; and, if to Pillar, at Pillar Investments Ltd., 28 Avenue de Messine 75008 Paris, France, Attention: Youssef El Zein..

SECTION 18. Restrictions on Change of Control. Notwithstanding anything to the contrary contained in this Agreement, without the prior written consent of the Company, so long as any 9% Notes remain outstanding under that certain Indenture dated as of March 26, 1997 (as amended, the "Indenture") in respect of the 9% Notes, no holder of Class B Warrants shall be entitled to exercise such Class B Warrants to the extent such exercise could, in the Company's reasonable judgment, either alone or in conjunction with other issuances or holdings of capital stock, other warrants or convertible securities of the Company, result in a Change of Control (as defined in the Indenture).

SECTION 19. Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York, without reference to principles of conflict of laws.

SECTION 20. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the Company, the Placement Agent, the Warrant Agent and their respective successors and assigns, and the holders from time to time of Warrant Certificates. Nothing in this Agreement is intended nor shall be construed to confer upon any other person any right, remedy or claim, in equity or at law, or to impose upon any other person any duty, liability or obligation.

SECTION 21. Termination. This Agreement shall terminate at the close of business on the Warrant Expiration Date of all the Class B Warrants or such earlier date upon which all Class B Warrants have been exercised or redeemed, except that the Warrant Agent shall account to the Company for cash held by it and Section 15 shall survive such termination.

SECTION 22. Counterparts. This Agreement may be executed in several counterparts, which taken together shall constitute a single document.

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

HYBRIDON, INC.

By: /s/ E. Andrews Grinstead, III

Authorized Officer

CHASEMELLON SHAREHOLDER
SERVICES, L.L.C., as Warrant Agent

By: /s/ Lynore Le Conche

Authorized Officer

PILLAR INVESTMENTS LTD.

By: /s/ Youssef El-Zein

Authorized Officer

EXHIBIT A

[FORM OF FACE OF CLASS B WARRANT CERTIFICATE]

THE TERMS OF THIS WARRANT ARE SUBJECT TO THE TERMS OF A WARRANT AGREEMENT, A COPY OF WHICH IS AVAILABLE FROM HYBRIDON, INC. (THE "COMPANY"). THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS, AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED OR OTHERWISE TRANSFERRED IN THE ABSENCE OF A REGISTRATION STATEMENT IN EFFECT WITH RESPECT TO THE SECURITIES UNDER THE SECURITIES ACT OR AN EXEMPTION FROM THE SECURITIES ACT. ANY SUCH TRANSFER MAY ALSO BE SUBJECT TO COMPLIANCE WITH APPLICABLE STATE SECURITIES LAWS AND THE LAWS OF OTHER APPLICABLE JURISDICTIONS.

THIS WARRANT AND THE SECURITIES UNDERLYING THIS WARRANT MAY NOT BE OFFERED OR SOLD IN THE UNITED STATES OR TO A U.S. PERSON OR FOR THE ACCOUNT OR BENEFIT OF A U.S. PERSON PRIOR TO THE EXPIRATION OF THE RESTRICTED PERIOD (AS DEFINED IN THE UNIT PURCHASE AGREEMENT, DATED AS OF APRIL 1, 1998 (THE "UNIT PURCHASE AGREEMENT"), A COPY OF WHICH IS AVAILABLE FROM THE COMPANY), AND NO TRANSFER OR EXCHANGE OF THIS WARRANT AND THE SECURITIES UNDERLYING THIS WARRANT MAY BE MADE UNTIL AFTER THE LATER OF THE DATE OF EXPIRATION OF THE RESTRICTED PERIOD AND THE DATE ON WHICH THE REQUIRED CERTIFICATION RELATING TO SUCH INTEREST HAS BEEN PROVIDED IN ACCORDANCE WITH THE TERMS OF THE UNIT PURCHASE AGREEMENT. HEDGING TRANSACTIONS INVOLVING THIS WARRANT AND THE SECURITIES UNDERLYING THIS WARRANT MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE SECURITIES ACT.

No. AWB _____ Class B Warrants

VOID AFTER MAY 4, 2003

CLASS B WARRANT CERTIFICATE FOR PURCHASE
OF COMMON STOCK

HYBRIDON, INC.

This certifies that FOR VALUE RECEIVED

_____ or registered assigns (the "Registered Holder") is
the owner

of the number of Class B Warrants ("Class B Warrants") specified above. Each Class B Warrant represented hereby initially entitles the Registered Holder to purchase, subject to the terms and conditions set forth in this Warrant Certificate and the Warrant Agreement (as hereinafter defined), one fully paid and nonassessable share of Common Stock, par value \$.001 per share ("Common Stock"), of Hybridon, Inc., a Delaware corporation (the "Company"), at any time between May 5, 1998, and the Expiration Date (as hereinafter defined), upon the presentation and surrender of this Warrant Certificate with the Subscription Form on the reverse hereof duly executed, at the corporate office of ChaseMellon Shareholder Services, L.L.C., as Warrant Agent, or its successor (the "Warrant Agent"), accompanied by payment of the Purchase Price (as defined in the Warrant Agreement) in lawful money of the United States of America in cash or by official bank or certified check made payable to the Company.

This Warrant Certificate and each Class B Warrant represented hereby are issued pursuant to, and are subject in all respects to, the terms and

conditions set forth in the Warrant Agreement (the "Warrant Agreement"), dated May 5, 1998, by and among the Company and the Warrant Agent.

In the event of certain contingencies provided for in the Warrant Agreement, the Purchase Price and/or the number of shares of Common Stock subject to purchase upon the exercise of each Class B Warrant represented hereby are subject to modification or adjustment. Furthermore, this Warrant may not be exercised in certain circumstances described in Section 18 of the Warrant Agreement.

Each Class B Warrant represented hereby is exercisable at the option of the Registered Holder, but no fractional shares of Common Stock will be issued. In the case of the exercise of fewer than every Class B Warrant represented hereby, the Company shall cancel this Warrant Certificate upon the surrender hereof and shall execute and deliver a new Warrant Certificate or Warrant Certificates of like tenor, which the Warrant Agent shall countersign, for the balance of such Class B Warrant.

The term "Expiration Date" shall mean 5:00 P.M. (New York time) on May 4, 2003, or such earlier date as the Class B Warrants shall be redeemed. If such date shall in the State of New York be a holiday or a day on which banks are authorized to close, then the Expiration Date shall mean 5:00 P.M. (New York time) the next following day which in the State of New York is not a holiday or a day on which banks are authorized to close. Upon notice to all Registered Holders of the Class B Warrants, the Company shall have the right to extend the Expiration Date.

The Class B Warrants represented hereby shall not be exercisable in any state where such exercise would be unlawful.

This Warrant Certificate is exchangeable, upon the surrender hereof by the Registered Holder at the corporate office of the Warrant Agent, for a new Warrant Certificate or Warrant Certificates of like tenor representing an equal aggregate number of Class B Warrants,

each of such new Warrant Certificates to represent such number of Class B Warrants as shall be designated by such Registered Holder at the time of such surrender. Upon due presentment with any applicable transfer fee per certificate in addition to any tax or other governmental charge imposed in connection therewith, for registration of transfer of this Warrant Certificate at such office, a new Warrant Certificate or Warrant Certificates representing an equal aggregate number of Class B Warrants will be issued to the transferee in exchange therefor, subject to the limitations provided in the Warrant Agreement.

The Registered Holder shall not be entitled to any rights of a stockholder of the Company in respect of any unexercised Class B Warrants held by such Registered Holder, including, without limitation, the right to vote or to receive dividends or other distributions, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided in the Warrant Agreement.

Prior to due presentment for registration of transfer hereof, the Company and the Warrant Agent may deem and treat the Registered Holder as the absolute owner hereof and of each Class B Warrant represented hereby (notwithstanding any notations of ownership or writing hereon made by anyone other than a duly authorized officer of the Company or the Warrant Agent) for all purposes and shall not be affected by any notice to the contrary.

This Warrant Certificate shall be governed by and construed in accordance with the laws of the State of New York.

This Warrant Certificate is not valid unless countersigned by the Warrant Agent.

IN WITNESS WHEREOF, the Company has caused this Warrant Certificate to be duly executed, manually or in facsimile, by two of its officers thereunto duly authorized and a facsimile of its corporate seal to be imprinted hereon.

HYBRIDON, INC.

Dated: _____

By: _____

By: _____

[seal]

Countersigned:

CHASEMELLON SHAREHOLDER SERVICES, L.L.C.,

as Warrant Agent

By: _____

Authorized Officer

[FORM OF REVERSE OF WARRANT CERTIFICATE]

TRANSFER FEE: \$ _____ PER CERTIFICATE ISSUED

SUBSCRIPTION FORM

To Be Executed by the Registered Holder
in Order to Exercise Class B Warrants

The undersigned Registered Holder hereby irrevocably elects to exercise _____ Class B Warrants represented by this Warrant Certificate, and to purchase the securities issuable upon the exercise of such Class B Warrants, and requests that certificates for such securities shall be issued in the name of

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER

[please print or type name and address]

and be delivered to

[please print or type name and address]

and if such number of Class B Warrants shall not be all the Class B Warrants evidenced by this Warrant Certificate, that a new Warrant Certificate for the balance of such Class B Warrants be registered in the name of, and delivered to, the Registered Holder at the address stated below.

The undersigned represents that the exercise of the within Class B Warrant was solicited by a member of the National Association of Securities Dealers, Inc. If not solicited by an NASD member, please write "unsolicited" in the space below.

(Name of NASD Member)

Dated: _____

X

Address

Taxpayer Identification Number

Signature Guaranteed

ASSIGNMENT

To Be Executed by the Registered Holder
in Order to Assign Class B Warrants

FOR VALUE RECEIVED, _____ hereby
sells, assigns and transfers unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER

[please print or type name and address]

_____ of the Class B Warrants represented by this
Warrant Certificate, and hereby irrevocably constitutes and appoints

Attorney to transfer this Warrant Certificate on the books of the Company, with
full power of substitution in the premises.

Dated: _____ X _____
Signature Guaranteed

THE SIGNATURE TO THE ASSIGNMENT OR THE SUBSCRIPTION FORM MUST CORRESPOND TO THE
NAME AS WRITTEN UPON THE FACE OF THIS WARRANT CERTIFICATE IN EVERY PARTICULAR,
WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER, AND MUST BE
GUARANTEED BY A MEMBER OF THE MEDALLION STAMP PROGRAM.

EXHIBIT 4.5

FORM OF WARRANT AGREEMENT

AGREEMENT, dated as of this fifth day of May, 1998, by and among
HYBRIDON, INC., a Delaware corporation ("Company"), and CHASEMELLON SHAREHOLDER
SERVICES, L.L.C., a New Jersey limited liability company, as warrant agent
("Warrant Agent").

W I T N E S S E T H

WHEREAS, each Registered Holder (as defined below) has executed a
Subscription Agreement (the "Subscription Agreement") which has been accepted by
the Company, and the Closing Date (as defined in the Subscription Agreement) has
occurred.

WHEREAS, each Class C Warrant initially entitles the Registered
Holder (as defined below) thereof to purchase one (1) share of Common Stock at
the Purchase Price (as defined below);

WHEREAS, the Company desires the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing so to act, in connection with the issuance, registration, transfer, exchange and redemption of the Class C Warrants, the issuance of certificates representing the Class C Warrants, the exercise of the Class C Warrants, and the rights of the holders thereof;

NOW THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purpose of defining the terms and provisions of the Class C Warrants and the certificates representing the Class C Warrants and the respective rights and obligations thereunder of the Company, the holders of certificates representing the Class C Warrants and the Warrant Agent, the parties hereto agree as follows:

SECTION 1. Definitions. As used herein, the following terms shall have the following meanings, unless the context shall otherwise require:

(a) "Common Stock" shall mean stock of the Company of any class, whether now or hereafter authorized, which has the right to participate in the distribution of earnings and assets of the Company without limit as to amount or percentage, which at the date hereof consisted of 100,000,000 authorized shares of Common Stock, par value \$.001 per share.

(b) The "Closing Bid Price," for each trading day, shall be the reported per share closing bid price of the Common Stock regular way on the Stock Market on such trading day or, if there were no transactions on such trading day, shall mean the average of the reported

per share closing bid and asked prices, regular way, of the Common Stock on the Stock Market on such trading day.

(c) "Corporate Office" shall mean the office of the Warrant Agent (or its successor) at which, at any particular time, its principal business shall be administered, which office is located at the date hereof at 85 Challenger Road, Overpeck Centre, Ridgefield Park, New Jersey, 07660.

(d) "Exercise Date" shall mean, as to any Class C Warrant, the date on which the Warrant Agent shall have received both (a) the Warrant Certificate representing such Class C Warrant, with the subscription form thereon duly executed by the Registered Holder thereof or his attorney duly authorized in writing, and (b) payment in cash, or by official bank or certified check made payable to the Company, of an amount in lawful money of the United States of America equal to the applicable Purchase Price.

(e) [Reserved]

(f) "Fair Market Value" means, with respect to any security or other asset, the fair market value set by, or determined in a manner established by, the Board of Directors of the Company.

(g) "Initial Warrant Exercise Date" shall mean, as to each Class C Warrant, the Closing Date (as defined in the Subscription Agreement).

(h) "Market Price" shall mean the average Closing Bid Price, for twenty (20) consecutive trading days, ending with the trading day prior to the date as of which the Market Price is being determined (with appropriate adjustments for subdivisions or combinations of shares effected during such period), provided that if the prices referred to in the definition of Closing Bid Price cannot be determined for such period, "Market Price" shall mean Fair Market Value.

(i) "Purchase Price" shall mean 120% of \$2.00, subject to adjustment from time to time pursuant to the provisions of Section 9, and subject to the Company's right to reduce the Purchase Price upon notice to all Registered Holders.

(j) [Reserved]

(k) "Registered Holder" shall mean, as to any Class C Warrant and as of any particular date, the person in whose name the certificate representing the Class C Warrant shall be registered on that date on the books maintained by the Warrant Agent pursuant to Section 6.

(l) The "Stock Market" shall mean the principal national securities exchange on which the Common Stock is listed or admitted to trading or, if the Common Stock is not listed or admitted to trading on any national securities exchange, shall mean The Nasdaq National

Market System or The Nasdaq SmallCap Market (collectively, "Nasdaq") or, if the Common Stock is not quoted on Nasdaq, shall mean the OTC Bulletin Board or, if the Common Stock is not quoted on the OTC Bulletin Board, shall mean the over-the-counter market as furnished by any NASD member firm selected from time to time by the Company for that purpose.

(m) A "trading day" shall mean a day on which the Stock Market is open for the transaction of business.

(n) "Transfer Agent" shall mean ChaseMellon Shareholder Services, L.L.C., as the Company's transfer agent, or its authorized successor, as such.

