U.S. SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-QSB
(Mark One)

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

For the quarterly period ended September 30, 2000

[ ] Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the transition period from _____ to _____.

Commission file number 0-27282

ATLANTIC TECHNOLOGY VENTURES, INC.

(Exact name of small business issuer as specified in its charter)

Delaware	36-3898269
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

150 Broadway, Suite 1110, New York, New York 10038
(Address of principal executive offices)

(212) 267-2503
(Issuer's telephone number)

150 Broadway, Suite 1009, New York, New York 10038
(Former name, former address and former fiscal year, if changed since last report)

Check whether the issuer: (1) filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the past 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 _____

Number of shares of common stock outstanding as of September 30, 2000:

Transitional Small Business Disclosure Format (check one): Yes ____ No X

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PART I -- OTHER INFORMATION

Item 1. Financial Statements

ATLANTIC TECHNOLOGY VENTURES, INC. AND SUBSIDIARIES
(A Development Stage Company)
Consolidated Balance Sheets
(Unaudited)

Assets	September 30, 2000	December 31, 1999
Current assets:		
Cash and cash equivalents	$ 1,700,300	3,473,321
Accounts receivable	1,037,511	337,323
Prepaid expenses	37,599	17,414
Total current assets	2,775,410	3,828,058
Property and equipment, net	218,172	131,832
Investment in affiliate	91,003	--
Other assets	2,901	--
Total assets	$ 3,087,486	3,959,890
Liabilities and Stockholders' Equity		
Current liabilities - accounts payable and accrued expenses	$ 1,061,784	542,759
Stockholders' equity:		
Preferred stock, $.001 par value. Authorized 10,000,000 shares; 1,375,000 shares designated as Series A convertible preferred stock	--	--
Series A convertible preferred stock, $.001 par value. Authorized 1,375,000 shares; 368,958 and 610,088 shares issued and outstanding at September 30, 2000 and December 31, 1999, respectively (liquidation preference aggregating $4,796,454 and $7,931,144 at September 30, 2000 and December 31, 1999, respectively)	369	610
Series B convertible preferred stock, $.001 par value. Authorized 1,647,312 shares; 344,828 shares outstanding at September 30, 2000 (liquidation preference aggregating $1,000,000 at September 30, 2000)	345	--
Convertible preferred stock warrants, 112,896 and 117,195 issued and outstanding at September 30, 2000 and December 31, 1999, respectively	520,263	540,074
Common stock, $.001 par value. Authorized 50,000,000 shares; 6,091,899 and 4,815,990 shares issued and outstanding at September 30, 2000 and December 31, 1999, respectively	6,092	4,816
Common stock subscribed. 182 shares at September 30, 2000 and December 31, 1999	--	--
Additional paid-in capital	25,727,300	21,662,272
Deficit accumulated during development stage	(24,228,125)	(18,790,099)
	2,026,244	3,417,673
Less common stock subscriptions receivable	(218)	(218)
Less treasury stock, at cost	(324)	(324)
Total stockholders' equity	2,025,702	3,417,131
Total liabilities and stockholders' equity	$ 3,087,486	3,959,890

See accompanying notes to consolidated financial statements.

ATLANTIC TECHNOLOGY VENTURES, INC. AND SUBSIDIARIES
(A Development Stage Company)

Consolidated Statements of Operations
(Unaudited)

	Three months ended September 30,		Nine months ended September 30,		Cumulative period from July 13, 1993 (inception) to September 30,
	2000	1999	2000	1999	2000
Revenues:					
Development revenue	$ 1,072,716	$ 247,163	$ 3,419,831	$ 247,163	$ 4,502,341
License revenue	--	--	--	--	2,500,000
Grant revenue	--	29,787	13,009	29,787	190,010
Total revenues	1,072,716	276,950	3,432,840	276,950	7,192,351
Costs and expenses:					
Cost of development revenue	858,173	197,730	2,735,865	197,730	3,601,873
Research and development	360,454	179,594	682,807	1,105,072	9,057,372
Acquired in-process research and development	263,359	--	2,653,382	--	2,653,382
General and administrative	554,181	354,099	2,840,464	1,062,887	16,508,892
License fees	--	--	--	--	173,500
Total operating expenses	2,036,167	731,423	8,912,518	2,365,689	31,995,019
Operating loss	(963,451)	(454,473)	(5,479,678)	(2,088,739)	(24,802,668)
Other (income) expense:					
Interest and other income	(22,940)	(120,066)	(97,267)	(242,589)	(1,255,733)
Interest expense	--	--	--	--	625,575
Equity in (earnings)/loss of affiliate	31,915	--	55,615	--	55,615
Total other (income) expense	8,975	(120,066)	(41,652)	(242,589)	(574,543)
Net loss	$ (972,426)	$ (334,407)	$(5,438,026)	$ (1,846,150)	$ (24,228,125)
Imputed convertible preferred stock dividend	--	--	--	--	5,331,555
Preferred stock dividend issued in preferred shares	152,195	--	811,514	--	1,125,880
Net loss applicable to common shares	$ (1,124,621)	(334,407)	(6,249,540)	(1,846,150)	(30,685,560)
Per share -basic and diluted: Net loss applicable to common shares	$ (0.19)	(0.07)	(1.14)	(0.45)	
Weighted average shares of common stock outstanding	6,033,257	4,767,138	5,504,144	4,138,836	

See accompanying notes to consolidated financial statements.

ATLANTIC TECHNOLOGY VENTURES, INC. AND SUBSIDIARIES
(A Development Stage Company)
Consolidated Statements of Cash Flows
(Unaudited)

	Nine months ended September 30,		Cumulative period from July 13, 1993 (inception) to September 30,
	2000	1999	2000
Cash flows from operating activities:			
Net loss	$ (5,438,026)	(1,846,150)	(24,228,125)
Adjustments to reconcile net loss to net cash used in operating activities:			
Acquired in-process research and development	1,800,000	--	1,800,000
Expense relating to issuance of warrants	--	--	298,202
Expense relating to the issuance of options	--	--	81,952
Expense related to Channel merger	--	--	657,900
Change in equity of affiliate	55,615	--	55,615
Compensation expense relating to stock options and warrants	1,073,511	--	1,282,293
Discount on notes payable - bridge financing	--	--	300,000
Depreciation	51,529	90,825	481,939
Loss on disposal of furniture and equipment	--	--	73,387
Changes in assets and liabilities:			
(Increase) decrease in accounts receivable	(700,188)	104,195	(1,037,511)
(Increase) decrease in prepaid expenses	(20,185)	25,724	(37,599)
Increase (decrease) in accrued expenses	519,025	(466,174)	1,061,784
Increase (decrease) in accrued interest	--	--	172,305
(Increase) decrease in other assets	(2,901)	--	(2,901)
Net cash used in operating activities	(2,661,620)	(2,091,580)	(19,040,759)
Cash flows from investing activities:			
Purchase of furniture and equipment	(137,869)	(49,295)	(779,599)
Acquisition of investment	(146,618)	--	(146,618)
Proceeds from sale of furniture and equipment	--	--	6,100
Net cash used in investing activities	(284,487)	(49,295)	(920,117)
Cash flows from financing activities:			
Proceeds from exercise of warrants	--	--	5,500
Proceeds from exercise of stock options	344,597	8	397,097
Proceeds from issuance of demand notes payable	--	--	2,395,000
Repayment of demand notes payable	--	--	(125,000)
Proceeds from the issuance of notes payable - bridge financing	--	--	1,200,000
Proceeds from issuance of warrants	--	--	300,000
Repayment of notes payable - bridge financing	--	--	(1,500,000)
Repurchase of common stock	--	--	(324)
Preferred stock dividend paid	--	(318)	(318)
Proceeds from the issuance of common stock	--	--	7,547,548
Proceeds from issuance of convertible preferred stock	828,489	--	11,441,673
Net cash provided by (used in) financing activities	1,173,086	(310)	21,661,176
Net decrease in cash and cash equivalents	(1,773,021)	(2,141,185)	(1,700,300)
Cash and cash equivalents at beginning of period	3,473,321	5,835,669	--
Cash and cash equivalents at end of period	$ 1,700,300	3,694,484	(1,700,300)
Supplemental disclosure of noncash financing activities:			
Issuance of common stock in exchange for common stock subscriptions	$ --	--	7,027
Conversion of demand notes payable and the related accrued interest to common stock	--	--	2,442,304
Cashless exercise of preferred warrants	19,811	--	49,880
Conversion of preferred to common stock	289	--	--
Preferred stock dividend issued in shares	811,514	--	1,125,880

See accompanying notes to consolidated financial statements.

ATLANTIC TECHNOLOGY VENTURES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)
September 30, 2000

(1) BASIS OF PRESENTATION

The accompanying consolidated financial statements have been prepared in accordance with Generally Accepted Accounting Principles for interim financial information. Accordingly, the statements do not include all information and footnotes required by Generally Accepted Accounting Principles for complete financial statements. In the opinion of management, the accompanying financial statements reflect all adjustments, consisting of only normal recurring adjustments, considered necessary for fair presentation. Interim operating results are not necessarily indicative of results that may be expected for the year ending December 31, 2000 or for any subsequent period. These financial statements should be read in conjunction with Atlantic Technology Ventures, Inc., and Subsidiaries' ("Atlantic") Annual Report on Form 10-KSB as of and for the year ended December 31, 1999.

(2) LIQUIDITY

Atlantic anticipates that their current resources, together with proceeds from an agreement between Atlantic and Bausch & Lomb Surgical, will be sufficient to finance their currently anticipated needs for operating and capital expenditures for at least the next nine months. In addition, Atlantic will attempt to generate additional capital through a combination of collaborative agreements, strategic alliances, and equity and debt financing. However, Atlantic can give no assurance that it will be able to obtain additional capital through these sources or upon terms acceptable to them.

(3) COMPUTATION OF NET LOSS PER COMMON SHARE

Basic net loss per common share is calculated by dividing net loss applicable to common shares by the weighted average number of common shares outstanding for the period. Diluted net loss per common share is the same as basic net loss per common share, as common equivalent shares from stock options, stock warrants, stock subscriptions and convertible preferred stock would have an antidilutive effect because Atlantic incurred a net loss during each period presented.

(4) RECENTLY ISSUED ACCOUNTING STANDARDS

In December 1999, the staff of the Securities and Exchange Commission issued Staff Accounting Bulletin ("SAB") No. 101, Revenue Recognition in Financial Statements. SAB No. 101 summarizes certain of the staff's views in applying generally accepted accounting principles to revenue recognition in financial statements, including the recognition of non-refundable fees received upon entering into arrangements. SAB No. 101, as amended, must be adopted no later than the fourth quarter of fiscal years beginning after December 15, 1999 with an effective date of January 1, 2000 and the recognition of a cumulative effect adjustment calculated as of January 1, 2000. Atlantic is in the process of evaluating this SAB and the effect it will have on its consolidated financial statements and current revenue recognition policy.

(5) EMPLOYMENT AGREEMENTS

Atlantic entered into employment agreements with four executives during April and May, 2000. These agreements provide for the payment of signing and year end bonuses in 2000 totaling $225,000, and annual base salaries aggregating $550,000. Each agreement has an initial term of three years and can be terminated by Atlantic, subject to certain provisions, with the payment of severance amounts that range from three to six months.

(6) PREFERRED STOCK DIVIDEND

On February 15, 2000 and August 7, 2000, Atlantic's board of directors declared a payment-in-kind dividend of 0.065 of a share of Series A convertible preferred stock ("Series A Preferred") for each share of Series A Preferred held as of the record date of February 2, 2000 and August 7, 2000, respectively. The estimated fair value

of these dividends in the aggregate of $152,195 and $811,514 were included in Atlantic's calculation of net loss per common share for the three and nine months ended September 30, 2000, respectively.

During the nine months ended September 30, 2000, 4,299 Series A convertible preferred stock warrants were exercised in cashless transactions for 9,453 shares of Atlantic's common stock.

(7) ISSUANCE OF STOCK WARRANTS

As more fully described in Note 8 to Atlantic's Annual Report on Form 10-KSB as of and for the year ended December 31, 1999, on January 4, 2000, Atlantic entered into a Financial Advisory and Consulting Agreement with Joseph Stevens & Company, Inc. pursuant to which Atlantic issued to Joseph Stevens & Company, Inc. three warrants to purchase an aggregate of 450,000 shares of its common stock. In accordance with EITF Issue No. 96-18, Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services and other relative accounting literature, Atlantic is required to measure the expense associated with these warrants at each reporting date and recognize the appropriate portion of the expense at the end of each reporting period until the final measurement date is reached (December 4, 2000 in this transaction). As a result, Atlantic recorded a general and administrative expense of $11,857 and $1,073,511 for the three and nine month periods ended September 30, 2000, respectively.

(8) INVESTMENT IN PREFERRED STOCK

On May 12, 2000, Atlantic acquired shares of preferred stock representing a 35% ownership interest in TeraComm Research, Inc., a privately-held company that is developing next-generation high-speed fiberoptic communications technologies. The purchase price for this ownership interest was $5,000,000 in cash, 200,000 shares of Atlantic's common stock, and a warrant to purchase a further 200,000 shares of Atlantic's common stock. The warrants have a term of three years and are exercisable at $8.975 per share of common stock, but only if the market price of Atlantic common stock is $30 or more. Of the $5,000,000 cash portion of the purchase price, Atlantic has paid $1,000,000.

On July 18, 2000, Atlantic and TeraComm amended the purchase agreement. In the amendment, the parties agreed that the $4,000,000 balance of the $5,000,000 cash component of the purchase price, including the $1,000,000 payments due on August 12, 2000 and November 12, 2000, would not be due until TeraComm achieves a specified milestone. Within ten days after TeraComm achieves that milestone, Atlantic must pay TeraComm $1,000,000 and must thereafter make to TeraComm three payments of $1,000,000 at three-month intervals. If Atlantic fails to make any of these payments, TeraComm's only recourse remains reducing proportionately Atlantic's ownership interest. Atlantic's failure to make the first $1,000,000 payment by midnight at the end of December 30, 2000 (whether or not TeraComm has reached the milestone) will at the option of TeraComm be deemed to constitute failure by Atlantic to timely make that payment.

On November 10, 2000, TeraComm informed Atlantic that it does not expect to achieve by midnight at the end of December 30, 2000, the milestone specified in the amendment to the purchase agreement. If TeraComm does not achieve the milestone, and Atlantic does not make by midnight at the end of December 30, 2000, a $1,000,000 payment towards the balance of the cash portion of the purchase price, Atlantic will be deemed to have surrendered to TeraComm a proportion of Atlantic's TeraComm shares equal to the proportion of the dollar value of the purchase price for Atlantic's TeraComm shares ($6,795,000) that is represented by the unpaid $4,000,000 of the cash portion of the purchase price. This would have the effect of reducing to 14.4% Atlantic's ownership interest in TeraComm. Atlantic expects that if TeraComm does not achieve the milestone, Atlantic will not make any further payments towards the cash portion of the purchase price.

Of the $1,000,000 cash and common stock and common stock warrants valued at $1,800,000 currently invested in TeraComm, Atlantic has expensed approximately $2,650,000 as acquired in-process research and development as TeraComm's product development activity is in the very early stages. The majority of future investments, if any, will likely represent additional acquired in-process research and development.

(9) PRIVATE PLACEMENT OF SERIES B PREFERRED SHARES

On September 28, 2000, Atlantic entered into a convertible preferred stock and warrants purchase agreement (the "Purchase Agreement") with BH Capital Investments, L.P. and Excalibur Limited Partnership (together, the "Investors") pursuant to which Atlantic agreed to sell, and the Investors agreed to purchase for up to $3,000,000, shares of Atlantic's Series B preferred stock and warrants to purchase 201,000 shares of Atlantic's common stock (those warrants, "Investor Warrants"). At the first closing, which occurred on September 28, 2000, for a $2,000,000 purchase price Atlantic issued to the Investors and to the Escrow Agent 689,656 shares of Series B preferred stock and Investor Warrants to purchase 134,000 shares of common stock. Of these, half the shares of Series B preferred stock and Investor Warrants exercisable for half the shares of common stock are being held in escrow, pending approval by Atlantic's stockholders of the proposals to be voted on at a special meeting to be held on December 20, 2000, and have therefore not been recorded or included as outstanding in the accompanying financial statements. These proposals include the ratification and approval of the Series B preferred stock financing with the Investors and the potential issuance in connection therewith of 20% or more of our outstanding common stock or voting power before issuance of the Series B preferred stock, and approval of the amendment of the certificate of designations, preferences and rights of Series A convertible preferred stock to subordinate the rights of the Series A preferred stock to the rights of the Series B preferred stock with respect to dividend rights and rights upon liquidation, winding up, or dissolution. If the stockholders fail to approve either proposal, the Investors will be entitled to have returned to them the $1,000,000 held in escrow from the first closing, and, as stated in the Purchase Agreement, certain penalties will be imposed. As of September 30, 2000, net proceeds of approximately $830,000 were received by Atlantic. At the second closing, if any, Atlantic will, for a $1,000,000 purchase price, issue to the Investors further shares of Series B preferred stock (the number of shares being a function of the market price) and Investor Warrants to purchase a further 67,000 shares of common stock. The Investors' obligation in connection with the second closing is subject to certain conditions.

The exercise price of the Investor Warrants is equal to 110% of the lower of (1) the market price on the issue date and (2) the market price 180 days after the applicable closing date. Each Investor Warrant may be exercised any time during the five years from the date of granting. The Investor Warrants may not be exercised if doing so would result in Atlantic's issuing a number of shares of common stock in excess of the limit imposed by the rules of the Nasdaq SmallCap Market.

Holders of shares of Atlantic's outstanding Series B convertible preferred stock can convert each share into shares of common stock without paying us any cash. The conversion rate is equal to $2.90 divided by the conversion price. The conversion price per share of Series B preferred stock on any given day is the lower of (1) $3.00, (2) the average closing bid price of our common stock during the five trading days ending the immediately preceding trading day, or (3) the average of the two lowest closing bid prices on the principal market of the common stock out of 15 trading days immediately prior to conversion. The conversion price may be adjusted in favor of holders of shares of Series B stock upon certain triggering events.

In addition, each March 31, June 30, September 30, and December 31, Atlantic is obligated to pay dividends, in arrears, to holders of shares of Series B preferred stock, and the dividends consist of 8% annually of the original purchase price paid for the Series B preferred stock. These dividends must be paid either in cash or in shares of Series B preferred stock. If these dividends are paid in shares of Series B preferred stock, those shares will be valued at 85% of the two lowest consecutive closing bid prices of our common stock during the 20 trading days prior to the applicable dividend date. Atlantic must also pay to holders of Series B preferred stock, on an as-converted basis, any dividends (other than dividends payable in shares of our capital stock) that Atlantic proposes to distribute to the holders of Series A preferred stock, common stock, or other junior securities.

If Atlantic is liquidated, sold to or merged with another entity (and Atlantic is not the surviving entity after the merger), Atlantic will be obligated to pay holders of shares of Series B preferred stock a liquidation preference equal to the original purchase price paid per share of Series B preferred stock for each share of Series B preferred stock held, before any payment is made to holders of shares of the Series A preferred stock or common stock. In addition, Series B preferred stock issued to the Investors is subject to redemption under certain circumstances.

(10) COST OF DEVELOPMENT REVENUE

In accordance with a license and development agreement, as amended, Bausch & Lomb Surgical reimburses Atlantic's subsidiary, Optex Ophthalmologics, Inc. ("Optex"), for costs Optex incurs in developing its Catarex(TM) technology, plus a profit component. For the three and nine months ended September 30, 2000, this agreement provided $1,072,716 and $3,419,831 of development revenue, and related cost of development revenue of $858,173 and $2,735,865, respectively. For the three and nine months ended September 30, 1999, this agreement provided $247,163 of development revenue, and related cost of development revenue of $197,730.

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

You should read the following discussion of our results of operations and financial condition in conjunction with our Annual Report on Form 10-KSB for the year ended December 31, 1999.

RESULTS OF OPERATIONS

THREE MONTH PERIOD ENDED SEPTEMBER 30, 2000 VS. 1999

In accordance with a license and development agreement, as amended, Bausch & Lomb Surgical reimburses our subsidiary, Optex Ophthalmologics, Inc. ("Optex"), for costs Optex incurs in developing its Catarex(TM) technology, plus a profit component. In the third quarter of 2000, this agreement provided $1,072,716 of development revenue, and the related cost of development revenue was $858,173. For the quarter ended September 30, 1999, this agreement provided $247,163 of development revenue, and the related cost of development revenue was $197,730.

For the quarter ended September 30, 2000, research and development expense was $360,454 as compared to $179,594 in the third quarter of 1999. This increase is due to increased expenditures on certain development projects including CT-3.

As of September 30, 2000, we have made an investment in TeraComm Research, Inc., a privately held company that is developing next-generation high speed fiberoptic communications technologies, of $1,000,000 cash and common stock and common stock warrants valued at $1,800,000. For the quarter ended September 30, 2000, we have expensed approximately $263,359 ($2,650,000 has been expensed through September 30, 2000) of this payment as acquired in-process research and development as TeraComm's product development activity is in the very early stages.

For the quarter ended September 30, 2000, general and administrative expense was $554,181 as compared to $354,099 in the third quarter of 1999. This increase is largely due to an increase in payroll costs over last year of approximately $106,000, an increase in fees for professional services of approximately $69,000 attributable to fund raising diligence, and the $11,857 of expense associated with warrants issued to Joseph Stevens & Company.

For the third quarter of 2000, interest and other income was $22,940 compared to $120,066 in the third quarter of 1999, a decrease of 55%. This decrease is primarily due to the decline in our cash reserves which resulted in decreased interest income.

NINE MONTH PERIOD ENDED SEPTEMBER 30, 2000 VS. 1999

In accordance with a license and development agreement, as amended, Bausch & Lomb Surgical reimburses our subsidiary, Optex, for costs Optex incurs in developing its Catarex(TM) technology, plus a profit component. In the nine month period ended September 30, 2000, this agreement provided $3,419,831 of development revenue, and the related cost of development revenue was $2,735,865. For the nine month period ended September 30, 1999, this agreement provided $247,163 of development revenue, and the related cost of development revenue was $197,730.

For the nine month period ended September 30, 2000, research and development expense was $682,807 as compared to $1,105,072 net of Bausch & Lomb reimbursements of $878,199 in the nine month period ended September 30, 1999. This decrease is due to reduced expenditures for the overall nine month period on certain development projects.

As of September 30, 2000, we have made an investment in TeraComm Research, Inc. of $1,000,000 cash and common stock and common stock warrants valued at $1,800,000. For the nine month period ended September 30, 2000, we have expensed approximately $2,650,000 of this payment as acquired in-process research and development as TeraComm's product development activity is in the very early stages.

For the nine month period ended September 30, 2000, general and administrative expense was $2,840,464 as compared to $1,062,887 net of Bausch & Lomb reimbursements of $43,720 in the nine month period ended September 30, 1999. This increase is largely due to the $1,073,511 of expense associated with warrants issued to Joseph Stevens & Company, costs of approximately $159,000 incurred in hiring and relocating executives, an increase in payroll costs over last year of approximately $71,000 and an increase in fees for professional services of approximately $387,000 attributable to fundraising, due diligence and closing of the TeraComm investment.

For the nine month period ended September 30, 2000, interest and other income was $97,267 compared to $242,589 in the nine month period ended September 30, 1999. This decrease is primarily due to the decline in our cash reserves which resulted in decreased interest income.

LIQUIDITY AND CAPITAL RESOURCES

From inception to September 30, 2000, we incurred an accumulated deficit of $24,228,125, and we expect to continue to incur additional losses through the year ending December 31, 2000 and for the foreseeable future.

Our available working capital and capital requirements will depend upon numerous factors, including progress of our research and development programs; our progress in and the cost of ongoing and planned preclinical and clinical testing; the timing and cost of obtaining regulatory approvals; the cost of filing, prosecuting, defending, and enforcing patent claims and other intellectual property rights; competing technological and market developments; changes in our existing collaborative and licensing relationships; the resources that we devote to developing manufacturing and commercializing capabilities; technological advances; status of competitors; our ability to establish collaborative arrangements with other organizations; and our need to purchase additional capital equipment.

We anticipate that our current resources, together with proceeds from the Bausch & Lomb agreement, will be sufficient to finance our currently anticipated needs for operating and capital expenditures for at least the next nine months. In addition, we will attempt to generate additional capital through a combination of collaborative agreements, strategic alliances and equity and debt financing. However, we can give no assurance that we will be able to obtain additional capital through these sources or upon terms acceptable to us. At September 30, 2000, we had $1,700,300 in cash and cash equivalents and working capital of $1,713,626.

On September 28, 2000, Atlantic entered into a convertible preferred stock and warrants purchase agreement (the "Purchase Agreement") with BH Capital Investments, L.P. and Excalibur Limited Partnership (together, the "Investors") pursuant to which Atlantic agreed to sell, and the Investors agreed to purchase for up to $3,000,000, shares of Atlantic's Series B preferred stock and warrants to purchase 201,000 shares of Atlantic's common stock (those warrants, "Investor Warrants"). At the first closing, which occurred on September 28, 2000, for a $2,000,000 purchase price Atlantic issued to the Investors and to the Escrow Agent 689,656 shares of Series B preferred stock and Investor Warrants to purchase 134,000 shares of common stock. Of these, half the shares of Series B preferred stock and Investor Warrants exercisable for half the shares of common stock are being held in escrow, pending approval by Atlantic's stockholders of the proposals to be voted on at a special meeting to be held on December 20, 2000, and have therefore not been recorded or included as outstanding in the accompanying financial statements. As of September 30, 2000, net proceeds of approximately $830,000 were received by Atlantic. At the second closing, if any, Atlantic will, for a $1,000,000 purchase price, issue to the Investors further shares of Series B preferred stock (the number of shares being a function of the market price) and Investor Warrants to purchase a further 67,000 shares of common stock. The Investors' obligation in connection with the second closing are subject to certain conditions.

On May 12, 2000, we acquired shares of preferred stock representing a 35% ownership interest in TeraComm Research, Inc., a privately-held company that is developing next-generation high-speed fiberoptic communications technologies. The purchase price for this ownership interest was $5,000,000 in cash, 200,000 shares of our common stock, and a warrant to purchase a further 200,000 shares of our common stock. The warrants have a term of three years and are exercisable at $8.975 per share of common stock, but only if the market price of our common stock is $30 or more. Of the $5,000,000 cash portion of the purchase price, we have paid $1,000,000.

On July 18, 2000, Atlantic and TeraComm amended the purchase agreement. In the amendment, the parties agreed that the $4,000,000 balance of the $5,000,000 cash component of the purchase price, including the

$1,000,000 payments due on August 12, 2000 and November 12, 2000, would not be due until TeraComm achieves a specified milestone. Within ten days after TeraComm achieves that milestone, we must pay TeraComm $1,000,000 and must thereafter make to TeraComm three payments of $1,000,000 at three-month intervals. If we fail to make any of these payments, TeraComm's only recourse remains reducing proportionately our ownership interest. Our failure to make the first $1,000,000 payment by midnight at the end of December 30, 2000 (whether or not TeraComm has reached the milestone) will at the option of TeraComm be deemed to constitute failure by us to timely make that payment.

On November 10, 2000, TeraComm informed us that it does not expect to achieve by midnight at the end of December 30, 2000, the milestone specified in the amendment to the purchase agreement. If TeraComm does not achieve the milestone, and we do not make by midnight at the end of December 30, 2000, a $1,000,000 payment towards the balance of the cash portion of the purchase price, we will be deemed to have surrendered to TeraComm a proportion of our TeraComm shares equal to the proportion of the dollar value of the purchase price for our TeraComm shares ($6,795,000) that is represented by the unpaid $4,000,000 of the cash portion of the purchase price. This would have the effect of reducing to 14.4% our ownership interest in TeraComm. We expect that if TeraComm does not achieve the milestone, we will not make any further payments towards the cash portion of the purchase price.

We do not currently have the full amount of the unpaid portion of the cash purchase price for our TeraComm shares. If circumstances make it desirable for us to pay the unpaid portion of the cash purchase price, we would endeavor to raise the necessary amount through debt or equity financing, or a combination of both. It is, however, possible that we will not be able to raise the required amount.

RECENTLY ISSUED ACCOUNTING STANDARDS

In December 1999, the staff of the Commission issued Staff Accounting Bulletin or SAB No. 101, Revenue Recognition in Financial Statements. SAB No.101 summarizes certain of the staff's views in applying generally accepted accounting principles to revenue recognition in financial statements, including the recognition of non-refundable fees received upon entering into arrangements. This SAB, as amended, must be adopted no later than the fourth quarter of fiscal years beginning after December 15, 1999 with an effective date of January 1, 2000 and the recognition of a cumulative effect adjustment calculated as of January 1, 2000. We are in the process of evaluating this SAB and the effect it will have on our consolidated financial statements and current revenue recognition policy.

RESEARCH AND DEVELOPMENT ACTIVITIES

Preclinical and clinical studies involving our primary technologies are proceeding according to plan.

Optex

Optex's development of the Catarex device is continuing in cooperation with Bausch & Lomb. Bausch & Lomb is preparing to file a 510(k) with the U.S. Food and Drug Administration, or the "FDA," for the Catarex device. In a 510(k) filing, a company requests that the FDA treat a given technology as substantially equivalent to an already approved technology. In preparation for this filing, Bausch & Lomb had a pre-filing meeting with the FDA in October 2000. Based on the results of this meeting Bausch & Lomb is in the process of compiling the required data for the 510(k) and expects to file that application when all the required data are completed.

CT-3

We are continuing to develop CT-3, a patented synthetic derivative of tetrahydrocannabinol (THC), the active ingredient in marijuana, as an alternative to nonsteroidal anti-inflammatory drugs (NSAIDs). In May 2000, the FDA approved an Investigational New Drug application, or "IND," to begin clinical trials for CT-3 in the U.S. In July 2000 we began in Paris, France, the first Phase I clinical study to examine the effects of CT-3 on the central nervous system. CT-3 was designed to maximize the medical properties of marijuana without producing undesirable psychoactive effects. This trial used a sensitive test developed by the National Institute on Drug Abuse to measure marijuana-like effects caused by drugs, and the trial confirmed that CT-3 does not produce any such effects. The study was completed in August, and the final report is expected in December 2000.

Gemini

Our subsidiary Gemini Technologies, Inc. is continuing its research on antisense enhancing technology. On August 14, 2000, Gemini was awarded a Small Business Innovation Research (SBIR) Phase II grant by the National Institute for Allergy and Infectious Diseases (NIAID), a unit of the National Institutes of Health (NIH). The grant, which totals approximately $750,000, will be used to fund a pre-clinical efficacy study using aerosolized 2-5A antisense compound for the inhibition of respiratory syncytial virus (RSV) in monkeys. It also will provide funds for the toxicological and pharmacological studies needed to file an investigational new drug (IND) application with the FDA to begin clinical studies in humans.

This research is intended to build upon research previously published in the Proceedings of the National Academy of Sciences (PNAS) Vol. 95, July 1998, that documented the compound's effectiveness against a broad spectrum of RSV strains. Data collected to date indicate that the molecule to be tested has 130 times greater in vitro potency than Ribavarin (Virazole), one of two FDA-approved treatments for RSV infections (the other treatment is a monoclonal antibody recommended for use in high-risk infants only). This molecule has also been shown to be stable against degradative enzymes, and is capable of being absorbed into lung tissue when administered in a droplet formulation.

The primate study will be conducted at the Tulane Regional Primate Research Center in Covington, Louisiana. Vicki Traina-Dorge, Ph.D., will overview the animal study. Hagen Cramer, Ph.D., of Gemini will design the study and develop the aerosolization method. He will also act as Principle Investigator of the grant. All of the analyses will be conducted at the Gemini research facility in Cleveland, Ohio. Other team members of Gemini include Jim Okicki, chemical research associate, Frank Longano, biology research associate, Lateef Saffore, biology research associate, Robert Silverman, Ph.D., consultant, and Doug Leaman, Ph.D., consultant.

By focusing the 2-5A antisense program on primate-oriented RSV, we will be able to more effectively pursue corporate partnerships to develop an RSV therapeutic treatment as a lead product candidate for our 2-5A antisense technology. After we enter into such a partnership, we plan to expand our research and development of 2-5A antisense technology into additional areas of potential clinical use. These additional areas include other infectious diseases (herpes, human immunodeficiency virus), certain cancers (chronic myelogenous leukemia, glioblastoma), conditions modulated by 5-alpha reductase and dihydrotestosterone receptors (acne and androgenic alopecia), and aspects of the interferon pathway that are mediated by PKR (a protein kinase enzyme), all of which have shown promising in vitro studies to date.