(o) [Reserved]

(p) "Warrant Expiration Date" shall mean 5:00 P.M. (New York time) on the day prior to the fifth anniversary of the Initial Warrant Exercise Date; provided that if such date shall in the State of New York be a holiday or a day on which banks are authorized or required to close, then "Warrant Expiration Date" shall mean 5:00 P.M. (New York time) on the next following day which in the State of New York is neither a holiday nor a day on which banks are authorized or required to close. Upon notice to all Registered Holders, the Company shall have the right to extend the Warrant Expiration Date.

(q) Unless otherwise stated, section references used within this Warrant Agreement refer to sections of this Warrant Agreement.

SECTION 2. Warrants and Issuance of Warrant Certificates.

(a) A Class C Warrant initially shall entitle the Registered Holder of the Warrant Certificate representing such Class C Warrant to purchase one share of Common Stock upon the exercise thereof, in accordance with the terms hereof, subject to modification and adjustment as provided in Section 9.

(b) The Class C Warrants issued pursuant hereto will immediately be detachable and separately transferable from the shares of Common Stock included in the Alternative Equity Units (as defined in the Amendment).

(c) Within five business days after the Closing Date, Warrant Certificates representing the number of Class C Warrants to be issued pursuant to the Offering (as defined in the Subscription Agreement) shall be executed by the Company and delivered to the Warrant Agent. Within five business days of receipt of the Warrant Certificates by the Warrant Agent, the Warrant Agent shall send the Warrant Certificates to the Registered Holders. The Company shall issue a written order, signed by its Chairman of the Board, President or any Vice President and by its Secretary or an Assistant Secretary, to the Warrant Agent directing that the Warrant Certificates shall be countersigned, issued and delivered by the Warrant Agent in accordance with the preceding sentence.

(d) From time to time, until the Warrant Expiration Date, the Transfer Agent shall countersign and deliver stock certificates in required whole number denominations of Common Stock, subject to adjustment as described herein, upon the exercise of Class C Warrants in accordance with this Agreement.

(e) From time to time, until the Warrant Expiration Date, the Warrant Agent shall countersign and deliver Warrant Certificates in required whole number denominations to the persons entitled thereto in connection with any transfer or exchange permitted under this Agreement; provided that no Warrant Certificates shall be issued except (i) those initially issued hereunder, (ii) those issued on or after the Initial Warrant Exercise Date, upon the exercise of fewer than all Class C Warrants represented by any Warrant Certificate, to evidence any unexercised Class C Warrants held by the exercising Registered Holder, (iii) those issued upon any transfer or exchange pursuant to Section 6; (iv) those issued in replacement of lost, stolen, destroyed or mutilated Warrant Certificates pursuant to Section 7 and (v) at the option of the Company, in such form as may be approved by its Board of Directors, to reflect any adjustment to, or change in: the Purchase Price; the number of

shares of Common Stock purchasable upon exercise of the Class C Warrants; or the Warrant Expiration Date.

SECTION 3. Form and Execution of Warrant Certificates.

(a) The Warrant Certificates shall be substantially in the form annexed hereto as Exhibit A (the provisions of which are hereby incorporated herein) and may have such letters, numbers or other marks of identification or designation and such legends, summaries or endorsements printed, lithographed or engraved thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which the Class C Warrants may be listed, or to conform to usage or to the requirements of Section 2. The Warrant Certificates shall be dated the date of issuance thereof (whether upon initial issuance, transfer, exchange or in lieu of mutilated, lost, stolen, or destroyed Warrant Certificates) and issued in registered form. Warrant Certificates shall be numbered serially with the letters AW on Class C Warrants of all denominations.

(b) Warrant Certificates shall be executed on behalf of the Company by its Chairman of the Board, President or any Vice President and by its Secretary or an Assistant Secretary, by manual signatures or by facsimile signatures printed thereon. Warrant Certificates shall be manually countersigned by the Warrant Agent and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed any of the Warrant Certificates shall cease to be an officer of the Company or to hold the particular office referenced in the Warrant Certificate before the date of issuance of the Warrant Certificates or before countersignature by the Warrant Agent and issuance and delivery thereof, such Warrant Certificates may nevertheless be countersigned by the Warrant Agent, issued and delivered with the same force and effect as though the person who signed such Warrant Certificates had not ceased to be an officer of the Company or to hold such office. After countersignature by the

Warrant Agent, Warrant Certificates shall be delivered by the Warrant Agent to the Registered Holder without further action by the Company, except as otherwise provided herein.

SECTION 4. Exercise. Each Class C Warrant may be exercised by the Registered Holder thereof at any time on or after the Initial Warrant Exercise Date, but not after the Warrant Expiration Date, upon the terms and subject to the conditions set forth herein and in the applicable Warrant Certificate. A Class C Warrant shall be deemed to have been exercised immediately prior to the close of business on the Exercise Date and the person entitled to receive the securities deliverable upon such exercise shall be treated for all purposes as the holder of those securities upon the exercise of the Class C Warrant as of the close of business on the Exercise Date. As soon as practicable on or after the Exercise Date, the Warrant Agent shall deposit the proceeds received from the exercise of a Class C Warrant and shall notify the Company in writing of the exercise of the Class C Warrants. Promptly following, and in any event within five business days after the date of such notice from the Warrant Agent, the Warrant Agent, on behalf of the Company, shall cause to be issued and delivered by the Transfer Agent, to the person or persons entitled to receive the same, a certificate or certificates for the securities deliverable upon such exercise (plus a certificate for any remaining unexercised Class C Warrants of the Registered Holder). In the case of payment made in the form of a check drawn on an account of such investment banks and brokerage houses as the Company shall approve in writing to the Warrant Agent, certificates shall promptly be issued without prior notice to the Company nor any delay. Upon the exercise of any Class C Warrant and clearance of the funds received, the Warrant Agent shall promptly remit the payment received for the Class C Warrant (the "Warrant Proceeds") to the Company or as the Company may otherwise direct in writing.

SECTION 5. Reservation of Shares; Listing; Payment of Taxes; etc.

(a) The Company covenants that it will at all times reserve and keep available out of its authorized Common Stock, solely for the purpose of issue upon exercise of Class C Warrants, such number of shares of Common Stock as shall then be issuable upon the exercise of all outstanding Class C Warrants. The Company covenants that all shares of Common Stock which shall be issuable upon exercise of the Class C Warrants shall, at the time of delivery (assuming full payment of the Purchase Price thereof), be duly and validly issued, fully

paid, nonassessable and free from all issuance taxes, liens and charges with respect to the issue thereof including, without limitation, adverse claims whatsoever (with the exception of claims arising through the acts of the Registered Holders themselves and except as arising from applicable Federal and state securities laws) and that the Company shall have paid all taxes, if any, in respect of the original issuance thereof (except as otherwise provided in Subsection 5(c)).

(b) The Registered Holders of Class C Warrants shall have the registration rights provided in the Subscription Agreement. The Class C Warrants shall not be exercisable in any state where such exercise would be unlawful.

(c) The Company shall pay all documentary, stamp or similar taxes and other similar governmental charges (but in no case income taxes) that may be imposed with respect to

the issuance of Class C Warrants, or the issuance or delivery of any shares upon exercise of the Class C Warrants; provided, however, that if the shares of Common Stock are to be delivered in a name other than the name of the Registered Holder of the Warrant Certificate representing any Class C Warrant being exercised, then no such delivery shall be made unless the person requesting the same has paid to the Warrant Agent the amount of transfer taxes or charges incident thereto, if any.

(d) The Warrant Agent is hereby irrevocably authorized to requisition the Company's Transfer Agent from time to time for certificates representing shares of Common Stock issuable upon exercise of the Class C Warrants, and the Company will authorize the Transfer Agent to comply with all such proper requisitions. The Company will file with the Warrant Agent a statement setting forth the name and address of the Transfer Agent of the Company for shares of Common Stock issuable upon exercise of the Class C Warrants.

SECTION 6. Exchange and Registration of Transfer.

(a) Warrant Certificates may be exchanged for other Warrant Certificates representing an equal aggregate number of Class C Warrants of the same class or may be transferred in whole or in part. Warrant Certificates to be exchanged shall be surrendered to the Warrant Agent at its Corporate Office, and upon satisfaction of the terms and provisions hereof, the Company shall execute, and the Warrant Agent shall countersign, issue and deliver in exchange therefor, the Warrant Certificate or Warrant Certificates that the Registered Holder making the exchange shall be entitled to receive.

(b) The Warrant Agent shall keep at its office books in which, subject to such reasonable regulations as it may prescribe, it shall register Warrant Certificates and any transfers thereof in accordance with its regular practice. Upon due presentment for registration of transfer of any Warrant Certificate at such office, the Company shall execute and the Warrant Agent shall issue and deliver to the transferee or transferees, a new Warrant Certificate or Warrant Certificates representing an equal aggregate number of Class C Warrants.

(c) With respect to all Warrant Certificates presented for registration or transfer, or for exchange or exercise, the subscription form on the reverse thereof shall be duly endorsed, or be accompanied by a written instrument or instruments of transfer and subscription, in form satisfactory to the Company and the Warrant Agent, duly executed by the Registered Holder or his attorney-in-fact duly authorized in writing.

(d) A service charge may be imposed by the Warrant Agent on holders for any exchange or registration of transfer of Warrant Certificates of such holders. In addition, the Company may require payment by such holder of a sum sufficient to cover any tax or governmental or other charge that may be imposed in connection therewith.

(e) All Warrant Certificates surrendered for exercise, or for exchange in case of mutilated Warrant Certificates, shall be promptly cancelled by the Warrant Agent and

thereafter retained by the Warrant Agent in a manner consistent with its

customary practices until termination of this Warrant Agreement or resignation as Warrant Agent or disposed of or destroyed at the direction of the Company.

(f) Prior to due presentment for registration of transfer thereof, the Company and the Warrant Agent may deem and treat the Registered Holder of any Warrant Certificate as the absolute owner thereof and of each Class C Warrant represented thereby (notwithstanding any notations of ownership or writing thereon made by anyone other than a duly authorized officer of the Company or the Warrant Agent) for all purposes and shall not be affected by any notice to the contrary.

SECTION 7. Loss or Mutilation. Upon receipt by the Warrant Agent of evidence satisfactory to it of the ownership of and loss, theft, destruction or mutilation of any Warrant Certificate and (in case of loss, theft or destruction) of indemnity satisfactory to it, and (in the case of mutilation) upon surrender and cancellation thereof, the Company shall execute and the Warrant Agent shall (in the absence of notice to the Company and/or Warrant Agent that the Warrant Certificate has been acquired by a bona fide purchaser) countersign and deliver to the Registered Holder in lieu thereof a new Warrant Certificate of like tenor representing an equal aggregate number of Class C Warrants. Applicants for a substitute Warrant Certificate shall comply with such other reasonable regulations and pay such other reasonable charges as the Warrant Agent may prescribe.

SECTION 8. [Reserved]

SECTION 9. Adjustment of Purchase Price and Number of Shares of Common Stock or Class C Warrants. Upon, and only upon, each adjustment of the Purchase Price pursuant to this Section 9, the total number of shares of Common Stock purchasable upon the exercise of each Class C Warrant shall (subject to the provisions contained in Subsection 9(c)) be such number of shares (calculated to the nearest tenth) purchasable at the Purchase Price in effect immediately prior to such adjustment multiplied by a fraction, the numerator of which shall be the Purchase Price in effect immediately prior to such adjustment and the denominator of which shall be the Purchase Price in effect immediately after such adjustment.

(a) The Company may elect, upon any adjustment of the Purchase Price hereunder, to adjust the number of Class C Warrants outstanding, in lieu of the adjustment in the number of shares of Common Stock purchasable upon the exercise of each Class C Warrant as herein provided, so that each Class C Warrant outstanding after such adjustment shall represent the right to purchase one share of Common Stock. Each Class C Warrant held of record prior to such adjustment of the number of Class C Warrants shall become that number of Class C Warrants (calculated to the nearest tenth) equal to a fraction, the numerator of which shall be the Purchase Price in effect immediately prior to such adjustment and the denominator of which shall be the Purchase Price in effect immediately after such adjustment. Upon each adjustment of the number of Class C Warrants pursuant to this Section 9, the Company shall, as promptly as practicable, cause to be distributed to each Registered Holder of Warrant Certificates on the date

of such adjustment Warrant Certificates evidencing, subject to Section 10, the number of additional Class C Warrants to which such Holder shall be entitled as a result of such adjustment or, at the option of the Company, cause to be distributed to such Holder in substitution and replacement for the Warrant Certificates held by him prior to the date of adjustment (and upon surrender thereof, if required by the Company) new Warrant Certificates evidencing the number of Class C Warrants to which such Holder shall be entitled after such adjustment.

(b) Irrespective of any adjustments or changes in the Purchase Price or the number of shares of Common Stock purchasable upon exercise of the Class C Warrants, the Warrant Certificates theretofore and thereafter issued shall, unless the Company shall exercise its option to issue new Warrant Certificates pursuant to Subsection 2(e), continue to express the same Purchase Price per share, number of shares purchasable thereunder as when the same were originally issued.

(c) As used in this Section 9, the following terms shall have the following meanings:

"Capital Stock" of any Person means the Common Stock or Preferred Stock of such Person. Unless otherwise stated herein or

the context otherwise requires, "Capital Stock" means Capital Stock of the Company;

"Common Stock" of any Person other than the Company means the common equity (however designated), including, without limitation, common stock or partnership or membership interests of, or participation or interests in such Person (or equivalents thereof). "Common Stock" of the Company means the Common Stock, par value \$.001 per share, of the Company, any successor class or classes of common equity (however designated) of the Company into or for which such Common Stock may hereafter be converted, exchanged or reclassified and any class or classes of common equity (however designated) of the Company which may be distributed or issued with respect to such Common Stock or successor class or classes to holders thereof generally. Unless otherwise stated herein or the context requires otherwise, "Common Stock" means Common Stock of the Company;

"Current Market Price" means, when used with respect to any security as of any date, the last sale price, regular way, or, in case no such sale takes place on such date, the average of the closing bid and asked prices, regular way, of such security in either case as reported for consolidated transactions on the New York Stock Exchange or, if such security is not listed or admitted to trading on the New York Stock Exchange, as reported for consolidated transactions with respect to securities listed on the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, as reported on the Nasdaq National Market, or, if such security is not listed or admitted to trading on the Nasdaq

National Market, as reported on the Nasdaq SmallCap Market, or if such security is not listed or admitted to trading on any national securities exchange or the Nasdaq National Market or the Nasdaq SmallCap Market, the average of the high bid and low asked prices of such security in the over-the-counter market, as reported by the National Association of Securities Dealers, Inc. Automated Quotations System or such other system then in use or, if such security is not quoted by any such organization, the average of the closing bid and asked prices of such security furnished by a NASD member firm selected by the Company. If such security is not quoted by any such organization and no such NASD member firm is able to provide such prices, the Current Market Price of such security shall be the Fair Market Value thereof;

"Fair Market Value" means, at any date as to any asset, Property or right (including without limitation, Capital Stock of any Person, evidence of indebtedness or other securities, but excluding cash), the fair market value of such item as determined in good faith by the Board of Directors, whose determination shall be conclusive; provided, however, that such determination is described in an Officers' Certificate filed with the transfer agent and that, if there is a Current Market Price for such item on such date, "Fair Market Value" means such Current Market Price (without giving effect to the last sentence of the definition thereof);

"GAAP" means, as of any date, generally accepted accounting principles in the United States and does not include any interpretations or regulations that have been proposed but that have not become effective;

"Officer" means, with respect to any Person, the Chairman of the Board, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Assistant Secretary or any Vice President of such Person;

"Officers' Certificate" means a certificate signed on behalf of the Company by two Officers, one of whom must be the Chairman of the Board, the President, the Treasurer or a

Vice-President of the Company;

"Person" means any individual, corporation, partnership, association, trust or any other entity or organization, including a government or political subdivision or any agency or instrumentality thereof;

"Preferred Stock" of any Person means the class or classes of equity, ownership or participation interests (however designated) in such Person, including, without limitation, stock, share, partnership and membership interests, which are preferred as to the payment of dividends or distributions by, or as to the distribution of assets upon any voluntary or involuntary liquidation or dissolution of, such Person (or equivalent thereof) over interests of any other class of interests

of such Person. Unless otherwise stated herein or the context otherwise requires, "Preferred Stock" means Preferred Stock of the Company;

"Property" of any Person means any and all types of real, personal, tangible, intangible or mixed property owned by such Person whether or not included on the most recent consolidated balance sheet of such Person in accordance with GAAP;

"Subsidiary" of a Person on any date means any other Person of whom such Person owns, directly or indirectly through a Subsidiary or Subsidiaries of such Person, Capital Stock with voting power, acting independently and under ordinary circumstances, entitling such person to elect a majority of the board of directors or other governing body of such other Person. Unless otherwise stated herein or the context otherwise requires, "Subsidiary" means a Subsidiary of the Company.

(d) If the Company shall (i) pay a dividend or other distribution, in Common Stock, on any class of Capital Stock of the Company, (ii) subdivide the outstanding Common Stock into a greater number of shares by any means or (iii) combine the outstanding Common Stock into a smaller number of shares by any means including, without limitation, a reverse stock split), then in each such case the Purchase Price in effect immediately prior thereto shall be adjusted so that the Registered Holder of any Class C Warrants thereafter surrendered for exercise shall be entitled to receive the number of shares of Common Stock that such Registered Holder would have owned or have been entitled to receive upon the happening of such event had such Class C Warrants been exercised immediately prior to the relevant record date or, if there is no such record date, the effective date of such event. An adjustment made pursuant to this Subsection 9(d) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date of such subdivision or combination, as the case may be.

(e) If the Company shall (i) issue or distribute (at a price per share less than the Current Market Price per share of such Capital Stock on the date of such issuance or distribution) Capital Stock generally to holders of Common Stock or to holders of any class or series of Capital Stock which is convertible into or exchangeable or exercisable for Common Stock (excluding an issuance or distribution of Common Stock described in Subsection 9(d) or (ii) issue or distribute generally to such holders rights, warrants, options or convertible or exchangeable securities entitling the holder thereof to subscribe for, purchase, convert into or exchange for Capital Stock at a price per share less than the Current Market Price per share of such Capital Stock on the date of issuance or distribution, then, in each such case, at the earliest of (A) the date the Company enters into a firm contract for such issuance or distribution, (B) the record date for the determination of stockholders entitled to receive any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities or (C) the date of actual issuance or distribution of any such Capital Stock or any such rights, warrants, options or

convertible or exchangeable securities, the Purchase Price shall be reduced by multiplying the Purchase Price in effect immediately prior to such earliest date by:

(i) if such Capital Stock is Common Stock, a fraction the numerator of which is the number of shares of Common Stock outstanding, on such earliest date plus the number of shares of Common Stock which could be purchased at the Current Market Price per share of Common Stock on the date of such issuance or distribution with the aggregate consideration (based on the Fair Market Value thereof) received or receivable by the Company either (A) in connection with such issuance or distribution or (B) upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities (the "Aggregate Consideration"), and the denominator of which is the number of shares of Common Stock outstanding on such earliest date plus the number of shares of Common Stock to be so issued or distributed or to be issued upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities; or

(ii) if such Capital Stock is other than Common Stock, a fraction the numerator of which is the Current Market Price per share of Common Stock on such earliest date minus an amount equal to (A) the difference between (1) the Current Market Price per share of such Capital Stock multiplied by the number of shares of such Capital Stock to be so issued and (2) the Aggregate Consideration, divided by (B) the number of shares of Common Stock outstanding on such date, and the denominator of which is the Current Market Price per share of Common Stock on such earliest date.

Such adjustment shall be made successively whenever any such Capital Stock, rights, warrants, options or convertible or exchangeable securities are so issued or distributed. In determining whether any rights, warrants, options or convertible or exchangeable securities entitle the holders thereof to subscribe for, purchase, convert into or exchange for shares of such Capital Stock at less than such Current Market Price, there shall be taken into account the Fair Market Value of any consideration received or receivable by the Company for such rights, warrants, options or convertible or exchangeable securities. If any right, warrant, option or convertible or exchangeable security, the issuance of which resulted in an adjustment in the Purchase Price pursuant to this Subsection 9(e), shall expire and shall not have been exercised, the Purchase Price shall immediately upon such expiration be recomputed to the Purchase Price which would have been in effect if such right, warrant, option or convertible or exchangeable securities had never been distributed or issued. Notwithstanding anything contained in this paragraph to the contrary, (i) the issuance of Capital Stock upon the exercise of such rights, warrants or options or the conversion or exchange of such convertible or exchangeable securities will not cause an adjustment in the Purchase Price if no such adjustment would have been required at the time such right, warrant, option or convertible or exchangeable security was issued or distributed; provided, however, that, if the consideration payable upon such exercise, conversion or exchange and/or the Capital Stock receivable thereupon are changed after the time of the issuance or distribution of such right, warrant, option or convertible or exchangeable security then such change shall be deemed to be the expiration thereof without having been

exercised and the issuance or distribution of new options, rights, warrants or convertible or exchangeable securities and (ii) the issuance of convertible preferred stock of the Company as a dividend on convertible preferred stock of the Company will not cause an adjustment in the Purchase Price if no such adjustment would have been required at the time such underlying convertible preferred stock was issued (or as a result of any subsequent modification to the terms thereof) and the conversion provisions of such convertible stock so issued as a dividend are the same as in such underlying convertible preferred stock.

Notwithstanding anything contained in this Warrant Agreement to the contrary, options, rights or warrants issued or distributed by the Company, including options, rights or warrants distributed prior to the date of this Warrant Agreement, to holders of Common Stock generally which, until the occurrence of a specified event or events (a "Trigger Event"), (i) are deemed to be transferred with Common Stock, (ii) are not exercisable and (iii) are also issued on a pro rata basis with respect to future issuances of Common Stock, shall be deemed not to have been issued or distributed for purposes of this Section 9 (and no adjustment to the Purchase Price under this Section 9 will be required) until the occurrence of the earliest Trigger Event. Upon the occurrence of a Trigger Event, such options, rights or warrants shall continue

to be deemed not to have been issued or distributed for purposes of this Section 9 (and no adjustment to the Purchase Price under this Section 9 will be required) if and for so long as each Registered Holder who thereafter exercises such Registered Holder's Class C Warrants shall be entitled to receive upon such exercise, in addition to the shares of Common Stock issuable upon such exercise, a number of such options, rights or warrants, as the case may be, equal to the number of options, rights or warrants to which a holder of the number of shares of Common Stock equal to the number of shares of Common Stock issuable upon exercise of such Registered Holder's Class C Warrants is entitled to receive at the time of such exercise in accordance with the terms and provision of, and applicable to, such options, rights or warrants. Upon the expiration of any such options, rights or warrants or at such time, if any, as a Registered Holder is not entitled to receive such options, rights or warrants upon exercise of such Registered Holder's Class C Warrants, an adjustment (if any is required) to the Purchase Price shall be made in accordance with this Subsection 9(e) with respect to the issuance of all such options, rights and warrants as of the date of issuance thereof, but subject to the provisions of the preceding paragraph, if any such option, right or warrant, including any such options right or warrants distributed prior to the date of this Warrant Agreement, are subject to events, upon the occurrence of which such options, rights or warrants become exercisable to purchase different securities, evidence of indebtedness, cash, Properties or other assets or different amounts thereof, then, subject to the preceding provision of this paragraph, the date of the occurrence of any and each such event shall be deemed to be the date of distribution and record date with respect to new options, right or warrants with such new purchase rights (and a termination or expiration of the existing options, rights or warrants without exercise thereof). In addition, in the event of any distribution (or deemed distribution) of options, rights or warrants, or any Trigger Event or other event of the type described in the preceding sentence, that required (or would have required but for the provisions of Subsection 9(h) or of this paragraph) an adjustment to the Purchase Price under this Section 9 and such options, rights or warrants shall thereafter have been redeemed or repurchased without having been exercised, then the Purchase Price shall be adjusted upon such redemption

or repurchase to give effect to such distribution, Trigger Event or other event, as the case may, as though it had instead been a cash distribution, equal on a per share basis to the result of the aggregate redemption or repurchase price received by holders of such options, rights or warrants divided by the number of shares of Common Stock outstanding as of the date of such repurchase or redemption, made to holders of Common Stock generally as of the date of such redemption or repurchase.

(f) If the Company shall pay or distribute, as a dividend or otherwise, generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock any assets, Properties or rights (including, without limitation, evidences of indebtedness of the Company, any Subsidiary or any other Person, cash or Capital Stock or other securities of the Company, any Subsidiary or any other Person, but excluding payments and distributions as described in Subsections 9(d) or (e), dividends and distributions in connection with a Liquidation Event (as defined in the Company's Certificate of Designation (the "Series A Certificate of Designation") for the Series A Convertible Preferred Stock, par value \$.01 per share (the "Series A Preferred Stock") and distributions consisting solely of cash described in Subsection 9(g), then in each such case the Purchase Price shall be reduced by multiplying the Purchase Price in effect immediately prior to the date of such payment or distribution by a fraction, the numerator of which is the Current Market Price per share of Common Stock on the record date for the determination of stockholders entitled to receive such payment or distribution less the Fair Market Value per share of Common Stock on such record date of the assets, Properties or rights so paid or distributed, and the denominator of which is the Current Market Price per share of Common Stock on such record date. Such adjustment shall become effective immediately after such record date. For purposes of this Subsection 9(f), such Fair Market Value per share shall equal the aggregate Fair Market Value on such record date of the assets, Properties or rights so paid or distributed divided by the number of shares of Common Stock outstanding on such record date. For all purposes of this Warrant Agreement, adjustments to any security's exercise or exercise price pursuant to such security's original terms shall not be deemed a distribution or dividend to holders thereof.

(g) If the Company shall, by dividend or otherwise, make a distribution (other than in connection with the liquidation, dissolution or

winding up of the Company in its entirety), generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock, consisting solely of cash where (x) the sum of (i) the aggregate amount for such cash plus (ii) the aggregate amount of all cash so distributed (by dividend or otherwise) to such holders within the 12-month period ending on the record date for determining stockholder entitled to receive such distribution with respect to which no adjustment has been made to the Purchase Price pursuant to this Subsection 9(g) exceeds (y) 10% of the result of the multiplication of (1) the Current Market Price per share of Common Stock on such record date times (2) the number of shares of Common Stock outstanding on such record date, then the Purchase Price shall be reduced, effective immediately prior to the opening of business on the day following such record date, by multiplying the Purchase Price in effect immediately prior to the close of business on the day prior to such record date by a fraction, the numerator of which is the Current Market Price per share of Common

Stock on such record date less the aggregate amount of cash per share so distributed and the denominator of which is such Current Market Price; provided, however, that, if the aggregate amount of cash per share is equal to or greater than such Current Market Price, then, in lieu of the foregoing adjustment, adequate provisions shall be made so that each Registered Holder shall have the right to receive upon exercise (with respect to each share of Common Stock issued upon such exercise and in addition to the Common Stock issuable upon exercise) the aggregate amount of cash per share such Registered Holder would have received had such Registered Holder's Class C Warrant been exercised immediately prior to such record date. In no event shall the Purchase Price be increased pursuant to this Subsection 9(g); provided, however, that if such distribution is not so made, the Purchase Price shall be adjusted to be the Purchase Price which would have been in effect if such distribution had not been declared. For purposes of this Subsection 9(g), such aggregate amount of cash per share shall equal such sum divided by the number of shares of Common Stock outstanding on such record date.

(h) The provisions of this Section 9 shall similarly apply to all successive events of the type described in this Section 9. Notwithstanding anything contained herein to the contrary, no adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least 1% in the Purchase Price then in effect; provided, however, that any adjustments which by reason of this Subsection 9(h) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 9 shall be made by the Company and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be, and the Transfer Agent shall be entitled to rely conclusively thereon. Except as provided in this Section 9, no adjustment in the Purchase Price will be made for the issuance of Common Stock or any securities convertible into or exchangeable for Common Stock or carrying the right to purchase Common Stock or any securities so convertible or exchangeable.

(i) Whenever the Purchase Price is adjusted as provided herein, the Company shall promptly file with the Warrant Agent an Officers' Certificate setting forth the Purchase Price in effect after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Promptly after delivery of such Officers' Certificate, the Company shall give or cause to be given to each Registered Holder a notice of such adjustment of the Purchase Price setting forth the adjusted Purchase Price and the date on which such adjustment becomes effective. The Warrant Agent may rely on the information in such Officers' Certificate as true and correct and has no duty or obligation independently to verify the amounts or calculations set forth therein.

(j) Notwithstanding anything contained herein to the contrary, in any case in which this Section 9 provides that an adjustment in the Purchase Price shall become effective immediately after a record date for an event, the Company may defer (and shall promptly give the Warrant Agent notice of any such deferral) until the occurrence of such event (i) issuing to the Registered Holder of any Class C Warrants exercised after such record date and before the occurrence of such event the additional shares of Common Stock issuable upon such exercise by reason of the adjustment required by such event over and above the number of shares of Common

Stock issuable upon such exercise before giving effect to such adjustment and (ii) paying to such Registered Holder any amount in cash in lieu of any

fractional share of Common Stock pursuant to Section 10.