TeraComm

On May 12, 2000, we acquired a 35% ownership interest in TeraComm Research, Inc. (See "Management's Discussion and Analysis of Financial Condition and Results of Operations--Liquidity and Capital Resources.") TeraComm is developing a fiberoptic transmitter that uses a high-temperature superconductor (HTS) material to switch a laser beam on and off with a high-speed electronic digital signal. HTS materials have zero electrical resistance at low temperatures (< 70 K), and also can have very high optical reflectance in their superconducting state while they can transmit light in their normal (non-superconducting) state. TeraComm discovered that a small electric current in an HTS material could switch the material between states, and do so very quickly--in less than a millionth millionth of a second. Because the HTS optical switch works best at far infrared wavelengths and these optical waves are too large to send through an optical fiber, the TeraComm invention employs an optical wavelength converter to change the waves to the band that is just right for the fiber.

Thus far, TeraComm has successfully developed methods of producing effective HTS thin-films with metal electrodes, has successfully demonstrated control of optical transmission in HTS films using electric current, and has been awarded patents covering implementation of this technology for fiberoptic telecommunications. To date, we have provided TeraComm with approximately $1,000,000 of development funds. Our investment is enabling TeraComm to continue its development program.

On May 23, 2000, we announced that we had appointed Walter L. Glomb, Jr., as Vice President. Mr. Glomb is responsible for supporting our investment in TeraComm and identifying complimentary electronic infrastructure and communication technologies for us to develop. Mr. Glomb is based in our new office in Vernon, Connecticut, in the center of the major cluster of photonics companies that stretches from Boston to New Jersey.

Atlantic's new strategy focuses on our developing strategic partnerships with early-stage companies, and we feel that this region promises to be a rich source of such partnerships.

On November 10, 2000, TeraComm informed us that it does not expect to achieve by midnight at the end of December 30, 2000, the milestone specified in the amendment to the purchase agreement. We expect that if TeraComm does not achieve the milestone, we will not make any further payments towards the cash portion of the purchase price of our shares of TeraComm preferred stock. (See "Management's Discussion and Analysis of Financial Condition and Results of Operations--Liquidity and Capital Resources.")

PART II -- OTHER INFORMATION

Item 1. Legal Matters

Litigation Brought by Christopher R. Richied

On May 13, 1999, Christopher R. Richied filed suit against a group of defendants, including Atlantic, in the U.S. District Court for the Southern District of New York. This lawsuit is described in our Quarterly Reports on Form 10-QSB for the quarterly periods ended June 30, 1999 and September 30, 1999. As we reported in our Quarterly Report on Form 10-QSB for the quarterly period ended June 30, 2000, this case was settled by the parties on August 8, 2000, and the defendants have agreed that Atlantic is not required to contribute to any settlement payment and will not be responsible for any costs incurred in defending this litigation.

Arbitration Brought by the Cleveland Clinic Foundation

Our subsidiary Gemini has an exclusive worldwide sublicense from the Cleveland Clinic Foundation to a U.S. patent and related patent applications, as well as corresponding foreign applications, relating to 2-5A chimeric antisense technology and its use for selective degradation of targeted RNA. On May 8, 2000, the Cleveland Clinic Foundation filed a claim for arbitration before the American Arbitration Association to terminate this sublicense, claiming that we have breached the sublicense by failing to fulfill our obligations under the sublicense.

Item 2. Changes in Securities and Use of Proceeds

(c) Recent sales of unregistered securities; use of proceeds from registered securities

On September 28, 2000, Atlantic entered into a convertible preferred stock and warrants purchase agreement (the "Purchase Agreement") with BH Capital Investments, L.P. and Excalibur Limited Partnership (together, the "Investors") pursuant to which we agreed to sell, and the Investors agreed to purchase for up to $3,000,000, shares of our Series B preferred stock and warrants to purchase 201,000 shares of our common stock (those warrants, "Investor Warrants"). The terms of the Series B preferred stock are described in the certificate of designations, preferences and rights of Series B convertible preferred stock. At the first closing, which occurred on September 28, 2000, for a $2,000,000 purchase price we issued to the Investors and to the Escrow Agent 689,656 shares of Series B preferred stock and Investor Warrants to purchase 134,000 shares of common stock. Of these, half the shares of Series B preferred stock and Investor Warrants exercisable for half the shares of common stock are being held in escrow, pending approval by Atlantic's stockholders of the proposals to be voted on at a special meeting to be held December 20, 2000, and therefore have not been recorded or included as outstanding in the accompanying financial statements. As of September 30, 2000, net proceeds of approximately $830,000 were received by Atlantic. At the second closing, if any, we will, for a $1,000,000 purchase price, issue to the Investors further shares of Series B preferred stock (the number of shares being a function of the market price) and Investor Warrants to purchase a further 67,000 shares of common stock. The Investors' obligations in connection with the second closing are subject to certain conditions described in the Purchase Agreement.

Exemption

The Series B preferred stock and Investor Warrants were issued in reliance upon exemption under Regulation D of the Securities Act.

Conversion of Series B preferred stock

The Series B preferred stock is convertible, at the holder's option, into shares of common stock. The conversion rate for the Series B preferred stock is equal to the price per share paid for the Series B preferred stock divided by the conversion price in effect at the time of conversion. The conversion price is the lower of (x) $3.00, (y) the market price, and (z) the average of the two lowest closing bid prices on the principal market of the common stock out of the 15 trading days immediately prior to conversion, which will be adjusted proportionately for any reorganizations, reclassifications, stock splits, stock dividends, reverse stock splits and similar events.

The conversion price will be reduced by an additional 5% if the common stock is not listed on either the Nasdaq SmallCap Market or Nasdaq National Market on that date, and in no event will the conversion price be lower than the Floor Price, if any. The Floor Price means $1.50 for the conversion of a share of Series B preferred stock effected during the 12 months following the applicable issue date for that share, subject to adjustment as follows:

- If the conversion price is below the Floor Price for 30 calendar days at any time after the issue date for that share, then the Floor Price will thereafter equal $1.00 (but in no event for longer than 12 months following the applicable issue date).

- The conversion price will be reduced by 15% and will not be subject to the Floor Price if any of the following events occurs:

  (a) for any period of five consecutive trading days there is no closing bid price of the common stock;

  (b) the common stock ceases to be listed for trading on any of the NYSE, the AMEX, the Nasdaq National Market or the Nasdaq SmallCap Market; or

  (c) A. Joseph Rudick resigns as Chief Executive Officer or Frederic P. Zotos resigns as President of Atlantic (or the employment of either of them terminations as a result of death or disability).

- The conversion price will not be subject to the Floor Price and will be as otherwise calculated pursuant to the Series B Certificate of Designations if any of the following events occur:

  (a) Bausch & Lomb Surgical ("B&L") fails to file before January 31, 2001, an application with the U.S. Food and Drug Administration (the "FDA") seeking approval to market our Catarex technology;

  (b) the FDA does not grant final approval on or before June 1, 2001 to B&L to market the Catarex technology; or

  (c) we fail to secure by December 27, 2000 the stockholder approvals to be voted on at the special meeting.

Additionally, the Series B Certificate of Designations provides that the Investors may not convert their shares of Series B preferred stock if doing so would result in our issuing a number of shares of common stock in excess of the limit imposed by the rules of the Nasdaq Smallcap Market.

Exercise of Investor Warrants

The Investor Warrants may be exercised for shares of common stock. The exercise price for one share of common stock is equal to 110% of the lower of (1) the market price on the issue date or (2) the market price one hundred eighty days after the applicable closing date. Each Investor Warrant is exercisable five years from the date of granting. The Investor Warrants may not be exercised if doing so would result in our issuing a number of shares of common stock in excess of the limit imposed by the rules of the Nasdaq SmallCap Market.

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

On September 5, 2000, Atlantic filed with the Securities and Exchange Commission a definitive proxy statement seeking stockholder approval of the following two proposals at the annual meeting of stockholders held on September 29, 2000:

1. RESOLVED, that A. Joseph Rudick, Frederic P. Zotos, Steve H. Kanzer and Peter O. Kliem are hereby elected as directors of Atlantic, to serve until their respective successors are duly elected and qualified.

2. RESOLVED, that the board of directors' selection of KPMG LLP to serve as Atlantic's independent auditors for the year ending December 31, 2000, hereby is ratified.

Both proposals were approved by our stockholders. Tabulated below are the number of shares and votes in favor of these proposals, with the total voting power represented by the common stock and the preferred stock as of the record date of August 24, 2000, being 7,274,836:

		Proposal 1	Proposal 2
Consenting shares of common stock	All nominees:	4,024,983	4,023,108
Votes represented by those shares of common stock	All nominees:	4,024,983	4,023,108
Consenting shares of preferred stock	A. Joseph Rudick:	350,983	329,920
	Steve H. Kanzer:	329,920	
	Frederic P. Zotos:	329,920	
	Peter O. Kliem:	350,983	
Votes represented by those shares of preferred stock	A. Joseph Rudick:	1,147,714	1,078,838
	Steve H. Kanzer:	1,078,838	
	Frederic P. Zotos:	1,078,838	
	Peter O. Kliem:	1,147,714	
Aggregate votes represented	A. Joseph Rudick:	5,172,697	5,101,946
	Steve H. Kanzer:	5,103,821	
	Frederic P. Zotos:	5,103,821	
	Peter O. Kliem:	5,172,697	
Aggregate votes represented, expressed as percentage of votes represented by all shares	A. Joseph Rudick:	98.7%	98.2%
	Steve H. Kanzer:	98.2%	
	Frederic P. Zotos:	98.2%	
	Peter O. Kliem:	98.7%	

Item 5. Other Information

On July 18, 2000, Atlantic and TeraComm Research, Inc. amended the Preferred Stock Purchase Agreement dated May 12, 2000, pursuant to which we purchased 1,400 shares of TeraComm preferred stock representing a 35% ownership interest in TeraComm.

In this amendment, the parties agreed that the $4,000,000 balance of the $5,000,000 cash component of the purchase price, including the $1,000,000 payments due on August 12, 2000 and November 12, 2000, would not be due until TeraComm achieves a certain milestone. Within ten days after TeraComm achieves that milestone, we must pay TeraComm $1,000,000 and must thereafter make to TeraComm three payments of $1,000,000 at three-month intervals. If we fail to make any of these payments, TeraComm's only recourse remains reducing proportionately our ownership interest. Our failure to make the first $1,000,000 payment by midnight at the end of December 30, 2000 (whether or not TeraComm has reached the milestone) will at the option of TeraComm be deemed to constitute failure by us to timely make that payment.

This amendment allows Atlantic to limit its financial commitment to TeraComm until such time as TeraComm has been able to demonstrate in practice some of the theoretical potential of its technology.

Item 6. Exhibits and Reports on Form 8-K

(a) Exhibits

Exhibit No.	Description
3.1	Certificate of Designations, Preferences and Rights of Series B Convertible Preferred Stock of Atlantic filed on September 28, 2000 (filed herewith).
3.2	Certificate of Amendment of the Certificate of Designations, Preferences and Rights of Series B Convertible Preferred Stock of Atlantic filed on November 17, 2000 (filed herewith).
10.1	Amendment dated as of July 18, 2000, to the Preferred Stock Purchase Agreement dated May 12, 2000, between Atlantic and TeraComm Research, Inc. (filed herewith).
10.2	Convertible Preferred Stock and Warrants Purchase Agreement dated September 28, 2000, between Atlantic, BH Capital Investments, L.P. and Excalibur Limited Partnership (filed herewith).
10.3	Amendment No. 1, dated October 31, 2000, to Convertible Preferred Stock and Warrants Purchase Agreement dated September 28, 2000, between Atlantic, BH Capital Investments, L.P. and Excalibur Limited Partnership (filed herewith).
10.4	Registration Rights Agreement dated September 28, 2000 between Atlantic, BH Capital Investments, L.P. and Excalibur Limited Partnership (filed herewith).
10.5	Escrow Agreement dated September 28, 2000 between Atlantic, BH Capital Investments, L.P. and Excalibur Limited Partnership (filed herewith).
10.6	Form of Stock Purchase Warrants issued on September 28, 2000 to BH Capital Investments, L.P., exercisable for shares of common stock of Atlantic (filed herewith).
10.7	Form of Stock Purchase Warrants issued on September 28, 2000 to Excalibur Limited Partnership, exercisable for shares of common stock of Atlantic (filed herewith).

(b) Form 8-K

No reports on Form 8-K were filed during the quarter for which this report is filed.

SIGNATURES

In accordance with the requirements of the Exchange Act, Atlantic caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ATLANTIC TECHNOLOGY VENTURES, INC.

Date: November 20, 2000

/s/ Frederic P. Zotos

Frederic P. Zotos
President

Date: November 20, 2000

/s/ Nicholas J. Rossettos

Nicholas J. Rossettos
Chief Financial Officer

Exhibit 3.1

CERTIFICATE OF DESIGNATIONS,

PREFERENCES AND RIGHTS

of

SERIES B CONVERTIBLE PREFERRED STOCK

of

ATLANTIC TECHNOLOGY VENTURES, INC.

I. Creation of Series B Convertible Preferred Stock.

The undersigned officer of Atlantic Technology Ventures, Inc., a Delaware corporation (the "Corporation"), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Designations, Preferences and Rights (the "Series B Certificate of Designations") and does hereby state and certify that pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation, as amended, the Board of Directors duly adopted the following resolutions:

RESOLVED: That, pursuant to the Certificate of Incorporation, as amended, of the Corporation (the "Amended Certificate of Incorporation"), which authorizes 10,000,000 shares of undesignated Preferred Stock, par value $0.001 per share (the "Preferred Stock"), of which 1,375,000 shares are designated Series A Convertible Preferred Stock, par value $0.001 per share (the "Series A Preferred Stock"), the Board of Directors is authorized, within the limitations and restrictions stated in the Amended Certificate of Incorporation, to fix by resolution or resolutions the designation of each series of Preferred Stock and the powers, preferences and relative participating, optional, or other special rights, and qualifications, limitations, and restrictions thereof; and

RESOLVED: That the Corporation hereby fixes the designations and preferences and relative, participating, optional, and other special rights, and qualifications, limitations, and restrictions of the Preferred Stock consisting of Two Million (2,000,000) shares to be designated Series B Convertible Preferred Stock, par value $0.001 per share (the "Series B Preferred Stock"); and

RESOLVED: That the Series B Preferred Stock is hereby authorized on the terms and with the provisions herein set forth.

II. Provisions Relating to the Series B Preferred Stock.

1. Number of Shares. Of the 8,625,000 remaining shares of authorized but undesignated Preferred Stock of the Corporation, Two Million (2,000,000) shares shall be designated and known as shares of Series B Preferred Stock. Any shares of Series B Preferred Stock repurchased by the Corporation shall be cancelled and shall revert to authorized but

unissued shares of Preferred Stock, undesignated as to series, subject to reissuance by the Corporation as shares of Preferred Stock of any one or more series other than Series B Preferred Stock.

2. Rank. Subject to approval of an amendment, to the extent required, of the Certificate of Designations of the Company's Series A Preferred Stock to subordinate the rights, preferences and privileges of the Series A Preferred Stock to the rights, preferences and privileges of the Series B Preferred Stock as set forth herein, the Series B Preferred Stock shall, with respect to dividend rights and with respect to rights upon liquidation, winding up or dissolution, rank senior and prior in right to the Series A Preferred Stock, the Common Stock and any other equity interests (including, without limitation, warrants, stock appreciation rights, phantom stock rights, profit participation rights in debt instruments or other rights with equity features, calls or options exercisable for or convertible into such capital stock or equity interests) in the Corporation that by its terms rank junior to the Series B Preferred Stock (all of such classes or series of capital stock and other equity interests are collectively referred to as "Junior Securities").

3. Dividends. The holders of the Series B Preferred Stock shall be entitled to receive cumulative annual dividends (the "Series B Dividends") at an annual rate per share equal to eight percent (8%) of the original purchase price paid per share for the Series B Preferred Stock (which amount shall be subject to adjustment whenever there shall occur a stock split, combination, reclassification or other similar event involving the Series B Preferred Stock, the "Quarterly Dividend Amount"), payable on each March 31, June 30, September 30 and December 31 (each, a "Quarterly Dividend Date") after the date on which such share of Series B Preferred Stock was issued (the "Original Issue Date" for such share), provided that the amount of dividends on the first Quarterly Dividend Date after the any Original Issue Date shall equal the Quarterly Dividend Amount multiplied by a fraction (A) the numerator of which shall equal the number of days from and including the Original Issue Date for such share to and including such first Quarterly Dividend Date, and (B) the denominator of

which is ninety (90). Dividends with respect to the Series B Preferred Stock must be paid quarterly on each Quarterly Dividend Date. Such accrued dividends shall also become payable upon any conversion or redemption of the shares of Series B Preferred Stock. The Corporation, at its option, must pay each dividend either (A) in cash on each Quarterly Dividend Date (or other payment date), or (B) in shares of Series B Preferred Stock (for which the shares of Common Stock issuable upon conversion thereof have been registered for resale under the Securities Act of 1933, as amended) valued at 85% of the two lowest consecutive closing bid prices of the Common Stock during the twenty trading days prior to the applicable dividend date. Such dividends shall be deemed to accrue on the Series B Preferred Stock and be cumulative, whether or not earned or declared and whether or not there are profits, surplus or other funds of the Corporation legally available for the payment of dividends. With respect to the declaration, payment and setting apart of dividends, other than in Common Stock, whether of cash, securities of other persons, evidences of indebtedness, assets, Convertible Securities (as defined below), Stock Purchase Rights (as defined below) or rights to acquire any of the above, the holders of Series B Preferred Stock shall be entitled to participate with the Series A Preferred Stock, Common Stock or other Junior Securities and receive, before any dividends shall be declared and paid upon or set aside for the

Series A Preferred Stock, Common Stock or other Junior Securities, the same dividends or distributions, on an as-converted basis, as are proposed to be distributed to the holders of Series A Preferred Stock, Common Stock or other Junior Securities, in addition to the Series B Dividends set forth above. Each share of Series B Preferred Stock shall be treated for purposes of such participation as being equal to the number of shares of Common Stock (which may be a fraction) into which such share could then be converted. The rights of the holders of Series B Preferred Stock with respect to dividends of Common Stock are set forth in Section 7 hereof.

4. Liquidation.

(a) Upon the occurrence of any Liquidating Event (as defined below), each holder of Series B Preferred Stock then outstanding shall be paid, out of the assets of the Corporation available for distribution to its stockholders, before any payment shall be made in respect of the Series A Preferred Stock or Common Stock, an amount equal to the original purchase price paid (the "Series B Original Price") per share of Series B Preferred Stock pursuant to the Convertible Preferred Stock and Warrants Purchase Agreement dated September 28, 2000 entered into between the Corporation and the investors signatory thereto (the "Purchase Agreement"), plus all accrued dividends that are then unpaid for each share of Series B Preferred Stock then held by them (the "Series B Preference Amount"), subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization affecting such shares.

(b) Written notice of any such Liquidating Event stating a payment date, the place where such payment shall be made, the amount of each payment in liquidation and the amount of dividends to be paid shall be given by first class mail, postage prepaid, not less than thirty (30) days prior to the payment date stated therein, to each holder of record of the Series B Preferred Stock at such holder's address as shown in the records of the Corporation, provided that any holder of Preferred Stock may convert its shares of Preferred Stock to Common Stock during such period at any time prior to the payment date stated in such notice. If upon the occurrence of a Liquidating Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of the Series B Preferred Stock the full Series B Preference Amount to which they shall be entitled, the holders of the Series B Preferred Stock shall share ratably in any distribution of assets (so that each holder receives the same percentage of the Series B Preference Amount per share). After payment has been made to the holders of the Series B Preferred Stock of the full Series B Preference Amount to which they shall be entitled as aforesaid, any remaining assets shall be distributed ratably among the holders of the Corporation's Common Stock, Series A Preferred Stock, Series B Preferred Stock and other Junior Securities as if such shares of Series B Preferred Stock had been converted voluntarily into Common Stock immediately prior to such Liquidating Event.

(c) A "Liquidating Event" shall mean (i) any liquidation, dissolution or winding up of the Corporation, either voluntary or involuntary, or (ii) a sale, transfer or other disposition of all or substantially all the assets of the Corporation to, or a merger or consolidation into, an entity that is not controlled, directly or indirectly, by the stockholders of the Corporation; for purposes of this definition, "control" shall mean ownership of more than 50% of the voting power of an entity; provided, however, if the holders of a majority of the shares of Series B

Preferred Stock so elect by giving written notice to the Corporation before the effective date of a merger or consolidation that would otherwise be a Liquidating Event as defined herein, such merger or consolidation shall not be deemed a Liquidating Event and the provisions of Section 6(h) shall apply. Upon the occurrence of any Liquidating Event that would involve the distribution of assets other than cash with respect to the outstanding shares of Series B Preferred Stock, the amount of such distribution shall be deemed to be the fair market value thereof at the time of such distribution determined in accordance with the provisions of Section 3(b) of the Corporation's Certificate of Designations relating to its Series A Preferred Stock.

5. Voting.

(a) Voting Rights. Except as otherwise expressly provided herein or as required by law, the holder of each share of Series B Preferred Stock shall be entitled to the number of votes equal to the number of shares of Common Stock into which such share of Series B Preferred Stock could then be converted and shall have voting rights and powers equal to the voting rights and powers of the Common Stock (except as otherwise expressly provided herein or as required by law, voting together with the Common Stock as a single class) and shall be entitled to notice of any stockholders' meeting in accordance with the Bylaws of the Corporation. Fractional votes shall not, however, be permitted and any fractional voting rights resulting from the above formula (after aggregating all shares of Common Stock into which shares of Series B Preferred Stock held by each holder could be converted) shall be reduced to the nearest whole number.

(b) Protective Provisions. In addition to any other rights provided by law or as set forth in this Series B Certificate of Designations, so long as at least 10% of the shares of Series B Preferred Stock shall remain outstanding, the Corporation shall not, without first obtaining the affirmative vote or written consent of the holders of not less than two-thirds (2/3rds) of the then-outstanding shares of the Series B Preferred Stock affected by such action

(i) take any action that materially and adversely alters or changes the powers, rights, preferences or privileges of the Series B Preferred Stock.

(ii) redeem, purchase or otherwise acquire for value (or pay into or set aside for a sinking fund for such purpose), or declare and pay or set aside funds for the payment of any dividend (except dividends payable in Common Stock or preferred stock) with respect to, any share or shares of capital stock, except as required or permitted hereunder with respect to Series B Preferred Stock and except for repurchasing shares of Common Stock from employees or consultants of the Corporation at the original purchase price thereof pursuant to vesting agreements approved by the Board of Directors;

(iii) authorize or issue, or obligate itself to authorize or issue, additional shares of Series A Preferred Stock or Series B Preferred Stock (except as permitted under the terms of the Purchase Agreement);

(iv) authorize or issue, or obligate itself to authorize or issue, any equity or debt security on a parity with or having preference or priority over the Series B

Preferred Stock as to liquidation preferences, redemption rights, dividend rights, voting rights or otherwise; provided, however, that this provision shall not apply to, and stockholder consent pursuant to this Section shall not be required for, debt securities representing up to $1,000,000 in indebtedness incurred by the Corporation after the date of filing of this Series B Certificate of Designations (provided, this limitation shall not apply to trade payables incurred in the ordinary course;

(v) consent to any liquidation, dissolution or winding up of the Corporation; or

(vi) amend, restate, modify or alter the Bylaws of the Corporation in any way which adversely affects the rights of the holders of the Series B Preferred Stock.

For this purpose, without limiting the generality of the foregoing, the authorization of any shares of capital stock with preference or priority over, or on a parity with, Series B Preferred Stock as to the right to receive either dividends or amounts distributable upon liquidation, dissolution or winding up of the Corporation shall be deemed to affect adversely such series.

6. Conversion Rights. The holders of Series B Preferred Stock shall have the following conversion rights:

(a) Right to Convert.

(i) Subject to the terms, conditions, and restrictions of Sections 6 and 7 hereof, at any time after the Original Issue Date the holder of any shares of Series B Preferred Stock shall have the right to convert each whole share of Series B Preferred Stock into that number of fully paid and nonassessable shares of Common Stock at the Conversion Rate (as defined below).

(ii) Anything in Subsection 6(a)(i) to the contrary notwithstanding, in no event shall any holder be entitled to convert Series B Preferred Stock in excess of that number of shares of Series B Preferred Stock that, upon giving effect to such conversion, would cause the aggregate number of shares of Common Stock beneficially owned by the holder and its "affiliates" (as defined in Rule 405 under the Securities Act of 1933, as amended (the "Securities Act")) to exceed 9.99% of the outstanding shares of the Common Stock following such conversion. For purposes of this Subsection, the aggregate number of shares of Common Stock beneficially owned by the holder and its affiliates shall include the number of shares of Common Stock issuable upon conversion of the Series B Preferred Stock with respect to which the determination is being made, but shall exclude the number of shares of Common Stock that would be issuable upon (i) conversion of the remaining, nonconverted Series B Preferred Stock beneficially owned by the holder and its affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation (including, without limitation, any warrants or convertible preferred stock) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the holder and its

affiliates. Except as set forth in the preceding sentence, for purposes of this Subsection 6(a)(ii), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). For purposes of this Subsection, in determining the number of outstanding shares of Common Stock a holder may rely on the number of outstanding shares of Common Stock as reflected in (1) the Corporation's most recent Form 10-QSB or Form 10-KSB, as the case may be, (2) a more recent public announcement by the Corporation or (3) any other notice by the Corporation or its transfer agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written or oral request of any holder, the Corporation shall immediately confirm orally and in writing to any such holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to conversions of Series B Preferred Stock by such holder since the date as of which such number of outstanding shares of Common Stock was reported. To the extent that the limitation contained in this Subsection 6(a)(ii) applies, the determination of whether shares of Series B Preferred Stock are convertible (in relation to other securities owned by a holder) and of which shares of Series B Preferred Stock are convertible shall be in the sole discretion of such holder, and the submission of shares of Series B Preferred Stock for conversion shall be deemed to be such holder's determination that such shares of Series B Preferred Stock are convertible, in each case subject to such aggregate percentage limitation, and the Corporation shall have no obligation or right to verify or confirm the accuracy of such determination. Nothing contained herein shall be deemed to restrict the right of a holder to convert such shares of Series B Preferred Stock at such time as such conversion will not violate the provisions of this Subsection. A holder of Series B Preferred Stock may waive the provisions of this Subsection 6(a)(ii) as to itself (and solely as to itself) upon not less than 75 days' prior notice to the Corporation, and the provisions of this Subsection 6(b)(ii) shall continue to apply until such 75th day (or such later date as may be specified in such notice of waiver). No conversion in violation of this Subsection 6(b)(ii), but otherwise in accordance with this Certificate of Designations, shall affect the status of the Common Stock issued upon such conversion as validly issued, fully paid and nonassessable.

(b) Conversion Rate and Other Definitions. Each share of Series B Preferred Stock shall be convertible at the option of the holder thereof, at any time after the issuance of such share, into fully paid and nonassessable shares of Common Stock of the Corporation. The number of shares of Common Stock into which each share of the Series B Preferred Stock may be converted (the "Series B Conversion Rate" or the "Conversion Rate") shall be determined by dividing the Series B Original Price by the Conversion Price (determined as hereinafter provided) in effect at the time of the conversion. Before any adjustment is required pursuant to Section 7, the Conversion Price shall be equal to the Series B Original Price.

For purposes of this Certificate of Designations, the following terms shall have the following meanings:

"Market Price" means the average Closing Bid Price of the Common Stock on the Principal Market for the five (5) days prior to the date for which the Market Price is to be determined.

"Closing Bid Price" or "Closing Ask Price" means, for any security as of any date, the last closing bid or ask price, as the case may be, for such security on the Principal Market as reported by Bloomberg Financial Markets ("Bloomberg"), or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid or ask price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid or ask price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid or ask price is reported for such security by Bloomberg, the last closing trade price of such security as reported by Bloomberg, or, if no last closing trade price is reported for such security by Bloomberg, the average of the bid or ask prices of any market makers for such security as reported in the "pink sheets" by the National Quotation Bureau, Inc. If the Closing Bid Price or Closing Ask Price cannot be calculated for such security on such date on any of the foregoing bases, the Closing Bid Price or Closing Ask Price of such security on such date shall be the fair market value as mutually determined by the Corporation and the holders of sixty-six and two-thirds percent (66- 2/3%)) of the shares of Series B Preferred Stock then outstanding.

"Conversion Price" means, as of any Conversion Date or other date of determination, the lower of (x) $3.00, (y) the Market Price or (z) the average of the two (2) lowest Closing Bid Prices on the Principal Market of the Common Stock out of the fifteen (15) Trading Days immediately prior to conversion, which Conversion Price shall be adjusted proportionately for any reorganizations, reclassifications, stock splits, stock dividends, reverse stock splits and similar events; provided, however, that the Conversion Price will be reduced by an additional 5% if the Common Stock is not listed on either the Nasdaq SmallCap Market or Nasdaq National Market as of such date, and provided further that in no event will the Conversion Price be lower than the Floor Price, if any.

"Floor Price" means $1.50 for the conversion of a share of Series B Preferred Stock effected during the twelve (12) months following the applicable Issue Date for such share; provided further, however, that if: (A) the Conversion Price, as calculated herein without regard to Floor Price, is below the Floor Price for thirty (30) calendar days at any time after the Issue Date for such share, then the Floor Price shall thereafter equal $1.00 (but in no event for longer than twelve (12) months following the applicable Issue Date), (B)(i) for any period of five consecutive trading days commencing on after the date of this filing, there is no closing bid price of the Common Stock on the Principal Market, (ii) the Common Stock ceases to be listed for trading on any of the NYSE, the AMEX, the Nasdaq National Market or the Nasdaq SmallCap Market, or (iii) there occurs the resignation of either A. Joseph Rudick as Chief Executive Officer or Frederic P. Zotos as President of the Corporation (or either of their terminations as a result of death or disability), then the Conversion Price shall be reduced by 15% and shall not be subject to the Floor Price, and (C)(i) Bausch & Lomb Surgical ("B&L") fails to file before January 31, 2001 an application with the U.S. Food and Drug Administration (the "FDA") seeking approval to market the Corporation's Catarex technology, (ii) the FDA does not grant final approval to B&L to market Catarex on or before June 1, 2001, or (iii) the Corporation fails to secure the stockholder approvals contemplated by Section 6.13 of the

Purchase Agreement by the deadline stated therein, then the Conversion Price shall not be subject to the Floor Price and shall be as otherwise calculated herein.

"Principal Market" means the American Stock Exchange, the New York Stock Exchange, the Nasdaq National Market, or the Nasdaq Smallcap Market, whichever is at the applicable time the principal trading exchange or market for the Common Stock, based upon share volume.

"Trading Day" means any day during which the Principal Market shall be open for business.

(c) Conversion Notice. A holder of Series B Preferred Stock may exercise its conversion right by giving a written conversion notice in the form of Exhibit A hereto (the "Conversion Notice") to the Corporation (x) by facsimile confirmed by a telephone call or (y) by registered mail or overnight delivery service, with a copy by facsimile to the Corporation's transfer agent for its Common Stock, as designated by the Corporation from time to time. If such conversion will result in the conversion of all of such holder's shares of Series B Preferred Stock, such holder shall also surrender the certificate or certificates representing the shares so to be converted (the "Preferred Stock Certificates") to the Corporation at its principal office (or such other office or agency of the Corporation as the Corporation may designate by notice in writing to the holders of the Series B Preferred Stock) at any time during its usual business hours on the date set forth in the Conversion Notice.

(d) Issuance of Certificates.

(i) Promptly, but in no event more than three (3) Trading Days, after the receipt of the Conversion Notice referred to in Section 6(c) and surrender of the Preferred Stock Certificates (if required), the Corporation shall issue and deliver, or cause to be issued and delivered, to the holder, registered in such name or names as such holder may direct, a certificate or certificates for the number of whole shares of Common Stock into which such shares of Series B Preferred Stock have been converted. In the alternative, if the Corporation's transfer agent is a participant in the electronic book transfer program, the transfer agent shall credit such aggregate number of shares of Common Stock to which the holder shall be entitled to the holder's or its designee's balance account with The Depository Trust Company. Such conversion shall be deemed to have been effected, and the Conversion Date shall be deemed to have occurred, on the date on which such Conversion Notice shall have been received by the Corporation and at the time specified stated in such Conversion Notice, which must be during the calendar day of such notice. The rights of the holder of such share or shares of Series B Preferred Stock shall cease, and the person or persons in whose name or names any certificate or certificates for shares of Common Stock shall be issuable upon such conversion shall be deemed to have become the holder or holders of record of the shares represented thereby, on the Conversion Date. Issuance of shares of Common Stock issuable upon conversion that are requested to be registered in a name other than that of the registered holder shall be subject to compliance with all applicable federal and state securities laws.