(k) Notwithstanding any other provision hereof, no adjustment to the Purchase Price shall be made to the extent that no adjustment to the Purchase Price would be required under the warrant agreements entered into pursuant to the Common Stock Offering (as such term is defined in the Subscription Agreement).

(l) Any determination as to whether an adjustment in the Purchase Price in effect hereunder is required pursuant to Section 9, or as to the amount of any such adjustment, if required, shall be binding upon the holders of the Class C Warrants and the Company if made in good faith by the Board of Directors of the Company.

SECTION 10. Fractional Warrants and Fractional Shares. No fractional shares or scrip representing fractional shares of Common Stock shall be issued upon exercise of Class C Warrants. If more than one certificate evidencing Class C Warrants shall be surrendered for exercise at one time by the same holder, the number of full shares issuable upon exercise thereof shall be computed on the basis of the aggregate number of Class C Warrants so surrendered. Instead of any fractional share of Common Stock which would otherwise be issuable upon exercise of such aggregate number of Class C Warrants, the Company may elect in its sole discretion, independently for each holder, whether such number of shares of Common Stock will be rounded to the nearest whole share (with .5 of a share rounded upward) or whether such holder will be given cash, in lieu of any fractional share, in an amount equal to the same fraction of the Market Price of the Common Stock as of the Exercise Date.

SECTION 11. Warrant Holders Not Deemed Stockholders. No holder of Class C Warrants shall, as such, be entitled to vote or to receive dividends or be deemed the holder of Common Stock that may at any time be issuable upon exercise of such Class C Warrants for any purpose whatsoever, nor shall anything contained herein be construed to confer upon the holder of Class C Warrants, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issue or reclassification of stock, change of par value or change of stock to no par value, consolidation, merger or conveyance or otherwise), or to receive notice of meetings, or to receive dividends or subscription rights, until such Holder shall have exercised such Class C Warrants and been issued shares of Common Stock in accordance with the provisions hereof.

SECTION 12. Rights of Action. All rights of action with respect to this Agreement are vested in the respective Registered Holders of the Class C Warrants, and any Registered Holder of a Class C Warrant, without consent of the Warrant Agent or of the holder of any other Class C Warrant, may, in his own behalf and for his own benefit, enforce against the Company his right to exercise his Class C Warrants for the purchase of shares of Common Stock in the manner provided in the Warrant Certificate and this Agreement.

SECTION 13. Agreement of Warrant Holders. Every holder of any Class C Warrant, by his acceptance thereof, consents and agrees with the Company, the Warrant Agent and every other holder of any Class C Warrant that:

(a) The Class C Warrants are transferable only on the registry books of the Warrant Agent by the Registered Holder thereof in person or by his or her attorney duly authorized in writing and only if the Warrant Certificates representing such Class C Warrants are surrendered at the office of the Warrant Agent, duly endorsed or accompanied by a proper instrument of transfer satisfactory to the Warrant Agent, in its sole discretion, together with payment of any applicable transfer taxes; and

(b) The Company and the Warrant Agent may deem and treat the person in whose name the Warrant Certificate is registered as the holder and as the absolute, true and lawful owner of the Class C Warrants represented thereby for all purposes, and neither the Company nor the Warrant Agent shall be affected by any notice or knowledge to the contrary, except as otherwise expressly provided in Section 6.

SECTION 14. Cancellation of Warrant Certificates. If the Company shall purchase or acquire any Class C Warrant or Class C Warrants, the Warrant Certificate or Warrant Certificates evidencing the same, by redemption or

otherwise, shall thereupon be delivered to the Warrant Agent and canceled by it and retired. The Warrant Agent shall also cancel the Warrant Certificate or Warrant Certificates following exercise of any or all of the Class C Warrants represented thereby or delivered to it for transfer, split up, combination or exchange.

SECTION 15. Concerning the Warrant Agent. The Warrant Agent acts hereunder as agent and in a ministerial capacity for the Company, and its duties shall be determined solely by the provisions hereof. The Warrant Agent does not hereby assume any obligation, relationship, agency or trust for or with any of the holders of Warrant Certificates or beneficial owners of Class C Warrants. The Warrant Agent shall not, by issuing and delivering Warrant Certificates, or by any other act hereunder, be deemed to make any representations as to the validity, value or authorization of the Warrant Certificates or the Class C Warrants represented thereby or of any securities or other property delivered upon exercise of any Class C Warrant or whether any stock issued upon exercise of any Class C Warrant is fully paid and nonassessable.

The Warrant Agent shall not at any time be under any duty or responsibility to any holder of Warrant Certificates to make or cause to be made any adjustment of the Purchase Price provided in this Agreement, or to determine whether any fact exists that may require any such adjustments, or with respect to the nature or extent of any such adjustment, when made, or with respect to the method employed in making the same. It shall not (i) be liable for any recital or statement of facts contained herein or for any action taken, suffered or omitted by it in reliance on any Warrant Certificate or other document or instrument believed by it in good faith to be genuine and to have been signed or presented by the proper party or parties, (ii) be responsible for any failure on the part of the Company to comply with any of its covenants and obligations

contained in this Agreement or in any Warrant Certificate, or (iii) be liable for any act or omission in connection with this Agreement except for its own negligence or willful misconduct.

The Warrant Agent may at any time consult with counsel satisfactory to it (who may be counsel for the Company) and shall incur no liability or responsibility for any action taken, suffered or omitted by it in good faith in accordance with the opinion or advice of such counsel.

Any notice, statement, instruction, request, direction, order or demand of the Company shall be sufficiently evidenced by an instrument signed by the Chairman of the Board, President, or any Vice President and the Secretary, or any Assistant Secretary (unless other evidence in respect thereof is herein specifically prescribed). The Warrant Agent shall not be liable for any action taken, suffered or omitted by it in accordance with such notice, statement, instruction, request, direction, order or demand believed by it to be genuine.

The Company agrees to pay the Warrant Agent reasonable compensation for its services hereunder and to reimburse it for its reasonable expenses hereunder as governed by a separate agreement to be entered into between the Warrant Agent and the Company; the Company further agrees to indemnify the Warrant Agent and save it harmless against any and all losses, expenses and liabilities, including judgments, costs and reasonable counsel fees and expenses, for anything done or omitted by the Warrant Agent in the execution of its duties and powers hereunder except losses, expenses and liabilities arising as a result of the Warrant Agent's negligence or willful misconduct.

The Warrant Agent may resign its duties and be discharged from all further duties and liabilities hereunder (except liabilities arising as a result of the Warrant Agent's own negligence or willful misconduct), after giving 30 days' prior written notice to the Company. At least 15 days prior to the date such resignation is to become effective, the Warrant Agent shall cause a copy of such notice of resignation to be mailed to the Registered Holders of each Warrant Certificate at the Company's expense. Upon such resignation, or any inability of the Warrant Agent to act as such hereunder, the Company shall appoint a new warrant agent in writing. If the Company shall fail to make such appointment within a period of 15 days after it has been notified in writing of such resignation by the resigning Warrant Agent, then the Registered Holder of any Warrant Certificate may apply to any court of competent jurisdiction for the appointment of a new warrant agent. Any new warrant agent, whether appointed by the Company or by such a court, shall be a bank or trust company having capital and surplus, as shown by its last published report to its stockholders, of not less than \$10,000,000 or a stock transfer company. After acceptance in writing

of such appointment by the new warrant agent is received by the Company, such new warrant agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named herein as the Warrant Agent, without any further assurance, conveyance, act or deed; but if for any reason it shall be necessary or expedient to execute and deliver any further assurance, conveyance, act or deed, the same shall be done at the expense of the Company and shall be legally and validly executed and delivered by the resigning Warrant Agent. Not later than the effective date of any such appointment, the

Company shall file notice thereof with the resigning Warrant Agent and shall forthwith cause a copy of such notice to be mailed to the Registered Holder of each Warrant Certificate.

Any entity into which the Warrant Agent or any new warrant agent may be converted or merged or any entity resulting from any consolidation to which the Warrant Agent or any new warrant agent shall be a party or any entity succeeding to the trust business of the Warrant Agent shall be a successor warrant agent under this Agreement without any further act, provided that such entity is eligible for appointment as successor to the Warrant Agent under the provisions of the preceding paragraph. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed to the Company and to the Registered Holder of each Warrant Certificate.

The Warrant Agent, its subsidiaries and affiliates, and any of its or their officers or directors, may buy and hold or sell Class C Warrants or other securities of the Company and otherwise deal with the Company in the same manner and to the same extent and with like effects as though it were not Warrant Agent. Nothing herein shall preclude the Warrant Agent from acting in any other capacity for the Company or for any other legal entity.

SECTION 16. Modification of Agreement. The parties hereto and the Company may by supplemental agreement make any changes or corrections in this Agreement (i) that they shall deem appropriate to cure any ambiguity or to correct any defective or inconsistent provision or manifest mistake or error herein contained; (ii) to reflect an increase in the number of Class C Warrants which are to be governed by this Agreement resulting from a subsequent offering of Company securities which includes Class C Warrants having the same terms and conditions as the Class C Warrants, originally covered by or subsequently added to this Agreement under this Section 16; or (iii) that they may deem necessary or desirable and that shall not adversely affect the interests of the holders of Warrant Certificates; provided, however, that this Agreement shall not otherwise be modified, supplemented or altered in any respect except with the consent in writing of the Registered Holders of Warrant Certificates representing more than 50% of the Class C Warrants then outstanding; and provided, further, that no change in the number or nature of the securities purchasable upon the exercise of any Class C Warrant, or the Purchase Price therefor, or the acceleration of the Warrant Expiration Date, shall be made without the consent in writing of the Registered Holder of the Warrant Certificate representing such Class C Warrant, other than such changes as are specifically prescribed by this Agreement as originally executed or are made in compliance with applicable law.

SECTION 17. Notices. All notices, requests, consents and other communications hereunder shall be in writing and shall be deemed to have been made when delivered or mailed by means of first class registered or certified mail, postage prepaid as follows: if to the Registered Holder of a Warrant Certificate, at the address of such holder as shown on the registry books maintained by the Warrant Agent; and if to the Company, at 620 Memorial Drive, Cambridge, Massachusetts, 02139, or at such other address as may have been furnished to the Warrant Agent in writing by the Company; and if to the Warrant Agent, at its Corporate Office, Attention: Relationship Manager.

SECTION 18. Restrictions on Change of Control. Notwithstanding anything to the contrary contained in this Agreement, without the prior written consent of the Company, so long as any 9% Notes remain outstanding under that certain Indenture dated as of March 26, 1997 (as amended, the "Indenture") in respect of the 9% Notes, no holder of Class C Warrants shall be entitled to exercise such Class C Warrants to the extent such exercise could, in the Company's reasonable judgment, either alone or in conjunction with other issuances or holdings of capital stock, other warrants or convertible securities of the Company, result in a Change of Control (as defined in the Indenture).

SECTION 19. Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York, without reference to principles of conflict of laws.

SECTION 20. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the Company, the Placement Agent, the Warrant Agent and their respective successors and assigns, and the holders from time to time of Warrant Certificates. Nothing in this Agreement is intended nor shall be construed to confer upon any other person any right, remedy or claim, in equity or at law, or to impose upon any other person any duty, liability or obligation.

SECTION 21. Termination. This Agreement shall terminate at the close of business on the Warrant Expiration Date of all the Class C Warrants or such earlier date upon which all Class C Warrants have been exercised or redeemed, except that the Warrant Agent shall account to the Company for cash held by it and Section 15 shall survive such termination.

SECTION 22. Counterparts. This Agreement may be executed in several counterparts, which taken together shall constitute a single document.

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

HYBRIDON, INC.

By: /s/ E. Andrews Grinstead, III

Authorized Officer

CHASEMELLON SHAREHOLDER
SERVICES, L.L.C., as Warrant Agent

By: /s/ Lynore Le Conche

Authorized Officer

EXHIBIT A

[FORM OF FACE OF CLASS C WARRANT CERTIFICATE]

THE TERMS OF THIS WARRANT ARE SUBJECT TO THE TERMS OF A WARRANT AGREEMENT, A COPY OF WHICH IS AVAILABLE FROM HYBRIDON, INC. (THE "COMPANY"). THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS, AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED OR OTHERWISE TRANSFERRED IN THE ABSENCE OF A REGISTRATION STATEMENT IN EFFECT WITH RESPECT TO THE SECURITIES UNDER THE SECURITIES ACT OR AN EXEMPTION FROM THE SECURITIES ACT. ANY SUCH TRANSFER MAY ALSO BE SUBJECT TO COMPLIANCE WITH APPLICABLE STATE SECURITIES LAWS AND THE LAWS OF OTHER APPLICABLE JURISDICTIONS.

No. AWC _____ Class C Warrants

VOID AFTER MAY 4, 2003

CLASS C WARRANT CERTIFICATE FOR PURCHASE
OF COMMON STOCK

HYBRIDON, INC.

This certifies that FOR VALUE RECEIVED

_____ or registered assigns (the "Registered Holder") is the owner of the number of Class C Warrants ("Class C Warrants") specified above. Each Class C Warrant represented hereby initially entitles the Registered Holder to purchase, subject to the terms and conditions set forth in this Warrant Certificate and the Warrant Agreement (as hereinafter defined), one

fully paid and nonassessable share of Common Stock, par value \$.001 per share ("Common Stock"), of Hybridon, Inc., a Delaware corporation (the "Company"), at any time between May 5, 1998, and the Expiration Date (as hereinafter defined), upon the presentation and surrender of this Warrant Certificate with the Subscription Form on the reverse hereof duly executed, at the corporate office of ChaseMellon Shareholder Services, L.L.C., as Warrant Agent, or its successor (the "Warrant Agent"), accompanied by payment of the Purchase Price (as defined in the Warrant Agreement) in lawful money of the United States of America in cash or by official bank or certified check made payable to the Company.

This Warrant Certificate and each Class C Warrant represented hereby are issued pursuant to, and are subject in all respects to, the terms and conditions set forth in the Warrant Agreement (the "Warrant Agreement"), dated May 5, 1998, by and among the Company and the Warrant Agent.

In the event of certain contingencies provided for in the Warrant Agreement, the Purchase Price and/or the number of shares of Common Stock subject to purchase upon the exercise of each Class C Warrant represented hereby are subject to modification or adjustment. Furthermore, this Warrant may not be exercised in certain circumstances described in Section 18 of the Warrant Agreement.

Each Class C Warrant represented hereby is exercisable at the option of the Registered Holder, but no fractional shares of Common Stock will be issued. In the case of the exercise of fewer than every Class C Warrant represented hereby, the Company shall cancel this Warrant Certificate upon the surrender hereof and shall execute and deliver a new Warrant Certificate or Warrant Certificates of like tenor, which the Warrant Agent shall countersign, for the balance of such Class C Warrant.