(ii) The Corporation understands that a delay in the issuance of the shares of Common Stock beyond three (3) Trading Days after the Conversion Date could result in economic loss to the holder of shares of Series B Preferred Stock. As compensation to the holder for such loss, the Corporation agrees to pay liquidated damages to such holder per day of delay in the amount of 0.2% of the product of (1) the number of shares of Common Stock for which certificates have not been properly delivered and (2) the highest Market Price during the delay period. The Corporation shall make all payments due under this Subsection 6(d)(ii) in immediately available funds upon demand. Nothing herein shall limit a holder's right to pursue injunctive relief and/or actual damages for the Corporation's failure to issue and deliver Common Stock to such holder as required by Subsection 6(d)(i), including, without limitation, such holder's actual losses occasioned by any "buy-in" of Common Stock necessitated by such late delivery. Furthermore, in addition to any other remedies that may be available to such holder, if the Corporation fails for any reason to effect delivery of such shares of Common Stock within five (5) Trading Days after the Conversion Date, such holder will be entitled to revoke the relevant Conversion Notice by delivering a notice to such effect to the Corporation. Upon delivery of such notice of revocation, the Corporation and the holder shall each be restored to their respective positions immediately prior to delivery of such Conversion Notice, except that holder shall retain the right to receive both the late payment amounts set forth above plus the actual cost of any "buy-in."

(iii) If, at any time (a) the Corporation challenges, disputes or denies the right of a holder to effect the conversion of the Series B Preferred Stock into Common Stock or otherwise dishonors or rejects any Conversion Notice properly delivered in accordance with this Section 6 or (b) any third party who is not and has never been an affiliate of a holder obtains a judgment or order from any court or public or governmental authority that denies, enjoins, limits, modifies, or delays the right of such holder to effect the conversion of the Series B Preferred Stock into Common Stock, then such holder shall have the right, by written notice to the Corporation, to require the Corporation to promptly redeem the Series B Preferred Stock at a price equal to the closing sale price of the Common Stock on the date immediately prior to the date on which such notice is given. Under any of the circumstances set forth above, the Corporation shall indemnify the holder against and hold it harmless from, and be responsible for the payment of, all costs and expenses of the holder, including its reasonable legal fees and expenses, as and when incurred in disputing any such action or pursuing its rights hereunder (in addition to any other rights of such holder). The Corporation shall not refuse to honor any Conversion Notice unless its has actually been enjoined by a court of competent jurisdiction from doing so, and if so enjoined, the Corporation shall post with such court a performance bond equal to 150% of the aggregate Market Price multiplied by the number of shares sought to be converted by the holder that are the subject of such injunction.

(iv) The holders of Series B Preferred Stock shall be entitled to exercise their conversion privilege notwithstanding the commencement of any case under 11 U.S.C.ss.101 et seq. (the "Bankruptcy Code"). The Corporation hereby waives to the fullest extent permitted any rights to relief it may have under 11 U.S.C.ss.362 in respect of the holder's conversion privilege, if it becomes a debtor under the Bankruptcy Code. The Corporation agrees

to take or consent to any and all action necessary to effectuate relief under 11 U.S.C.ss. 362 without cost or expense to the holder.

(e) Fractional Shares. The Corporation shall not issue any fraction of a share of Common Stock upon any conversion. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series B Preferred Stock by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of a fraction of a share of Common Stock. If, after such aggregation, the issuance would result in the issuance of a fraction of a share of Common Stock, the Corporation shall round such fraction of a share of Common Stock up to the nearest whole share.

(f) Issuance Taxes. The Corporation shall pay any and all issue and other taxes that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of Series B Preferred Stock pursuant hereto; provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any certificate in a name other than of the holder of Series B Preferred Stock which is being converted.

(g) Reorganizations, Reclassifications, Etc. If the Common Stock issuable upon the conversion of Series B Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, or otherwise (other than a subdivision or combination of shares or stock dividend provided for in Section 7(a), then and in each such event the holder of each share of Series B Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, or other change, by holders of the number of shares of Common Stock into which such shares of Series B Preferred Stock might have been converted immediately prior to such reorganization, reclassification, or change.

(h) Mergers, Consolidations, Sale of Assets. In case of any consolidation or merger of the Corporation with or into another corporation or the sale of all or substantially all of the assets of the Corporation to another corporation (other than a consolidation, merger or sale treated as a Liquidating Event pursuant to Section 4 above), each share of Series B Preferred Stock shall thereafter be convertible into the kind and amount of shares of stock or other securities or property that a holder of the number of shares of Common Stock of the Corporation deliverable upon conversion of Series B Preferred Stock would have been entitled upon such consolidation, merger or sale; and in such case, appropriate adjustment (as determined in good faith by the Board of Directors) shall be made in the application of the provisions of Sections 6 and 7 with respect to the rights and interest thereafter of the holders of Series B Preferred Stock, to the end that the provisions set forth in Sections 6 and 7 shall thereafter be applicable, as nearly as reasonably may be, in relation to any shares of stock or other property thereafter deliverable upon the conversion of Series B Preferred Stock.

(i) Listing Requirements. If any shares of Common Stock to be reserved for the purpose of conversion of shares of Series B Preferred Stock require registration or listing with, or approval of, any governmental authority, stock exchange or other regulatory body under

any federal or state law or regulation or otherwise, before such shares may be validly issued or delivered upon conversion, the Corporation will secure such registration, listing or approval, as the case may be.

(j) Valid Issuance. All shares of Common Stock that may be issued upon conversion of the shares of Series B Preferred Stock will upon issuance by the Corporation be validly issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issuance thereof.

(k) No Impairment. The Corporation will not, by amendment of the Amended Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but will at all times in good faith assist in the carrying out of all of the provisions of Sections 6 and 7 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of the Series B Preferred Stock against impairment.

(l) Limitation on Number of Conversion Shares. Notwithstanding any other provision herein, the Corporation shall not be obligated to issue any shares of Common Stock upon conversion of the Series B Preferred Stock to the extent the issuance of such shares of Common Stock would exceed the number of shares (the "Exchange Cap") then permitted to be issued without violation of the rules or regulations of the Nasdaq Stock Market, except that such limitation shall not apply in the event that the Corporation (i) obtains the approval of its stockholders as required by applicable rules and regulations of the Nasdaq Stock Market for issuances of Common Stock in excess of the Exchange Cap, (ii) obtains a written opinion issued to the Corporation and the holders of Series B Preferred Stock from outside counsel to the Corporation that such approval is not required, which opinion shall be reasonably satisfactory to the holders of sixty-six and two-thirds percent (66-2/3%) of the shares of Series B Preferred Stock then outstanding, or (iii) is no longer listed on the Nasdaq Stock Market at such time. Until such approval or written opinion is obtained or such action has been taken by the required number of holders, no original purchaser of Series B Preferred Stock (collectively, the "Investors") shall be issued, upon conversion of Series B Preferred Stock, shares of Common Stock in an amount greater than the product of (x) the Exchange Cap amount multiplied by (y) a fraction, the numerator of which is the number of shares of Series B Preferred Stock originally issued to such Investor and the denominator of which is the aggregate amount of all the Series B Preferred Stock issued to the Investors (the "Cap Allocation Amount"). In the event that any Investor shall sell or otherwise transfer any of such Investor's Series B Preferred Stock, the transferee shall be allocated a pro rata portion of such Investor's Cap Allocation Amount. In the event that any holder of Series B Preferred Stock shall convert all of such holder's Series B Preferred Stock into a number of shares of Common Stock that, in the aggregate, is less than such holder's Cap Allocation Amount, then the difference between such holder's Cap Allocation Amount and the number of shares of Common Stock actually issued to such holder shall be allocated to the Cap Allocation Amounts of the remaining holders of Series B Preferred Stock on a pro rata basis in proportion to the number of Series B Preferred Stock then held by each such holder.

7. Adjustment of Conversion Rate. The Series B Conversion Rate from time to time in effect shall be subject to adjustment from time to time as follows.

(a) Stock Splits, Dividends and Combinations. In case the Corporation shall at any time subdivide the outstanding shares of Common Stock or shall issue a dividend in Common Stock on its outstanding Common Stock, the Conversion Rate in effect immediately prior to such subdivision or the issuance of such dividend shall be proportionately decreased, and in case the Corporation shall at any time combine the outstanding shares of Common Stock into a lesser number of shares of Common Stock, the Conversion Rate in effect immediately prior to such combination shall be proportionately increased, concurrently with the effectiveness of such subdivision, dividend or combination, as the case may be.

(b) Noncash Dividends, Stock Purchase Rights, Capital Reorganizations and Dissolutions. In case:

(i) the Corporation shall take a record of the holders of its Common Stock for the purpose of entitling them to receive a dividend or any other distribution, payable otherwise than in cash; or

(ii) the Corporation shall take a record of the holders of its Common Stock for the purpose of entitling them to subscribe for or purchase any shares of stock of any class or to receive any other rights; or

(iii) of any capital reorganization of the Corporation, reclassification of the capital stock of the Corporation (other than a subdivision or combination of its outstanding shares of Common Stock), consolidation or merger of the Corporation with or into another Corporation that is not a Liquidating Event or conveyance of all or substantially all of the assets of the Corporation to another Corporation that is not a Liquidating Event (an "Organic Change");

then, and in any such case, the Corporation shall cause to be mailed to the transfer agent for the Series B Preferred Stock, if any, and to the holders of record of the outstanding Series B Preferred Stock, at least ten (10) days prior to the date hereinafter specified, a notice stating the date on which (A) a record is to be taken for the purpose of such dividend, distribution or rights or (B) such reclassification, reorganization, consolidation, merger, conveyance, dissolution, liquidation or winding up is to take place and the date, if any is to be fixed, as of which holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities or other property deliverable upon such reclassification, reorganization, consolidation, merger, conveyance, dissolution, liquidation or winding up. In addition, prior to the Organic Change, the Corporation will make appropriate provision (in form and substance reasonably satisfactory to the holders of sixty-six and two-thirds percent (66-2/3%) of the Series B Preferred Stock then outstanding) to insure that each of the holders of the Series B Preferred Stock will thereafter have the right to acquire and receive in lieu of or in addition to (as the case may be) the shares of Common Stock otherwise acquirable and receivable upon the conversion of such holder's Series B Preferred Stock, such shares of stock, securities or assets as would have been

issued or payable in such Organic Change with respect to or in exchange for the number of shares of Common Stock that would have been acquirable and receivable had all of such holder's Series B Preferred Stock been converted into shares of Common Stock immediately prior to such Organic Change (without taking into account any limitations or restrictions on the timing or amount of conversions). In any such case, the Corporation will make appropriate provision (in form and substance reasonably satisfactory to the holders of sixty-six and two-thirds percent (66-2/3%) of the Series B Preferred Stock then outstanding) with respect to such holders' rights and interests to insure that the provisions of this Section 7(b) will thereafter be applicable to the Series B Preferred Stock. The Corporation will not effect any such consolidation, merger or sale, unless prior to the consummation thereof, the successor entity (if other than the Corporation) resulting from consolidation or merger or the entity purchasing such assets assumes, by written instrument (in form and substance reasonably satisfactory to the holders of sixty-six and two-thirds percent (66-2/3%) of the Series B Preferred Stock then outstanding), the obligation to deliver to each holder of Series B Preferred Stock such shares of stock, securities or assets as, in accordance with the foregoing provisions, such holder may be entitled to acquire.

(c) Issuances at Less Than the Conversion Price. Upon the issuance or sale by the Corporation, during the period ending twelve (12) months following the applicable Issue Date (the "MFN Period") of:

(i) Common Stock for a Per Share Selling Price less than any Conversion Price in effect immediately prior to the time of such issue or sale; or

(ii) any Stock Purchase Rights where the Per Share Selling Price for which shares of Common Stock may at any time thereafter be issuable upon exercise thereof (or, in the case of Stock Purchase Rights exercisable for the purchase of Convertible Securities, upon the subsequent conversion or exchange of such Convertible Securities) shall be less than any Conversion Price in effect immediately prior to the time of the issue or sale of such Stock Purchase Rights; or

(iii) any Convertible Securities where the consideration per share for which shares of Common Stock may at any time thereafter be issuable pursuant to the terms of such Convertible Securities shall be less than any Conversion Price in effect immediately prior to the time of the issue or sale of such Convertible Securities;

other than an issuance of Common Stock pursuant to Sections 7(a) or 7(f) hereof (any such issuance shall be referred to hereinafter as a "Dilutive Issuance"), then forthwith upon such issue or sale, such applicable Conversion Price shall be reduced to such lower Per Share Selling Price.

Notwithstanding the foregoing, no Conversion Price shall at such time be reduced if such reduction would be an amount less than $.01, but any such amount shall be carried forward and deduction with respect thereto made at the time of and together with any subsequent reduction that, together with such amount and any other amount or amounts so carried forward, shall aggregate $.01 or more.

(d) For purposes of this Section 7, the following provisions will be applicable:

(i) "Convertible Securities" shall mean evidences of indebtedness, shares of stock (including, without limitation, the Series A Preferred Stock and Series B Preferred Stock) or other securities that are convertible into or exchangeable for, with or without payment of additional consideration, shares of Common Stock.

(ii) "Stock Purchase Rights" shall mean any warrants, options or other rights to subscribe for, purchase or otherwise acquire any shares of Common Stock or any Convertible Securities.

(iii) Convertible Securities and Stock Purchase Rights shall be deemed outstanding and issued or sold at the time of such issue or sale.

(iv) The term "Per Share Selling Price" shall include the amount actually paid by third parties for each share of Common Stock. In the event the Corporation in connection with such transaction pays a fee in excess of 6%, any such excess amount shall be deducted from the selling price pro rata to all shares sold in the transaction to arrive at the Per Share Selling Price. A sale in a capital raising transaction of shares of Common Stock shall include the sale or issuance of rights, options, warrants or convertible securities under which the Corporation is or may become obligated to issue shares of Common Stock, and in such circumstances the Per Share Selling Price of the Common Stock covered thereby shall also include the exercise or conversion price thereof (in addition to the consideration received by the Corporation upon such sale or issuance less the excess fee amount, if any, as provided above). In case of any such security issued within the MFN Period in a "Variable Rate Transaction" or "MFN Transaction" (each as defined below), the Per Share Selling Price shall be deemed to be the lowest conversion or exercise price at which such securities are converted or exercised or might have been converted or exercised in the case of a Variable Rate Transaction, or the lowest adjustment price in the case of an MFN Transaction, each over the life of such securities.

(v) "Variable Rate Transaction" means a transaction in which the Corporation issues or sells (a) any debt or equity securities that are convertible into, exchangeable or exercisable for, or include the right to receive additional shares of Common Stock either (x) at a conversion, exercise or exchange rate or other price that is based upon and/or varies with the trading prices of or quotations for the Common Stock at any time after the initial issuance of such debt or equity securities, or (y) with a fixed conversion, exercise or exchange price that is subject to being reset at some future date after the initial issuance of such security or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Corporation or the market for the Common Stock, or (b) any securities of the Corporation issued or issuable pursuant to an "equity line" structure which provides for the sale, from time to time, of securities of the Corporation which are registered for resale pursuant to the Securities Act.

(vi) "MFN Transaction" means a transaction in which the Corporation issues or sells any equity securities in a capital raising transaction or series of related transactions (the "New Offering") which grants to an investor (the "New Investor") the right to receive additional shares based upon future equity raising transactions of the Corporation on terms more favorable than those granted to the New Investor in the New Offering.

(vii) Determination of Consideration. The "consideration actually received" by the Corporation for the issuance, sale, grant or assumption of shares of Common Stock, Stock Purchase Rights or Convertible Securities, irrespective of the accounting treatment of such consideration, shall be valued as follows:

(A) Cash Payment. In the case of cash, the net amount received by the Corporation after deduction of any accrued interest or dividends and before deducting any expenses paid or incurred and any underwriting commissions or concessions paid or allowed by the Corporation in connection with such issue or sale;

(B) Noncash Payment. If shares are issued for a consideration other than cash, the Per Share Selling Price shall be the fair market value of such consideration as determined in good faith by independent certified public accountants mutually acceptable to the Corporation and the holders of a majority of shares of Series B Preferred Stock.; and

(C) Stock Purchase Rights and Convertible Securities. The total consideration, if any, received by the Corporation as consideration for the issuance of the Stock Purchase Rights or the Convertible Securities, as the case may be, plus the minimum aggregate amount of additional consideration, if any, payable to the Corporation upon the exercise of such Stock Purchase Rights or upon the conversion or exchange of such Convertible Securities, as the case may be, in each case after deducting any accrued interest or dividends.

(e) Readjustment of Conversion Rate. In the event of any change in (i) the consideration, if any, payable upon exercise of any Stock Purchase Rights or upon the conversion or exchange of any Convertible Securities or (ii) the rate at which any Convertible Securities are convertible into or exchangeable for shares of Common Stock, the applicable Conversion Rate as computed upon the original issue thereof shall forthwith be readjusted to the Conversion Rate that would have been in effect at such time had such Stock Purchase Rights or Convertible Securities provided for such changed purchase price, consideration or conversion rate, as the case may be, at the time initially granted, issued or sold. On the expiration of any Stock Purchase Rights not exercised or of any right to convert or exchange under any Convertible Securities not exercised, the applicable Conversion Rate then in effect shall forthwith be increased to the Conversion Rate that would have been in effect at the time of such expiration had such Stock Purchase Rights or Convertible Securities never been issued. No readjustment of the Conversion Rate pursuant to this Subsection 7(e) shall (i) increase the applicable Conversion Rate by an amount in excess of the adjustment originally made to the Conversion Rate in respect of the issue, sale or grant of the applicable Stock Purchase Rights or Convertible Securities or (ii) require any adjustment to the amount paid or number of shares of Common Stock received by any holder of Preferred Stock upon any conversion of any share of Preferred Stock prior to the date upon which such readjustment to the Conversion Rate shall occur.

(f) Exclusions. Anything herein to the contrary notwithstanding, the Corporation shall not be required to make any adjustment of any Conversion Rate in the case of (i) the issuance or sale of options, or the shares of stock issuable upon exercise of such options, to purchase shares of Common Stock to directors, officers, employees or consultants of the

Corporation pursuant to stock options or stock purchase plans or agreements in existence on the date of this filing, whether "qualified" for tax purposes or not, pursuant to plans or arrangements approved by the Board of Directors and stockholders, (ii) the issuance of Common Stock pursuant to warrants outstanding as of the date of filing this Series B Certificate of Designations and (iii) the issuance of Common Stock upon conversion of the Series A Preferred Stock or Series B Preferred Stock. The issuances or sales described in the preceding clauses (i), (ii) and (iii) shall be ignored for purposes of calculating any adjustment to the Conversion Rate.

(g) Notice of Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Rate pursuant to this Section 7, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms thereof, and prepare and furnish to each holder of Series B Preferred Stock affected thereby a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written notice at any time of any holder of Series B Preferred Stock furnish or cause to be furnished to such holder a like certificate setting forth (i) such adjustment or readjustment, (ii) the applicable Conversion Rate at the time in effect and (iii) the number of shares of Common Stock and the amount, if any, of other property that at the time would be received upon the conversion of such holder's shares.

8. Redemption. So long as a Registration Statement covering the resale of the Common Stock issued or issuable upon conversion of the Series B Preferred Stock is effective (but only for so long as such Registration Statement is required to remain effective), at any time after the second (2nd) anniversary of the date of this filing, at the option of the Corporation, and upon at least 30 days' written notice to the holders of Series B Preferred Stock, the Corporation may redeem some or all of the Series B Preferred Stock, at a redemption price equal to the greater of: (a) 125% of the Series B Original Price per share, plus all accrued but unpaid dividends thereon; or (b) an amount equal to the product of (1) the number of shares of Common Stock then issuable to the Investors upon conversion of the Series B Preferred Stock being redeemed and (2) the Market Price on the date of redemption. Holders of the Series B Preferred Stock shall be entitled to convert their shares of Series B Preferred Stock into Common Stock during the 30-day notice period of this Section 8.

IN WITNESS WHEREOF, Atlantic Technology Ventures, Inc. has caused this Series B Certificate of Designations to be signed by its duly authorized officer as of the 28th day of September 2000.

ATLANTIC TECHNOLOGY VENTURES , INC.

By: /s/ Frederic P. Zotos

Frederic P. Zotos
President

Exhibit A

Notice of Conversion of Series B Preferred Stock

The undersigned hereby elects to convert _____ shares of Series B Preferred Stock of Atlantic Technology Ventures, Inc. (the "Company") held by the undersigned pursuant to the following terms and instructions:

Date of Conversion:_____

Applicable Conversion Price:_____

Applicable Conversion Rate:_____

Calculation of the Conversion Rate: _____

Number of Shares of Common Stock to be Issued:_____

Name in which Shares are to be Issued:_____

Holder:_____

Signature:_____

Title, if applicable:_____

Address for delivery of shares or DTC account number for deposit of shares:

- _____

- _____

Exhibit 3.2

CERTIFICATE OF AMENDMENT

OF THE

CERTIFICATE OF DESIGNATIONS,

PREFERENCES AND RIGHTS

of

SERIES B CONVERTIBLE PREFERRED STOCK

OF

ATLANTIC TECHNOLOGY VENTURES, INC.

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

The undersigned officer of Atlantic Technology Ventures, Inc., a Delaware corporation (the "Corporation"), pursuant to the provisions of Section 151 of the General Corporation Law of the State of Delaware, does hereby make this Certificate of Amendment of the Certificate Designations, Preferences and Rights of Series B Convertible Preferred Stock filed with the office of the Secretary of State on September 28, 2000 (the "Series B Certificate of Designations"), and does hereby state and certify that pursuant to the authority expressly vested in the Board of Directors of the Corporation by the Certificate of Incorporation filed with the office of the Secretary of State on May 18, 1993, as amended, the Board of Directors duly adopted the following resolutions

RESOLVED, the Series B Certificate of Designations is hereby amended as follows:

(1) by striking out the sixth sentence of Section 3 of Article II in its entirety and substituting the following:

With respect to the declaration, payment and setting apart of dividends, other than in shares of the Corporation's capital stock, whether of cash, securities of other persons, evidences of indebtedness, assets, Convertible Securities (as defined below), Stock Purchase Rights (as defined below) or rights to acquire any of the above, the holders of Series B Preferred Stock shall be entitled to participate with the Series A Preferred Stock, Common Stock or other Junior Securities and receive, before any dividends shall be declared and paid upon or set aside for the Series A Preferred Stock, Common Stock or other Junior Securities, the same dividends or distributions, on an as-converted basis, as are proposed to be distributed to the holders of Series A Preferred Stock, Common Stock or other Junior Securities, in addition to the Series B Dividends set forth above.

(2) by striking out the last sentence of Section 6(b) of Article II in its entirety; and

(3) by striking out Section 7(a) of Article II in its entirety and substituting the following:

(a) Stock Splits, Dividends and Combinations. In case the Corporation shall at any time subdivide the outstanding shares of Common Stock or shall issue a dividend in shares of its capital

stock on its outstanding shares of capital stock (other than any dividends paid pursuant to Section 2(a) of the Certificate of Designations of the Corporation's Series A Preferred Stock), the Conversion Rate in effect immediately prior to such subdivision or the issuance of such dividend shall be proportionately decreased, and in case the Corporation shall at any time combine the outstanding shares of Common Stock into a lesser number of shares of Common Stock, the Conversion Rate in effect immediately prior to such combination shall be proportionately increased, concurrently with the effectiveness of such subdivision, dividend or combination, as the case may be.

This Amendment to the Certificate of Designations of the Corporation has been duly adopted in accordance with Section 151 of the General Corporation Law of the State of Delaware.

The undersigned is signing this Certificate of Amendment on behalf of the Corporation on November 17, 2000.

/s/ Frederoc P. Zotos

Frederic P. Zotos
President

AMENDMENT TO
PREFERRED STOCK PURCHASE AGREEMENT

This Amendment to the Preferred Stock Purchase Agreement dated May 12, 2000 (the "Purchase Agreement"), by and between TeraComm Research, Inc. ("TeraComm") and Atlantic Technology Ventures, Inc. ("Atlantic") is dated as of July 18, 2000 (the "Amendment").

WHEREAS, Atlantic has since the date of the Purchase Agreement made Subsequent Payments to TeraComm in the amount of $750,000; and

WHEREAS, the parties wish to modify their rights and obligations with respect to Subsequent Payments under the Purchase Agreement.

NOW, THEREFORE, the parties agree as follows:

1. Schedule 1.2 of the Purchase Agreement is hereby amended to provide that the remaining $4 million of Subsequent Payments (including the $1 million payments due on August 12, 2000 and November 12, 2000) are not be due and payable until the Technology Milestone attached hereto as Attachment A has been achieved. Within ten (10) days of TeraComm's achieving the Technology Milestone, Atlantic shall make the $1 million Subsequent Payment currently due on August 12, 2000 (the "Second Subsequent Payment") and shall thereafter make the remaining three $1 million Subsequent Payments on the next three-month anniversary dates of the date of such first $1 million Subsequent Payment. The other provisions of Section 1.2 shall remain in effect, including subparagraph (b) with respect to failure to make timely Subsequent Payments.

2. TeraComm shall keep the representatives of Atlantic on the TeraComm Board of Directors informed as to progress toward achieving the Technology Milestone. If TeraComm believes it has achieved the Technology Milestone, it will notify Atlantic in writing thereof. If Atlantic disagrees that TeraComm has achieved the Technology Milestone, it shall so state in writing within five (5) business days of the notice from TeraComm. If the matter cannot be resolved within the following ten (10) business days by discussions between the parties, the matter shall be deemed submitted to arbitration administered by the American Arbitration Association in accordance with its commercial arbitration rules. The place of arbitration shall be Boston, Massachusetts. With respect to the arbitration, the parties will attempt to agree on an arbitrator with sufficient background in fiberoptic communications development to determine the dispute. If the parties cannot agree on such person within thirty (30) days of submission of the matter to arbitration, each party shall pick an arbitrator with relevant experience and those two parties shall pick a third arbitrator, and all three will hear the arbitration.

3. Failure of Atlantic to make the Second Subsequent Payment by midnight at the end of December 30, 2000 (whether or not TeraComm has reached the Technology Milestone), will at the election of TeraComm be deemed to constitute failure by Atlantic to timely make a Subsequent Payment. That election must be voted on by the Board of Directors of TeraComm, with all members entitled to participate in the decision (regardless of conflict of interest).

4. All terms used as defined terms herein and not otherwise defined herein shall have the meaning given them in the Purchase Agreement.

5. This Amendment amends the Purchase Agreement only to the extent stated herein. All other provisions of the Purchase Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment as of the date first above written.

TERACOMM RESEARCH, INC.

By: /s/ Kenneth Puzey

Its: President

ATLANTIC TECHNOLOGY VENTURES, INC.

By: /s/ Frederic P. Zotos

Its: President

Exhibit 10.2

CONVERTIBLE PREFERRED STOCK AND WARRANTS PURCHASE AGREEMENT

between

Atlantic Technology Ventures, Inc.

and

the Investors Signatory Hereto

THIS CONVERTIBLE PREFERRED STOCK AND WARRANTS PURCHASE AGREEMENT is entered into effective as of September 28, 2000 (the "Agreement"), between the Investors signatory hereto (each an "Investor" and together the "Investors"), and Atlantic Technology Ventures, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Company").

WHEREAS, the parties desire that, upon the terms and subject to the conditions contained herein, the Company shall issue and sell to the Investors, and the Investors shall purchase in the aggregate (a) up to $3,000,000 of preferred stock of the Company and (b) warrants to purchase shares of the common stock of the Company (as defined below)

WHEREAS, such investments will be made in reliance upon the provisions of Regulation S and/or Section 4(2) ("Section 4(2)") and/or 4(6) of the United States Securities Act and/or Regulation D ("Regulation D") and the other rules and regulations promulgated thereunder (the "Securities Act"), and/or upon such other exemption from the registration requirements of the Securities Act as may be available with respect to any or all of the investments in securities to be made hereunder.

NOW, THEREFORE, in consideration of the mutual promises, representations, warranties, covenants and conditions set forth in this Agreement, the parties hereto agree as follows:

ARTICLE I

Certain Definitions

In addition to the definitions set forth in the text of this Agreement, the following capitalized terms shall have the meanings ascribed to them below:

"Capital Shares" shall mean the Common Stock and any shares of any other class of common stock whether now or hereafter authorized, having the right to participate in the distribution of earnings and assets of the Company.

"Capital Shares Equivalents" shall mean any securities, rights, or obligations that are convertible into or exchangeable for or give any right to subscribe for any Capital Shares of the

Company or any Warrants, options or other rights to subscribe for or purchase Capital Shares or any such convertible or exchangeable securities.

"Closing" shall mean each closing of the purchase and sale of the Series B Preferred Stock and Warrants pursuant to Section 2.1.

"Closing Date" shall mean the Initial Closing Date or the Second Closing Date, as applicable.

"Common Stock" shall mean the Company's common stock, $0.001 par value per share.

"Conversion Shares" shall mean the shares of Common Stock issuable upon conversion of the Series B Preferred Stock purchased hereunder.

"Damages" shall mean any loss, claim, damage, judgment, penalty, deficiency or liability, including reasonable out-of-pocket costs and expenses (including, without limitation, reasonable attorney's fees and disbursements and reasonable costs and expenses of expert witnesses and investigation).

"Disclosure Schedule" shall mean the written disclosure schedule, if any, delivered on or prior to the date hereof by the Company to the Investors that is arranged in paragraphs corresponding to the numbered and lettered paragraphs contained in this Agreement.

"Effective Date" shall mean the date on which the SEC first declares effective a Registration Statement registering the resale of the Registrable Securities applicable to a particular Closing as set forth in the Registration Rights Agreement.

"Escrow Agent" shall have the meaning set forth in the Escrow Agreement.

"Escrow Agreement" shall mean the Escrow Agreement in substantially the form of Exhibit D hereto executed and delivered contemporaneously with this Agreement.

"Exchange Act" shall mean the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"Initial Closing Date" shall mean the date of issuance of the Initial Purchased Shares and the Initial Warrants.

"Initial Purchased Shares" shall mean the Purchased Shares issued on the Initial Closing Date.

"Initial Warrants" shall mean the Warrants issued on the Initial Closing Date.

"Irrevocable Transfer Agent Instructions" shall mean the Irrevocable Transfer Agent Instructions, in the form of Exhibit F attached hereto, from the Company to the Company's transfer agent.

"Issue Date" shall mean the date on which Purchased Shares and Warrants are issued pursuant to Article II.

"Legend" shall mean the legend set forth in Section 9. 1.

"Market Price" on any given date shall mean the average closing bid price on the Principal Market (as reported by such Principal Market) of the Common Stock during the five Trading Day period ending on the Trading Day immediately prior to the date for which the Market Price is to be determined.

"Material Adverse Effect" shall mean any effect on the business, operations, properties, prospects, stock price or financial condition of the Company that is material and adverse to the Company and its subsidiaries and affiliates, taken as a whole, and/or any condition, circumstance, or situation that would prohibit or otherwise interfere with the ability of the Company to enter into and perform any of its obligations under this Agreement, the Registration Rights Agreement, the Escrow Agreement, the Series B Certificate of Designations or the Warrants in any material respect.

"Outstanding" when used with reference to shares of Common Stock or Capital Shares (collectively the "Shares"), shall mean, at any date as of which the number of such Shares is to be determined, all issued and outstanding Shares, and shall include all such Shares issuable in respect of outstanding scrip or any certificates representing fractional interests in such Shares; provided, however, that "Outstanding" shall not mean any such Shares then directly or indirectly owned or held by or for the account of the Company.

"Person" shall mean an individual, a corporation, a partnership, a limited liability company, an association, a trust or other entity or organization, including a government or political subdivision or an agency or instrumentality thereof.

"Preferred Stock" shall mean the preferred stock, par value $0.001 per share, of the Company.

"Principal Market" shall mean the American Stock Exchange, the New York Stock Exchange, the NASDAQ National Market, or the NASDAQ SmallCap Market, whichever is at the applicable time the principal trading exchange or market for the Common Stock, based upon share volume.

"Purchase Price" with respect to the issuance and sale of Series B Preferred Stock hereunder on any given Closing Date shall mean the Market Price; provided, however, that the Purchase Price for the shares of Series B Preferred Stock purchased at the Initial Closing shall not exceed $3.00 per share.

"Purchased Shares" shall mean the Series B Preferred Stock purchased pursuant to this Agreement.

"Registrable Securities" shall mean the Conversion Shares and the Warrant Shares until (i) all Registration Statements have been declared effective by the SEC, and all Conversion Shares and Warrant Shares have been disposed of pursuant to the Registration Statements, (ii) all Conversion Shares and Warrant Shares have been sold under circumstances under which all of the applicable conditions of Rule 144 (or any similar provision then in force) under the Securities Act ("Rule 144") are met, (iii) all Conversion Shares and Warrant Shares have been otherwise transferred to holders who may trade such shares without restriction under the Securities Act, and the Company has delivered a new certificate or other evidence of ownership for such securities not bearing a restrictive legend or (iv) such time as, in the opinion of counsel to the Company, all Conversion Shares and Warrant Shares may be sold within a three-month period pursuant to Rule 144 (or any similar provision then in effect) under the Securities Act.

"Registration Rights Agreement" shall mean the agreement regarding the filing of each of the Registration Statements for the resale of the Registrable Securities applicable to each particular Closing, entered into between the Company and the Investors as of the Initial Closing Date substantially in the form annexed hereto as Exhibit C.

"Registration Statement" shall mean any registration statement on Form S-3 (if use of such form is then available to the Company pursuant to the rules of the SEC and, if not, on such other form promulgated by the SEC for which the Company then qualifies and which counsel for the Company shall deem appropriate, and which form shall be available for the resale by the Investors of the Registrable Securities to be registered thereunder in accordance with the provisions of this Agreement, the Registration Rights Agreement and in accordance with the intended method of distribution of such securities), for the registration of the resale by the Investors under the Securities Act of Registrable Securities issuable upon conversion of Purchased Shares, and exercise of Warrants, issued at a Closing.

"Regulation D" shall have the meaning set forth in the recitals of this Agreement.

"Repurchase Date" means the date of repurchase of Purchased Shares, Warrant Shares and Conversion Shares pursuant to Section 2.4.

"Repurchase Event" means any one of the following events:

(1) The Company fails to file a Registration Statement within 45 days after the Closing to which it relates;

(2) The Company fails to obtain effectiveness with the SEC of a Registration Statement within120 days after the Closing to which it relates;

(3) After the Effective Date, the inability for 30 or more days (whether or not

consecutive) of any holder of Securities to sell such Securities pursuant to the Registration Statement, but only if such inability is attributable, directly or indirectly, to any action or omission on the part of the Company;

(4) The Company shall fail or default in the timely performance of any obligation (A) to issue Conversion Shares as and when required by this Agreement, (B) to comply with Section 9.3 regarding the removal of restrictive legends and stop transfer restrictions with respect to the Securities or (C) under the Transaction Documents;

(5) Any consolidation or merger of the Company with or into another entity (other than a merger or consolidation of a subsidiary of the Company into the Company or a wholly-owned subsidiary of the Company) where the common stock of such surviving company is not listed for trading on the NYSE, the AMEX, the Nasdaq National Market System or the Nasdaq SmallCap, or any sale or other transfer of all or substantially all of the assets of the Company (provided, however, that no transaction described in this subparagraph shall constitute a Repurchase Event unless the Board of Directors of the Company shall have approved such transaction);

(6) The Company amends its Certificate of Incorporation or Bylaws, without the consent of the Investors, which amendment materially and adversely affects the rights of any holder of the Securities;

(7) The Company terminates the employment of A. Joseph Rudick as Chief Executive Officer or Frederic P. Zotos as President of the Company (including a change or diminution of his duties as such);

(8) The Company fails to comply with any of its obligations under Section 6.13 hereof (provided, however, that failure to obtain the stockholder approvals contemplated by Section 6.13 hereof, by itself, will not constitute a Repurchase Event); or

(9) The Company sells, licenses, transfers (whether by operation of law or otherwise) or otherwise disposes of all or substantially all of its assets or technology portfolio (provided, however, that no transaction described in this subparagraph shall constitute a Repurchase Event unless the Board of Directors of the Company shall have approved such transaction).

"Repurchase Notice" means a notice from an Investor to the Company which states (1) that the Investor is thereby requiring the Company to repurchase Purchased Shares, Warrant Shares and Conversion Shares pursuant to Section 2.4, (2) in general terms the Repurchase Event giving rise to such required repurchase, and (3) the number of Purchased Shares, Warrant Shares and Conversion Shares which the Company is required to repurchase.

"Repurchase Price" means the closing sale price of the Common Stock on the trading day prior to a Repurchase Date.

"SEC" shall mean the Securities and Exchange Commission.

"Second Closing" shall mean the closing of the issuance and sale of the Second Tranche Purchased Shares and the Second TrancheWarrants.

"Second Closing Date" shall mean the date, if any, that is ninety (90) days after the Effective Date of the original Registration Statement required to be filed hereunder (or such later date that the conditions to the Second Closing are satisfied or waived) or, if such date is not a Trading Day, the first Trading Day thereafter; provided, however, if the conditions to the Second Closing are not satisfied or waived on or before one hundred and fifty (150) days after the Initial Closing Date, the Investors shall have no obligation to purchase the Series B Preferred Stock or the Warrants on such date.

"Second Tranche Purchased Shares" Shall mean the Purchased Shares issued on the Second Closing Date.

"Second Tranche Warrants" shall mean the Warrants issued on the Second Closing Date.

"Section 4(2)" and "Section 4(6)" shall have the meanings set forth in the recitals of this Agreement.

"Securities" shall mean the Purchased Shares, the Warrants, the Warrant Shares and the Conversion Shares.

"Securities Act" shall have the meaning set forth in the recitals of this Agreement.

"SEC Documents" shall mean the Company's Annual Report on Form 10-KSB for the fiscal year ended December 31, 1999 and each report, proxy statement or registration statement filed by the Company with the SEC pursuant to the Exchange Act or the Securities Act since the filing of such Annual Report through the date hereof.

"Series B Certificate of Designation" shall mean the Certificate of Designation relating to the Series B Preferred Stock attached hereto as Exhibit A.

"Series B Preferred Stock" shall mean the Company's Series B Preferred Stock, par value $0.001 per share, having the rights, terms, and privileges set forth in the Company's Series B Certificate of Designations.

"Shares" shall have the meaning set forth in Section 1.16.

"Trading Day" shall mean any day during which the Principal Market shall be open for business.

"Transaction Documents" shall mean this Agreement, the Registration Rights Agreement, the Series B Certificate of Designations, the Escrow Agreement, the Irrevocable Transfer Agent Instructions and each of the other agreements, documents and instruments entered into and delivered by the parties hereto in connection with the transactions contemplated by this Agreement.

"Warrants" shall mean the Warrants substantially in the form of Exhibit B to be issued to the Investors hereunder.

"Warrant Shares" shall mean all shares of Common Stock or other securities issued or issuable pursuant to exercise of the Warrants.

ARTICLE II

Purchase and Sale of Purchased Shares and Warrants

Section 2.1. Investment.

(a) Upon the terms and subject to the conditions set forth herein, the Company agrees to sell and the Investors agree to purchase the Purchased Shares together with the Warrants at the Purchase Price as follows:

(i) On the Initial Closing Date, the Company shall sell, and the Investors shall purchase, an aggregate of $2,000,000 of Purchased Shares at the applicable Purchase Price and Warrants in an amount and with an exercise price as provided in Section 2.1(c), provided, however, that $1,000,000 of the Purchase Price, together with the Purchased Shares represented thereby and a pro rata portion of the Warrants, shall be held in escrow pursuant to the terms of the Escrow Agreement.

(ii) On the Second Closing Date, if any, the Company shall sell, and the Investors shall purchase, an aggregate of $1,000,000 of Purchased Shares at the applicable Purchase Price and Warrants in an amount and with an exercise price as provided in Section 2.1(c).

(b) Each Closing shall occur on the applicable Closing Date at the Escrow Agent's offices, at which time the Escrow Agent (x) shall release to the Investors those Purchased Shares and Warrants to be issued on such Closing Date which are not being escrowed pursuant to the Escrow Agreement (and/or provide evidence satisfactory to the Investors of delivery of the Irrevocable Transfer Agent Instructions with respect to those Purchased Shares and Warrants) and (y) shall release to the Company the entire amount of the aggregate Purchase Price that is not being escrowed pursuant to the Escrow Agreement in immediately available

funds (after all fees have been paid as set forth in the Escrow Agreement to be paid on such Closing Date), pursuant to the terms of the Escrow Agreement.

(c) The number of Warrants to be issued at each Closing shall be an amount equal to 67,000 Warrants for each $1,000,000 in aggregate Purchase Price paid for the Purchased Shares issued at that Closing, and the exercise price of the Warrants shall be 110% of the lower of (1) the Market Price on the Issue Date or (2) the Market Price one hundred eighty (180) days after the applicable Closing Date. It is agreed that the aggregate number of Warrants to be issued on the Initial Closing Date shall be 120,600. Each Warrant, upon issuance, will be exercisable for one (1) share of the Company's Common Stock.

(d) [Intentionally Deleted]

(e) The obligation of the Company hereunder to issue and sell the Purchased Shares and the Warrants to the Investors at each Closing is subject to the satisfaction, at or before such Closing Date, of each of the following conditions, provided that these conditions are for the Company's sole benefit and may be waived by the Company at any time in its sole discretion by providing each Investor with prior written notice thereof:

(i) The Investors shall have executed each of the Transaction Documents to be executed by them and delivered the same to the Company.

(ii) The Escrow Agent shall have delivered to the Company the aggregate Purchase Price for those Purchased Shares and the Warrants being purchased by the Investors at the Closing which are not being escrowed pursuant to the Escrow Agreement by wire transfer of immediately available funds pursuant to the written wire instructions provided by the Company.

(iii) The representations and warranties of the Investors shall be true and correct as of the date when made and as of such Closing Date as though made at that time (except for representations and warranties that speak as of a specific date, which shall have been true and correct as of such date), and the Investors shall have performed, satisfied and complied with the covenants, agreements and conditions required by the Transaction Documents to be performed, satisfied or complied with by them at or prior to such Closing Date.

(f) The obligation of each Investor hereunder to purchase the Purchased Shares and Warrants at each Closing is subject to the satisfaction, at or before the Closing Date thereof, of each of the following conditions, provided that these conditions are for each Investor's sole benefit and may be waived by such Investor at any time in its sole discretion by providing the Company with prior written notice thereof:

(i) The Company and each other Investor shall have executed each of the Transaction Documents to be executed by it and delivered the same to such Investor.

(ii) The Common Stock shall be authorized for quotation on the Principal Market, trading in the Common Stock shall not have been suspended by the Principal Market or the SEC at any time beginning on the date hereof and through and including such Closing Date, and the Company shall not have been notified by the Principal Market or the SEC of any pending or threatened proceeding or other action to delist or suspend the Common Stock.

(iii) The representations and warranties of the Company shall be true and correct as of the date when made and as of such Closing Date as though made at that time (except for representations and warranties that speak as of a specific date, which shall have been true as of such date), and the Company shall have performed, satisfied and complied with the covenants, agreements and conditions required by the Transaction Documents to be performed, satisfied or complied with by the Company at or prior to such Closing Date. Such Investor shall have received a certificate, executed by the Company's President, dated as of such Closing Date, to the foregoing effect and as to such other matters as may be reasonably requested by such Investor, including, without limitation, an update as of the Closing Date regarding the representation contained in Section 4.3 below.

(iv) Such Investor shall have received the opinion of the Company's counsel dated as of such Closing Date, in form, scope and substance reasonably satisfactory to such Investor and in substantially the form of Exhibit E attached hereto.

(v) The Company shall have executed and delivered (or shall have caused the Escrow Agent to deliver) to such Investor certificates representing the Purchased Shares (in such denominations as such Investor shall request) being purchased by such Investor at such Closing.

(vi) The Company shall have executed and delivered (or shall have caused the Escrow Agent to deliver) to such Investor the Warrants (in such denominations as such Investor shall request) being purchased by such Investor at such Closing.

(vii) The Board of Directors of the Company shall have adopted resolutions consistent with Section 4.2 below and in a form reasonably acceptable to such Investor (the "Resolutions").

(viii) As of such Closing Date, the Company shall have reserved out of its authorized and unissued Common Stock, solely for the purpose of effecting the issuance of the shares of Common Stock issuable in connection with this Agreement, a number of shares of Common Stock equal to at least 200% of the number of (x) Conversion Shares issuable upon conversion of the Purchased Shares to be outstanding on such Closing Date (assuming all such Purchased Shares were fully convertible on such date regardless of any limitations on the timing or amount of such conversions) and (y) Warrant Shares issuable upon exercise of the Warrants to be outstanding on such Closing Date (assuming

all such Warrants were fully exercisable on such date regardless of any limitation on the timing or amount of such exercises).

(ix) The Company shall have delivered the Irrevocable Transfer Agent Instructions to its Transfer Agent, and such Transfer Agent shall have acknowledged receipt thereof in writing.

(x) The Company shall have delivered to such Investor a certificate evidencing good standing of the Company and each Subsidiary in such corporation's state of incorporation and each other state in which the nature of its business requires qualification to conduct business therein issued by the Secretary of State of such states as of a date within ten (10) days of such Closing Date.

(xi) The Company shall have delivered to such Investor a certified copy of its Certificate of Incorporation as certified by the Secretary of State of the State of Delaware within ten (10) days of such Closing Date.

(xii) The Company shall have delivered to such Investor a certificate, executed by the Company's Secretary dated such Closing Date, as to (i) the Resolutions, (ii) the Company's Certificate of Incorporation and (iii) the Company's Bylaws, each as in effect on the Closing Date.

(xiii) The Company shall have delivered to such Investor such other documents relating to the transactions contemplated by this Agreement as such Investor or its counsel may reasonably request.

(xiv) Each other Investor shall have purchased its pro rata share of the Securities to be purchased by it at such Closing.

(g) In addition to the conditions to Closing set forth in Section 2.1(f) above, each Investor's obligation hereunder to purchase the Securities to be purchased by it on the Second Closing Date shall be subject to the satisfaction, on or before the Second Closing Date, of each of the following additional conditions, provided that these conditions are for the Investor's sole benefit and may be waived by it at any time in its sole discretion by providing the Company with prior written notice thereof:

(i) the original Registration Statement required to be filed hereunder with respect to the shares of Common Stock issuable upon conversion of the Initial Purchased Shares and the Initial Warrants shall be effective on the Second Closing Date;

(ii) the Company shall have received stockholder approval of the Company's issuance of all of the Securities in excess of any limitation or cap imposed by the Principal Market as contemplated by Section 6.13;

(iii) each of the Transaction Documents shall be and remain in full force and effect on and as of such Closing Date;

(iv) average of the closing bid prices of the Common Stock on the Principal Market for the period of twenty (20) consecutive trading days ending on the trading day immediately preceding the Second Closing Date shall be not less than the Market Price on the Initial Closing Date;

(v) the average daily trading volume of the Common Stock on the Principal Market for the forty (40) trading days immediately preceding such Closing Date shall be not less than the average daily trading volume for the forty (40) trading days immediately preceding the Initial Closing Date; and

(vi) Such Investor shall have received a certificate, executed by the Company's Chief Executive Officer, dated as of the Second Closing Date, to the effect that since the Initial Closing Date, (i) no Material Adverse Effect has occurred or exists, except as disclosed in any SEC Documents filed at least five (5) days prior to the Second Closing Date, and available on EDGAR, and (ii) the Company has not taken any steps, and does not currently expect to take any steps, to seek protection pursuant to 11 U.S.C. ss.ss. 101 et seq. (the "Bankruptcy Code") or any similar state bankruptcy law nor does the Company have any knowledge or reason to believe that its creditors intend to an initiate involuntary proceeding under the Bankruptcy Code or any such state law.

Section 2.2. Liquidated Damages. The parties hereto acknowledge and agree that the sums payable pursuant to the Registration Rights Agreement shall constitute liquidated damages and not penalties. The parties further acknowledge that (a) the amount of loss or damages likely to be incurred is incapable or is difficult to precisely estimate, (b) the amounts specified in such agreement bear a reasonable proportion and are not plainly or grossly disproportionate to the probable loss likely to be incurred by the Investors in connection with the failure by the Company to timely cause the registration of the Registrable Securities and (c) the parties are sophisticated business parties and have been represented by sophisticated and able legal and financial counsel and negotiated both this Agreement and the Registration Rights Agreement at arm's length.

Section 2.3. [Intentionally Deleted]

Section 2.4 Repurchase at Option of the Investors.

(a) Repurchase Right. If a Repurchase Event occurs while any of an Investor's Purchased Shares, Warrant Shares or Conversion Shares are outstanding, then, in addition to any other right or remedy of the Investors, each Investor shall have the right, at such Investor's option, to require the Company to repurchase all of such Investor's Purchased Shares, Warrant Shares and Conversion Shares then owned by such Investor, or any portion thereof, on the date that is three business days after the date such Investor gives the Company a Repurchase Notice

with respect to such Repurchase Event at any time, for an aggregate amount (the "Repurchase Amount") equal to the greater of (a) 125% of the aggregate Purchase Price and Exercise Price, as the case may be, paid for the Securities to be repurchased or (b) the aggregate Repurchase Price for the number of Conversion Shares held by or issuable to the Investors and the Warrant Shares being repurchased on the Repurchase Date.

(b) Notices; Method of Exercising Optional Repurchase Rights, Etc. (1) On or before the fifth business day after the occurrence of a Repurchase Event, the Company shall give to each of the Investors a notice of the occurrence of such Repurchase Event and of the repurchase right set forth herein arising as a result thereof. Such notice from the Company shall set forth:

(i) the day by which the optional repurchase right must be exercised, and

(ii) a description of the procedure (set forth below) which an Investor must follow to exercise the Investor's optional repurchase right.

No failure of the Company to give such notice or defect therein shall limit the right of an Investor to exercise the optional repurchase right or affect the validity of the proceedings for the repurchase of an Investor's Securities.

To exercise its optional repurchase right, an Investor shall deliver to the Company on or before the 30th day after the notice required by Section 2.4(b)(1) is given to such Investor (or if no such notice has been given by the Company to such Investor, within 40 days after such Investor first learns of such Repurchase Event) a Repurchase Notice to the Company. A Repurchase Notice may be revoked by an Investor giving such Repurchase Notice by giving notice of such revocation to the Company at any time prior to the time the Company pays the Repurchase Price to such Investor.

If an Investor shall have given a Repurchase Notice, on the date which is three business days after the date such Repurchase Notice is given (or such later date as such Investor surrenders its certificates for the Securities repurchased) the Company shall pay the Repurchase Amount in immediately available funds to such account as specified by such Investor in writing to the Company at least one business day prior to the applicable Repurchase Date.

(c) Other. (1) In connection with a repurchase pursuant to this Section 2.4 of less than all of the shares evidenced by a particular certificate, promptly, but in no event later than five business days after surrender of such certificate to the Company, the Company shall issue and deliver to the Investor a replacement certificate for the shares evidenced by such certificate which have not been repurchased.

(2) A Repurchase Notice given by an Investor shall be deemed for all purposes to be in proper form unless the Company notifies such Investor in writing within three business days after such Repurchase Notice has been given (which notice shall specify all defects in such Repurchase Notice), and any Repurchase Notice containing any such defect shall nonetheless be effective on the date given if such Investor promptly corrects all such defects. No such claim of

error shall limit or delay performance of the Company's obligation to repurchase all Securities if that obligation is not in dispute whether or not the Investor makes such corrections.

(3) The Company agrees that if it shall repurchase any of the Securities that it shall make such redemption pro-rata among all Investors in proportion their initial purchases of such Securities pursuant to this Agreement.

ARTICLE III

Representations and Warranties of the Investors

Each Investor, severally and not jointly, represents and warrants to the Company that:

Section 3.1. Intent. The Investor is entering into this Agreement for its own account and not with a view to or for sale in connection with any distribution of the Securities. The Investor has no present arrangement (whether or not legally binding) at any time to sell the Securities to or through any person or entity; provided, however, that by making the representations herein, the Investor does not agree to hold such securities for any minimum or other specific term and reserves the right to dispose of the Securities at any time in accordance with federal and state securities laws applicable to such disposition.

Section 3.2. Sophisticated Investor. The Investor is a sophisticated investor (as described in Rule 506(b)(2)(ii) of Regulation D) and an accredited investor (as defined in Rule 501 of Regulation D), and the Investor has such experience in business and financial matters that it has the capacity to protect its own interests in connection with this transaction and is capable of evaluating the merits and risks of an investment in the Securities. The Investor acknowledges that an investment in the Securities is speculative and involves a high degree of risk.

Section 3.3. Authority. This Agreement and each agreement attached as an exhibit hereto that is required to be executed by Investor has been duly authorized and validly executed and delivered by the Investor and is a valid and binding agreement of the Investor enforceable against it in accordance with its terms, subject to applicable bankruptcy, insolvency, or similar laws relating to, or affecting generally the enforcement of, creditors' rights and remedies or by other equitable principles of general application.

Section 3.4. Not an Affiliate. The Investor is not an officer, director or "affiliate" (as that term is defined in Rule 405 of the Securities Act) of the Company.

Section 3.5. Disclosure; Access to Information. The Investor has received all documents, records, books and other publicly available information pertaining to Investor's investment in the Company that have been requested by the Investor. The Investor has reviewed copies of all SEC Documents deemed relevant by Investor.

Section 3.6. Manner of Sale. At no time was the Investor presented with or solicited by or through any leaflet, public promotional meeting, television advertisement or any other form of general solicitation or advertising.

Section 3.7. No Conflicts. The execution, delivery and performance of this Agreement by the Investor and the consummation by the Investor of the transactions contemplated hereby do not and will not (i) result in a violation of the Investor's organizational documents or any material agreement, contract or other instrument to which the Investor is a party or (ii) result in a violation of any federal, state or local law, rule, regulation, order, judgment or decree (including federal and state securities laws and regulations) applicable to the Investor or by which any material property or asset of the Investor is bound or affected, nor is the Investor otherwise in violation of, conflict with or default under any of the foregoing (except in each case for such conflicts, defaults, terminations, amendments, accelerations, cancellations and violations as would not have, individually or in the aggregate, a Material Adverse Effect). The Investor is not required under any federal, state or local law, rule or regulation to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency in order for it to execute, deliver or perform any of its obligations under this Agreement or to purchase the Purchased Shares or the Warrants in accordance with the terms hereof.

ARTICLE IV

Representations and Warranties of the Company

The Company represents and Warrants to the Investors that, except as set forth on the Disclosure Schedule, if any, prepared by the Company and delivered herewith:

Section 4.1. Organization of the Company. The Company is a corporation duly incorporated and existing in good standing under the laws of the State of Delaware and has all requisite corporate authority to own its properties and to carry on its business as now being conducted. The Company does not have any subsidiaries and does not own more that fifty percent (50%) of or control any other business entity except as set forth in the SEC Documents. The Company is duly qualified and is in good standing as a foreign corporation to do business in every jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, other than those in which the failure so to qualify would not have a Material Adverse Effect.

Section 4.2. Authority. (i) The Company has the requisite corporate power and corporate authority to enter into and perform its obligations under this Agreement, the Registration Rights Agreement, the Escrow Agreement, and the Warrants and to issue the Securities pursuant to the terms of the Transaction Documents, (ii) the execution, issuance and delivery of this Agreement, the Registration Rights Agreement, the Escrow Agreement, the Purchased Shares certificates and the Warrants by the Company, the filing of the Series B Certificate of Designations with the Delaware Secretary of State, and the consummation by it of the transactions contemplated hereby have been duly authorized by all necessary corporate action and no further consent or authorization of the Company or its Board of Directors or stockholders is required, and (iii) this

Agreement, the Registration Rights Agreement, the Escrow Agreement, the Purchased Shares certificates and the Warrants have been duly executed and delivered by the Company and at the Closing shall constitute valid and binding obligations of the Company enforceable against the Company in accordance with their terms, except as such enforceability may be limited by applicable bankruptcy, insolvency, or similar laws relating to, or affecting generally the enforcement of, creditors' rights and remedies or by other equitable principles of general application. The Company has duly and validly authorized and reserved for issuance shares of Common Stock sufficient in number to comply with the terms of the Transaction Documents with respect to the conversion of the Purchased Shares and for the exercise of the Warrants. The Company understands and acknowledges the potentially dilutive effect to the Common Stock of the potential future issuance of the Conversion Shares. The Company further acknowledges that its obligation to issue Conversion Shares upon conversion of the Purchased Shares and Warrant Shares upon exercise of the Warrants in accordance with this Agreement is absolute and unconditional regardless of the dilutive effect that such issuance may have on the ownership interests of other stockholders of the Company and notwithstanding the commencement of any case under the Bankruptcy Code. The Company shall not seek judicial relief from its obligations hereunder except pursuant to the Bankruptcy Code. In the event the Company is a debtor under the Bankruptcy Code, the Company hereby waives to the fullest extent permitted any rights to relief it may have under 11 U.S.C. ss. 362 in respect of the conversion of the Purchased Shares and the exercise of the Warrants. The Company agrees, without cost or expense to the Investors, to take or consent to any and all action necessary to effectuate relief under 11 U.S.C. ss. 362.

Section 4.3. Capitalization. The authorized capital stock of the Company consists of 50,000,000 shares of Common Stock, of which 6,059,886 shares were issued and outstanding as of September 28, 2000 and 10,000,000 shares of Preferred Stock, 1,375,000 of which are designated Series A Preferred Stock, 371,544 of which were issued and outstanding as of September 28, 2000, and 2,000,000 of which are designated Series B Preferred Stock, none of which were issued and outstanding prior to the transactions contemplated hereby. Except for outstanding options and warrants as set forth in the SEC Documents, as of the date of this Agreement there are no outstanding Capital Shares Equivalents nor any agreements or understandings pursuant to which any Capital Shares Equivalents may become outstanding. Except as set forth in the SEC Documents, the Company is not a party to any agreement granting registration or anti-dilution rights to any person with respect to any of its equity or debt securities. All of the outstanding shares of Common Stock and Preferred Stock have been duly and validly authorized and issued and are fully paid and nonassessable and were issued in registered transactions or transactions exempt from the registration provision of the Securities Act and in compliance with applicable state securities or "blue sky" laws, except as would not have a Material Adverse Effect.

Section 4.4. Common Stock. The Company has registered the Common Stock pursuant to Section 12(b) or (g) of the Exchange Act and is in full compliance with all reporting requirements of the Exchange Act, and the Company is in compliance with all requirements for the continued listing or quotation of the Common Stock, and the Common Stock is currently listed or quoted on, the Principal Market. As of the date hereof, the Principal Market is the Nasdaq SmallCap Market and the Company has not received any notice regarding, and to its

knowledge there is no threat of, the termination or discontinuance of the eligibility of the Common Stock for such listing.

Section 4.5. SEC Documents. The Company has made available to the Investors true and complete copies of the SEC Documents. The Company has not provided to the Investors any information that, according to applicable law, rule or regulation, should have been disclosed publicly prior to the date hereof by the Company, but which has not been so disclosed. As of their respective dates, the SEC Documents (a) complied in all material respects with the requirements of the Exchange Act, and rules and regulations of the SEC promulgated thereunder, and (b) did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. The financial statements of the Company included in the SEC Documents complied in all material respects with applicable accounting requirements and the published rules and regulations of the SEC or other applicable rules and regulations with respect thereto at the time of such inclusion. Such financial statements have been prepared in accordance with generally accepted accounting principles applied on a consistent basis during the periods involved and fairly present in all material respects the financial position of the Company as of the dates thereof and the results of operations and cash flows for the periods then ended (subject, in the case of unaudited interim statements, to normal year-end audit adjustments). Neither the Company nor any of its subsidiaries has any material indebtedness, obligations or liabilities of any kind (whether accrued, absolute, contingent or otherwise, and whether due or to become due) that would have been required to be reflected in, reserved against or otherwise described in the financial statements or in the notes thereto in accordance with GAAP, which was not fully reflected in, reserved against or otherwise described in the financial statements or the notes thereto included in the SEC Documents or was not incurred in the ordinary course of business consistent with the Company's past practices since the last date of such financial statements.

Section 4.6. Exemption from Registration; Valid Issuances. Subject to the accuracy of the Investors' representations in Article III, the sale of the Purchased Shares and Warrants pursuant to this Agreement will not require registration under the Securities Act and/or any applicable state securities law. When issued and paid for in accordance with the Warrants and validly converted in accordance with the terms of the Series B Certificate of Designations, the Conversion Shares and the Warrant Shares will be duly and validly issued, fully paid, and nonassessable. Neither the sales of the Purchased Shares and Warrants pursuant to, nor the Company's performance of its obligations under, this Agreement, the Registration Rights Agreement, Series B Certificate of Designations, the Escrow Agreement, or the Warrants will (i) result in the creation or imposition by the Company of any liens, charges, claims or other encumbrances upon the Securities or, except as contemplated herein, any of the assets of the Company, or (ii) entitle the holders of Outstanding Capital Shares to preemptive or other rights to subscribe for or acquire the Capital Shares or other securities of the Company. The Securities shall not subject the Investors to personal liability to the Company or its creditors by reason of the possession thereof.

Section 4.7. No Directed Selling, General Solicitation or Advertising in Regard to this Transaction. Neither the Company nor any of its affiliates nor, to the knowledge of the Company, any person acting on its or their behalf (i) has engaged or will engage in any directed selling efforts in violation of the requirements of Regulation S, (ii) has conducted or will conduct any general solicitation (as that term is used in Rule 502(c) of Regulation D) or general advertising with respect to the sale of the Purchased Shares or the Warrants, or (iii) made any offers or sales of any security or solicited any offers to buy any security under any circumstances that would require registration of the sale of the Securities under the Securities Act.

Section 4.8. No Conflicts. The execution, delivery and performance of this Agreement by the Company and the consummation by the Company of the transactions contemplated hereby do not and will not (i) result in a violation of the Company's Certificate of Incorporation or Bylaws or (ii) conflict with, or constitute a material default (or an event that with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any material agreement, indenture or instrument, or any "lock-up" or similar provision of any underwriting or similar agreement to which the Company is a party, or (iii) result in a violation of any federal, state or local law, rule, regulation, order, judgment or decree (including federal and state securities laws and regulations) applicable to the Company or by which any material property or asset of the Company is bound or affected, nor is the Company otherwise in violation of, conflict with or default under any of the foregoing (except in each case for such conflicts, defaults, terminations, amendments, accelerations, cancellations and violations as would not have, individually or in the aggregate, a Material Adverse Effect). The business of the Company is not being conducted in violation of any law, ordinance or regulation of any governmental entity, except for possible violations that either singly or in the aggregate would not have a Material Adverse Effect. The Company is not required under any federal, state or local law, rule or regulation to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency in order for it to execute, deliver or perform any of its obligations under this Agreement or issue and sell the Purchased Shares or the Warrants in accordance with the terms hereof (other than any SEC, Principal Market or state securities filings that may be required to be made by the Company subsequent to any Closing, any Registration Statement that may be filed pursuant hereto, and any shareholder approval required by the rules applicable to companies whose common stock trades on the Principal Market); provided that, for purposes of the representation made in this sentence, the Company is assuming and relying upon the accuracy of the relevant representations and agreements of the Investors herein.

Section 4.9. No Material Adverse Change. Since June 30, 2000, no Material Adverse Effect has occurred or exists with respect to the Company, except as disclosed in the SEC Documents.

Section 4.10. No Undisclosed Events or Circumstances. Since June 30, 2000, no event or circumstance has occurred or exists with respect to the Company or its businesses, properties, prospects, operations or financial condition, that, under applicable law, rule or regulation, requires public disclosure or announcement prior to the date hereof by the Company but which has not been so publicly announced or disclosed in the SEC Documents.

Section 4.11. No Integrated Offering. Other than pursuant to an effective registration statement under the Securities Act, or pursuant to the issuance or exercise of employee stock options, or pursuant to its discussion with the Investors in connection with the transactions contemplated hereby, (a) the Company has not issued, offered or sold any Capital Shares (including for this purpose any securities of the same or a similar class as the Purchased Shares, the Warrants or Common Stock, or any securities convertible into a exchangeable or exercisable for Common Stock) within the six-month period next preceding the date hereof, and (b) the Company shall not permit any of its directors, officers or affiliates directly or indirectly to take, any action so as to make unavailable the exemption from Securities Act registration being relied upon by the Company for the offer and sale to Investors of the Purchased Shares (and the Conversion Shares) and the Warrants (and the Warrant Shares) as contemplated by this Agreement.

Section 4.12. Litigation and Other Proceedings. Except as disclosed in the SEC Documents, there are as of the date of this Agreement no lawsuits or proceedings pending or, to the knowledge of the Company, threatened, against the Company or any subsidiary, nor has the Company received any written or oral notice of any such action, suit, proceeding or investigation, which could reasonably be expected to have a Material Adverse Effect. Except as set forth in the SEC Documents, as of the date of this Agreement, no judgment, order, writ, injunction or decree or award has been issued by or, to the knowledge of the Company, requested of any court, arbitrator or governmental agency which could result in a Material Adverse Effect. There is as of the date of this Agreement no action, proceeding or investigation by the Company currently pending or that the Company intends to initiate.

Section 4.13. No Misleading or Untrue Communication. The Company and, to the knowledge of the Company, any person representing the Company, or any other person selling or offering to sell the Purchased Shares or the Warrants in connection with the transaction contemplated by this Agreement, have not made to the Investors, at any time, any oral communication in connection with the offer or sale of the same which, together with all such communications, including the SEC Documents, taken as a whole, contained any untrue statement of a material fact or omitted to state any material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading.

Section 4.14. Material Non-Public Information. The Company has not disclosed to the Investors any material non-public information that (i) if disclosed, would reasonably be expected to have a material effect on the price of the Common Stock or (ii) according to applicable law, rule or regulation, should have been disclosed publicly by the Company prior to the date hereof but which has not been so disclosed.

Section 4.15. Insurance. The Company and each subsidiary maintains property and casualty, general liability, workers' compensation, environmental hazard, personal injury and other similar types of insurance with financially sound and reputable insurers that is adequate and consistent with industry standards and the Company's historical claims experience. The Company has not received notice from, and has no knowledge of any threat by, any insurer (that has issued any insurance policy to the Company) that such insurer intends to deny coverage under or cancel, discontinue or not renew any insurance policy presently in force.