The term "Expiration Date" shall mean 5:00 P.M. (New York time) on May 4, 2003, or such earlier date as the Class C Warrants shall be redeemed. If such date shall in the State of New York be a holiday or a day on which banks are authorized to close, then the Expiration Date shall mean 5:00 P.M. (New York time) the next following day which in the State of New York is not a holiday or a day on which banks are authorized to close. Upon notice to all Registered Holders of the Class C Warrants, the Company shall have the right to extend the Expiration Date.

The Class C Warrants represented hereby shall not be exercisable in any state where such exercise would be unlawful.

This Warrant Certificate is exchangeable, upon the surrender hereof by the Registered Holder at the corporate office of the Warrant Agent, for a new Warrant Certificate or Warrant Certificates of like tenor representing an equal aggregate number of Class C Warrants, each of such new Warrant Certificates to represent such number of Class C Warrants as shall be designated by such Registered Holder at the time of such surrender. Upon due presentment with any applicable transfer fee per certificate in addition to any tax or other governmental charge imposed in connection therewith, for registration of transfer of this Warrant Certificate at such office, a new Warrant Certificate or Warrant Certificates representing an equal aggregate number of Class C Warrants will be issued to the transferee in exchange therefor, subject to the limitations provided in the Warrant Agreement.

The Registered Holder shall not be entitled to any rights of a stockholder of the Company in respect of any unexercised Class C Warrants held by such Registered Holder,

including, without limitation, the right to vote or to receive dividends or other distributions, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided in the Warrant Agreement.

Prior to due presentment for registration of transfer hereof, the Company and the Warrant Agent may deem and treat the Registered Holder as the absolute owner hereof and of each Class C Warrant represented hereby (notwithstanding any notations of ownership or writing hereon made by anyone other than a duly authorized officer of the Company or the Warrant Agent) for all purposes and shall not be affected by any notice to the contrary.

This Warrant Certificate shall be governed by and construed in

accordance with the laws of the State of New York.

This Warrant Certificate is not valid unless countersigned by the Warrant Agent.

IN WITNESS WHEREOF, the Company has caused this Warrant Certificate to be duly executed, manually or in facsimile, by two of its officers thereunto duly authorized and a facsimile of its corporate seal to be imprinted hereon.

HYBRIDON, INC.

Dated: _____

By: _____

By: _____

[seal]

Countersigned:

CHASEMELLON SHAREHOLDER SERVICES, L.L.C.,
as Warrant Agent

By: _____

Authorized Officer

[FORM OF REVERSE OF WARRANT CERTIFICATE]

TRANSFER FEE: \$ _____ PER CERTIFICATE ISSUED

SUBSCRIPTION FORM

To Be Executed by the Registered Holder
in Order to Exercise Class C Warrants

The undersigned Registered Holder hereby irrevocably elects to exercise _____ Class C Warrants represented by this Warrant Certificate, and to purchase the securities issuable upon the exercise of such Class C Warrants, and requests that certificates for such securities shall be issued in the name of

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER

[please print or type name and address]

and be delivered to

[please print or type name and address]

and if such number of Class C Warrants shall not be all the Class C Warrants evidenced by this Warrant Certificate, that a new Warrant Certificate for the balance of such Class C Warrants be registered in the name of, and delivered to, the Registered Holder at the address stated below.

The undersigned represents that the exercise of the within Class C Warrant was

solicited by a member of the National Association of Securities Dealers, Inc. If not solicited by an NASD member, please write "unsolicited" in the space below.

(Name of NASD Member)

Dated: _____

X

Address

Taxpayer Identification Number

Signature Guaranteed

ASSIGNMENT

To Be Executed by the Registered Holder
in Order to Assign Class C Warrants

FOR VALUE RECEIVED, _____ hereby sells,
assigns and transfers unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER

[please print or type name and address]

_____ of the Class C Warrants represented by this
Warrant Certificate, and hereby irrevocably constitutes and appoints

Attorney to transfer this Warrant Certificate on the books of the Company, with
full power of substitution in the premises.

Dated: _____

X

Signature Guaranteed

THE SIGNATURE TO THE ASSIGNMENT OR THE SUBSCRIPTION FORM MUST CORRESPOND TO THE
NAME AS WRITTEN UPON THE FACE OF THIS WARRANT CERTIFICATE IN EVERY PARTICULAR,
WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER, AND MUST BE
GUARANTEED BY A MEMBER OF THE MEDALLION STAMP PROGRAM.

EXHIBIT 4.6

FORM OF WARRANT AGREEMENT

AGREEMENT, dated as of this fifth day of May, 1998, by and among
HYBRIDON, INC., a Delaware corporation ("Company"), and CHASEMELLON SHAREHOLDER
SERVICES, L.L.C., a New Jersey limited liability company, as warrant agent
("Warrant Agent").

W I T N E S S E T H

WHEREAS, the Company has accepted 9% Convertible Subordinated Notes Due

2004 ("9% Notes") of the Company in exchange for shares of Series A Convertible Preferred Stock, par value \$0.01 per share, (the "Series A Preferred Stock") of the Company and Class A Warrants pursuant to an Offer to Exchange dated February 6, 1998 (the "Original Offer to Exchange") disseminated to all of the holders of the 9% Notes (as subsequently amended by the Amendment thereto dated March 30, 1998 (the "Amendment"), the "Offer to Exchange," and such exchange offer, as subsequently amended by the Amendment, the "Exchange Offer");

WHEREAS, the Company has sold, pursuant to several subscription agreements (each, a "Subscription Agreement") units consisting of shares of Series A Preferred Stock and Class D Warrants to be issued pursuant to this Agreement ("Units");

WHEREAS, each Class D Warrant initially entitles the Registered Holder (as defined below) thereof to purchase one (1) share of Common Stock at the Purchase Price (as defined below);

WHEREAS, the Company desires the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing so to act, in connection with the issuance, registration, transfer, exchange and redemption of the Class D Warrants, the issuance of certificates representing the Class D Warrants, the exercise of the Class D Warrants, and the rights of the holders thereof;

NOW THEREFORE, in consideration of the premises and the mutual agreements hereinafter set forth and for the purpose of defining the terms and provisions of the Class D Warrants and the certificates representing the Class D Warrants and the respective rights and obligations thereunder of the Company, the holders of certificates representing the Class D Warrants and the Warrant Agent, the parties hereto agree as follows:

SECTION 1. Definitions. As used herein, the following terms shall have the following meanings, unless the context shall otherwise require:

(a) "Common Stock" shall mean stock of the Company of any class, whether now or hereafter authorized, which has the right to participate in the distribution of earnings and assets of the Company without limit as to amount or percentage, which at the date hereof consisted of 100,000,000 authorized shares of Common Stock, par value \$.001 per share.

(b) The "Closing Bid Price," for each trading day, shall be the reported per share closing bid price of the Common Stock regular way on the Stock Market on such trading day or, if there were no transactions on such trading day, shall mean the average of the reported per share closing bid and asked prices, regular way, of the Common Stock on the Stock Market on such trading day.

(c) "Corporate Office" shall mean the office of the Warrant Agent (or its successor) at which, at any particular time, its principal business shall be administered, which office is located at the date hereof at 85 Challenger Road, Overpeck Centre, Ridgefield Park, New Jersey, 07660.

(d) "Exercise Date" shall mean, as to any Class D Warrant, the date on which the Warrant Agent shall have received both (a) the Warrant Certificate representing such Class D Warrant, with the subscription form thereon duly executed by the Registered Holder thereof or his attorney duly authorized in writing, and (b) payment in cash, or by official bank or certified check made payable to the Company, of an amount in lawful money of the United States of America equal to the applicable Purchase Price.

(e) [Reserved]

(f) "Fair Market Value" means, with respect to any security or other asset, the fair market value set by, or determined in a manner established by, the Board of Directors of the Company.

(g) "Initial Warrant Exercise Date" shall mean, as to each Class D Warrant, the date which is 12 months after the closing date of the Alternative Equity Offering (as such term is defined in the Amendment).

(h) "Market Price" shall mean the average Closing Bid Price, for twenty

(20) consecutive trading days, ending with the trading day prior to the date as of which the Market Price is being determined (with appropriate adjustments for subdivisions or combinations of shares effected during such period), provided that if the prices referred to in the definition of Closing Bid Price cannot be determined for such period, "Market Price" shall mean Fair Market Value.

(i) The "Purchase Price" per share of Common Stock shall mean the product of 1.2 multiplied by the per share price of Common Stock sold by the Company in connection with the Alternative Equity Offering, subject to adjustment from time to time pursuant to the provisions of Section 9, and subject to the Company's right to reduce the Purchase Price upon notice to all Registered Holders.

(j) [Reserved]

(k) "Registered Holder" shall mean, as to any Class D Warrant and as of any particular date, the person in whose name the certificate representing the Class D Warrant shall be registered on that date on the books maintained by the Warrant Agent pursuant to Section 6.

(l) The "Stock Market" shall mean the principal national securities exchange on which the Common Stock is listed or admitted to trading or, if the Common Stock is not listed or admitted to trading on any national securities exchange, shall mean The Nasdaq National Market System or The Nasdaq SmallCap Market (collectively, "Nasdaq") or, if the Common Stock is not quoted on Nasdaq, shall mean the OTC Bulletin Board or, if the Common Stock is not quoted on the OTC Bulletin Board, shall mean the over-the-counter market as furnished by any NASD member firm selected from time to time by the Company for that purpose.

(m) A "trading day" shall mean a day on which the Stock Market is open for the transaction of business.

(n) "Transfer Agent" shall mean ChaseMellon Shareholder Services, L.L.C., as the Company's transfer agent, or its authorized successor, as such.

(o) "Warrant Expiration Date" shall mean 5:00 P.M. (New York time) on the day prior to the fourth anniversary of the Initial Warrant Exercise Date; provided that if such date shall in the State of New York be a holiday or a day on which banks are authorized or required to close, then "Warrant Expiration Date" shall mean 5:00 P.M. (New York time) on the next following day which in the State of New York is neither a holiday nor a day on which banks are authorized or required to close. Upon notice to all Registered Holders, the Company shall have the right to extend the Warrant Expiration Date.

(p) Unless otherwise stated, section references used within this Warrant Agreement refer to sections of this Warrant Agreement.

SECTION 2. Warrants and Issuance of Warrant Certificates.

(a) A Class D Warrant initially shall entitle the Registered Holder of the Warrant Certificate representing such Class D Warrant to purchase one share of Common Stock upon the exercise thereof, in accordance with the terms hereof, subject to modification and adjustment as provided in Section 9.

(b) The Class D Warrants included in the Units will immediately be detachable and separately transferable from the shares of Series A Preferred Stock included in the Units.

(c) Within five business days after the date that 9% Notes are irrevocably exchanged pursuant to the Exchange Offer, Warrant Certificates representing the number of Class D Warrants to be issued pursuant to the Subscription Agreements shall be executed by the Company and delivered to the

Warrant Agent. Within five business days of receipt of the Warrant Certificates by the Warrant Agent, the Warrant Agent shall send the Warrant Certificates to the Registered Holders. The Company shall issue a written order, signed by its Chairman of the Board, President or any Vice President and by its Secretary or

an Assistant Secretary, to the Warrant Agent directing that the Warrant Certificates shall be countersigned, issued and delivered by the Warrant Agent in accordance with the preceding sentence.

(d) From time to time, until the Warrant Expiration Date, the Transfer Agent shall countersign and deliver stock certificates in required whole number denominations of Common Stock, subject to adjustment as described herein, upon the exercise of Class D Warrants in accordance with this Agreement.

(e) From time to time, until the Warrant Expiration Date, the Warrant Agent shall countersign and deliver Warrant Certificates in required whole number denominations to the persons entitled thereto in connection with any transfer or exchange permitted under this Agreement; provided that no Warrant Certificates shall be issued except (i) those initially issued hereunder, (ii) those issued on or after the Initial Warrant Exercise Date, upon the exercise of fewer than all Class D Warrants represented by any Warrant Certificate, to evidence any unexercised Class D Warrants held by the exercising Registered Holder, (iii) those issued upon any transfer or exchange pursuant to Section 6; (iv) those issued in replacement of lost, stolen, destroyed or mutilated Warrant Certificates pursuant to Section 7 and (v) at the option of the Company, in such form as may be approved by its Board of Directors, to reflect any adjustment to, or change in: the Purchase Price; the number of shares of Common Stock purchasable upon exercise of the Class D Warrants; or the Warrant Expiration Date.

SECTION 3. Form and Execution of Warrant Certificates.

(a) The Warrant Certificates shall be substantially in the form annexed hereto as Exhibit A (the provisions of which are hereby incorporated herein) and may have such letters, numbers or other marks of identification or designation and such legends, summaries or endorsements printed, lithographed or engraved thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which the Class D Warrants may be listed, or to conform to usage or to the requirements of Section 2. The Warrant Certificates shall be dated the date of issuance thereof (whether upon initial issuance, transfer, exchange or in lieu of mutilated, lost, stolen, or destroyed Warrant Certificates) and issued in registered form. Warrant Certificates shall be numbered serially with the letters AW on Class D Warrants of all denominations.

(b) Warrant Certificates shall be executed on behalf of the Company by its Chairman of the Board, President or any Vice President and by its Secretary or an Assistant Secretary, by manual signatures or by facsimile signatures printed thereon. Warrant Certificates shall be manually countersigned by the Warrant Agent and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed any of the Warrant Certificates shall cease to be an officer of the Company or to hold the particular office referenced in the Warrant Certificate before the date of issuance of the Warrant Certificates or before countersignature by the Warrant Agent and issuance and delivery thereof,

such Warrant Certificates may nevertheless be countersigned by the Warrant Agent, issued and delivered with the same force and effect as though the person who signed such Warrant Certificates had not ceased to be an officer of the Company or to hold such office. After countersignature by the Warrant Agent, Warrant Certificates shall be delivered by the Warrant Agent to the Registered Holder without further action by the Company, except as otherwise provided herein.

SECTION 4. Exercise. Each Class D Warrant may be exercised by the Registered Holder thereof at any time on or after the Initial Warrant Exercise Date, but not after the Warrant Expiration Date, upon the terms and subject to the conditions set forth herein and in the applicable Warrant Certificate. A Class D Warrant shall be deemed to have been exercised immediately prior to the close of business on the Exercise Date and the person entitled to receive the securities deliverable upon such exercise shall be treated for all purposes as the holder of those securities upon the exercise of the Class D Warrant as of the close of business on the Exercise Date. As soon as practicable on or after the Exercise Date, the Warrant Agent shall deposit the proceeds received from the exercise of a Class D Warrant and shall notify the Company in writing of the exercise of the Class D Warrants. Promptly following, and in any event within

five business days after the date of such notice from the Warrant Agent, the Warrant Agent, on behalf of the Company, shall cause to be issued and delivered by the Transfer Agent, to the person or persons entitled to receive the same, a certificate or certificates for the securities deliverable upon such exercise (plus a certificate for any remaining unexercised Class D Warrants of the Registered Holder). In the case of payment made in the form of a check drawn on an account of such investment banks and brokerage houses as the Company shall approve in writing to the Warrant Agent, certificates shall promptly be issued without prior notice to the Company nor any delay. Upon the exercise of any Class D Warrant and clearance of the funds received, the Warrant Agent shall promptly remit the payment received for the Class D Warrant (the "Warrant Proceeds") to the Company or as the Company may otherwise direct in writing.

SECTION 5. Reservation of Shares; Listing; Payment of Taxes; etc.

(a) The Company covenants that it will at all times reserve and keep available out of its authorized Common Stock, solely for the purpose of issue upon exercise of Class D Warrants, such number of shares of Common Stock as shall then be issuable upon the exercise of all outstanding Class D Warrants. The Company covenants that all shares of Common Stock which shall be issuable upon exercise of the Class D Warrants shall, at the time of delivery (assuming full payment of the Purchase Price thereof), be duly and validly issued, fully paid, nonassessable and free from all issuance taxes, liens and charges with respect to the issue thereof including, without limitation, adverse claims whatsoever (with the exception of claims arising through the acts of the Registered Holders themselves and except as arising from applicable Federal and state securities laws) and that the Company shall have paid all taxes, if any, in respect of the original issuance thereof (except as otherwise provided in Subsection 5(c)).

(b) The Registered Holders of Class D Warrants shall have the registration rights provided in the Subscription Agreement. The Class D Warrants shall not be exercisable in any state where such exercise would be unlawful.

(c) The Company shall pay all documentary, stamp or similar taxes and other similar governmental charges (but in no case income taxes) that may be imposed with respect to the issuance of Class D Warrants, or the issuance or delivery of any shares upon exercise of the Class D Warrants; provided, however, that if the shares of Common Stock are to be delivered in a name other than the name of the Registered Holder of the Warrant Certificate representing any Class D Warrant being exercised, then no such delivery shall be made unless the person requesting the same has paid to the Warrant Agent the amount of transfer taxes or charges incident thereto, if any.

(d) The Warrant Agent is hereby irrevocably authorized to requisition the Company's Transfer Agent from time to time for certificates representing shares of Common Stock issuable upon exercise of the Class D Warrants, and the Company will authorize the Transfer Agent to comply with all such proper requisitions. The Company will file with the Warrant Agent a statement setting forth the name and address of the Transfer Agent of the Company for shares of Common Stock issuable upon exercise of the Class D Warrants.

SECTION 6. Exchange and Registration of Transfer.

(a) Warrant Certificates may be exchanged for other Warrant Certificates representing an equal aggregate number of Class D Warrants of the same class or may be transferred in whole or in part. Warrant Certificates to be exchanged shall be surrendered to the Warrant Agent at its Corporate Office, and upon satisfaction of the terms and provisions hereof, the Company shall execute, and the Warrant Agent shall countersign, issue and deliver in exchange therefor, the Warrant Certificate or Warrant Certificates that the Registered Holder making the exchange shall be entitled to receive.

(b) The Warrant Agent shall keep at its office books in which, subject to such reasonable regulations as it may prescribe, it shall register Warrant Certificates and any transfers thereof in accordance with its regular practice. Upon due presentment for registration of transfer of any Warrant Certificate at such office, the Company shall execute and the Warrant Agent shall issue and deliver to the transferee or transferees, a new Warrant Certificate or Warrant Certificates representing an equal aggregate number of Class D Warrants.

(c) With respect to all Warrant Certificates presented for registration or transfer, or for exchange or exercise, the subscription form on the reverse thereof shall be duly endorsed, or be accompanied by a written instrument or instruments of transfer and subscription, in form satisfactory to the Company and the Warrant Agent, duly executed by the Registered Holder or his attorney-in-fact duly authorized in writing.

(d) A service charge may be imposed by the Warrant Agent on holders for any exchange or registration of transfer of Warrant Certificates of such holders. In addition, the Company may require payment by such holder of a sum sufficient to cover any tax or governmental or other charge that may be imposed in connection therewith.

(e) All Warrant Certificates surrendered for exercise, or for exchange in case of mutilated Warrant Certificates, shall be promptly cancelled by the Warrant Agent and thereafter retained by the Warrant Agent in a manner consistent with its customary practices until termination of this Warrant Agreement or resignation as Warrant Agent or disposed of or destroyed at the direction of the Company.

(f) Prior to due presentment for registration of transfer thereof, the Company and the Warrant Agent may deem and treat the Registered Holder of any Warrant Certificate as the absolute owner thereof and of each Class D Warrant represented thereby (notwithstanding any notations of ownership or writing thereon made by anyone other than a duly authorized officer of the Company or the Warrant Agent) for all purposes and shall not be affected by any notice to the contrary.

SECTION 7. Loss or Mutilation. Upon receipt by the Warrant Agent of evidence satisfactory to it of the ownership of and loss, theft, destruction or mutilation of any Warrant Certificate and (in case of loss, theft or destruction) of indemnity satisfactory to it, and (in the case of mutilation) upon surrender and cancellation thereof, the Company shall execute and the Warrant Agent shall (in the absence of notice to the Company and/or Warrant Agent that the Warrant Certificate has been acquired by a bona fide purchaser) countersign and deliver to the Registered Holder in lieu thereof a new Warrant Certificate of like tenor representing an equal aggregate number of Class D Warrants. Applicants for a substitute Warrant Certificate shall comply with such other reasonable regulations and pay such other reasonable charges as the Warrant Agent may prescribe.

SECTION 8. [Reserved]

SECTION 9. Adjustment of Purchase Price and Number of Shares of Common Stock or Class D Warrants. Upon, and only upon, each adjustment of the Purchase Price pursuant to this Section 9, the total number of shares of Common Stock purchasable upon the exercise of each Class D Warrant shall (subject to the provisions contained in Subsection 9(c)) be such number of shares (calculated to the nearest tenth) purchasable at the Purchase Price in effect immediately prior to such adjustment multiplied by a fraction, the numerator of which shall be the Purchase Price in effect immediately prior to such adjustment and the denominator of which shall be the Purchase Price in effect immediately after such adjustment.

(a) The Company may elect, upon any adjustment of the Purchase Price hereunder, to adjust the number of Class D Warrants outstanding, in lieu of the adjustment in the number of shares of Common Stock purchasable upon the exercise of each Class D Warrant as herein provided, so that each Class D Warrant outstanding after such adjustment shall represent the right to purchase one share of Common Stock. Each Class D Warrant held of record prior to such adjustment of the number of Class D Warrants shall become that number of Class D Warrants (calculated to the nearest tenth) equal to a fraction, the numerator of which shall be the Purchase Price in effect immediately prior to such adjustment and the denominator of which shall be the Purchase Price in effect immediately after such adjustment. Upon each adjustment of the number of Class D Warrants pursuant to this Section 9, the Company shall, as promptly as practicable, cause to be distributed to each Registered Holder of Warrant Certificates on the date of such adjustment Warrant Certificates evidencing, subject to Section 10, the number of additional Class D Warrants to which such Holder shall be entitled as a result of such adjustment or, at the option of the

Company, cause to be distributed to such Holder in substitution and replacement for the Warrant Certificates held by him prior to the date of adjustment (and upon surrender thereof, if required by the Company) new Warrant Certificates evidencing the number of Class D Warrants to which such Holder shall be entitled after such adjustment.

(b) Irrespective of any adjustments or changes in the Purchase Price or the number of shares of Common Stock purchasable upon exercise of the Class D Warrants, the Warrant Certificates theretofore and thereafter issued shall, unless the Company shall exercise its option to issue new Warrant Certificates pursuant to Subsection 2(e), continue to express the same Purchase Price per share, number of shares purchasable thereunder as when the same were originally issued.

(c) As used in this Section 9, the following terms shall have the following meanings:

"Capital Stock" of any Person means the Common Stock or Preferred Stock of such Person. Unless otherwise stated herein or the context otherwise requires, "Capital Stock" means Capital Stock of the Company;

"Common Stock" of any Person other than the Company means the common equity (however designated), including, without limitation, common stock or partnership or membership interests of, or participation or interests in such Person (or equivalents thereof). "Common Stock" of the Company means the Common Stock, par value \$.001 per share, of the Company, any successor class or classes of common equity (however designated) of the Company into or for which such Common Stock may hereafter be converted, exchanged or reclassified and any class or classes of common equity (however designated) of the Company which may be distributed or issued with respect to such Common Stock or successor class or classes to holders thereof generally. Unless otherwise stated herein or the context requires otherwise, "Common Stock" means Common Stock of the Company;

"Current Market Price" means, when used with respect to any security as of any date, the last sale price, regular way, or, in case no such sale takes place on such date, the average of the closing bid and asked prices, regular way, of such security in either case as reported for consolidated transactions on the New York Stock Exchange or, if such security is not listed or admitted to trading on the New York Stock Exchange, as reported for consolidated transactions with respect to securities listed on the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, as reported on the Nasdaq National Market, or, if such security is not listed or admitted to trading on the Nasdaq National Market, as reported on the Nasdaq SmallCap Market, or if such security is not listed or admitted to trading on any national securities exchange or the Nasdaq National Market or the Nasdaq SmallCap Market, the average of the high bid and low asked prices of such security in the over-the-counter market, as reported by the National Association of Securities Dealers, Inc. Automated Quotations System or such other system then in use or, if such security is not quoted by any such organization, the average of the closing bid and asked prices of such

security furnished by an NASD member firm selected by the Company. If such security is not quoted by any such organization and no such NASD member firm is able to provide such prices, the Current Market Price of such security shall be the Fair Market Value thereof;

"Fair Market Value" means, at any date as to any asset, Property or right (including without limitation, Capital Stock of any Person, evidence of indebtedness or other securities, but excluding cash), the fair market value of such item as determined in good faith by the Board of Directors, whose determination shall be conclusive; provided, however, that such determination is described in an Officers' Certificate filed with the transfer agent and that, if there is a

Current Market Price for such item on such date, "Fair Market Value" means such Current Market Price (without giving effect to the last sentence of the definition thereof);

"GAAP" means, as of any date, generally accepted accounting principles in the United States and does not include any interpretations or regulations that have been proposed but that have not become effective;

"Officer" means, with respect to any Person, the Chairman of the Board, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Assistant Secretary or any Vice President of such Person;

"Officers' Certificate" means a certificate signed on behalf of the Company by two Officers, one of whom must be the Chairman of the Board, the President, the Treasurer or a Vice-President of the Company;

"Person" means any individual, corporation, partnership, association, trust or any other entity or organization, including a government or political subdivision or any agency or instrumentality thereof;

"Preferred Stock" of any Person means the class or classes of equity, ownership or participation interests (however designated) in such Person, including, without limitation, stock, share, partnership and membership interests, which are preferred as to the payment of dividends or distributions by, or as to the distribution of assets upon any voluntary or involuntary liquidation or dissolution of, such Person (or equivalent thereof) over interests of any other class of interests of such Person. Unless otherwise stated herein or the context otherwise requires, "Preferred Stock" means Preferred Stock of the Company;

"Property" of any Person means any and all types of real, personal, tangible, intangible or mixed property owned by such Person whether or not included on the most recent consolidated balance sheet of such Person in accordance with GAAP;

"Subsidiary" of a Person on any date means any other Person of whom such Person owns, directly or indirectly through a Subsidiary or Subsidiaries of such Person, Capital Stock with voting power, acting independently and under ordinary circumstances, entitling such person to elect a majority of the board of directors or other governing body of such other Person. Unless otherwise stated herein or the context otherwise requires, "Subsidiary" means a Subsidiary of the Company.

(d) If the Company shall (i) pay a dividend or other distribution, in Common Stock, on any class of Capital Stock of the Company, (ii) subdivide the outstanding Common Stock into a greater number of shares by any means or (iii) combine the outstanding Common Stock into a smaller number of shares by any means including, without limitation, a reverse stock split), then in each such case the Purchase Price in effect immediately prior thereto shall be adjusted so that the Registered Holder of any Class D Warrants thereafter surrendered for exercise shall be entitled to receive the number of shares of Common Stock that such Registered Holder would have owned or have been entitled to receive upon the happening of such event had such Class D Warrants been exercised immediately prior to the relevant record date or, if there is no such record date, the effective date of such event. An adjustment made pursuant to this Subsection 9(d) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date of such subdivision or combination, as the case may be.

(e) If the Company shall (i) issue or distribute (at a price per share less than the Current Market Price per share of such Capital Stock on the date of such issuance or distribution) Capital Stock generally to holders of Common Stock or to holders of any class or series of Capital Stock which is convertible into or exchangeable or exercisable for Common Stock (excluding an issuance or distribution of Common Stock described in Subsection 9(d) or (ii) issue or

distribute generally to such holders rights, warrants, options or convertible or exchangeable securities entitling the holder thereof to subscribe for, purchase, convert into or exchange for Capital Stock at a price per share less than the Current Market Price per share of such Capital Stock on the date of issuance or distribution, then, in each such case, at the earliest of (A) the date the Company enters into a firm contract for such issuance or distribution, (B) the record date for the determination of stockholders entitled to receive any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities or (C) the date of actual issuance or distribution of any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities, the Purchase Price shall be reduced by multiplying the Purchase Price in effect immediately prior to such earliest date by:

(i) if such Capital Stock is Common Stock, a fraction the numerator of which is the number of shares of Common Stock outstanding, on such earliest date plus the number of shares of Common Stock which could be purchased at the Current Market Price per share of Common Stock on the date of such issuance or distribution with the aggregate consideration (based on the Fair Market Value thereof) received or receivable by the Company either (A) in connection with such issuance or distribution or (B) upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities (the "Aggregate Consideration"), and the denominator of which is the number of shares of Common Stock outstanding on such earliest date plus the number of shares of Common Stock to be so issued or distributed or to be issued upon

the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities; or

(ii) if such Capital Stock is other than Common Stock, a fraction the numerator of which is the Current Market Price per share of Common Stock on such earliest date minus an amount equal to (A) the difference between (1) the Current Market Price per share of such Capital Stock multiplied by the number of shares of such Capital Stock to be so issued and (2) the Aggregate Consideration, divided by (B) the number of shares of Common Stock outstanding on such date, and the denominator of which is the Current Market Price per share of Common Stock on such earliest date.