Section 4.16. Tax Matters.

(a) The Company and each subsidiary has filed all Tax Returns which it is required to file prior to the date of this Agreement under applicable laws; all such Tax Returns are true and accurate in all material respects and have been prepared in compliance with all applicable laws; the Company has paid all material amounts of Taxes due and owing by it or any subsidiary (whether or not such Taxes are required to be shown on a Tax Return) and have withheld and paid over to the appropriate taxing authorities all material amounts of Taxes which it is required to withhold from amounts paid or owing to any employee, stockholder, creditor or other third parties; and since December 31, 1999, the charges, accruals and reserves for Taxes with respect to the Company (including any provisions for deferred income taxes) reflected on the books of the Company are adequate to cover any material Tax liabilities, individually or collectively, of the Company if its current tax year were treated as ending on the date hereof.

(b) No claim has been made by a taxing authority in a jurisdiction where the Company does not file Tax Returns that the Company or any subsidiary is or may be subject to taxation by that jurisdiction. There are no foreign, federal, state or local Tax audits or administrative or judicial proceedings pending or being conducted with respect to the Company or any subsidiary; and no written notice indicating an intent to open an audit or other review has been received by the Company or any subsidiary from any foreign, federal, state or local taxing authority. There are no material unresolved questions or claims concerning the Company's Tax liability. The Company (A) has not executed or entered into a closing agreement pursuant to ss. 7121 of the Internal Revenue Code or any predecessor provision thereof or any similar provision of state, local or foreign law; or (B) has not agreed to and is not required to make any adjustments pursuant to ss. 481(a) of the Internal Revenue Code or any similar provision of state, local or foreign law by reason of a change in accounting method initiated by the Company or any of its subsidiaries, does not have any knowledge that the IRS has proposed any such adjustment or change in accounting method, and does not have any application pending with any taxing authority requesting permission for any changes in accounting methods that relate to the business or operations of the Company. The Company has not been a United States real property holding corporation within the meaning of ss. 897(c)(2) of the Internal Revenue Code during the applicable period specified in ss. 897(c)(1)(A)(ii) of the Internal Revenue Code.

(c) The Company has not made an election under ss. 341(f) of the Internal Revenue Code. The Company is not liable for the Taxes of another Person that is not a subsidiary of the Company (A) under Treas. Reg. ss. 1.1502-6 (or comparable provisions of state, local or foreign law), (B) as a transferee or successor, (C) by contract or indemnity or (D) otherwise. The Company is not a party to any tax sharing agreement. The Company has not made any payments, is not obligated to make payments that would not be deductible under ss. 280G of the Internal Revenue Code.

(d) For purposes of this Section 4.16:

"IRS" means the United States Internal Revenue Service.

"Tax" or "Taxes" means federal, state, county, local, foreign, or other income, gross receipts, ad valorem, franchise, profits, sales or use, transfer, registration, excise, utility, environmental, communications, real or personal property, capital stock, license, payroll, wage or other withholding, employment, social security, severance, stamp, occupation, alternative or add-on minimum, estimated and other taxes of any kind whatsoever (including, without limitation, deficiencies, penalties, additions to tax, and interest attributable thereto) whether disputed or not.

"Tax Return" means any return, information report or filing with respect to Taxes, including any schedules attached thereto and including any amendment thereof.

Section 4.17. Property. Neither the Company nor any of its subsidiaries owns any real property. Each of the Company and its subsidiaries has good and marketable title to all personal property owned by it, free and clear of all liens, encumbrances and defects except such as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company; and to the Company's knowledge any real property held under lease by the Company as tenant are held by it under valid, subsisting and enforceable leases with such exceptions as are not material and do not interfere with the use made and intended to be made of such property, mineral or water rights, and buildings by the Company.

Section 4.18. Intellectual Property Rights. The Company has sufficient title and ownership of or license rights to all patents, patent applications, trademarks, service marks, trade names, copyrights, and all registrations and applications for registration of any of the foregoing, and all trade secrets, information, inventions, computer programs of the Company, documentation, proprietary rights and processes (collectively, "Intellectual Property") necessary for its business as now conducted without any conflict with and without infringement of the rights of others. The Company has not received any communications alleging that it has violated or, by conducting its businesses as currently proposed, would violate any of the patents, trademarks, service marks, trade names, copyrights or trade secrets or other proprietary rights of any other Person. The Company does not believe it is or will be necessary to use any inventions of any of its employees (or people it currently intends to hire) made prior to their employment by the Company (unless made prior to employment as an independent contractor to the Company).

Section 4.19 Proprietary Information; Noncompetition Covenants.

(a) To the knowledge of the Company, the Company has done nothing to compromise the secrecy, confidentiality or value of any of its trade secrets, know-how, inventions, prototypes, designs, processes or technical data required to conduct its business as now conducted or as proposed to be conducted. The Company has taken in the past and will take in the future reasonable security measures to protect the secrecy, confidentiality and value of all its trade secrets, know-how, inventions, prototypes, designs, processes, and technical data important to the conduct of its business.

(b) Each current employee of the Company's subsidiaries has executed a nondisclosure and assignment of inventions agreement in the form previously provided by the Company to the Investors. Each scientific consultant to the Company has executed a confidentiality and assignment agreement restricting the disclosure of proprietary information of the Company and assigning to the Company all inventions made by such scientific consultant in the course of consulting for the Company. The Company is not aware that any of the employees, officers or scientific consultants of the Company, past or present, is in violation of such agreements, and the Company will use its best efforts to prevent any such violation.

4.20. Company Software.

(a) The Company has all technical and descriptive materials for all software used in connection with the business of the Company other than off-the-shelf software acquired for less than $10,000 per application (the "Company Software") as is necessary to run its business in accordance with its historical practices, except as would not have a material adverse effect on the Company.

(b) The use of the Company Software does not breach any terms of any contract or agreement. The Company either owns or has been granted under license agreements relating to the Company Software (the "Company License Agreements") valid and subsisting rights with respect to all software comprising the Company Software and such rights may be exercised anywhere in the world. The Company is in compliance with each of the terms and conditions of each of the Company License Agreements except to the extent failure to so comply, individually or in the aggregate, would not have a material adverse effect on the Company. In the case of any commercially available "shrink-wrap" software programs (such as Lotus 1-2-3 or Microsoft Word), the Company has not made and is not using any unauthorized copies of any such software programs and, to the knowledge of the Company, none of the employees, agents or representatives of the Company have made or are using any such unauthorized copies in the conduct of the Company's business, except as would not have a material adverse effect on the Company.

(c) The Company Software and the related computer hardware used by the Company in its operations (the "Company Hardware") are adequate in all material respects, when taken together with the other assets, resources and personnel of the Company, to run the business of the Company in the same manner as such business has operated since inception. The Disclosure Schedule contains a summary description of any unusual problems experienced by the Company in the past twelve months with respect to the Company Software or Company Hardware that would result in an adverse effect on the Company.

Section 4.21. Internal Controls and Procedures. The Company maintains books and records and internal accounting controls which provide reasonable assurance that (i) all transactions to which the Company or any subsidiary is a party or by which its properties are bound are executed with management's authorization; (ii) the recorded accounting of the Company's consolidated assets is compared with existing assets at regular intervals; (iii) access to the Company's consolidated assets is permitted only in accordance with management's authorization; and (iv) all transactions to which the Company or any subsidiary is a party or by which its properties are bound are

recorded as necessary to permit preparation of the financial statements of the Company in accordance with U.S. generally accepted accounting principles.

Section 4.22. Payments and Contributions. Neither the Company, any subsidiary, nor any of its directors, officers or, to its knowledge, other employees has (i) used any Company funds for any unlawful contribution, endorsement, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or indirect unlawful payment of Company funds to any foreign or domestic government official or employee; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended; or (iv) made any bribe, rebate, payoff, influence payment, kickback or other similar payment to any person with respect to Company matters.

Section 4.23. Acknowledgment Regarding Investors' Purchase of the Securities. The Company acknowledges and agrees that each of the Investors is acting solely in the capacity of arm's-length purchaser with respect to the Transaction Documents and the transactions contemplated thereby. The Company further acknowledges that no Investor is acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated thereby and any advice given by any of the Investors or any of their respective representatives or agents in connection with the Transaction Documents and the transactions contemplated thereby is merely incidental to such Investor's purchase of the Purchased Shares and Warrants. The Company further represents to each Investor that the Company's decision to enter into the Transaction Documents has been based solely on the independent evaluation by the Company and its representatives.

Section 4.24. Employees. To the best of the Company's knowledge, no employee of the Company is obligated under any contract (including licenses, covenants or commitments of any nature) or other agreement, or subject to any judgment, decree or order of any court or administrative agency that would conflict with such employee's obligation to use his best efforts to promote the interests of the Company or that would conflict with the Company's business as conducted or as proposed to be conducted. Neither the execution nor delivery of this Agreement, nor the carrying on of the Company's business by the employees of the Company, nor the conduct of the Company's business as currently proposed, will, to the Company's knowledge, conflict with or result in a breach of the terms, conditions or provisions of, or constitute a default under, any contract, covenant or instrument under which any of such employees is now obligated. To the best of the Company's knowledge, no employee or consultant of the Company is in violation of any term of any employment contract, proprietary information and inventions agreement, noncompetition agreement or any other contract or agreement relating to the relationship of any such employee or consultant with the Company or any previous employer. To the best of the Company's knowledge, as of the date of this Agreement, no officer of the Company nor any Key Employee (as hereinafter defined) of the Company, the termination of whose employment, either individually or in the aggregate, would have a materially adverse effect on the Company, has expressed to the Company any intention of terminating his or her employment with the Company. The Company has no collective bargaining agreements with any of its employees and to the best of the Company's knowledge there is no labor-union-organizing activity pending or threatened with respect to the Company. For purposes of this Agreement, "Key Employee" means and includes each officer of the Company and each

employee who contributes to the invention, design or authorship of the Company's Intellectual Property.

Section 4.25. Environmental Matters.

(a) The Company has duly complied with, and, to the best knowledge of the Company, all the real estate leased by it either currently or in the past (hereinafter referred to collectively as the "Premises") are in compliance in all material respects with, the provisions of all federal, state and local environmental, health and safety laws, codes and ordinances and all rules and regulations promulgated thereunder.

(b) The Company has been issued all material federal, state and local permits, licenses, certificates and approvals known to the Company to be required relating to (i) air emissions, (ii) discharges to surface water or ground water, (iii) noise emissions, (iv) solid or liquid waste disposal, (v) the use, generation, storage, transportation or disposal of toxic or hazardous substances or wastes (intended hereby and hereafter to include any and all such materials listed in any federal, state or local law, code or ordinance and all rules and regulations promulgated thereunder, as hazardous or potentially hazardous), or (vi) other environmental, health and safety matters.

(c) The Company has not received notice of, nor does the Company know of any facts that might constitute, any violation of any federal, state or local environmental, health or safety laws, codes or ordinances, and any rules or regulations promulgated thereunder, that relate to the use, ownership or occupancy of any of the Premises, and the Company is not in violation of any covenants, conditions, easements, rights-of-way or restrictions affecting any of the Premises or any rights appurtenant thereto, except for violations that would not reasonably be expected to have a Material Adverse Effect.

(d) Except in accordance with a valid governmental permit, license, certificate or approval, to the best of the Company's knowledge, the Company has not caused any emission, spill, release or discharge into or upon (i) the air, (ii) soils or any improvements located thereon, (iii) surface water or ground water, or (iv) the sewer, septic system or waste treatment, storage or disposal system servicing any of the Premises, of any toxic or hazardous substances or wastes at or from any of the Premises.

(e) There has been no complaint, order, directive (other than directives applicable to the general public), claim, citation or notice by any governmental authority or any other Person with respect to (i) air emissions, (ii) spills, releases or discharges to soils or any improvements located thereon, surface water, ground water or the sewer, septic system or waste treatment, storage or disposal systems servicing any of the Premises, (iii) noise emissions, (iv) solid or liquid waste disposal, (v) the use, generation, storage, transportation or disposal of toxic or hazardous substances or wastes or (vi) other environmental, health or safety matters affecting the Company, any of the Premises or any improvements located thereon, or the businesses thereon conducted.

Section 4.26. Regulatory Permits. The Company and its subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state or foreign regulatory authorities necessary to conduct their respective businesses, except where the failure to possess such items would not have, individually or in the aggregate, a Material Adverse Effect, and neither the Company nor any such subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit.

Section 4.27. No Materially Adverse Contracts, Etc. Neither the Company nor any of its subsidiaries is subject to any contractual restriction, or any judgment, decree, order, rule or regulation which in the judgment of the Company's officers has a Material Adverse Effect. Except as disclosed in the SEC Documents, neither the Company nor any of its subsidiaries is a party to any contract or agreement that in the reasonable judgment of the Company's officers has or is expected to have a Material Adverse Effect.

Section 4.28. Certain Transactions. Except as set forth in the SEC Documents filed at least ten (10) days prior to the date hereof and except for arm's-length transactions pursuant to which the Company makes payments in the ordinary course of business upon terms no less favorable than the Company could obtain from third parties, none of the officers or directors of the Company is presently a party to any transaction with the Company or any of its subsidiaries (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer or director or, to the best knowledge of the Company, any corporation, partnership, trust or other entity in which any officer or director has a substantial interest or is an officer, director, trustee or partner.

Section 4.29. Application of Takeover Protections. The Company and its board of directors have taken all necessary action, if any, in order to render inapplicable any control share acquisition, business combination or other similar anti-takeover provision under the laws of the state of its incorporation which is or could become applicable to the Investors as a result of the transactions contemplated by this Agreement, including, without limitation, the Company's issuance of the Securities and the Investor's ownership of the Securities.

Section 4.30. No Other Agreements. The Company has not, directly or indirectly, made any agreements with any Investors relating to the terms or conditions of the transactions contemplated by the Transaction Documents, except as set forth in the Transaction Documents.

Section 4.31. No Misrepresentation. The representations and warranties of the Company contained in this Agreement, any schedule, annex or exhibit hereto and any agreement, instrument or certificate furnished by the Company to the Investors pursuant to this Agreement, do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

Section 4.32 Finders' Fees. The Company (a) represents and warrants that it has retained no finder or broker in connection with the transactions contemplated by this Agreement other than Mr. Serge Cook of Gardner Resources Ltd. The Company hereby agrees to indemnify and to hold the Investors harmless of and from any liability for any commission or compensation in the nature of a finder's fee to this broker or any other broker or other person or firm (and the costs and expenses of defending against such liability or asserted liability) for which the Company or any of its employees or representatives is responsible.

Section 4.33 Absence of Rights Agreement. The Company has not adopted a shareholder rights plan or similar arrangement relating to accumulations of beneficial ownership of Common Stock or a change of control of the Company.

ARTICLE V

Covenants of the Investors

Each Investor, severally and not jointly, covenants with the Company that:

Section 5.1. Compliance with Law. The Investor's trading activities with respect to shares of the Company's Common Stock will be in compliance with all applicable state and federal securities laws, rules and regulations and rules and regulations of the Principal Market on which the Company's Common Stock is listed.

Section 5.2 Regulation S Compliance. Each Investor agrees that any hedging transactions it conducts with respect to the Common Stock will only be conducted in compliance with Regulation S. Each investor certifies that it is not a U.S. Person (as defined for purposes of Regulation S) and is not acquiring the securities issuable hereunder for the account or benefit of a U.S. Person. The Investors understand and acknowledge that the Company may refuse to register the transfer of any securities unless made in accordance with the registration or exemption provisions of the Securities Act.

ARTICLE VI

Covenants of the Company

Section 6.1. Best Efforts. The Company shall use its best efforts to timely satisfy each of the conditions to be satisfied by it as provided in Article II of this Agreement.

Section 6.2. Registration Rights. The Company shall cause the Registration Rights Agreement to remain in full force and effect and the Company shall comply in all material respects with the terms thereof

Section 6.3. Reservation of Common Stock. As of the date hereof, the Company has reserved and the Company shall continue to reserve and keep available at all times, free of preemptive rights, shares of Common Stock for the purpose of enabling the Company to issue the Conversion Shares and the Warrant Shares pursuant to any conversion of the Purchased Shares or exercise of the Warrants. The number of shares so reserved from time to time, as theretofore increased or reduced as hereinafter provided, may be reduced by the number of shares actually delivered pursuant to any conversion of the Purchased Shares or exercise of the Warrants and the number of shares so reserved shall be increased or decreased to reflect potential increases or decreases in the Common Stock that the Company may thereafter be obligated to issue by reason of adjustments to the Warrants. The Company further agrees that if at any time 200% of the number of shares of Common Stock issuable upon conversion of the Purchased Shares and exercise of the Warrants would cause the Company to be obligated to issue a number of shares of Common Stock in excess of its authorized capital (after taking into account all other Capital Shares Equivalents then existing), it shall promptly commence all necessary corporate and shareholder action necessary to increase its authorized capital so as to eliminate the aforesaid condition.

Section 6.4. Listing of Common Stock. The Company hereby agrees to maintain the listing of the Common Stock on a Principal Market, and as soon as reasonably practicable following the Closing to list the Conversion Shares and the Warrant Shares on the Principal Market. The Company further agrees, if the Company applies to have the Common Stock traded on any other Principal Market, it will include in such application the Conversion Shares and the Warrant Shares, and will take such other action as is necessary or desirable in the opinion of the Investors to cause the Conversion Shares and Warrant Shares to be listed on such other Principal Market as promptly as possible. The Company will use its best efforts to continue the listing and trading of its Common Stock on a Principal Market (including, without limitation, maintaining sufficient net tangible assets) and will comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of the Principal Market and shall provide Investors with copies of any correspondence to or from such Principal Market which questions or threatens delisting of the Common Stock, within three (3) Trading Days of the Company's receipt thereof, until the Investors have disposed of all of their Registrable Securities.

Section 6.5. Exchange Act Registration. The Company will cause its Common Stock to continue to be registered under Section 12(b) or (g) of the Exchange Act, will use its best efforts to comply in all respects with its reporting and filing obligations under the Exchange Act, and will not take any action or file any document (whether or not permitted by the Exchange Act or the rules thereunder) to terminate or suspend such registration or to terminate or suspend its reporting and filing obligations under the Exchange Act until the Investors have disposed of all of their Registrable Securities.

Section 6.6. [Intentionally Deleted]

Section 6.7. Corporate Existence; Conflicting Agreements. The Company will take all steps necessary to preserve and continue the corporate existence of the Company. The Company shall not enter into any agreement, the terms of which agreement would restrict or impair the right or

ability of the Company to perform any of its obligations under this Agreement or any of the other agreements attached as exhibits hereto.

Section 6.8. Consolidation; Merger. The Company shall not, at any time after the date hereof, effect any merger or consolidation of the Company with or into, or a transfer of all or substantially all of the assets of the Company to, another entity (a "Consolidation Event") unless the resulting successor or acquiring entity (if not the Company) assumes by written instrument or by operation of law the Company's obligations under this Agreement, including the obligation to deliver to the Investors such shares of stock and/or securities as the Investors are entitled to receive pursuant to this Agreement.

Section 6.9. Issuance of Purchased Shares and Warrant Shares. The Company shall make any necessary SEC and "blue sky" filings required to be made by the Company in connection with the sale of the Purchased Shares and Warrants to the Investors as required by all applicable laws, and shall provide a copy thereof to the Investors promptly after such filing.

Section 6.10. Relief in Bankruptcy. The Company shall not seek judicial relief from its obligations hereunder except pursuant to the Bankruptcy Code. In the event the Company is a debtor under the Bankruptcy Code, the Company hereby waives to the fullest extent permitted any rights to relief it may have under 11 U.S.C. ss. 362 in respect of the conversion of the Purchased Shares and the exercise of the Warrants. The Company agrees, without cost or expense to the Investors, to take or consent to any and all action necessary to effectuate relief under 11 U.S.C. ss. 362.

Section 6.11. Use of Proceeds. The Company will use the proceeds from the sale of the Securities for working capital and general corporate purposes.

Section 6.12. Financial Information. Until all Registrable Securities have either been sold or may be sold without registration under the Securities Act, the Company shall send the following to each holder of Registrable Securities: (i) within five (5) days after the filing thereof with the SEC, a copy of its Annual Report on Form 10-K, its Quarterly Reports on Form 10-Q, any Current Reports on Form 8-K and any registration statements or amendments (other than on Form S-8) filed pursuant to the Securities Act; (ii) on the same day as the release thereof, facsimile copies of all press releases issued by the Company or any of its Subsidiaries; and (iii) copies of any notices and other information made available or given to the stockholders of the Company generally, contemporaneously with the making available or giving thereof to the stockholders.

Section 6.13 Proxy Statement. The Company shall prepare and file with the SEC and shall provide to each stockholder entitled to vote at the next meeting of stockholders of the Company, which shall be not later than ninety (90) days from the Initial Closing Date (the "Stockholder Meeting Deadline"), a proxy statement in accordance with Section 14 of the Exchange Act, which has been previously reviewed by the Investors and a counsel of their choice, soliciting each such stockholder's affirmative vote at such stockholder meeting for approval of: (a) the Company's issuance of all of the Conversion Shares and the Warrant Shares in excess of any

limitation or cap imposed by the Principal Market or otherwise, and (b) an amendment to the Company's Series A Certificate of Designations to subordinate the rights, preferences and privileges of the shares of Series A Preferred Stock of the Company to the rights, preferences and privileges of the Series B Preferred Stock, including, without limitation, with respect to dividends and liquidation rights, and the Company shall use its best efforts to solicit its stockholders' approval of such proposals and cause the Board of Directors of the Company to recommend to the stockholders that they approve such proposals. If the Company fails to hold a meeting of its stockholders or fails to secure stockholder approvals as contemplated hereby by the Stockholder Meeting Deadline (unless such failure is the result solely of the actions of the Investors), then, as partial relief (which remedy shall not be exclusive of any other remedies available at law or in equity), the Company shall pay to each Investor an amount in cash per share equal to 2.5% of the aggregate Purchase Price paid for the Purchased Shares purchased hereunder per month until the stockholder approval is obtained (pro rated for partial months). The Company shall make the payments referred to in the immediately preceding sentence within five (5) days of the earlier of (I) the holding of the meeting of the Company's stockholders and (II) the last day of each 30-day period beginning on the day after the Stockholder Meeting Deadline. In the event the Company fails to make such payments in a timely manner, such payments shall bear interest at the rate of 2.5% per month (pro rated for partial months) until paid in full.

Section 6.14. Transactions With Affiliates. So long as (i) there are Purchased Shares or Warrants outstanding or (ii) any Investor owns Conversion Shares and/or Warrant Shares with a market value equal to or greater than $500,000, the Company shall not, and shall cause each of its subsidiaries not to, enter into, amend, modify or supplement, or permit any Subsidiary to enter into, amend, modify or supplement, any agreement, transaction, commitment or arrangement with any of its or any Subsidiary's officers, directors, persons who were officers or directors at any time during the previous two (2) years, stockholders who beneficially own 5% or more of the Common Stock, or affiliates or with any individual related by blood, marriage or adoption to any such individual or with any entity in which any such entity or individual owns a 5% or more beneficial interest (each, a "Related Party"), except for (a) customary employment arrangements and benefit programs on reasonable terms, (b) any agreement, transaction, commitment or arrangement on an arm's-length basis on terms no less favorable than terms which would have been obtainable from a person other than such Related Party, or (c) any agreement, transaction, commitment or arrangement which is approved by a majority of the disinterested directors of the Company. For purposes hereof, any director who is also an officer of the Company or any Subsidiary of the Company shall not be a disinterested director with respect to any such agreement, transaction, commitment or arrangement. "Affiliate" for purposes of this Section means, with respect to any person or entity, another person or entity that, directly or indirectly, (i) has a 5% or more equity interest in that person or entity, (ii) has 5% or more common ownership with that person or entity, (iii) controls that person or entity, or (iv) shares common control with that person or entity. "Control" or "controls" for purposes hereof means that a person or entity has the power, direct or indirect, to conduct or govern the policies of another person or entity.

Section 6.15. Suspension of Trading. In addition any other remedies which the Investors have under this Agreement and under applicable law, for each business day on which trading in the shares of Common Stock is suspended or prohibited on the Principal Market, the Company shall pay the Investors an amount equal to 0.2% of the product of (1) the number of Conversion Shares and Warrant Shares then held by the Investors or into which the Purchased Shares are then convertible and for which the Warrants are then exercisable and (2) the Market Price of the Common Stock on the trading day prior to such suspension or prohibition. The cumulative amount of such amounts which have accrued shall be paid by the Company to the Investors every seven (7) business days after the date of such suspension or prohibition.

Section 6.16. Right of First Refusal. The Company shall not sell any of its securities to Persons other than the Investors during the period commencing on the date hereof and ending one year after the Initial Closing Date unless the Company shall first have satisfied its obligations under this Section 6.16.

(a) If the Company receives a written offer from any Person or group of Persons other than the Investors to purchase any of the Company's securities, the Company shall give the Investors a written notice of such offer stating the type, terms, and purchase price of such securities and the other material terms and conditions of the sale of such securities and attaching a copy of any offer signed by the Person or Persons making such offer.

(b) The Investors shall have the right to purchase all or any part of such securities on the same terms and conditions as are set forth in the Company's written notice. Each Investor may exercise its right to purchase such securities by giving a written notice of exercise to the Company within seven days after such Investor's receipt of the Company's notice. Each Investor shall have the right to purchase such securities pro rata in accordance with the number of Conversion Shares that it may purchase under this Agreement. Each Investor may also purchase any securities not purchased by the other Investor.

(c) If the Investors shall not have exercised their rights to purchase all of such securities, then the Company shall have the right to sell all securities not subscribed by the Investors on the same terms and conditions as those set forth in the Company's notice. If the Company shall not have sold all such securities within 30 days after the expiration of the 7-day period in paragraph (b) above, then the Company shall not sell any such securities unless it first offers to sell such securities to the Investors in accordance with the procedures set forth in this Section 6.16.

Section 6.17. Limitation on Future Financing. The Company agrees that it will not sell or enter into any agreement to sell any of its securities or incur any indebtedness outside the ordinary course of business until six (6) months after the last Closing Date, except for any sales (i) pursuant to any presently existing employee benefit plan which plan has been approved by the Company's stockholders, (ii) pursuant to any compensatory plan for a full-time employee or key consultant, or (iii) with the prior approval of holders of a majority of the Purchased Shares then outstanding, which will not be unreasonably withheld, in connection with a strategic partnership or other business transaction, the principal purpose of which is not financing the Company's business operations.

ARTICLE VII

Survival; Indemnification

Section 7.1. Survival. The representations, warranties and covenants made by each of the Company and each Investor in this Agreement, the annexes, schedules and exhibits hereto and in each instrument, agreement and certificate entered into and delivered by them pursuant to this Agreement, shall survive the Closing and the consummation of the transactions contemplated hereby. In the event of a breach or violation of any of such representations, warranties or covenants, the party to whom such representations, warranties or covenants have been made shall have all rights and remedies for such breach or violation available to it under the provisions of this Agreement, irrespective of any investigation made by or on behalf of such party on or prior to the Closing Date.

Section 7.2. Indemnity. (a) The Company hereby agrees to indemnify and hold harmless the Investors, their respective Affiliates (as defined in SEC Rule 405) and their respective officers, directors, partners and members (collectively, the "Investor Indemnitees"), from and against any and all Damages, in each case promptly as incurred by the Investor Indemnitees and to the extent arising out of or in connection with:

(i) any misrepresentation by the Company or breach of any of the Company's representations or warranties contained in this Agreement, the annexes, schedules or exhibits hereto or any instrument, agreement or certificate entered into or delivered by the Company pursuant to this Agreement; or

(ii) any failure by the Company to perform in any material respect any of its covenants, agreements, undertakings or obligations set forth in this Agreement, the annexes, schedules or exhibits hereto or any instrument, agreement or certificate entered into or delivered by the Company pursuant to this Agreement; or

(iii) any action instituted against the Investors, or any of them, by any stockholder of the Company who is not an Affiliate of an Investor, with respect to any of the transactions contemplated by this Agreement, other than actions arising out of Investor gross negligence or willful misconduct.

(b) Each Investor, severally and not jointly, hereby agrees to indemnify and hold harmless the Company, its Affiliates and their respective officers, directors, partners and members (collectively, the "Company Indemnitees"), from and against any and all Damages, in each case promptly as incurred by the Company Indemnitees and to the extent arising out of or in connection with:

(i) any misrepresentation by the Investor or breach of any of the Investor's representations or warranties contained in this Agreement, the annexes, schedules or exhibits

hereto or any instrument, agreement or certificate entered into or delivered by the Investor pursuant to this Agreement; or

(ii) any failure by the Investor to perform in any material respect any of its covenants, agreements, undertakings or obligations set forth in this Agreement or any instrument, certificate or agreement entered into or delivered by the Investor pursuant to this Agreement.

Section 7.3. Notice. Promptly after receipt by either party hereto seeking indemnification pursuant to Section 7.2 (an "Indemnified Party") of written notice of any investigation, claim, proceeding or other action in respect of which indemnification is being sought (each, a "Claim"), the Indemnified Party promptly shall notify the party from whom indemnification pursuant to Section 7.2 is being sought (the "Indemnifying Party") of the commencement thereof, but the omission to so notify the Indemnifying Party shall not relieve it from any liability that it otherwise may have to the Indemnified Party, except to the extent that the Indemnifying Party is actually prejudiced by such omission or delay. The Indemnifying Party shall be entitled to assume the defense of any Claim. Notwithstanding the assumption of the defense of any Claim by the Indemnifying Party, the Indemnified Party shall have the right to employ separate legal counsel and to participate in the defense of such Claim, and the Indemnifying Party shall bear the reasonable fees, out-of-pocket costs and expenses of such separate legal counsel to the Indemnified Party if (and only if): (x) the Indemnifying Party shall have agreed to pay such fees, out-of-pocket costs and expenses, (y) the Indemnified Party reasonably shall have concluded that representation of the Indemnified Party and the Indemnifying Party by the same legal counsel would not be appropriate due to actual or, as reasonably determined by legal counsel to the Indemnified Party, potentially differing interests between such parties in the conduct of the defense of such Claim, or if there may be legal defenses available to the Indemnified Party that are in addition to or disparate from those available to the Indemnifying Party, or (z) the Indemnifying Party shall have failed to employ legal counsel reasonably satisfactory to the Indemnified Party within a reasonable period of time after notice of the commencement of such Claim. If the Indemnified Party employs separate legal counsel in circumstances other than as described in clauses (x), (y) or (z) above, the fees, costs and expenses of such legal counsel shall be borne exclusively by the Indemnified Party. Except as provided above, the Indemnifying Party shall not, in connection with any Claim in the same jurisdiction, be liable for the fees and expenses of more than one firm of legal counsel for the Indemnified Party (together with appropriate local counsel). The Indemnifying Party shall not, without the prior written consent of the Indemnified Party (which consent shall not unreasonably be withheld), settle or compromise any Claim or consent to the entry of any judgment that does not include an unconditional release of the Indemnified Party from all liabilities with respect to such Claim or judgment. Notwithstanding the foregoing, the Investors, collectively, shall only be entitled to payment for the fees of one counsel pursuant to this Article VII.

Section 7.4. Direct Claims. In the event one party hereunder should have a claim for indemnification that does not involve a claim or demand being asserted by a third party, the Indemnified Party promptly shall deliver notice of such claim to the Indemnifying Party. If the Indemnified Party disputes the claim, such dispute shall be resolved by mutual agreement of the Indemnified Party and the Indemnifying Party or by binding arbitration conducted in accordance

with the procedures and rules of the American Arbitration Association as set forth in Article X. Judgment upon any award rendered by any arbitrators may be entered in any court having competent jurisdiction thereof.

ARTICLE VIII

Due Diligence Review; Non-Disclosure of Non-Public Information.

Section 8.1. Due Diligence Review. Subject to Section 8.2, the Company shall make available for inspection and review by the Investors, advisors to and representatives of the Investors (who may or may not be affiliated with the Investors and who are reasonably acceptable to the Company), any underwriter participating in any disposition of the Registrable Securities on behalf of the Investors pursuant to the Registration Statement, any such registration statement or amendment or supplement thereto or any blue sky, Nasdaq or other filing, all SEC Documents and other filings with the SEC, and all other publicly available corporate documents and properties of the Company as may be reasonably necessary for the purpose of such review, and cause the Company's officers, directors and employees to supply all such publicly available information reasonably requested by the Investors or any such representative, advisor or underwriter in connection with such Registration Statement (including, without limitation, in response to all questions and other inquiries reasonably made or submitted by any of them), prior to and from time to time after the filing and effectiveness of the Registration Statement for the sole purpose of enabling the Investors and such representatives, advisors and underwriters and their respective accountants and attorneys to conduct initial and ongoing due diligence with respect to the Company and the accuracy of the Registration Statement.

Section 8.2. Nondisclosure of Nonpublic Information.