Such adjustment shall be made successively whenever any such Capital Stock, rights, warrants, options or convertible or exchangeable securities are so issued or distributed. In determining whether any rights, warrants, options or convertible or exchangeable securities entitle the holders thereof to subscribe for, purchase, convert into or exchange for shares of such Capital Stock at less than such Current Market Price, there shall be taken into account the Fair Market Value of any consideration received or receivable by the Company for such rights, warrants, options or convertible or exchangeable securities. If any right, warrant, option or convertible or exchangeable security, the issuance of which resulted in an adjustment in the Purchase Price pursuant to this Subsection 9(e), shall expire and shall not have been exercised, the Purchase Price shall immediately upon such expiration be recomputed to the Purchase Price which would have been in effect if such right, warrant, option or convertible or exchangeable securities had never been distributed or issued. Notwithstanding anything contained in this paragraph to the contrary, (i) the issuance of Capital Stock upon the exercise of such rights, warrants or options or the conversion or exchange of such convertible or exchangeable securities will not cause an adjustment in the Purchase Price if no such adjustment would have been required at the time such right, warrant, option or convertible or exchangeable security was issued or distributed; provided, however, that, if the consideration payable upon such exercise, conversion or exchange and/or the Capital Stock receivable thereupon are changed after the time of the issuance or distribution of such right, warrant, option or convertible or exchangeable security then such change shall be deemed to be the expiration thereof without having been exercised and the issuance or distribution of new options, rights, warrants or convertible or exchangeable securities and (ii) the issuance of convertible preferred stock of the Company as a dividend on convertible preferred stock of the Company will not cause an adjustment in the Purchase Price if no such adjustment would have been required at the time such underlying convertible preferred stock was issued (or as a result of any subsequent modification to the terms thereof) and the conversion provisions of such

convertible stock so issued as a dividend are the same as in such underlying convertible preferred stock.

Notwithstanding anything contained in this Warrant Agreement to the contrary, options, rights or warrants issued or distributed by the Company, including options, rights or warrants distributed prior to the date of this Warrant Agreement, to holders of Common Stock generally which, until the occurrence of a specified event or events (a "Trigger Event"), (i) are deemed to be transferred with Common Stock, (ii) are not exercisable and (iii) are also issued on a pro rata basis with respect to future issuances of Common Stock, shall be deemed not to have been issued or distributed for purposes of this Section 9 (and no adjustment to the Purchase Price under this Section 9 will be required) until the occurrence of the earliest Trigger Event. Upon the occurrence of a Trigger Event, such options, rights or warrants shall continue to be

deemed not to have been issued or distributed for purposes of this Section 9 (and no adjustment to the Purchase Price under this Section 9 will be required) if and for so long as each Registered Holder who thereafter exercises such Registered Holder's Class D Warrants shall be entitled to receive upon such exercise, in addition to the shares of Common Stock issuable upon such exercise, a number of such options, rights or warrants, as the case may be, equal to the number of options, rights or warrants to which a holder of the number of shares of Common Stock equal to the number of shares of Common Stock issuable upon exercise of such Registered Holder's Class D Warrants is entitled to receive at the time of such exercise in accordance with the terms and provision of, and applicable to, such options, rights or warrants. Upon the expiration of any such options, rights or warrants or at such time, if any, as a Registered Holder is not entitled to receive such options, rights or warrants upon exercise of such Registered Holder's Class D Warrants, an adjustment (if any is required) to the Purchase Price shall be made in accordance with this Subsection 9(e) with respect to the issuance of all such options, rights and warrants as of the date of issuance thereof, but subject to the provisions of the preceding paragraph, if any such option, right or warrant, including any such options right or warrants distributed prior to the date of this Warrant Agreement, are subject to events, upon the occurrence of which such options, rights or warrants become exercisable to purchase different securities, evidence of indebtedness, cash, Properties or other assets or different amounts thereof, then, subject to the preceding provision of this paragraph, the date of the occurrence of any and each such event shall be deemed to be the date of distribution and record date with respect to new options, right or warrants with such new purchase rights (and a termination or expiration of the existing options, rights or warrants without exercise thereof). In addition, in the event of any distribution (or deemed distribution) of options, rights or warrants, or any Trigger Event or other event of the type described in the preceding sentence, that required (or would have required but for the provisions of Subsection 9(h) or of this paragraph) an adjustment to the Purchase Price under this Section 9 and such options, rights or warrants shall thereafter have been redeemed or repurchased without having been exercised, then the Purchase Price shall be adjusted upon such redemption or repurchase to give effect to such distribution, Trigger Event or other event, as the case may, as though it had instead been a cash distribution, equal on a per share basis to the result of the aggregate redemption or repurchase price received by holders of such options, rights or warrants divided by the number of shares of Common Stock outstanding as of the date of such repurchase or redemption, made to holders of Common Stock generally as of the date of such redemption or repurchase.

(f) If the Company shall pay or distribute, as a dividend or otherwise, generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock any assets, Properties or rights (including, without limitation, evidences of indebtedness of the Company, any Subsidiary or any other Person, cash or Capital Stock or other securities of the Company, any Subsidiary or any other Person, but excluding payments and distributions as described in Subsections 9(d) or (e), dividends and distributions in connection with a Liquidation Event (as defined in the Certificate of Designation for the Series A Preferred Stock) and distributions consisting solely of cash described in Subsection 9(g), then in each such case the Purchase Price shall be reduced by multiplying the Purchase Price in effect immediately prior to the date of such payment or distribution by a fraction, the numerator of which is the Current Market Price per share of Common Stock on the record date for the determination of stockholders entitled to receive such payment or distribution less the Fair Market Value per share of

Common Stock on such record date of the assets, Properties or rights so paid or distributed, and the denominator of which is the Current Market Price per share of Common Stock on such record date. Such adjustment shall become effective immediately after such record date. For purposes of this Subsection 9(f), such Fair Market Value per share shall equal the aggregate Fair Market Value on such record date of the assets, Properties or rights so paid or distributed divided by the number of shares of Common Stock

outstanding on such record date. For all purposes of this Warrant Agreement, adjustments to any security's exercise or exercise price pursuant to such security's original terms shall not be deemed a distribution or dividend to holders thereof.

(g) If the Company shall, by dividend or otherwise, make a distribution (other than in connection with the liquidation, dissolution or winding up of the Company in its entirety), generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock, consisting solely of cash where (x) the sum of (i) the aggregate amount for such cash plus (ii) the aggregate amount of all cash so distributed (by dividend or otherwise) to such holders within the 12-month period ending on the record date for determining stockholder entitled to receive such distribution with respect to which no adjustment has been made to the Purchase Price pursuant to this Subsection 9(g) exceeds (y) 10% of the result of the multiplication of (1) the Current Market Price per share of Common Stock on such record date times (2) the number of shares of Common Stock outstanding on such record date, then the Purchase Price shall be reduced, effective immediately prior to the opening of business on the day following such record date, by multiplying the Purchase Price in effect immediately prior to the close of business on the day prior to such record date by a fraction, the numerator of which is the Current Market Price per share of Common Stock on such record date less the aggregate amount of cash per share so distributed and the denominator of which is such Current Market Price; provided, however, that, if the aggregate amount of cash per share is equal to or greater than such Current Market Price, then, in lieu of the foregoing adjustment, adequate provisions shall be made so that each Registered Holder shall have the right to receive upon exercise (with respect to each share of Common Stock issued upon such exercise and in addition to the Common Stock issuable upon exercise) the aggregate amount of cash per share such Registered Holder would have received had such Registered Holder's Class D Warrant been exercised immediately prior to such record date. In no event shall the Purchase Price be increased pursuant to this Subsection 9(g); provided, however, that if such distribution is not so made, the Purchase Price shall be adjusted to be the Purchase Price which would have been in effect if such distribution had not been declared. For purposes of this Subsection 9(g), such aggregate amount of cash per share shall equal such sum divided by the number of shares of Common Stock outstanding on such record date.

(h) The provisions of this Section 9 shall similarly apply to all successive events of the type described in this Section 9. Notwithstanding anything contained herein to the contrary, no adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least 1% in the Purchase Price then in effect; provided, however, that any adjustments which by reason of this Subsection 9(h) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 9 shall be made by the Company and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be, and the Transfer Agent shall be entitled to rely conclusively thereon. Except as provided in this Section 9, no adjustment in the Purchase Price will be made for the issuance of Common Stock or any securities convertible into or exchangeable for Common Stock or carrying the right to purchase Common Stock or any securities so convertible or exchangeable.

(i) Whenever the Purchase Price is adjusted as provided herein, the Company shall promptly file with the Warrant Agent an Officers' Certificate setting forth the Purchase Price in effect after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Promptly after

delivery of such Officers' Certificate, the Company shall give or cause to be given to each Registered Holder a notice of such adjustment of the Purchase Price setting forth the adjusted Purchase Price and the date on which such

adjustment becomes effective. The Warrant Agent may rely on the information in such Officers' Certificate as true and correct and has no duty or obligation independently to verify the amounts or calculations set forth therein.

(j) Notwithstanding anything contained herein to the contrary, in any case in which this Section 9 provides that an adjustment in the Purchase Price shall become effective immediately after a record date for an event, the Company may defer (and shall promptly give the Warrant Agent notice of any such deferral) until the occurrence of such event (i) issuing to the Registered Holder of any Class D Warrants exercised after such record date and before the occurrence of such event the additional shares of Common Stock issuable upon such exercise by reason of the adjustment required by such event over and above the number of shares of Common Stock issuable upon such exercise before giving effect to such adjustment and (ii) paying to such Registered Holder any amount in cash in lieu of any fractional share of Common Stock pursuant to Section 10.

(k) Notwithstanding any other provision hereof, no adjustment to the Purchase Price shall be made upon the issuance or exercise or conversion of (1) options or warrants to purchase, in the aggregate, up to 25% of the securities sold in the offerings of securities of the Company described in the Original Offer to Exchange or any options or warrants described in the Amendment in respect of the Alternative Equity Offering, in each case issued to (or to the designee of) any placement agent or financial advisor (such options or warrants, the "Offering Warrants"), (2) any equity securities or warrants of the Company (including, without limitation, the Series A Preferred Stock, warrants and equity securities underlying warrants) issued in exchange for 9% Notes or accrued interest thereon or pursuant to the conversion or exercise provisions thereof, (3) any warrants issued in connection with the offerings described in the Original Offer to Exchange or the Amendment (collectively, the "Offering"), (4) any warrants issued to Forum Capital Markets, LLC ("Forum") in exchange for or in addition to, or any amendment to, any warrants held by Forum, in each case, pursuant to a letter agreement dated January 5, 1998, between the Company and Forum, and any other warrants to purchase Common Stock or shares of Common Stock issued to Forum or its designee, (5) any Series A Preferred Stock issued in the Offering, (6) any Capital Stock issued or cash paid as dividends on the Series A Preferred Stock or (7) any Capital Stock issued or cash paid upon the mandatory conversion or redemption of any Series A Preferred Stock in accordance with Section 5 of the Certificate of Designation for the Series A Preferred Stock.

(l) Any determination as to whether an adjustment in the Purchase Price in effect hereunder is required pursuant to Section 9, or as to the amount of any such adjustment, if required, shall be binding upon the holders of the Class D Warrants and the Company if made in good faith by the Board of Directors of the Company.

SECTION 10. Fractional Warrants and Fractional Shares. No fractional shares or scrip representing fractional shares of Common Stock shall be issued upon exercise of Class D Warrants. If more than one certificate evidencing Class D Warrants shall be surrendered for exercise at one time by the same holder, the number of full shares issuable upon exercise thereof shall be computed on the basis of the aggregate number of Class D Warrants so surrendered. Instead of any fractional share of Common Stock

which would otherwise be issuable upon exercise of such aggregate number of Class D Warrants, the Company may elect in its sole discretion, independently for each holder, whether such number of shares of Common Stock will be rounded to the nearest whole share (with .5 of a share rounded upward) or whether such holder will be given cash, in lieu of any fractional share, in an amount equal to the same fraction of the Market Price of the Common Stock as of the Exercise Date.

SECTION 11. Warrant Holders Not Deemed Stockholders. No holder of Class D Warrants shall, as such, be entitled to vote or to receive dividends or be deemed the holder of Common Stock that may at any time be issuable upon exercise of such Class D Warrants for any purpose whatsoever, nor shall anything contained herein be construed to confer upon the holder of Class D Warrants, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issue or reclassification of stock, change of par value or change of stock to no par value, consolidation, merger or conveyance or

otherwise), or to receive notice of meetings, or to receive dividends or subscription rights, until such Holder shall have exercised such Class D Warrants and been issued shares of Common Stock in accordance with the provisions hereof.

SECTION 12. Rights of Action. All rights of action with respect to this Agreement are vested in the respective Registered Holders of the Class D Warrants, and any Registered Holder of a Class D Warrant, without consent of the Warrant Agent or of the holder of any other Class D Warrant, may, in his own behalf and for his own benefit, enforce against the Company his right to exercise his Class D Warrants for the purchase of shares of Common Stock in the manner provided in the Warrant Certificate and this Agreement.

SECTION 13. Agreement of Warrant Holders. Every holder of any Class D Warrant, by his acceptance thereof, consents and agrees with the Company, the Warrant Agent and every other holder of any Class D Warrant that:

(a) The Class D Warrants are transferable only on the registry books of the Warrant Agent by the Registered Holder thereof in person or by his or her attorney duly authorized in writing and only if the Warrant Certificates representing such Class D Warrants are surrendered at the office of the Warrant Agent, duly endorsed or accompanied by a proper instrument of transfer satisfactory to the Warrant Agent, in its sole discretion, together with payment of any applicable transfer taxes; and

(b) The Company and the Warrant Agent may deem and treat the person in whose name the Warrant Certificate is registered as the holder and as the absolute, true and lawful owner of the Class D Warrants represented thereby for all purposes, and neither the Company nor the Warrant Agent shall be affected by any notice or knowledge to the contrary, except as otherwise expressly provided in Section 6.

SECTION 14. Cancellation of Warrant Certificates. If the Company shall purchase or acquire any Class D Warrant or Class D Warrants, the Warrant Certificate or Warrant Certificates evidencing the same, by redemption or otherwise, shall thereupon be delivered to the Warrant Agent and canceled by it

and retired. The Warrant Agent shall also cancel the Warrant Certificate or Warrant Certificates following exercise of any or all of the Class D Warrants represented thereby or delivered to it for transfer, split up, combination or exchange.

SECTION 15. Concerning the Warrant Agent. The Warrant Agent acts hereunder as agent and in a ministerial capacity for the Company, and its duties shall be determined solely by the provisions hereof. The Warrant Agent does not hereby assume any obligation, relationship, agency or trust for or with any of the holders of Warrant Certificates or beneficial owners of Class D Warrants. The Warrant Agent shall not, by issuing and delivering Warrant Certificates, or by any other act hereunder, be deemed to make any representations as to the validity, value or authorization of the Warrant Certificates or the Class D Warrants represented thereby or of any securities or other property delivered upon exercise of any Class D Warrant or whether any stock issued upon exercise of any Class D Warrant is fully paid and nonassessable.