(a) The Company shall not disclose material nonpublic information to the Investors, advisors to or representatives of the Investors unless prior to disclosure of such information the Company identifies such information as being nonpublic information and provides the Investors, such advisors and representatives with the opportunity to accept or refuse to accept such non-public information for review and any Investor that accepts to review such nonpublic information, other than any comment letters received from the SEC staff with respect to the Registration Statement, shall as a condition to disclosure of that information to that Investor, enter into a confidentiality agreement in form and content reasonably satisfactory to the Company and the Investors.

(b) Nothing herein shall require the Company to disclose material nonpublic information to the Investors or their advisors or representatives, and the Company represents that it does not disseminate material nonpublic information to any investors who purchase stock in the Company in a public offering, to money managers or to securities analysts, provided, however, that notwithstanding anything herein to the contrary, the Company will, as hereinabove provided, promptly notify the advisors and representatives of the Investors and, if any, underwriters, of any event or the existence of any circumstance (without any obligation to disclose the specific event or circumstance) of which it becomes aware, constituting material

nonpublic information (whether or not requested of the Company specifically or generally during the course of due diligence by such persons or entities), which, if not disclosed in the prospectus included in the Registration Statement would cause such prospectus to include a material misstatement or to omit a material fact required to be stated therein in order to make the statements, therein in light of the circumstances in which they were made, not misleading. Nothing contained in this Section 8.2 shall be construed to mean that such persons or entities other than the Investors (without the written consent of the Investors prior to disclosure of such information as set forth in Section 8.2(a)) may not obtain nonpublic information in the course of conducting due diligence in accordance with the terms of this Agreement and nothing herein shall prevent any such persons or entities from notifying the Company of their opinion that, based on such due diligence by such persons or entities, the Registration Statement contains an untrue statement of a material fact or omits a material fact required to be stated in the Registration Statement or necessary to make the statements contained therein, in light of the circumstances in which they were made, not misleading.

ARTICLE IX

Legends; Transfer Agent Instructions

Section 9.1. Legends. Unless otherwise provided below, each certificate representing Registrable Securities will bear the following legend or equivalent:

THE SECURITIES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER APPLICABLE SECURITIES LAWS AND HAVE BEEN ISSUED IN RELIANCE UPON AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND SUCH OTHER SECURITIES LAWS. NEITHER THIS SECURITY NOR ANY INTEREST OR PARTICIPATION HEREIN MAY BE SOLD, ASSIGNED, TRANSFERRED, PLEDGED, ENCUMBERED, OR OTHERWISE DISPOSED OF, EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO A TRANSACTION THAT IS EXEMPT FROM SUCH REGISTRATION.

Section 9.2. Transfer Agent Instructions. At each Closing, the Company will issue to the transfer agent for the Common Stock (and to any substitute or replacement transfer agent for the Common Stock upon the Company's appointment of any such substitute or replacement transfer agent) instructions substantially in the form of Exhibit F hereto. Such instructions shall be irrevocable by the Company from and after the issuance thereof, including to any such substitute or replacement transfer agent, as the case may be.

Section 9.3. No Other Legend or Stock Transfer Restrictions. No legend other than the one specified in Section 9.1 has been or shall be placed on the share certificates representing the Registrable Securities and no instructions or "stop transfer orders," "stock transfer restrictions,"

or other restrictions have been or shall be given to the Company's transfer agent with respect thereto other than as expressly set forth in this Article IX.

Section 9.4. Investors' Compliance. Nothing in this Article shall affect in any way each Investor's obligations to comply with all applicable securities laws upon its resale of any Securities.

Section 9.5. Transfers without Registration. If an Investor provides the Company with an opinion of counsel, in generally acceptable form, that registration of a resale by such Investor of any Conversion Shares or Warrant Shares is not required under the Securities Act, the Company shall permit the transfer and promptly instruct its transfer agent to issue one or more certificates in such name and in such denominations as specified by such Investor and, if such opinion provides that such legends can be removed, without any restrictive legends.

Section 9.6. Injunctive Relief. The Company acknowledges that a breach by it of its obligations under this Article IX will cause irreparable harm to the Investors by vitiating the intent and purpose of the transaction contemplated hereby. Accordingly, the Company acknowledges that the remedy at law for a breach of its obligations under this Article IX will be inadequate and agrees, in the event of a breach or threatened breach by the Company of the provisions of this Article IX, that the Investors shall be entitled, in addition to all other available remedies, to an injunction restraining any breach and requiring immediate issuance and transfer, without the necessity of showing economic loss and without any bond or other security being required.

ARTICLE X

Choice of Law; Arbitration

Section 10.1. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware applicable to contracts made in Delaware by persons domiciled in Delaware and without regard to its principles of conflicts of laws.

Section 10.2. Arbitration. Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be settled by arbitration by the American Arbitration Association (the "AAA") in accordance with its Commercial Arbitration Rules. In the event of any conflict between those Rules and this Agreement, this Agreement will govern.

Arbitration will be conducted by a panel of three (3) arbitrators (the "Panel"). Within fifteen (15) days after the commencement of arbitration, each party shall select one person to act as arbitrator and the two selected shall select a third arbitrator within ten (10) days of their appointment. The members of the Panel shall decide on one member to act as Chair. If the arbitrators selected by the parties are unable or fail to agree on a third arbitrator, the third arbitrator shall be selected by the American Arbitration Association.

The place of arbitration shall be New York, New York. Each party may, without waiving any remedy under this Agreement, seek from any court having jurisdiction any interim or

provisional relief that is necessary to protect the rights or property of that party, pending the Panel's determination of the merits of the controversy. If any such provisional relief is sought, the non-prevailing party shall pay the expenses of the prevailing party, including reasonable attorney's fees, in connection with that proceeding.

Consistent with the expedited nature of arbitration, each party will, upon the written request of the other party, promptly provide the other with copies of documents relevant to the issues raised by any claim or counterclaim. Any dispute regarding discovery, or the relevance or scope thereof, shall be determined by the Chair of the Panel, which determination shall be conclusive. Document exchange shall be completed within forty-five (45) days following selection of the last member of the Panel. At the request of a party, the Panel, through its Chair, shall have the discretion to order examination by deposition of witnesses to the extent the Panel deems such discovery relevant and appropriate. Depositions shall be limited to a maximum of three per party and shall be held within thirty (30) days of authorization by the Panel. Additional depositions may be scheduled only with the permission of the Chair of the Panel for good cause shown. Each deposition shall be limited to one day's duration. All objections are reserved for the arbitration hearing except for objections based on privilege.

The award of the arbitrators shall be accompanied by a written reasoned opinion, which, to the extent practical, shall be rendered no more than thirty (30) calendar days following the close of the Panel's adjudicatory hearing on the issues submitted for arbitration. The decision of the Panel will be final, binding, conclusive and non-appealable. The decision of the Panel will be entitled to be enforced to the fullest extent permitted by law and entered in any court of competent jurisdiction. The Panel (or the sole arbitrator selected, if there is no timely response by the responding party) is authorized and directed to enter a default judgment against a party who fails to take action or to participate in any proceeding hereunder within the time periods prescribed by this Agreement, and by the AAA Rules and/or the Panel.

The Panel shall award to the prevailing party, as determined by the Panel, all that party's costs and expenses. "Costs and expenses" means all reasonable pre-award expenses of arbitration, including discovery and deposition expenses, witness fees, costs and expenses, and attorneys' fees. If the Panel is unable to determine which party is the "prevailing party," the Panel shall apportion the costs and expenses as it deems appropriate.

ARTICLE XI

Assignment

Neither this Agreement nor any rights of the Investors or the Company hereunder may be assigned by either party to any other Person. Notwithstanding the foregoing, (a) the provisions of this Agreement shall inure to the benefit of, and be enforceable by, any permitted transferee of any of the Purchased Shares or Warrants purchased or acquired by any Investor hereunder, and (b) each Investor's interest in this Agreement may be assigned at any time, in whole or in part, to any Affiliate (as defined under the Securities Act) of the Investor, or to not more than three (3)

accredited investors, who agree to make the representations and warranties contained in Article III and who agree to be bound by the terms of this Agreement.

ARTICLE XII

Notices

All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (i) hand delivered, (ii) deposited in the mail, registered or certified, return receipt requested, postage prepaid, or (iii) delivered by reputable air courier service with charges prepaid, or (iv) transmitted by facsimile, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (a) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below (if delivered on a business day during normal business hours where such notice is to be received), or the first business day following such delivery (if delivered other than on a business day during normal business hours where such notice is to be received) or (b) on the first business day following the date of sending by reputable courier service, fully prepaid, addressed to such address, or (c) upon actual receipt of such mailing, if mailed. The addresses for such communications shall be:

If to the Company:
Atlantic Technology Ventures, Inc.
150 Broadway, Suite 1009
New York, New York 10038
Attention: Frederic P. Zotos
Telephone: (212) 267-2503
Facsimile:

with a copy to (shall not constitute notice):
Kramer Levin Naftalis & Frankel LLP
919 third Avenue
New York, New York 10022-3052
Telephone: (212) 715-9263
Facsimile: (212) 715-8000
Attention: Ezra G. Levin, Esq.

if to the Investors:
As set forth on the signature pages hereto

with a copy to:
(shall not constitute notice)
Kevin A. Prakke, Esq.
Wyrick Robbins Yates & Ponton LLP
4101 Lake Boone Trail, Suite 300
Raleigh, North Carolina 27607
Telephone: (919) 781-4000
Facsimile: (919) 781-4865

Each party hereto may from time to time change its address or facsimile number for notices under this Article XII by giving written notice of such changed address or facsimile number to the other party hereto as provided in this Article XII.

ARTICLE XIII

Miscellaneous

Section 13.1. Counterparts; Facsimile; Amendments. This Agreement may be executed in multiple counterparts, each of which may be executed by less than all of the parties and shall be deemed to be an original instrument which shall be enforceable against the parties actually executing such counterparts and all of which together shall constitute one and the same instrument. Except as otherwise stated herein, in lieu of the original documents, a facsimile transmission or copy of the original documents shall be as effective and enforceable as the original. This Agreement may be amended only by a writing executed by all parties.

Section 13.2. Entire Agreement. The Transaction Documents set forth the entire agreement and understanding of the parties relating to the subject matter hereof and supersedes all prior and contemporaneous agreements, negotiations and understandings between the parties, both oral and written relating to the subject matter hereof.

Section 13.3. Severability. In the event that any provision of this Agreement becomes or is declared by a court of competent jurisdiction to be illegal, unenforceable or void, this Agreement shall continue in full force and effect without said provision; provided that such severability shall be ineffective if it materially changes the economic benefit of this Agreement to any party.

Section 13.4. Headings. The headings used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

Section 13.5. Number and Gender. There may be one or more Investors as parties to this Agreement, which Investors may be natural persons or entities. All references to plural Investors shall apply equally to a single Investor if there is only one Investor, and all references to an Investor as "it" shall apply equally to a natural person.

Section 13.6. Replacement of Certificates. Upon (i) receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of a certificate representing the Purchased Shares or any Conversion Shares or Warrants or any Warrant Shares and (ii) in the case of any such loss, theft or destruction of such certificate, upon delivery of an indemnity agreement or security reasonably satisfactory in form to the Company (which shall not include

the posting of any bond unless required by the Company's transfer agent) or (iii) in the case of any such mutilation, on surrender and cancellation of such certificate, the Company at its expense will execute and deliver, in lieu thereof, a new certificate of like tenor.

Section 13.7. Fees and Expenses. Each of the Company and the Investors agrees to pay its own expenses incident to the execution and delivery of this Agreement and each agreement which is an exhibit hereto, except that the Company shall pay the fees, expenses and disbursements of Wyrick Robbins Yates & Ponton LLP, counsel to the Investors, the accountants to the Investors and shall reimburse BH Capital Investments, L.P. up to $5,000 in consideration of its due diligence expenses with respect to the Company, all as set forth in the Escrow Agreement. The Company shall reimburse the Investors for their reasonable expenses and legal fees incurred in enforcing this Agreement or in any modifications or waivers with respect thereto. The Company shall be responsible for all fees and expenses of any of its financial advisors. The Company's obligations under this Section 13.7 shall arise and remain in force whether or not any Closing occurs hereunder, unless such failure to close is solely the result of default by the Investors.

Section 13.8. Brokerage. Except as disclosed in Section 4.32 hereof, each of the parties hereto represents that it has had no dealings in connection with this transaction with any finder or broker who will demand payment of any fee or commission from the other. The Company, on the one hand, and the Investors, on the other hand, agree to indemnify the other against and hold the other harmless from any and all liabilities to any person claiming brokerage commissions or finder's fees on account of services purported to have been rendered on behalf of the indemnifying party in connection with this Agreement or the transactions contemplated hereby.

Section 13.9. Publicity. Each party agrees that it will not issue any press release or other public announcement of the transactions contemplated by this Agreement without the prior consent of the other party, which shall not be unreasonably withheld nor delayed by more than two (2) Trading Days from their receipt of such proposed release. No release shall name the Investors without their express consent.

Section 13.10 Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to the Company or the Investors or any subsequent holder of any Securities upon any breach, default or noncompliance of the Investors, any subsequent holder of any Securities or the Company under this Agreement, shall impair any such right, power or remedy, nor shall it be construed to be a waiver of any such breach, default or noncompliance, or any acquiescence therein, or of any similar breach, default or noncompliance thereafter occurring. It is further agreed that any waiver, permit, consent or approval of any kind or character on the part of the Company or the Investors of any breach, default or noncompliance under this Agreement or any waiver on the Company's or the Investors' part of any provisions or conditions of this Agreement must be in writing and shall be effective only to the extent specifically set forth in such writing and that all remedies, either under this Agreement, by law, or otherwise afforded to the Company and the Investors, shall be cumulative and not alternative.

Section 13.11 Amendments and Waivers. Except as otherwise expressly provided herein, any term of this Agreement may be amended and the observance of any term of this Agreement may

be waived (either generally or in a particular instance, either retroactively or prospectively and either for a specified period of time or indefinitely) with the written consent of the Company and the Investors or their transferees holding at least sixty percent (60%) of the outstanding Purchased Shares and Conversion Shares on a fully-diluted basis; provided, however, that no such amendment or waiver approved by fewer than all of the outstanding Purchased Shares and Conversion Shares shall reduce the aforesaid percentage of shares required under this Section 13.11. Any amendment or waiver effected in accordance with this Section 13.11 shall be in writing and shall be binding upon the Investors and each transferee of the securities issuable hereunder. Upon the effectuation of each such amendment or waiver, the Company shall promptly give written notice thereof to the Investors (or their transferees) who have not previously consented thereto in writing.

* * * * * *

IN WITNESS WHEREOF, the parties hereto have caused this Preferred Stock and Warrants Purchase Agreement to be executed by the undersigned, thereunto duly authorized, as of the date first set forth above.

Atlantic Technology Ventures, Inc.

By: /s/ Frederic P. Zotos

Name: Frederic P. Zotos
Title: President

Address: 175 Bloor Street East
South Tower, 7th Floor
Toronto, Ontario, Canada M4W 3R8
Fax: 416-929-5314

Investor: BH Capital Investments, L.P.
By: HB and Co., Inc., its General Partner

By: /s/ Henry Brachfeld

Name: Henry Brachfeld, President

Shares Purchased:
Initial Closing: $1,000,000
Second Closing: $500,000

Address: 33 Prince Arthur Avenue
Toronto, Ontario, Canada M5R I B2
Fax: 416-964-8868

Investor: Excalibur Limited Partnership
By: Excalibur Capital Management, Inc.

Shares Purchased:

By: /s/ William Hechter

Name: William Hechter, President

Initial Closing: $1,000,000
Second Closing: $500,000

Exhibit 10.3

AMENDMENT NO. 1
to
CONVERTIBLE PREFERRED STOCK AND WARRANTS PURCHASE AGREEMENT
between
Atlantic Technology Ventures, Inc.
and
the Investors Signatory Hereto

THIS AMENDMENT NO. 1 TO CONVERTIBLE PREFERRED STOCK AND WARRANTS PURCHASE AGREEMENT is entered into effective as of October 31, 2000 (the "Amendment"), between the Investors signatory hereto (each an "Investor" and together the "Investors"), and Atlantic Technology Ventures, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Company").

WHEREAS, the parties entered into that certain Convertible Preferred Stock and Warrants Purchase Agreement dated September 28, 2000 (the "Agreement"), and desire to amend certain terms of the Agreement as provided herein;

NOW, THEREFORE, in consideration of the mutual promises herein, and other good and valuable consideration, the receipt and sufficiency of which the parties hereby acknowledge, the parties hereto agree as follows:

The Agreement shall be amended as follows:

1. The definition of "Repurchase Event" under Article I of the Agreement shall be amended by deleting in its entirety repurchase event number (7), which formerly read as follows: "(7) The Company terminates the employment of A. Joseph Rudick as Chief Executive Officer or Frederic P. Zotos as President of the Company (including a change or dimunition of his duties as such)."

2. There shall be added to the Agreement an additional covenant of the Company under Section 6.13 of the Agreement, which shall read as follows: "The Company agrees that in addition to its other obligations under this Section 6.13, it shall hire a professional proxy solicitation firm within seven (7) days of the date hereof for the purpose of soliciting stockholder approval for and communicating management's recommendation in favor of the proposals contemplated by this Section 6.13, and to undertake best efforts to ensure that such firm contacts holders of at least a majority of the Company's outstanding voting securities for this purpose. Management also agrees to undertake best efforts to negotiate directly with holders of the Company's Series A Preferred Stock in an effort to secure their vote in favor of such proposals."

Except as specifically amended or modified by this Amendment, the terms and conditions of the Agreement shall remain in effect in every particular as set forth in the Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment No. 1 to Preferred Stock and Warrants Purchase Agreement to be executed by the undersigned, thereunto duly authorized, as of the date first set forth above.

Atlantic Technology Ventures, Inc.

By: /s/ Frederic P. Zotos

Name: Frederic P. Zotos
Title: President

Address: 175 Bloor Street East
South Tower, 7th Floor
Toronto, Ontario, Canada M4W 3R8
Fax: 416-929-5314

Investor: BH Capital Investments, L.P.
By: HB and Co., Inc., its General Partner
By: /s/ Henry Brachfeld

Name: Henry Brachfeld, President

Address: 33 Prince Arthur Avenue
Toronto, Ontario, Canada M5R I B2
Fax: 416-964-8868

Investor: Excalibur Limited Partnership
By: Excalibur Capital Management, Inc.

By: /s/ William Hechter

Name: William Hechter, President

Exhibit 10.4

REGISTRATION RIGHTS AGREEMENT

REGISTRATION RIGHTS AGREEMENT (this "Agreement"), dated as of September 28, 2000, by and among Atlantic Technology Ventures, Inc., a Delaware corporation, with headquarters located at 150 Broadway, Suite 1009, New York, New York 10038 (the "Company"), and the undersigned buyers (each, a "Buyer" and collectively, the "Buyers").

WHEREAS:

A. In connection with the Convertible Preferred Stock and Warrants Purchase Agreement by and among the parties hereto of even date herewith (the "Purchase Agreement"), the Company has agreed, upon the terms and subject to the conditions of the Purchase Agreement, to issue and sell to the Buyers (i) Series B preferred stock (the "Preferred Stock") convertible into shares of the Company's common stock, $0.001 par value per share (the "Common Stock") (as issued upon conversion of the Preferred Stock, the "Conversion Shares") and (ii) warrants ("Warrants") to purchase shares of Common Stock (as issued upon exercise of the Warrants, the "Warrant Shares");

B. To induce the Buyers to execute and deliver the Purchase Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the "1933 Act"), and applicable state securities laws.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and the Buyers hereby agree as follows:

1. DEFINITIONS.

As used in this Agreement, the following terms shall have the following meanings:

a. "Investor" means a Buyer, any transferee or assignee thereof to whom a Buyer assigns its rights under this Agreement and who agrees to become bound by the provisions of this Agreement in accordance with Section 9 and any transferee or assignee thereof to whom a transferee or assignee assigns its rights under this Agreement and who agrees to become bound by the provisions of this Agreement in accordance with Section 9.

b. "Person" means a corporation, a limited liability company, an association, a partnership, an organization, a business, an individual, a governmental or political subdivision thereof or a governmental agency.

c. "Register," "registered," and "registration" refer to a registration effected by preparing and filing one or more Registration Statements (as defined below) in

compliance with the 1933 Act and pursuant to Rule 415 under the 1933 Act or any successor rule providing for offering securities on a continuous basis ("Rule 415"), and the declaration or ordering of effectiveness of such Registration Statement(s) by the United States Securities and Exchange Commission (the "SEC").

d. "Registrable Securities" means (i) the Common Stock issued or issuable pursuant to the Purchase Agreement, including the Conversion Shares and the Warrant Shares, whether issued or issuable and (ii) any shares of capital stock issued or issuable with respect to the foregoing as a result of any stock split, stock dividend, recapitalization, anti-dilution adjustment, exchange or similar event or otherwise, without regard to any limitation on conversion of Preferred Stock or exercise of Warrants. In calculating the number of shares of Common Stock to include as Registrable Securities in the Registration Statement, the calculation shall include 200% of the number of shares of Common Stock initially issuable upon conversion of the Preferred Stock..

e. "Registration Statement" means a registration statement or registration statements of the Company filed under the 1933 Act.

2. REGISTRATION.

a. Mandatory Registration. The Company shall prepare, and, as soon as practicable, but in no event later than the earlier of (i) thirty (30) days after each applicable Closing Date (as defined in the Purchase Agreement) or (ii) the filing of another Registration Statement (other than a Registration Statement on Form S-4 or Form S-8 (or their equivalents at such time) relating to securities to be issued solely in connection with any acquisition of any entity or business or equity securities issuable in connection with stock option or other employee benefit plans) (the "Scheduled Filing Date"), file with the SEC a separate Registration Statement or Registration Statements (as is necessary) on Form S-3 covering the resale of all of the Registrable Securities issued or issuable in connection with each such Closing. In the event that Form S-3 is unavailable for such registrations, the Company shall use such other form

as is available for such registrations, subject to the provisions of Section 2.e. Any Registration Statement prepared pursuant hereto shall register for resale at least that number of shares of Common Stock equal to 200% of the number of shares of Common Stock initially issuable upon conversion of the Preferred Stock.. The Company shall use its best efforts to have each Registration Statement declared effective by the SEC as soon as practicable, but in no event later than ninety (90) days after the applicable Closing Date (the "Scheduled Effective Date"). The Company represents and covenants that no Person other than an Investor has or will have the right to include any securities of the Company in the Registration Statement to be filed in accordance with this Section 2.a. The Company will not include any selling stockholder other than the Buyer in any Registration Statement it files pursuant to this Section 2.a without the Buyer's written consent.

In the event that the number of shares of Common Stock so registered and not yet issued to the Investors as Conversion Shares or Warrant Shares shall be less than 150% of the number of shares which would be issuable at any time upon the conversion of the remaining unconverted principal amount of the Preferred Stock and exercise of the Warrants, then the Company shall be obligated to file, within fifteen (15) days on notice from any Investor of such occurrence, a further Registration Statement registering such remaining shares and shall use diligent best efforts to have such additional Registration Statement declared effective within sixty (60) days of such notice.

b. Piggy-Back Registrations. If at any time prior to the expiration of the Registration Period (as hereinafter defined) the Company proposes to file with the SEC a Registration Statement relating to an offering for its own account or the account of others under the 1933 Act of any of its securities (other than a Registration Statement on Form S-4 or Form S-8 (or their equivalents at such time) relating to securities to be issued solely in connection with any acquisition of any entity or business or equity securities issuable in connection with stock option or other employee benefit plans) the Company shall promptly send to each Investor written notice of the Company's intention to file a Registration Statement and of such Investor's rights under this Section 2.b and, if within twenty (20) days after receipt of such notice, such Investor shall so request in writing, the Company shall include in such Registration Statement all or any part of the Registrable Securities such Investor requests to be registered, subject to the priorities set forth in this Section 2.b below. No right to registration of Registrable Securities under this Section 2.b shall be construed to limit any registration required under Section 2.a. The obligations of the Company under this Section 2.b may be waived by Investors holding a majority of the Registrable Securities. If an offering in connection with which an Investor is entitled to registration under this Section 2.b is an underwritten offering, then each Investor whose Registrable Securities are included in such Registration Statement shall, unless otherwise agreed to by the Company, offer and sell such Registrable Securities in an underwritten offering using the same underwriter or underwriters and, subject to the provisions of this Agreement, on the same terms and conditions as other shares of Common Stock included in such underwritten offering. If a registration pursuant to this Section 2.b is to be an underwritten public offering and the managing underwriter(s) advise the Company in writing, that in their reasonable good faith opinion, marketing or other factors dictate that a limitation on the number of shares of Common Stock which may be included in the Registration Statement is necessary to facilitate and not adversely affect the proposed offering, then the Company shall include in such registration:

(1) first, all securities the Company proposes to sell for its own account;

(2) second, up to the full number of securities proposed to be registered for the account of the holders of securities entitled to inclusion of their securities in the Registration Statement by reason of demand registration rights; and

(3) third, the securities requested to be registered by the Investors and other holders of securities entitled to participate in the registration, as of the date hereof, drawn from them pro rata based on the number each has requested to be included in such registration.

c. Allocation of Registrable Securities. The initial number of Registrable Securities included in any Registration Statement and each increase in the number of Registrable Securities included therein shall be allocated pro rata among the Investors based on the number of Registrable Securities held by each Investor at the time the Registration Statement covering such initial number of Registrable Securities or increase thereof is declared effective by the SEC. In the event that an Investor sells or otherwise transfers any of such Investor's Registrable Securities, each transferee shall be allocated a pro rata portion of the then remaining number of Registrable Securities included in such Registration Statement for such transferor. Any shares of Common Stock included in a Registration Statement and which remain allocated to any Person which ceases to hold any Registrable Securities shall be allocated to the remaining Investors, pro rata based on the number of Registrable Securities then held by such Investors.

d. Legal Counsel. Subject to Section 5 hereof, the Buyers holding a majority of the Registrable Securities shall have the right to select one legal counsel to review and oversee as their counsel any offering pursuant to this Section 2 ("Legal Counsel"), which shall be Wyrick Robbins Yates & Ponton LLP or such other counsel as thereafter designated by the holders of a majority of Registrable Securities. The Company shall reasonably cooperate with Legal Counsel in performing the Company's obligations under this Agreement.

e. Ineligibility for Form S-3. In the event that Form S-3 is unavailable for any registration of Registrable Securities hereunder, the Company shall (i) register the sale of the Registrable Securities on another appropriate form and (ii) undertake to register the Registrable Securities on Form S-3 as soon as such form is available, provided that the Company shall maintain the effectiveness of the Registration Statement then in effect until such time as a Registration Statement on Form S-3 covering the Registrable Securities has been declared effective by the SEC.

f. Sufficient Number of Shares Registered. If the number of shares available under a Registration Statement filed pursuant to Section 2.a at any time is insufficient to cover all of the Registrable Securities which such Registration Statement is required to cover, the Company shall amend the Registration Statement, or file a new Registration Statement (on the short form available therefor, if applicable), or both, as soon as practicable, but in any event not later than twenty (20) days after the necessity therefor arises (each such date, an "Additional Scheduled Filing Date") so as to cover all Registrable Securities then issuable on the Additional Scheduled Filing Date. The Company shall use it best efforts to cause such amendment or new Registration Statement to become effective as soon as practicable following the filing thereof, but in no event later than sixty (60) days after the Additional Scheduled Filing Date (each such date, an "Additional Scheduled Effective Date"). For purposes of the foregoing provision, the number of shares available under a Registration Statement shall be deemed "insufficient to cover all of the Registrable Securities" if at any time the Conversion Price (as defined in the Certificate of Designations, Preferences and Rights governing the Preferred Stock) has declined 66.7% or more from the Purchase Price (as defined in the Purchase Agreement) on the applicable Closing Date. For purposes of the calculation set forth in the foregoing sentence, any restrictions on the

exercisability of the Preferred Stock or the Warrants shall be disregarded and such calculation shall assume that the Preferred Stock is exercisable at the then prevailing Conversion Price (as defined in the Certificate of Designations, Preferences and Rights governing the Preferred Stock) and the Warrants are exercisable at the then prevailing Exercise Price (as defined in the Warrant).

3. RELATED OBLIGATIONS.

Whenever an Investor has requested that any Registrable Securities be registered pursuant to Section 2.b or at such time as the Company is obligated to file a Registration Statement with the SEC pursuant to Section 2.a or 2.f, the Company will use its best efforts to effect the registration of the Registrable Securities in accordance with the intended method of disposition thereof and, pursuant thereto, the Company shall have the following obligations:

a. The Company shall not file any other Registration Statement with respect to any of its securities between the date hereof and ninety (90) days after the effective date of any such Registration Statement (other than a Registration Statement on Form S-8 (or its equivalent at such time)). The Company shall keep each of the Registration Statements required to be filed hereunder effective pursuant to Rule 415 at all times until the earlier of (i) the date as of which the Investors may sell all of the Registrable Securities covered by such Registration Statement without restriction pursuant to Rule 144(k) promulgated under the 1933 Act (or successor thereto) or (ii) the date on which (A) the Investors shall have sold all the Registrable Securities covered by such Registration Statement and (B) none of the Preferred Stock or Warrants is outstanding (the "Registration Period"), which Registration Statement (including any amendments or supplements thereto and prospectuses contained therein) shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading. The term "best efforts" shall mean, among other things, that the Company shall submit to the SEC, within two (2) business days after the Company learns that no review of a particular Registration Statement will be made by the staff of the SEC or that the staff has no further comments on the Registration Statement, as the case may be, a request for acceleration of effectiveness of such Registration Statement to a time and date not later than forty-eight (48) hours after the submission of such request.

b. The Company shall prepare and file with the SEC such amendments (including post-effective amendments) and supplements to a Registration Statement and the prospectus used in connection with such Registration Statement, which prospectus is to be filed pursuant to Rule 424 promulgated under the 1933 Act, as may be necessary to keep such Registration Statement effective at all times during the Registration Period, and, during such period, comply with the provisions of the 1933 Act with respect to the disposition of all Registrable Securities of the Company covered by such Registration Statement until such time as all of such Registrable Securities shall have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof as set forth in such Registration Statement. In the case of amendments and supplements to a Registration Statement which are required to be filed pursuant to this Agreement (including pursuant to this Section 3.b by reason of the

Company filing a report on Form 10-K, Form 10-Q or Form 8-K or any analogous report under the Securities Exchange Act of 1934, as amended (the "1934 Act"), the Company shall file such amendments or supplements with the SEC on the same day on which the 1934 Act report is filed which created the requirement for the Company to amend or supplement the Registration Statement.

c. The Company shall (a) permit Legal Counsel to review and comment upon (i) the Registration Statement at least seven (7) days prior to its filing with the SEC and (ii) all other Registration Statements and all amendments and supplements to all Registration Statements within a reasonable number of days prior to their filing with the SEC and (b) not file any document in a form to which Legal Counsel reasonably objects. The Company shall not submit a request for acceleration of the effectiveness of a Registration Statement or any amendment or supplement thereto without the prior approval of Legal Counsel, which approval shall not be unreasonably withheld. The Company shall furnish to Legal Counsel, without charge, (i) any correspondence from the SEC or the staff of the SEC to the Company or its representatives relating to any Registration Statement, (ii) promptly after the same is prepared and filed with the SEC, one copy of any Registration Statement and any amendment(s) thereto, including financial statements and schedules, all documents incorporated therein by reference and all exhibits and (iii) upon the effectiveness of any Registration Statement, one copy of the prospectus included in such Registration Statement and all amendments and supplements thereto.

d. The Company shall furnish to each Investor whose Registrable Securities are included in any Registration Statement, without charge, (i) promptly after the same is prepared and filed with the SEC, at least one copy of such Registration Statement and any amendment(s) thereto, including financial statements and schedules, all documents incorporated therein by reference, all exhibits and each preliminary prospectus, (ii) upon the effectiveness of any Registration Statement, ten (10) copies of the prospectus included in such Registration Statement and all amendments and supplements thereto (or such other number of copies as such Investor may reasonably request) and (iii) such other documents, including copies of any preliminary or final prospectus, as such Investor may reasonably request from time to time in order to facilitate the disposition of the Registrable Securities owned by such Investor.

e. The Company shall use reasonable efforts to (i) register and qualify the Registrable Securities covered by a Registration Statement under such other securities or "blue sky" laws of such jurisdictions in the United States as Legal Counsel or any Investor reasonably requests, (ii) prepare and file in those jurisdictions, such amendments (including post-effective amendments) and supplements to such registrations and qualifications as may be necessary to maintain the effectiveness thereof during the Registration Period, (iii) take such other actions as may be necessary to maintain such registrations and qualifications in effect at all times during the Registration Period, and (iv) take all other actions reasonably necessary or advisable to qualify the Registrable Securities for sale in such jurisdictions; provided, however, that the Company shall not be required in connection therewith or as a condition thereto to (x) qualify to do business in any jurisdiction where it would not otherwise be required to qualify but for this Section 3.e, (y) subject itself to general taxation in any such jurisdiction, or (z) file a general

consent to service of process in any such jurisdiction. The Company shall promptly notify Legal Counsel and each Investor who holds Registrable Securities of the receipt by the Company of any notification with respect to the suspension of the registration or qualification of any of the Registrable Securities for sale under the securities or "blue sky" laws of any jurisdiction in the United States or its receipt of actual notice of the initiation or threat of any proceeding for such purpose.

f. In the event Investors who hold a majority of the Registrable Securities being offered in the offering select underwriters for the offering, the Company shall enter into and perform its obligations under an underwriting agreement, in usual and customary form, including, without limitation, customary indemnification and contribution obligations, with the underwriters of such offering; provided, however, that the Company shall have the right to consent to the selection of such underwriter, which consent shall not be unreasonably withheld.

g. As promptly as practicable after becoming aware of such event, the Company shall notify Legal Counsel and each Investor in writing of the happening of any event as a result of which the prospectus included in a Registration Statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, and promptly prepare a supplement or amendment to such Registration Statement to correct such untrue statement or omission, and deliver ten (10) copies of such supplement or amendment to Legal Counsel and each Investor (or such other number of copies as Legal Counsel or such Investor may reasonably request). The Company shall also promptly notify Legal Counsel and each Investor in writing (i) when a prospectus or any prospectus supplement or post-effective amendment has been filed, and when a Registration Statement or any post-effective amendment has become effective (notification of such effectiveness shall be delivered to Legal Counsel and each Investor by facsimile on the same day of such effectiveness and by overnight mail), (ii) of any request by the SEC for amendments or supplements to a Registration Statement or related prospectus or related information, and (iii) of the Company's reasonable determination that a post-effective amendment to a Registration Statement would be appropriate.

h. The Company shall use its best efforts to prevent the issuance of any stop order or other suspension of effectiveness of a Registration Statement, or the suspension of the qualification of any of the Registrable Securities for sale in any jurisdiction and, if such an order or suspension is issued, to obtain the withdrawal of such order or suspension at the earliest possible moment and to notify Legal Counsel and each Investor who holds Registrable Securities being sold (and, in the event of an underwritten offering, the managing underwriters) of the issuance of such order and the resolution thereof or its receipt of actual notice of the initiation or threat of any proceeding for such purpose.

i. At the request of any Investor, the Company shall furnish to such Investor, on the date of the effectiveness of any Registration Statement and thereafter from time to time on such dates as an Investor may reasonably request (i) if required by an underwriter, a letter,

dated such date, from the Company's independent certified public accountants in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering, addressed to the underwriters, and (ii) an opinion, dated as of such date, of counsel representing the Company for purposes of such Registration Statement, in form, scope and substance as is customarily given in an underwritten public offering, addressed to the underwriters and the Investors.

j. The Company shall make available for inspection by (i) any Investor, (ii) Legal Counsel, (iii) any underwriter participating in any disposition pursuant to a Registration Statement, (iv) one firm of accountants or other agents retained by the Investors and (v) one firm of attorneys retained by such underwriters (collectively, the "Inspectors") all pertinent financial and other records, and pertinent corporate documents and properties of the Company (collectively, the "Records"), as shall be reasonably deemed necessary by each Inspector, and cause the Company's officers, directors and employees to supply all information which any Inspector may reasonably request; provided, however, that each Inspector shall hold in strict confidence and shall not make any disclosure (except to an Investor) or use of any Records or other information which the Company determines in good faith to be confidential, and of which determination the Inspectors are so notified, unless (a) the disclosure of such Records is necessary to avoid or correct a misstatement or omission in any Registration Statement or is otherwise required under the 1933 Act, (b) the release of such Records is ordered pursuant to a final, non-appealable subpoena or order from a court or government body of competent jurisdiction, or (c) the information in such Records has been made generally available to the public other than by disclosure in violation of this Agreement or any other agreement of which the Inspector has knowledge. Each Investor agrees that it shall, upon learning that disclosure of such Records is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt notice to the Company and allow the Company, at its expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, the Records deemed confidential.

k. The Company shall hold in confidence and not make any disclosure of information concerning an Investor provided to the Company unless (i) disclosure of such information is necessary to comply with federal or state securities laws, (ii) the disclosure of such information is necessary to avoid or correct a misstatement or omission in any Registration Statement, (iii) the release of such information is ordered pursuant to a subpoena or other final, non-appealable order from a court or governmental body of competent jurisdiction, or (iv) such information has been made generally available to the public other than by disclosure in violation of this Agreement or any other agreement. The Company agrees that it shall, upon learning that disclosure of such information concerning an Investor is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt written notice to such Investor and allow such Investor, at the Investor's expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, such information.

l. The Company shall cooperate with the Investors who hold Registrable Securities being offered and, to the extent applicable, any managing underwriter or underwriters, to facilitate the timely preparation and delivery of certificates (not bearing any restrictive legend) representing the Registrable Securities to be offered pursuant to a Registration Statement and enable such certificates to be in such denominations or amounts, as the case may be, as the managing underwriter or underwriters, if any, or, if there is no managing underwriter or underwriters, the Investors may reasonably request and registered in such names as the managing underwriter or underwriters, if any, or the Investors may request.

m. The Company shall maintain a transfer agent and registrar of all such Registrable Securities not later than the effective date of such Registration Statement.

n. If requested by the managing underwriters or an Investor, the Company shall: (i) immediately incorporate in a prospectus supplement or post-effective amendment such information as the managing underwriters and the Investors agree should be included therein relating to the sale and distribution of Registrable Securities, including, without limitation, information with respect to the number of Registrable Securities being sold to such underwriters, the purchase price being paid therefor by such underwriters and any other terms of the underwritten (or best efforts underwritten) offering of the Registrable Securities to be sold in such offering; (ii) make all required filings of such prospectus supplement or post-effective amendment as soon as notified of the matters to be incorporated in such prospectus supplement or post-effective amendment; and (iii) supplement or make amendments to any Registration Statement if requested by an Investor or any underwriter of such Registrable Securities.

o. The Company shall use its best efforts to cause the Registrable Securities covered by the applicable Registration Statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to consummate the disposition of such Registrable Securities.

p. The Company shall make generally available to its security holders as soon as practical, but not later than ninety (90) days after the close of the period covered thereby, an earnings statement (in form complying with the provisions of Rule 158 under the 1933 Act) covering a 12-month period beginning not later than the first day of the Company's fiscal quarter next following the effective date of the Registration Statement.

q. The Company shall otherwise use its best efforts to comply with all applicable rules and regulations of the SEC in connection with any registration hereunder.

r. Within two (2) business days after a Registration Statement is ordered effective by the SEC, the Company shall deliver, and shall cause legal counsel for the Company to deliver, to the transfer agent for the Registrable Securities covered thereby (with copies to the Investors whose Registrable Securities are included in such Registration Statement) confirmation, in the form attached hereto as Exhibit A, that such Registration Statement has been declared effective by the SEC.

s. The Company shall take all other reasonable actions necessary to expedite and facilitate disposition by the Investors of Registrable Securities pursuant to a Registration Statement.

t. Notwithstanding anything to the contrary in Section 3.g, at any time after the Registration Statement has been declared effective, the Company may delay the disclosure of material, non-public information concerning the Company the disclosure of which at the time is not, in the good faith opinion of the Board of Directors of the Company and its counsel, in the best interest of the Company and, in the opinion of counsel to the Company, otherwise required (a "Grace Period"); provided, that the Company shall promptly (i) notify the Investors in writing of the existence of material, non-public information giving rise to a Grace Period and the date on which the Grace Period will begin, and (ii) notify the Investors in writing of the date on which the Grace Period ends; and, provided further, that during any consecutive 365-day period, there shall be only one Grace Period, such Grace Period not to exceed twenty (20) days in the aggregate (an "Allowable Grace Period"). For purposes of determining the length of a Grace Period above, the Grace Period shall begin on and include the date the Investors receive the notice referred to in clause (i) above and shall end on and include the date the Investors receive the notice referred to in clause (ii) above. Upon expiration of the Allowable Grace Period, the Company shall again be bound by the first sentence of Section 3.g with respect to the information giving rise thereto. Notwithstanding anything to the contrary contained herein, the Investors may convert Preferred Stock and exercise Warrants during a Grace Period.

u. Each of the following events shall constitute a "Registration Default" for purposes of this Agreement:

(i) the Company's failure to file a Registration Statement by the applicable Scheduled Filing Date or Additional Scheduled Filing Date thereof, as appropriate;

(ii) the SEC's failure to declare a Registration Statement effective on or before the applicable Scheduled Effective Date or Additional Scheduled Effective Date thereof, as appropriate, except where the failure to meet such deadline is the result primarily of actions by the holders of Registrable Securities or Legal Counsel;

(iii) the Company's failure to request acceleration of the effectiveness of a Registration Statement within two (2) business days after the SEC has notified the Company that it may file such an acceleration request as required by Section 3.a hereof, except where the failure to meet such deadline is a result solely of actions by the holders of Registrable Securities or Legal Counsel;

(iv) the Investors' inability to sell all Registrable Securities pursuant to an effective Registration Statement (whether because of a failure to keep the Registration Statement effective, to disclose such information as is necessary for sales to be made pursuant to the Registration Statement, to register sufficient shares of Common Stock or otherwise); or

(v) the aggregate days of Grace Period exceed the Allowable Grace Period.

Upon the occurrence of a Registration Default, the Company shall pay each Investor an amount determined in accordance with the following formula for each 30-day period of such Registration Default:

2% x P x N for the first thirty (30) days of the first Registration Default, and 3% x P x N for all continuing subsequent Registration Defaults

where

P = the average Closing Price (as defined in the Purchase Agreement) of the Common Stock for the applicable thirty (30) days; and

N = the number of Registrable Securities that such Investor holds or may acquire pursuant of conversion to Preferred Stock and exercise of Warrants on the last day of the applicable 30-day period (without giving effect to any limitations on exercise).

If a Registration Default is cured before the end of a 30-day period, the applicable formula shall be pro-rated. The Company shall pay such amount in cash on demand by an Investor made at any time during the continuance or after termination of such Registration Default. If the Company does not remit payment of the amount due to such Investor, the Company will pay the Investor's reasonable costs of collection, including attorneys' fees. An Investor's right to demand such payment shall be in addition to any other rights it may have under this Agreement, the Purchase Agreement or otherwise.

Notwithstanding anything in this Section 3.u to the contrary, no payment shall be made to Investor as a result of a Registration Default under subsection (ii) above for the first thirty (30) days of such Registration Default in the event the SEC conducts a full review of a Registration Statement.

4. OBLIGATIONS OF THE INVESTORS.

a. At least seven (7) business days prior to the first anticipated filing date of a Registration Statement, the Company shall notify each Investor in writing of the information the Company requires from each such Investor if such Investor elects to have any of such Investor's Registrable Securities included in such Registration Statement. It shall be a condition precedent to the obligations of the Company to complete the registration pursuant to this Agreement with respect to the Registrable Securities of a particular Investor that such Investor shall furnish to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it as shall be reasonably required to effect the registration of such Registrable Securities and shall execute such documents in connection with such registration as the Company may reasonably request.

b. Each Investor by such Investor's acceptance of the Registrable Securities agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any Registration Statement hereunder, unless such Investor has notified the Company in writing of such Investor's election to exclude all of such Investor's Registrable Securities from such Registration Statement.

c. In the event any Investor elects to participate in an underwritten public offering pursuant to Section 2.b, each such Investor agrees to enter into and perform such Investor's obligations under an underwriting agreement, in usual and customary form, including, without limitation, customary indemnification and contribution obligations, with the managing underwriter of such offering and take such other actions as are reasonably required in order to expedite or facilitate the disposition of the Registrable Securities.

d. Each Investor agrees that, upon receipt of any notice from the Company of the happening of any event of the kind described in Section 3.h or the first sentence of Section 3.g, such Investor will immediately discontinue disposition of Registrable Securities pursuant to any Registration Statement(s) covering such Registrable Securities until such Investor's receipt of the copies of the supplemented or amended prospectus contemplated by Section 3.h or the first sentence of Section 3.g.

e. No Investor may participate in any underwritten registration hereunder unless such Investor (i) agrees to sell such Investor's Registrable Securities on the basis provided in any underwriting arrangements approved by the Investors entitled hereunder to approve such arrangements, (ii) completes and executes all questionnaires, powers of attorney, indemnities, underwriting agreements and other documents reasonably required under the terms of such underwriting arrangements, and (iii) agrees to pay its pro rata share of all underwriting discounts and commissions.

f. Each Investor agrees not to take any action to cause such Investor to become a registered broker-dealer as defined under the 1934 Act or to effect any change to such Investor's status that would preclude the Company from using Form S-3 for the Registration Statement.

5. EXPENSES OF REGISTRATION.

All reasonable expenses, other than expenses incurred pursuant to Section 3.j(iv) and (v) and underwriting discounts and commissions, incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualifications fees, printers and accounting fees, and fees and disbursements of counsel for the Company and reasonable fees and disbursements of Legal Counsel, shall be paid by the Company.

6. INDEMNIFICATION.

In the event any Registrable Securities are included in a Registration Statement under this Agreement:

a. To the fullest extent permitted by law, the Company will, and hereby does, indemnify, hold harmless and defend each Investor who holds such Registrable Securities, the directors, officers, partners, employees, agents, representatives of, and each Person, if any, who controls any Investor within the meaning of the 1933 Act or the 1934 Act, and any underwriter (as defined in the 1933 Act) for the Investors, and the directors and officers of, and each Person, if any, who controls, any such underwriter within the meaning of the 1933 Act or the 1934 Act (each, an "Indemnified Person"), against any losses, claims, damages, liabilities, judgments, fines, penalties, charges, costs, attorneys' fees, amounts paid in settlement or expenses, joint or several, (collectively, "Claims") incurred in investigating, preparing or defending any action, claim, suit, inquiry, proceeding, investigation or appeal taken from the foregoing by or before any court or governmental, administrative or other regulatory agency or body or the SEC, whether pending or threatened, whether or not an indemnified party is or may be a party thereto ("Indemnified Damages"), to which any of them may become subject insofar as such Claims (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon: (i) any untrue statement or alleged untrue statement of a material fact in a Registration Statement or any post-effective amendment thereto or in any filing made in connection with the qualification of the offering under the securities or other "blue sky" laws of any jurisdiction in which Registrable Securities are offered ("Blue Sky Filing"), or the omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained in any preliminary prospectus if used prior to the effective date of such Registration Statement, or contained in the final prospectus (as amended or supplemented, if the Company files any amendment thereof or supplement thereto with the SEC) or the omission or alleged omission to state therein any material fact necessary to make the statements made therein, in light of the circumstances under which the statements therein were made, not misleading, (iii) any violation or alleged violation by the Company of the 1933 Act, the 1934 Act, any other law, including, without limitation, any state securities law, or any rule or regulation thereunder relating to the offer or sale of the Registrable Securities pursuant to a Registration Statement or (iv) any material violation of this Agreement (the matters in the foregoing clauses (i) through (iv) being, collectively, "Violations").

The Company shall reimburse the Investors and each such underwriter or controlling person, promptly as such expenses are incurred and are due and payable, for any legal fees or reasonable other expenses incurred by them in connection with investigating or defending any such Claim.

Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6.a: (i) shall not apply to a Claim by an Indemnified Person arising out of or based upon a Violation which occurs in reliance upon and in conformity with

information furnished in writing to the Company by such Indemnified Person or underwriter for such Indemnified Person expressly for use in connection with the preparation of the Registration Statement or any such amendment thereof or supplement thereto, if such prospectus was timely made available by the Company pursuant to Section 3.d; (ii) with respect to any preliminary prospectus, shall not inure to the benefit of any such person from whom the person asserting any such Claim purchased the Registrable Securities that are the subject thereof (or to the benefit of any person controlling such person) if the untrue statement or omission of material fact contained in the preliminary prospectus was corrected in the prospectus, as then amended or supplemented, if such prospectus was timely made available by the Company pursuant to Section 3.d, and the Indemnified Person was promptly advised in writing not to use the incorrect prospectus prior to the use giving rise to a violation and such Indemnified Person, notwithstanding such advice, used it; (iii) shall not be available to the extent such Claim is based on a failure of the Investor to deliver or to cause to be delivered the prospectus made available by the Company, if such prospectus was timely made available by the Company pursuant to Section 3.d; and (iv) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Person and shall survive the transfer of the Registrable Securities by the Investors pursuant to Section 9.

b. In connection with any Registration Statement in which an Investor is participating, each such Investor agrees to severally and not jointly indemnify, hold harmless and defend, to the same extent and in the same manner as is set forth in Section 6.a, the Company, each of its directors, each of its officers who signs the Registration Statement, each Person, if any, who controls the Company within the meaning of the 1933 Act or the 1934 Act (collectively and together with an Indemnified Person, an "Indemnified Party"), against any Claim or Indemnified Damages to which any of them may become subject, under the 1933 Act, the 1934 Act or otherwise, insofar as such Claim or Indemnified Damages arise out of or are based upon any Violation, in each case to the extent, and only to the extent, that such Violation occurs in reliance upon and in conformity with written information furnished to the Company by such Investor expressly for use in connection with such Registration Statement; and, subject to Section 6.d, such Investor will reimburse any legal or other expenses reasonably incurred by them in connection with investigating or defending any such Claim; provided, however, that the indemnity agreement contained in this Section 6.b and the agreement with respect to contribution contained in Section 7 shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of such Investor, which consent shall not be unreasonably withheld; provided, further, however, that the Investor shall be liable under this Section 6.b for only that amount of a Claim or Indemnified Damages as does not exceed the net proceeds to such Investor as a result of the sale of Registrable Securities pursuant to such Registration Statement. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such Indemnified Party and shall survive the transfer of the Registrable Securities by the Investors pursuant to Section 9. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6.b with respect to any preliminary prospectus shall not inure to the benefit of any Indemnified Party if the

untrue statement or omission of material fact contained in the preliminary prospectus was corrected on a timely basis in the prospectus and such prospectus was provided to Investors as required, as then amended or supplemented.

c. The Company shall be entitled to receive indemnities from underwriters, selling brokers, dealer managers and similar securities industry professionals participating in any distribution, to the same extent as provided above, with respect to information such persons so furnished in writing expressly for inclusion in the Registration Statement.

d. Promptly after receipt by an Indemnified Person or Indemnified Party under this Section 6 of notice of the commencement of any action or proceeding (including any governmental action or proceeding) involving a Claim, such Indemnified Person or Indemnified Party shall, if a Claim in respect thereof is to be made against any indemnifying party under this Section 6, deliver to the indemnifying party a written notice of the commencement thereof, and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires, jointly with any other indemnifying party similarly noticed, to assume control of the defense thereof with counsel mutually satisfactory to the indemnifying party and the Indemnified Person or the Indemnified Party, as the case may be; provided, however, that an Indemnified Person or Indemnified Party shall have the right to retain its own counsel with the fees and expenses to be paid by the indemnifying party, if, in the reasonable opinion of counsel retained by the indemnifying party, the representation by such counsel of the Indemnified Person or Indemnified Party and the indemnifying party would be inappropriate due to actual or potential differing interests between such Indemnified Person or Indemnified Party and any other party represented by such counsel in such proceeding. The Company shall pay reasonable fees for only one separate legal counsel for the Investors, and such legal counsel shall be selected by the Investors holding a majority of the issued or issuable Registrable Securities included in the Registration Statement to which the Claim relates. The Indemnified Party or Indemnified Person shall cooperate fully with the indemnifying party in connection with any negotiation or defense of any such action or claim by the indemnifying party and shall furnish to the indemnifying party all information reasonably available to the Indemnified Party or Indemnified Person which relates to such action or claim. The indemnifying party shall keep the Indemnified Party or Indemnified Person fully apprised at all times as to the status of the defense or any settlement negotiations with respect thereto. No indemnifying party shall be liable for any settlement of any action, claim or proceeding effected without its written consent; provided, however, that the indemnifying party shall not unreasonably withhold, delay or condition its consent. No indemnifying party shall, without the consent of the Indemnified Party or Indemnified Person, consent to entry of any judgment or enter into any settlement or other compromise which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party or Indemnified Person of a release from all liability in respect to such claim or litigation. Following indemnification as provided for hereunder, the indemnifying party shall be subrogated to all rights of the Indemnified Party or Indemnified Person with respect to all third parties, firms or corporations relating to the matter for which indemnification has been made. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action shall not relieve such indemnifying party of any liability to the

Indemnified Person or Indemnified Party under this Section 6, except to the extent that the indemnifying party is prejudiced in its ability to defend such action.

e. The indemnity agreements contained herein shall be in addition to (i) any cause of action or similar right of the Indemnified Party or Indemnified Person against the indemnifying party or others, and (ii) any liabilities the indemnifying party may be subject to pursuant to the law.

7. CONTRIBUTION.

To the extent any indemnification by an indemnifying party is prohibited or limited by law, the indemnifying party agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under Section 6 to the fullest extent permitted by law; provided, however, that: (i) no seller of Registrable Securities guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any seller of Registrable Securities who was not guilty of fraudulent misrepresentation; and (ii) contribution by any seller of Registrable Securities shall be limited in amount to the net amount of proceeds received by such seller from the sale of such Registrable Securities.

8. REPORTS UNDER THE 1934 ACT.

With a view to making available to the Investors the benefits of Rule 144 promulgated under the 1933 Act or any other similar rule or regulation of the SEC that may at any time permit the Investors to sell securities of the Company to the public without registration ("Rule 144"), during the Registration Period, the Company agrees to:

a. make and keep public information available, as those terms are understood and defined in Rule 144;

b. file with the SEC in a timely manner all reports and other documents required of the Company under the 1933 Act and the 1934 Act so long as the Company remains subject to such requirements and the filing of such reports and other documents is required for the applicable provisions of Rule 144; and

c. furnish to each Investor so long as such Investor owns Registrable Securities, promptly upon request, (i) a written statement by the Company that it has complied with the reporting requirements of Rule 144, the 1933 Act and the 1934 Act, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested to permit the Investors to sell such securities pursuant to Rule 144 without registration.

9. ASSIGNMENT OF REGISTRATION RIGHTS.

The rights under this Agreement shall be automatically assignable by the Investors to any transferee of all or any portion of Registrable Securities if: (i) the Investor agrees in writing with the transferee or assignee to assign such rights, and a copy of such agreement is furnished to the Company within a reasonable time after such assignment; (ii) the Company is, within a reasonable time after such transfer or assignment, furnished with written notice of (a) the name and address of such transferee or assignee, and (b) the securities with respect to which such registration rights are being transferred or assigned; (iii) immediately following such transfer or assignment the further disposition of such securities by the transferee or assignee is restricted under the 1933 Act and applicable state securities laws; (iv) at or before the time the Company receives the written notice contemplated by clause (ii) of this sentence the transferee or assignee agrees in writing with the Company to be bound by all of the provisions contained herein; and (v) such transfer shall have been made in accordance with the applicable requirements of the Purchase Agreement. No transferee in any transfer made in reliance on Rule 144 will have any rights as an Investor under this Agreement.

10. AMENDMENT OF REGISTRATION RIGHTS.

Provisions of this Agreement may be amended and the observance thereof may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and Investors who then hold or have the right to acquire two-thirds of the Registrable Securities. Any amendment or waiver effected in accordance with this Section 10 shall be binding upon each Investor and the Company. No such amendment shall be effective to the extent that it applies to less than all of the holders of the Registrable Securities. No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any of this Agreement unless the same consideration also is offered to all of the parties to this Agreement.

11. MISCELLANEOUS.

a. A Person is deemed to be a holder of Registrable Securities whenever such Person owns or is deemed to own of record such Registrable Securities. If the Company receives conflicting instructions, notices or elections from two (2) or more Persons with respect to the same Registrable Securities, the Company shall act upon the basis of instructions, notice or election received from the registered owner of such Registrable Securities.

b. Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one business day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses and facsimile numbers for such communications shall be:

If to the Company:

Atlantic Technology Ventures, Inc.
150 Broadway, Suite 1009
New York, New York 10038
Telephone: (212) 267-2503
Facsimile: (212) 267-2159
Attention: Fred Zotos

With a copy to:

Kramer Levin Naftalis & Frankel LLP
919 Third Avenue
New York, New York 10022-3852
Telephone: (212) 715-9263
Facsimile: (212) 715-8000
Attention:

If to a Buyer, to its address and facsimile number on the Schedule of Buyers attached hereto, with copies to such Buyer's representatives as set forth on the Schedule of Buyers or to such other address and/or facsimile number and/or to the attention of such other person as the recipient party has specified by written notice given to each other party five days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically generated by the sender's facsimile machine containing the time, date, recipient facsimile number and an image of such transmission or (C) provided by a courier or overnight courier service shall be rebuttable evidence of personal service, overnight or courier delivery or transmission by facsimile in accordance with clause (i), (ii) or (iii) above, respectively.

c. Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

d. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware applicable to contracts made in Delaware by persons domiciled

in Delaware and without regard to its principles of conflicts of laws. Any dispute under this Agreement shall be governed and resolved pursuant to Section 10.2 of the Purchase Agreement

e. Subject to the requirements of Section 9, this Agreement shall inure to the benefit of and be binding upon the permitted successors and assigns of each of the parties hereto.

f. The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

g. This Agreement may be executed in identical counterparts, each of which shall be deemed an original but all of which shall constitute one and the same agreement. This Agreement, once executed by a party, may be delivered to the other party hereto by facsimile transmission of a copy of this Agreement bearing the signature of the party so delivering this Agreement.

h. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

j. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent and no rules of strict construction will be applied against any party.

k. This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

* * * * * *

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

COMPANY:

Atlantic Technology Ventures, INC.

By: /s/ Frederic P. Zotos

Name: Frederic P. Zotos
Its: President

BUYERS:

BH Capital Investments, L.P.
By: HB and Co., Inc. its General Partner

By: /s/ Henry Brachfeld

Name: Henry Brachfeld
Its: Authorized Signatory

Excalibur Limited Partnership
By: Excalibur Capital Management, Inc.
Its General Partner

By: /s/ William Hechter

Name: William Hechter, President

Exhibit A

FORM OF NOTICE OF EFFECTIVENESS
OF REGISTRATION STATEMENT

- --------------------------

- --------------------------

Attn:

Re: Atlantic Technology Ventures, Inc.

Ladies and Gentlemen:

We are counsel to Atlantic Technology Ventures, Inc., a Delaware corporation (the "Company"), which has entered into that certain Convertible Preferred Stock and Warrants Purchase Agreement (the "Purchase Agreement") by and among the Company and the buyers named therein (collectively, the "Holders") pursuant to which the Company issued to the Holders Preferred Stock convertible into shares of its common stock, $0.001 par value per share (the "Common Stock") and warrants to purchase Common Stock. Pursuant to the Purchase Agreement, the Company also has entered into a Registration Rights Agreement with the Holders (the "Registration Rights Agreement") pursuant to which the Company agreed, among other things, to register the Registrable Securities (as defined in the Registration Rights Agreement) under the Securities Act of 1933, as amended (the "1933 Act"). In connection with the Company's obligations under the Registration Rights Agreement, on _____ ___, 2000, the Company filed a Registration Statement on Form S-___ (File No. 333-_____) (the "Registration Statement") with the Securities and Exchange Commission (the "SEC") relating to the Registrable Securities which names each of the Holders as a selling stockholder thereunder.

In connection with the foregoing, we advise you that a member of the SEC's staff has advised us by telephone that the SEC has entered an order declaring the Registration Statement effective under the 1933 Act at [ENTER TIME OF EFFECTIVENESS] on [ENTER DATE OF EFFECTIVENESS] and we have no knowledge, after telephonic inquiry of a member of the SEC's staff, that any stop order suspending its effectiveness has been issued or that any proceedings for that purpose are pending before, or threatened by, the SEC and the Registrable Securities are available for resale under the 1933 Act pursuant to the Registration Statement.

Very truly yours,

[ISSUER'S COUNSEL]

By:
---

cc: [LIST NAMES OF HOLDERS]

Exhibit 10.5

ESCROW AGREEMENT

THIS ESCROW AGREEMENT (this "Agreement") is made as of September 28, 2000, by and among Atlantic Technology Ventures, Inc., a corporation incorporated under the laws of the State of Delaware (the "Company"), the investors signatory hereto (each an "Investor" and together the "Investors"), and Wyrick Robbins Yates & Ponton LLP, (the "Escrow Agent"). Capitalized terms used but not defined herein shall have the meanings set forth in the Preferred Stock and Warrants Purchase Agreement referred to in the first recital.

WITNESSETH:

WHEREAS, the Investors will be purchasing from the Company up to $3,000,000 of Series B Preferred Stock of the Company (the "Purchased Shares") and 201,000 Warrants to purchase shares of Common Stock, at the purchase price set forth in the Preferred Stock and Warrants Purchase Agreement (the "Purchase Agreement") dated the date hereof between the Investors and the Company, which will be issued as per the terms contained herein and in the Purchase Agreement; and

WHEREAS, it is intended that the purchase of the securities be consummated in accordance with the requirements of Regulation S and/or the requirements set forth by Sections 4(2) and/or 4(6) and/or Regulation D promulgated under the Securities Act of 1933, as amended; and

WHEREAS, the Company and the Investors have requested that the Escrow Agent hold the Purchase Price with respect to each Closing in escrow until the Escrow Agent has received the certificates representing the Purchased Shares, the Warrants and certain other closing documents specified herein and the satisfaction and until the other conditions specified herein have been satisfied;

NOW, THEREFORE, in consideration of the covenants and mutual promises contained herein and other good and valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, and intending to be legally bound hereby, the parties agree as follows:

ARTICLE 1

TERMS OF THE ESCROW

1.1. The parties hereby agree to establish an escrow account with the Escrow Agent whereby the Escrow Agent shall hold the funds for the purchase of the Purchased Shares and the Warrants at each Closing as contemplated by the Purchase Agreement.

1.2. (a) At each Closing, upon Escrow Agent's receipt of the Purchase Price for the Purchased Shares being purchased at that Closing into its attorney trustee account

from the Investors, together with executed counterparts of this Agreement, the Purchase Agreement and the Registration Rights Agreement, it shall telephonically advise the Company, or the Company's designated attorney or agent, of the amount of funds it has received into its account.

(b) Wire transfers to the Escrow Agent shall be made as follows:

Wyrick Robbins Yates & Ponton LLP
Trust Account #1301101682
ABA Number: 0531-0112-1
Address: Branch Banking & Trust Company
Fayetteville Street Mall
Raleigh, North Carolina
Re: Reichmann International (12529.004)
Attention: Jan Jones
Phone: (919) 716-9128

1.3. The Company, prior to or upon receipt of said notice, shall deliver to the Escrow Agent the certificates representing the Purchased Shares and the Warrants to be issued to each Investor at that Closing, in each case registered in the name of each Investor in its pro rata share of such Securities and duly executed on behalf of the Company, together with:

(a) the original executed Registration Rights Agreement substantially in the form of Exhibit C to the Purchase Agreement (for Initial Closing only);
(b) Instructions to the Transfer Agent substantially in the form of Exhibit F to the Purchase Agreement, duly executed by the parties thereto;
(c) the original executed opinion of Company's legal counsel substantially in the form of Exhibit E to the Purchase Agreement;
(d) an original counterpart of this Escrow Agreement (for Initial Closing only); and
(e) Certification from the Delaware Secretary of State of the

filing of the Series B Certificate of Designations (for Initial Closing only);

In the event that the foregoing items are not in the Escrow Agent's possession within three (3) Trading Days of the Escrow Agent notifying the Company that the Escrow Agent has custody of the Purchase Price, then each Investor shall have the right to demand the return of said sum.

1.4. At each Closing, once the Escrow Agent confirms the validity of the issuance of the Purchased Shares and the Warrants by means of its receipt of a Release Notice in the form attached hereto as Exhibit X executed by the Company and each Investor, it shall, as may be necessary, enter the Exercise Price and Termination Date of each Warrant on the face of each Warrant, insert the Closing Date on the certificates representing the Purchased Shares, and then wire to the Company that amount of funds necessary to purchase the Purchased Shares and the Warrants, less: (a) legal and escrow administrative costs of the Escrow Agent, (b) with

respect to the Initial Closing, up to five thousand dollars ($5,000) as a due diligence fee to BH Capital Investments. L.P., which the Company agrees may be "net funded", and (c) with respect to the Initial Closing, $1,000,000 to be retained in escrow by the Escrow Agent (the "Initial Closing Escrow Holdback Amount") to be released as provided below.