The Warrant Agent shall not at any time be under any duty or responsibility to any holder of Warrant Certificates to make or cause to be made any adjustment of the Purchase Price provided in this Agreement, or to determine whether any fact exists that may require any such adjustments, or with respect to the nature or extent of any such adjustment, when made, or with respect to the method employed in making the same. It shall not (i) be liable for any recital or statement of facts contained herein or for any action taken, suffered or omitted by it in reliance on any Warrant Certificate or other document or instrument believed by it in good faith to be genuine and to have been signed or presented by the proper party or parties, (ii) be responsible for any failure on the part of the Company to comply with any of its covenants and obligations contained in this Agreement or in any Warrant Certificate, or (iii) be liable for any act or omission in connection with this Agreement except for its own negligence or willful misconduct.

The Warrant Agent may at any time consult with counsel satisfactory to it (who may be counsel for the Company) and shall incur no liability or responsibility for any action taken, suffered or omitted by it in good faith in

accordance with the opinion or advice of such counsel.

Any notice, statement, instruction, request, direction, order or demand of the Company shall be sufficiently evidenced by an instrument signed by the Chairman of the Board, President, or any Vice President and the Secretary, or any Assistant Secretary (unless other evidence in respect thereof is herein specifically prescribed). The Warrant Agent shall not be liable for any action taken, suffered or omitted by it in accordance with such notice, statement, instruction, request, direction, order or demand believed by it to be genuine.

The Company agrees to pay the Warrant Agent reasonable compensation for its services hereunder and to reimburse it for its reasonable expenses hereunder as governed by a separate agreement to be entered into between the Warrant Agent and the Company; the Company further agrees to indemnify the Warrant Agent and save it harmless against any and all losses, expenses and liabilities, including judgments, costs and reasonable counsel fees and expenses, for anything done or omitted by the Warrant Agent in the execution of its duties and powers hereunder except losses, expenses and liabilities arising as a result of the Warrant Agent's negligence or willful misconduct.

The Warrant Agent may resign its duties and be discharged from all further duties and liabilities hereunder (except liabilities arising as a result of the Warrant Agent's own negligence or willful misconduct), after giving 30 days' prior written notice to the Company. At least 15 days prior to the date such resignation is to become effective, the Warrant Agent shall cause a copy of such notice of resignation to be mailed to the Registered Holders of each Warrant Certificate at the Company's expense. Upon such resignation, or any inability of the Warrant Agent to act as such hereunder, the Company shall appoint a new warrant agent in writing. If the Company shall fail to make such appointment within a period of 15 days after it has been notified in writing of such resignation by the resigning Warrant Agent, then the Registered Holder of any Warrant Certificate may apply to any court of competent jurisdiction for the appointment of a new warrant agent. Any new warrant agent, whether appointed by the Company or by such a court, shall be a bank or trust company having capital and surplus, as shown by its last published report to its stockholders, of not less than \$10,000,000 or a stock transfer company. After acceptance in writing of such appointment by the new warrant agent is received by the Company, such new warrant agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named herein as the Warrant Agent, without any further assurance, conveyance, act or deed; but if for any reason it shall be necessary or expedient to execute and deliver any further assurance, conveyance, act or deed, the same shall be done at the expense of the Company and shall be legally and validly executed and delivered by the resigning Warrant Agent. Not later than the effective date of any such appointment, the Company shall file notice thereof with the resigning Warrant Agent and shall forthwith cause a copy of such notice to be mailed to the Registered Holder of each Warrant Certificate.

Any entity into which the Warrant Agent or any new warrant agent may be converted or merged or any entity resulting from any consolidation to which the Warrant Agent or any new warrant agent shall be a party or any entity succeeding to the trust business of the Warrant Agent shall be a successor warrant agent under this Agreement without any further act, provided that such entity is eligible for appointment as successor to the Warrant Agent under the provisions of the preceding paragraph. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed to the Company and to the Registered Holder of each Warrant Certificate.

The Warrant Agent, its subsidiaries and affiliates, and any of its or their officers or directors, may buy and hold or sell Class D Warrants or other securities of the Company and otherwise deal with the Company in the same manner and to the same extent and with like effects as though it were not Warrant Agent. Nothing herein shall preclude the Warrant Agent from acting in any other capacity for the Company or for any other legal entity.

SECTION 16. Modification of Agreement. The parties hereto and the Company may by supplemental agreement make any changes or corrections in this Agreement (i) that they shall deem appropriate to cure any ambiguity or to correct any defective or inconsistent provision or manifest mistake or error herein contained; (ii) to reflect an increase in the number of Class D Warrants which are to be governed by this Agreement resulting from a subsequent offering of Company securities which includes Class D Warrants having the same terms and

conditions as the Class D Warrants, originally covered by or subsequently added to this Agreement under this Section 16; or (iii) that they may deem necessary or desirable and that shall not adversely affect the interests of the holders of Warrant Certificates; provided, however, that this Agreement shall not otherwise be modified, supplemented or altered in any respect except

with the consent in writing of the Registered Holders of Warrant Certificates representing more than 50% of the Class D Warrants then outstanding; and provided, further, that no change in the number or nature of the securities purchasable upon the exercise of any Class D Warrant, or the Purchase Price therefor, or the acceleration of the Warrant Expiration Date, shall be made without the consent in writing of the Registered Holder of the Warrant Certificate representing such Class D Warrant, other than such changes as are specifically prescribed by this Agreement as originally executed or are made in compliance with applicable law.

SECTION 17. Notices. All notices, requests, consents and other communications hereunder shall be in writing and shall be deemed to have been made when delivered or mailed by means of first class registered or certified mail, postage prepaid as follows: if to the Registered Holder of a Warrant Certificate, at the address of such holder as shown on the registry books maintained by the Warrant Agent; and if to the Company, at 620 Memorial Drive, Cambridge, Massachusetts, 02139, or at such other address as may have been furnished to the Warrant Agent in writing by the Company; if to the Warrant Agent, at its Corporate Office, Attention: Relationship Manager.

SECTION 18. Restrictions on Change of Control. Notwithstanding anything to the contrary contained in this Agreement, without the prior written consent of the Company, so long as any 9% Notes remain outstanding under that certain Indenture dated as of March 26, 1997 (as amended, the "Indenture") in respect of the 9% Notes, no holder of Class D Warrants shall be entitled to exercise such Class D Warrants to the extent such exercise could, in the Company's reasonable judgment, either alone or in conjunction with other issuances or holdings of capital stock, other warrants or convertible securities of the Company, result in a Change of Control (as defined in the Indenture).

SECTION 19. Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York, without reference to principles of conflict of laws.

SECTION 20. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the Company, the Warrant Agent and their respective successors and assigns, and the holders from time to time of Warrant Certificates. Nothing in this Agreement is intended nor shall be construed to confer upon any other person any right, remedy or claim, in equity or at law, or to impose upon any other person any duty, liability or obligation.

SECTION 21. Termination. This Agreement shall terminate at the close of business on the Warrant Expiration Date of all the Class D Warrants or such earlier date upon which all Class D Warrants have been exercised or redeemed, except that the Warrant Agent shall account to the Company for cash held by it and Section 15 shall survive such termination.

SECTION 22. Counterparts. This Agreement may be executed in several counterparts, which taken together shall constitute a single document.

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

HYBRIDON, INC.

By: /s/ E. Andrews Grinstead, III

Authorized Officer

CHASEMELLON SHAREHOLDER

SERVICES, L.L.C., as Warrant Agent

By: /s/ Lynore Le Conche

Authorized Officer

EXHIBIT A

[FORM OF FACE OF CLASS D WARRANT CERTIFICATE]

THE TERMS OF THIS WARRANT ARE SUBJECT TO THE TERMS OF A WARRANT AGREEMENT, A COPY OF WHICH IS AVAILABLE FROM HYBRIDON, INC. (THE "COMPANY"). THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS, AND MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED OR OTHERWISE TRANSFERRED IN THE ABSENCE OF A REGISTRATION STATEMENT IN EFFECT WITH RESPECT TO THE SECURITIES UNDER THE SECURITIES ACT OR AN EXEMPTION FROM THE SECURITIES ACT. ANY SUCH TRANSFER MAY ALSO BE SUBJECT TO COMPLIANCE WITH APPLICABLE STATE SECURITIES LAWS AND THE LAWS OF OTHER APPLICABLE JURISDICTIONS.

No. AWD _____ Class D Warrants

VOID AFTER MAY 4, 2003

CLASS D WARRANT CERTIFICATE FOR PURCHASE
OF COMMON STOCK

HYBRIDON, INC.

This certifies that FOR VALUE RECEIVED

_____ or registered assigns (the "Registered Holder") is the owner of the number of Class D Warrants ("Class D Warrants") specified above. Each Class D Warrant represented hereby initially entitles the Registered Holder to purchase, subject to the terms and conditions set forth in this Warrant Certificate and the Warrant Agreement (as hereinafter defined), one fully paid and nonassessable share of Common Stock, par value \$.001 per share ("Common Stock"), of Hybridon, Inc., a Delaware corporation (the "Company"), at any time between May 5, 1999, and the Expiration Date (as hereinafter defined), upon the presentation and surrender of this Warrant Certificate with the Subscription Form on the reverse hereof duly executed, at the corporate office of ChaseMellon Shareholder Services, L.L.C., as Warrant Agent, or its successor (the "Warrant Agent"), accompanied by payment of the Purchase Price (as defined in the Warrant Agreement) in lawful money of the United States of America in cash or by official bank or certified check made payable to the Company.

This Warrant Certificate and each Class D Warrant represented hereby are issued pursuant to, and are subject in all respects to, the terms and conditions set forth in the Warrant Agreement (the "Warrant Agreement"), dated May 5, 1998, by and among the Company and the Warrant Agent.

In the event of certain contingencies provided for in the Warrant Agreement, the Purchase Price and/or the number of shares of Common Stock subject to purchase upon the exercise of each Class D Warrant represented hereby are subject to modification or adjustment. Furthermore, this Warrant may not be exercised in certain circumstances described in Section 18 of the Warrant Agreement.

Each Class D Warrant represented hereby is exercisable at the option of the Registered Holder, but no fractional shares of Common Stock will be issued. In the case of the exercise of fewer than every Class D Warrant represented hereby, the Company shall cancel this Warrant Certificate upon the surrender hereof and shall execute and deliver a new Warrant Certificate or Warrant Certificates of like tenor, which the Warrant Agent shall countersign, for the balance of such Class D Warrants.

The term "Expiration Date" shall mean 5:00 P.M. (New York time) on May 4, 2003, or such earlier date as the Class D Warrants shall be redeemed. If such date shall in the State of New York be a holiday or a day on which banks are authorized to close, then the Expiration Date shall mean 5:00 P.M. (New York time) the next following day which in the State of New York is not a holiday or a day on which banks are authorized to close. Upon notice to all Registered Holders of the Class D Warrants, the Company shall have the right to extend the Expiration Date.

The Class D Warrants represented hereby shall not be exercisable in any state where such exercise would be unlawful.

This Warrant Certificate is exchangeable, upon the surrender hereof by the Registered Holder at the corporate office of the Warrant Agent, for a new Warrant Certificate or Warrant Certificates of like tenor representing an equal aggregate number of Class D Warrants, each of such new Warrant Certificates to represent such number of Class D Warrants as shall be designated by such Registered Holder at the time of such surrender. Upon due presentment with any applicable transfer fee per certificate in addition to any tax or other governmental charge imposed in connection therewith, for registration of transfer of this Warrant Certificate at such office, a new Warrant Certificate or Warrant Certificates representing an equal aggregate number of Class D Warrants will be issued to the transferee in exchange therefor, subject to the limitations provided in the Warrant Agreement.

The Registered Holder shall not be entitled to any rights of a stockholder of the Company in respect of any unexercised Class D Warrants held by such Registered Holder, including, without limitation, the right to vote or to receive dividends or other distributions, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided in the Warrant Agreement.

Prior to due presentment for registration of transfer hereof, the Company and the Warrant Agent may deem and treat the Registered Holder as the absolute owner hereof and of each Class D Warrant represented hereby (notwithstanding any notations of ownership or writing hereon made by anyone other than a duly authorized officer of the Company or the Warrant Agent) for all purposes and shall not be affected by any notice to the contrary.

This Warrant Certificate shall be governed by and construed in accordance with the laws of the State of New York.

This Warrant Certificate is not valid unless countersigned by the Warrant Agent.

IN WITNESS WHEREOF, the Company has caused this Warrant Certificate to be duly executed, manually or in facsimile, by two of its officers thereunto duly authorized and a facsimile of its corporate seal to be imprinted hereon.

HYBRIDON, INC.

Dated:

By: _____

By: _____

[seal]

Countersigned:

CHASEMELLON SHAREHOLDER SERVICES, L.L.C.,
as Warrant Agent

By: _____
Authorized Officer

[FORM OF REVERSE OF WARRANT CERTIFICATE]

TRANSFER FEE: \$ _____ PER CERTIFICATE ISSUED

SUBSCRIPTION FORM

To Be Executed by the Registered Holder
in Order to Exercise Class D Warrants

The undersigned Registered Holder hereby irrevocably elects to exercise _____ Class D Warrants represented by this Warrant Certificate, and to purchase the securities issuable upon the exercise of such Class D Warrants, and requests that certificates for such securities shall be issued in the name of

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER

[please print or type name and address]

and be delivered to

[please print or type name and address]

and if such number of Class D Warrants shall not be all the Class D Warrants evidenced by this Warrant Certificate, that a new Warrant Certificate for the balance of such Class D Warrants be registered in the name of, and delivered to, the Registered Holder at the address stated below.

The undersigned represents that the exercise of the within Class D Warrant was solicited by a member of the National Association of Securities Dealers, Inc. If not solicited by an NASD member, please write "unsolicited" in the space below.

(Name of NASD Member)

Dated: _____ X _____

Address

Taxpayer Identification Number

Signature Guaranteed

ASSIGNMENT

To Be Executed by the Registered Holder
in Order to Assign Class D Warrants

FOR VALUE RECEIVED, _____ hereby
sells, assigns and transfers unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER

[please print or type name and address]

_____ of the Class D Warrants represented by this
Warrant Certificate, and hereby irrevocably constitutes and appoints

Attorney to transfer this Warrant Certificate on the books of the Company, with
full power of substitution in the premises.

Dated: _____ X _____
Signature Guaranteed

THE SIGNATURE TO THE ASSIGNMENT OR THE SUBSCRIPTION FORM MUST CORRESPOND TO THE
NAME AS WRITTEN UPON THE FACE OF THIS WARRANT CERTIFICATE IN EVERY PARTICULAR,
WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER, AND MUST BE
GUARANTEED BY A MEMBER OF THE MEDALLION STAMP PROGRAM.

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5

HYBRIDON, INC. AND SUBSIDIARIES
(A DEVELOPMENT STAGE COMPANY)

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