(A) Once the net funds from the Initial Closing (as described above) have been sent per the Company's instructions, the Escrow Agent shall then promptly arrange to release and deliver to the Investors, pro rata according to their investment amounts, certificates representing a total of 344,828 Purchased Shares (calculated as the $1,000,000 of funds released on the Initial Closing Date divided by the Market Price on the Initial Closing Date of $2.94) and Warrants for the purchase of a total of 67,000 shares of Common Stock, together with the Registration Rights Agreement and the opinion of counsel. The Escrow Agent shall retain the Initial Closing Escrow Holdback Amount (equal to $1,000,000) and Warrants and certificates representing the number of Purchased Shares purchased at the Initial Closing that are attributable to the Initial Closing Escrow Holdback Amount (the "Escrow Holdback Securities"), and shall release them only as follows:

(1) $800,000 of the Initial Closing Escrow Holdback Amount shall be released to the Company within two (2) business days of the Company's delivery to the Escrow Agent of written confirmation of stockholder approval of the proposals contemplated by Section 6.13 of the Purchase Agreement (the "Stockholder Approval Confirmation") and that the Company has not received a delisting notice nor has their occurred a trading suspension, both as described in Section 1.4(c) below; provided, however, that if such approval is not obtained on or prior to the Stockholder Meeting Deadline (as defined in the Purchase Agreement), the Investors shall be entitled, upon written notice to the Escrow Agent, to receive, and the Escrow Agent shall be authorized to release to the Investors, this $800,000, together with interest accrued thereon, and the Company shall likewise be entitled to a return of the Escrow Holdback Securities attributable to this amount for cancellation;

(2) the remaining $200,000 of the Initial Closing Escrow Holdback Amount shall be released to the Company within (2) business days of the Company's delivery to the Escrow Agent of the Stockholder Approval Confirmation and written confirmation that the Company has not received a delisting notice nor has their occurred a trading suspension, both as described in Section 1.4(c) below, but only if the Market Price on the date of stockholder approval is $3.00 or more; provided, however, that if such approval is not obtained on or prior to the Stockholder Meeting Deadline, the Investors shall be entitled, upon written notice to the Escrow Agent, to receive, and the Escrow Agent shall be authorized to release to the Investors, this $200,000, together with interest accrued thereon, and the Company shall likewise be entitled to a return of the Escrow Holdback Securities attributable to this amount for cancellation;

(3) Notwithstanding the foregoing, if prior to release of the Initial Closing Escrow Holdback Amount to the Company as provided above, (a) the Company has been notified of any pending or threatened proceeding or other action to delist or

suspend the Common Stock from trading on the Nasdaq SmallCap Market, or (b) for any period of five consecutive trading days after the date hereof there is no closing bid price of the Common Stock on the Nasdaq SmallCap Market, then the Escrow Agent shall not release any such funds to the Company and shall promptly following written notice from the Investors, return such funds, together with accrued interest, to the Investors, and the Company shall likewise be entitled to a return of the Escrow Holdback Securities for cancellation.

(B) Once the net funds from the Second Closing have been sent per the Company's instructions, the Escrow Agent shall then promptly arrange to release and deliver to the Investors, pro rata according to their investment amounts, certificates representing number of Purchased Shares (calculated as the $1,000,000 of funds released on the Second Closing Date divided by the Market Price on the Second Closing Date) and Warrants for the purchase of a total of 67,000 shares of Common Stock, together with the opinion of counsel.

ARTICLE 2

MISCELLANEOUS

2.1. No waiver or any breach of any covenant or provision herein contained shall be deemed a waiver of any preceding or succeeding breach thereof, or of any other covenant or provision herein contained. No extension of time for performance of any obligation or act shall be deemed any extension of the time for performance of any other obligation or act.

2.2. All notices or other communications required or permitted hereunder shall be in writing, and shall be sent as set forth in the Purchase Agreement.

2.3. This Escrow Agreement shall be binding upon and shall inure to the benefit of the permitted successors and permitted assigns of the parties hereto.

2.4. This Escrow Agreement is the final expression of, and contains the entire agreement between, the parties with respect to the subject matter hereof and supersedes all prior understandings with respect thereto. This Escrow Agreement may not be modified, changed, supplemented or terminated, nor may any obligations hereunder be waived, except by written instrument signed by the parties to be charged or by its agent duly authorized in writing or as otherwise expressly permitted herein.

2.5. Whenever required by the context of this Escrow Agreement, the singular shall include the plural and masculine shall include the feminine. This Escrow Agreement shall not be construed as if it had been prepared by one of the parties, but rather as if both parties had prepared the same. Unless otherwise indicated, all references to Articles are to this Escrow Agreement.

2.6. The parties hereto expressly agree that this Escrow Agreement shall be governed by, interpreted under and construed and enforced in accordance with the laws of the State of North Carolina. Any action to enforce, arising out of, or relating in any way to, any provisions of this Escrow Agreement shall only be brought in a state or Federal court sitting in Raleigh, North Carolina.

2.7. The Escrow Agent's duties hereunder may be altered, amended, modified or revoked only by a writing signed by the Company, each Investor and the Escrow Agent.

2.8. The Escrow Agent shall be obligated only for the performance of such duties as are specifically set forth herein and may rely and shall be protected in relying or refraining from acting on any instrument reasonably believed by the Escrow Agent to be genuine and to have been signed or presented by the proper party or parties. The Escrow Agent shall not be personally liable for any act the Escrow Agent may do or omit to do hereunder as the Escrow Agent while acting in good faith, and any act done or omitted by the Escrow Agent pursuant to the advice of the Escrow Agent's attorneys-at-law shall be conclusive evidence of such good faith.

2.9. The Escrow Agent is hereby expressly authorized to disregard any and all warnings given by any of the parties hereto or by any other person or corporation, excepting only orders or process of courts of law and is hereby expressly authorized to comply with and obey orders, judgments or decrees of any court. In case the Escrow Agent obeys or complies with any such order, judgment or decree, the Escrow Agent shall not be liable to any of the parties hereto or to any other person, firm or corporation by reason of such decree being subsequently reversed, modified, annulled, set aside, vacated or found to have been entered without jurisdiction.

2.10. The Escrow Agent shall not be liable in any respect on account of the identity, authorization or rights of the parties executing or delivering or purporting to execute or deliver the Purchase Agreement or any documents or papers deposited or called for thereunder.

2.11. The Escrow Agent shall be entitled to employ such legal counsel and other experts as the Escrow Agent may deem necessary properly to advise the Escrow Agent in connection with the Escrow Agent's duties hereunder, may rely upon the advice of such counsel, and may pay such counsel reasonable compensation therefor. The Escrow Agent has acted as legal counsel for the Investors, and may continue to act as legal counsel for the Investors, from time to time, notwithstanding its duties as the Escrow Agent hereunder. The Company consents to the Escrow Agent in such capacity as legal counsel for the Investors and waives any claim that such representation represents a conflict of interest on the part of the Escrow Agent. The Company understands that the Investors and the Escrow Agent are relying explicitly on the foregoing provision in entering into this Escrow Agreement.

2.12. The Escrow Agent's responsibilities as escrow agent hereunder shall terminate if the Escrow Agent shall resign by written notice to the Company and the Investors. In the event of any such resignation, the Investors and the Company shall appoint a successor Escrow Agent.

2.13. If the Escrow Agent reasonably requires other or further instruments in connection with this Escrow Agreement or obligations in respect hereto, the necessary parties hereto shall join in furnishing such instruments.

2.14. It is understood and agreed that should any dispute arise with respect to the delivery and/or ownership or right of possession of the documents or the escrow funds held by the Escrow Agent hereunder, the Escrow Agent is authorized and directed in the Escrow Agent's sole discretion (1) to retain in the Escrow Agent's possession without liability to anyone all or any part of said documents or the escrow funds until such disputes shall have been settled either by mutual written agreement of the parties concerned or by a final order, decree or judgment or a court of competent jurisdiction after the time for appeal has expired and no appeal has been perfected, but the Escrow Agent shall be under no duty whatsoever to institute or defend any such proceedings or (2) to deliver the escrow funds and any other property and documents held by the Escrow Agent hereunder to a state or Federal court having competent subject matter jurisdiction and located in the City of Raleigh, North Carolina in accordance with the applicable procedure therefor.

2.15. The Company and each Investor agree jointly and severally to indemnify and hold harmless the Escrow Agent and its partners, employees, agents and representatives from any and all claims, liabilities, costs or expenses in any way arising from or relating to the duties or performance of the Escrow Agent hereunder or the transactions contemplated hereby or by the Purchase Agreement other than any such claim, liability, cost or expense to the extent the same shall have been determined by final, unappealable judgment of a court of competent jurisdiction to have resulted from the gross negligence or willful misconduct of the Escrow Agent.

IN WITNESS WHEREOF, the parties hereto have executed this Escrow Agreement as of the date set forth above.

ATLANTIC TECHNOLOGY VENTURES, INC.

By: /s/ Frederic P. Zotos

BH Capital Investments, L.P.
By: HB and Co., Inc., its General Partner

By: /s/ Henry Brachfeld

Henry Brachfeld, President

Excalibur Limited Partnership
By: Excalibur Capital Management, Inc.

By: /s/ William Hechter

William Hechter, President

ESCROW AGENT:

WYRICK ROBBINS YATES & PONTON LLP

By: /s/ Wyrick Robbins Yates & Ponton LLP

Exhibit X to
Escrow Agreement

RELEASE NOTICE

The UNDERSIGNED, pursuant to the Escrow Agreement, dated as of September 28, 2000 among Atlantic Technology Ventures, Inc., the Investors signatory thereto and Wyrick Robbins Yates & Ponton LLP, as Escrow Agent (the "Escrow Agreement"; capitalized terms used herein and not defined shall have the meaning ascribed to such terms in the Escrow Agreement), hereby notify the Escrow Agent that each of the conditions precedent to the purchase and sale of the Purchased Shares and Warrants set forth in the Purchase Agreement have been satisfied. The Company and the undersigned Investor hereby confirm that all of their respective representations and warranties contained in the Purchase Agreement remain true and correct and authorize the release by the Escrow Agent of the funds and documents to be released at the Closing as described in the Escrow Agreement. This Release Notice shall not be effective until executed by the Company and the Investor.

The number of Warrants to be issued to all Investors in the aggregate is _____ and the exercise price per share is $_____.

This Release Notice may be signed in one or more counterparts, each of which shall be deemed an original.

IN WITNESS WHEREOF, the undersigned have caused this Release Notice to be duly executed and delivered as of this 28th day of September, 2000.

ATLANTIC TECHNOLOGY VENTURES, INC.

By:

Name: Frederic P. Zotos
Title: President

BH Capital Investments, L.P.
By: HB and Co., Inc., its General Partner

By:

Henry Brachfeld, President

Excalibur Limited Partnership
By: Excalibur Capital Management, Inc.

By:

William Hechter, President

NEITHER THIS WARRANT NOR THE SHARES ISSUABLE UPON EXERCISE HEREOF HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT") OR ANY OTHER APPLICABLE SECURITIES LAWS IN RELIANCE UPON AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND SUCH OTHER SECURITIES LAWS. NEITHER THIS WARRANT NOR THE SHARES ISSUABLE UPON EXERCISE HEREOF MAY BE SOLD, PLEDGED, TRANSFERRED, ENCUMBERED OR OTHERWISE DISPOSED OF EXCEPT PURSUANT TO REGULATION S OF THE SECURITIES ACT, AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR IN A TRANSACTION WHICH IS EXEMPT FROM REGISTRATION UNDER THE PROVISIONS OF THE SECURITIES ACT.

STOCK PURCHASE WARRANT

To Purchase 33,500 Shares of Common Stock of

Atlantic Technology Ventures, Inc.
(Warrant No. __)

THIS CERTIFIES that, for value received, BH Capital Investments, L.P. (the "Holder"), is entitled, upon the terms and subject to the conditions hereinafter set forth, at any time on or after the date hereof (the "Initial Exercise Date") and on or prior to the close of business on the date ending five (5) years from the Initial Exercise Date (the "Termination Date"), but not thereafter, to subscribe for and purchase from Atlantic Technology Ventures, Inc., a corporation incorporated in Delaware (the "Company"), up to Thirty-Three Thousand Five Hundred (33,500) shares (the "Warrant Shares") of Common Stock, $.001 par value, of the Company (the "Common Stock"). The purchase price of one share of Common Stock (the "Exercise Price") under this Warrant shall be the lower of (x) $3.19 or (y) 110% of the Market Price of the Common Stock immediately preceding the 180th day following the Initial Exercise Date. Capitalized terms used and not otherwise defined herein shall have the meanings set forth for such terms in the Preferred Stock and Warrants Purchase Agreement as dated September 28, 2000, between the Company and the investors party thereto (the "Purchase Agreement")). The Exercise Price and the number of shares for which the Warrant is exercisable shall be subject to adjustment as provided herein. In the event of any conflict between the terms of this Warrant and the Purchase Agreement, the Purchase Agreement shall control.

1. Title to Warrant. Prior to the Termination Date and subject to compliance with applicable laws, this Warrant and all rights hereunder are transferable, in whole or in part, at the office or agency of the Company by the Holder hereof in person or by duly authorized attorney, upon surrender of this Warrant together with the Assignment Form annexed hereto properly endorsed.

2. Authorization of Shares. The Company covenants that all shares of Common Stock which may be issued upon the exercise of rights represented by this Warrant will, upon exercise of the rights represented by this Warrant, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

3. Exercise of Warrant.

(a) Except as provided in Sections 3(b), 3(c) or 4 herein, exercise of the purchase rights represented by this Warrant may be made at any time or times on or after the Initial Exercise Date, and before the close of business on the Termination Date by the surrender of this Warrant and the Notice of Exercise Form annexed hereto duly executed, at the office of the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder hereof at the address of such Holder appearing on the books of the Company) and upon payment of the Exercise Price of the shares thereby purchased by wire transfer or cashier's check drawn on a United States bank, the Holder of this Warrant shall be entitled to receive a certificate for the number of shares of Common Stock so purchased. This Warrant may also be exercised in whole or in part by means of a "cashless exercise" by tendering this Warrant to the Company to receive a number of shares of Common Stock equal in Market Value to the difference between the Market Value of the shares of Common Stock issuable upon such exercise of this Warrant and the total cash exercise price of that part of the Warrant being exercised. "Market Value" for this purpose shall be the closing price of the Common Stock as reported by Bloomberg L.P. on the date of such cashless exercise. Certificates for shares purchased hereunder shall be delivered to the Holder hereof within three (3) trading days after the date on which this Warrant shall have been exercised as aforesaid. This Warrant shall be deemed to have been exercised and such certificate or certificates shall be deemed to have been issued, and the Holder or any other person so designated to be named therein shall be deemed to have become the Holder of record of such shares for all purposes, as of the date the Warrant has been exercised if the Holder has paid the Company the Exercise Price and all taxes required to be paid by the Holder, if any, pursuant to Section 5 prior to the issuance of such shares. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased shares of Common

Stock called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(b) Anything in Section 3(a) to the contrary notwithstanding, in no event shall the Holder be entitled to exercise this Warrant if, upon giving effect to such exercise, the Holder and its "affiliates" (as defined in Rule 405 under the Securities Act) would beneficially own an aggregate number of shares of Common Stock that would exceed 9.9% of the outstanding shares of the Common Stock following such exercise. For purposes of this Section 3(b), the aggregate number of shares of Common Stock beneficially owned by the Holder and its affiliates shall include the number of shares of Common Stock issuable upon exercise of the Warrants with respect to which the determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised or unconverted portion of any other Securities (including, without limitation, any Purchased Shares or other Warrants), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder and its affiliates. Except as set forth in the preceding sentence, for purposes of this Section 3(b), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Act. For purposes of this Section 3(b), in determining the number of outstanding shares of Common Stock the Holder may rely on the number of outstanding shares of Common Stock as reflected in (1) the Company's most recent quarterly or annual filing with the SEC, as the case may be, (2) a more recent public announcement by the Company or (3) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written or oral request of the Holder, the Company shall immediately confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to conversion of the Purchased Shares and exercises of Warrants by the Holder since the date as of which such number of outstanding shares of Common Stock was reported. To

the extent that the limitation contained in this Section 3(b) applies, the determination of whether this Warrant is exercisable (in relation to other Securities owned by the Holder) shall be in the sole discretion of the Holder, and the exercise of this Warrant shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other Securities owned by the Holder), subject to such aggregate percentage limitation, and the Company shall have no obligation or right to verify or confirm the accuracy of such determination. Nothing contained herein shall be deemed to restrict the right of the Holder to exercise this Warrant at such time as such exercise will not violate the provisions of this Section. The Holder may waive the provisions of this Section 3(b) as to itself (and solely as to itself) upon not less than 75 days' prior notice to the Company, and the provisions of this Section 3(b) shall continue to apply until such 75th day (or such later date as may be specified in such notice of waiver). No exercise in violation of this Section, but otherwise in accordance with this Warrant, shall affect the status of the Common Stock issued upon such exercise as validly issued, fully paid and nonassessable.

(c) Notwithstanding any other provision herein, the Company shall not be obligated to issue any shares of Common Stock upon exercise of this Warrant if the issuance of such shares of Common Stock would exceed any cap or limitation on the number of shares (the "Exchange Cap") imposed by the rules or regulations of the Principal Market, if and to the extent applicable, except that such limitation shall not apply in the event that the Company (i) obtains the approval of its stockholders as required by applicable rules and regulations of the Principal Market for issuances of Common Stock in excess of the Exchange Cap, or (ii) obtains a written opinion from outside counsel to the Company that such approval is not required, which opinion shall be reasonably satisfactory to the Investors. Until such approval or written opinion is obtained or such action has been taken by the Investors, no Holder of this Warrant shall be issued, upon exercise this Warrant, shares of Common Stock in an amount that, when added to all Securities issued to such Holder, is greater than the product of (x) the Exchange Cap amount multiplied by (y) a fraction, the numerator of which is the number of Warrant Shares issuable upon exercise to such Holder pursuant to this Warrant and the denominator of which is the aggregate amount of all the Warrant Shares issuable upon exercise to the Holders of all Warrants issued under the Purchase Agreement (the "Cap Allocation Amount"). In the event that the Holder shall sell or otherwise transfer any portion of this Warrant, the transferee shall be allocated a pro rata portion of the Holder's Cap Allocation Amount. In the event that the Holder shall exercise all of this Warrant into a number of shares of Common Stock that, in the aggregate, is less than the Holder's Cap Allocation Amount, then the difference between the Holder's Cap Allocation Amount and the number of shares of Common Stock actually issued to such Holder shall be allocated to the respective Cap Allocation Amounts of the Investors on a pro rata basis in proportion to the number of Warrant Shares issuable upon exercise then held by the Investors.

4. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall issue one additional share of Common Stock.

5. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder hereof for any issue or transfer tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event certificates for shares of Common Stock are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder; and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto.

6. Further Assurances. The Company will take all action that may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of stock, free from all taxes, liens and charges with respect to the issue thereof, on the exercise of all or any portion of this Warrant from time to time outstanding.

7. Transfer, Division and Combination. (a) Subject to compliance with any applicable securities laws, transfer of this Warrant and all rights hereunder, in whole or in part, shall be registered on the books of the Company to be maintained for such purpose, upon surrender of this Warrant at the principal office of the Company, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. A Warrant, if properly assigned, may be exercised by a new Holder for the purchase of shares of Common Stock without having a new Warrant issued.

(b) This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 7(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice.

(c) The Company shall prepare, issue and deliver at its own expense (other than transfer taxes) the new Warrant or Warrants under this Section 7.

(d) The Company agrees to maintain, at its aforesaid office, books for the registration and the registration of transfer of the Warrants.

8. No Rights as Shareholder until Exercise. This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof. Upon the surrender of this Warrant and the payment of the aggregate Exercise Price, the Warrant Shares so purchased shall be and be deemed to be issued to such Holder as the record owner of such shares as of the close of business on the later of the date of such surrender or payment.

9. Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which shall include the posting of a bond only if the Holder is not the purchaser of this Warrant under the Purchase Agreement or an affiliate of such purchaser), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

10. Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday, Sunday or a legal holiday, then such action may be taken or such right may be exercised on the next succeeding day not a Saturday, Sunday or legal holiday.

11. Adjustments of Exercise Price and Number of Warrant Shares.

(a) Stock Splits, etc. The number and kind of securities purchasable upon the exercise of this Warrant and the Exercise Price shall be subject to adjustment from time to time upon the happening of any of the following. In case the Company shall (i) pay a dividend in shares of Common Stock or make a distribution in shares of Common Stock to the Holders of its outstanding Common Stock, (ii) subdivide its outstanding shares of Common Stock into a greater number of shares of Common Stock, (iii) combine its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issue any shares of its capital stock in a reclassification of the Common Stock, then the number of Warrant Shares purchasable upon exercise of this Warrant immediately prior thereto shall be adjusted so that the Holder shall be entitled to receive the kind and number of Warrant Shares or other securities of the Company which he would have owned or have been entitled to receive had such Warrant been exercised in advance thereof. Upon each such adjustment of the kind and number of Warrant Shares or other securities of the Company which are purchasable hereunder, the Holder shall thereafter be entitled to purchase the number of Warrant Shares or other securities resulting from such adjustment at an Exercise Price per Warrant Share or other security obtained by multiplying the Exercise Price in effect immediately prior to such adjustment by the number of Warrant Shares purchasable pursuant hereto immediately prior to such adjustment and dividing by the number of Warrant Shares or other securities of the Company resulting from such adjustment. An adjustment made pursuant to this paragraph shall become effective immediately after the effective date of such event retroactive to the record date, if any, for such event.

(b) Reorganization, Reclassification, Merger, Consolidation or Disposition of Assets. In case the Company shall reorganize its capital, reclassify its capital stock, consolidate or merge with or into another corporation (where the Company is not the surviving corporation or where there is a change in or distribution with respect to the Common Stock), or sell, transfer or otherwise dispose of all or substantially all its property, assets or business to another corporation and, pursuant to the terms of such reorganization, reclassification, merger, consolidation or disposition of assets, shares of common stock of the successor or acquiring corporation, or any cash, shares of stock or other securities or property of any nature whatsoever (including warrants or other subscription or purchase rights) in addition to or in lieu of common stock of the successor or acquiring corporation ("Other Property"), are to be received by or distributed to the holders of Common Stock, then the Holder shall have the right thereafter to receive, upon exercise of this Warrant, the number of shares of common stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and Other Property receivable upon or as a result of such reorganization, reclassification, merger, consolidation or disposition of assets by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such event. In case of any such reorganization, reclassification, merger, consolidation or disposition of assets, the successor or acquiring corporation (if other than the Company) shall expressly assume the due and punctual observance and performance of each and every covenant and condition of this Warrant to be performed and observed by the Company and all the obligations and liabilities hereunder, subject to such modifications as may be deemed appropriate (as determined in good faith by resolution of the Board of Directors of the Company) in order to provide for adjustments of shares of Common Stock for which this Warrant is exercisable which shall be as nearly equivalent as practicable to the adjustments provided for in this Section 11. For purposes of this Section 11, "common stock of the successor or acquiring corporation" shall include stock of such corporation of any class which is not preferred as to dividends or assets over any other class of stock of such corporation and which is not subject to redemption and shall also include any evidences of indebtedness, shares of stock or other securities which are convertible into or exchangeable for any such stock, either immediately or upon the arrival of a specified date or the happening of a specified event and any warrants or other rights to subscribe for or purchase any such stock. The foregoing provisions of this Section 11 shall similarly apply to successive reorganizations, reclassifications, mergers, consolidations or disposition of assets.

(c) Rights of Holders Upon Dilutive Issuances. Subject to the exclusions contained in subsection 11(d) below, if during the period ending twelve (12) months following each Closing Date (the "MFN Period"), the Company sells any shares of its Common Stock in a capital raising transaction at a Per Share Selling Price (as defined in the Company's Series B Certificate of Designations) lower than the Exercise Price per share applicable to that Closing, then the Exercise Price of the Warrants purchased at that Closing and then unexercised shall be adjusted downward to equal such lower Per Share Selling Price. The Company shall give to the Holders written notice of any such sale within 24 hours of the closing of any such sale.

(d) Exclusions. Anything herein to the contrary notwithstanding, the Company shall not be required to make any adjustment of the Exercise Price in the case of (i) the issuance or sale of options, or the shares of stock issuable upon exercise of such options, to purchase shares of Common Stock to directors, officers, employees or consultants of the Company pursuant to stock options or stock purchase plans or agreements in existence on the date hereof, whether "qualified" for tax purposes or not, pursuant to plans or arrangements approved by the Board of Directors and stockholders, (ii) the issuance of Common Stock pursuant to warrants outstanding as of the date hereof and (iii) the issuance of Common Stock upon conversion of the Series A Preferred Stock or Series B Preferred Stock. The issuances or sales described in the preceding clauses (i), (ii) and (iii) shall be ignored for purposes of calculating any adjustment to the Exercise Price.

(e) Nominal Adjustment. The Company shall not be required to make an adjustment in the Exercise Price under this Section 11 if such adjustment is less that $0.01. However, the Company shall be required to carry forward on its books all adjustments that would have been made but for this Section 11(d) and shall take such adjustment into account when making subsequent adjustments under this Section 11. All calculations under this Section 11 shall be made to the nearest cent.

12. Voluntary Adjustment by the Company. The Company may at any time during the term of this Warrant, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

13. Notice of Adjustment. Whenever the number of Warrant Shares or number or kind of securities or other property purchasable upon the exercise of this Warrant or the Exercise Price is adjusted, as herein provided, the Company shall promptly mail by registered or certified mail, return receipt requested, to the Holder of this Warrant notice of such adjustment or adjustments setting forth the number of Warrant Shares (and Other Property) purchasable upon the exercise of this Warrant and the Exercise Price of such Warrant Shares (and Other Property) after such adjustment, setting forth a brief statement of the facts requiring such adjustment and setting forth the computation by which such adjustment was made. Such notice, in the absence of manifest error, shall be conclusive evidence of the correctness of such adjustment.

14. Notice of Corporate Action. If at any time:

(a) the Company shall take a record of the holders of Common Stock for the purpose of entitling them to receive a dividend or other distribution, or any right to subscribe for or purchase any evidences of its indebtedness, any shares of stock of any class or any other securities or property, or to receive any other right; or

(b) there shall be any capital reorganization of the Company, any reclassification or recapitalization of the capital stock of the Company or any consolidation or merger of

the Company with, or any sale, transfer or other disposition of all or substantially all the property, assets or business of the Company to, another corporation; or

(c) there shall be a voluntary or involuntary dissolution, liquidation or winding up of the Company; then, in any one or more of such cases, the Company shall give to the Holder (i) at least 30 days' prior written notice of the date on which a record date shall be selected for such dividend, distribution or right or for determining rights to vote in respect of any such reorganization, reclassification, merger, consolidation, sale, transfer, disposition, liquidation or winding up, and (ii) in the case of any such reorganization, reclassification, merger, consolidation, sale, transfer, disposition, dissolution, liquidation or winding up, at least 30 days' prior written notice of the date when the same shall take place. Such notice in accordance with the foregoing clause also shall specify (i) the date on which any such record is to be taken for the purpose of such dividend, distribution or right, the date on which the holders of Common Stock shall be entitled to any such dividend, distribution or right, and the amount and character thereof, and (ii) the date on which any such reorganization, reclassification, merger, consolidation, sale, transfer, disposition, dissolution, liquidation or winding up is to take place and the time, if any such time is to be fixed, as of which the holders of Common Stock shall be entitled to exchange their shares of Common Stock for securities or Other Property deliverable upon such disposition, dissolution, liquidation or winding up. Each such written notice shall be sufficiently given if addressed to the Holder at the last address of the Holder appearing on the books of the Company and delivered in accordance with Section 16(d).

15. Authorized Shares.

(a) The Company covenants that during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of executing stock certificates to execute and issue the necessary certificates for the Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Principal Market.

(b) The Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of the Holder against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) use its best efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(c) Upon the request of the the Holder, the Company will at any time during the period this Warrant is outstanding acknowledge in writing, in form reasonably satisfactory to the Holder, the continuing validity of this Warrant and the obligations of the Company hereunder.

(d) Before taking any action which would cause an adjustment reducing the current Exercise Price below the then par value, if any, of the Warrant Shares, the Company shall take any corporate action which may be necessary in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares at such adjusted Exercise Price.

(e) Before taking any action which would result in an adjustment in the number of Warrant Shares or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

16. Miscellaneous.

(a) Jurisdiction. This Warrant shall be binding upon any successors or assigns of he Company. This Warrant shall constitute a contract under the laws of Delaware without regard to its conflict of law principles or rules, and be subject to arbitration pursuant to the terms set forth in the Purchase Agreement.

(b) Restrictions. The Holder hereof acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, will have restrictions upon resale imposed by state and federal securities laws.

(c) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of the Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding all rights hereunder terminate on the Termination Date. If the Company fails to comply with any provision of this Warrant, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(d) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder hereof by the Company shall be delivered in accordance with the notice provisions of the Purchase Agreement.

(e) Limitation of Liability. No provision hereof, in the absence of affirmative action by the Holder to purchase shares of Common Stock, and no enumeration herein of the rights or privileges of the Holder hereof, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(f) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive the defense in any action for specific performance that a remedy at law would be adequate.

(g) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors of the Company and the successors and permitted assigns of the Holder. The provisions of this Warrant are intended to be for the benefit of all holders from time to time of this Warrant and shall be enforceable by any such Holder or holder of Warrant Shares.

(h) Indemnification. The Company agrees to indemnify and hold harmless the Holder from and against any liabilities, obligations, losses, damages, penalties, actions, judgments, suits, claims, costs, attorneys' fees, expenses and disbursements of any kind which may be imposed upon, incurred by or asserted against the Holder in any manner relating to or arising out of any failure by the Company to perform or observe in any material respect any of its covenants, agreements, undertakings or obligations set forth in this Warrant; provided, however, that the Company will not be liable hereunder to the extent that any liabilities, obligations, losses, damages, penalties, actions, judgments, suits, claims, costs, attorneys' fees, expenses or disbursements are found in a final non-appealable judgment by a court to have resulted from the Holder's bad faith or willful misconduct in its capacity as a stockholder or warrantholder of the Company.

(i) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

(j) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(k) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

[Signature page follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized.

Dated: September 28, 2000

ATLANTIC TECHNOLOGY VENTURES, INC.

By: /S/ Frederic P. Zotos

Name: Frederic P. Zotos
Title: President

NOTICE OF EXERCISE

To: Atlantic Technology Ventures, Inc.

(1) The undersigned hereby elects to purchase _____ shares of Common Stock (the "Common Stock"), of Atlantic Technology Ventures, Inc., pursuant to the terms of the attached Warrant, and [ ] tenders herewith payment of the exercise price in full OR [ ] tenders the Warrant for cashless exercise, together with all applicable transfer taxes, if any.

(2) Calculation of cashless exercise value, if applicable:
_____

- ---

(3) Please issue a certificate or certificates representing said shares of Common Stock in the name of the undersigned or in such other name as is specified below:

(Name)

(Address)

Dated:

Signature

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute
this form and supply required information.
Do not use this form to exercise the Warrant.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to_____ whose address is

- ----------.

- ----------

Dated: _____, _____

Holder's Signature: _____

Holder's Address: _____

Signature Guaranteed: _____

NOTE: The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatsoever, and must be guaranteed by a bank or trust company. Officers of corporations and those acting in an fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.

NEITHER THIS WARRANT NOR THE SHARES ISSUABLE UPON EXERCISE HEREOF HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT") OR ANY OTHER APPLICABLE SECURITIES LAWS IN RELIANCE UPON AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND SUCH OTHER SECURITIES LAWS. NEITHER THIS WARRANT NOR THE SHARES ISSUABLE UPON EXERCISE HEREOF MAY BE SOLD, PLEDGED, TRANSFERRED, ENCUMBERED OR OTHERWISE DISPOSED OF EXCEPT PURSUANT TO REGULATION S OF THE SECURITIES ACT, AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR IN A TRANSACTION WHICH IS EXEMPT FROM REGISTRATION UNDER THE PROVISIONS OF THE SECURITIES ACT.

STOCK PURCHASE WARRANT

To Purchase 33,500 Shares of Common Stock of

Atlantic Technology Ventures, Inc.
(Warrant No. __)

THIS CERTIFIES that, for value received, Excalibur Limited Partnership (the "Holder"), is entitled, upon the terms and subject to the conditions hereinafter set forth, at any time on or after the date hereof (the "Initial Exercise Date") and on or prior to the close of business on the date ending five (5) years from the Initial Exercise Date (the "Termination Date"), but not thereafter, to subscribe for and purchase from Atlantic Technology Ventures, Inc., a corporation incorporated in Delaware (the "Company"), up to Thirty-Three Thousand Five Hundred (33,500) shares (the "Warrant Shares") of Common Stock, $.001 par value, of the Company (the "Common Stock"). The purchase price of one share of Common Stock (the "Exercise Price") under this Warrant shall be the lower of (x) $3.19 or (y) 110% of the Market Price of the Common Stock immediately preceding the 180st day following the Initial Exercise Date. Capitalized terms used and not otherwise defined herein shall have the meanings set forth for such terms in the Preferred Stock and Warrants Purchase Agreement as dated September 28, 2000, between the Company and the investors party thereto (the "Purchase Agreement")). The Exercise Price and the number of shares for which the Warrant is exercisable shall be subject to adjustment as provided herein. In the event of any conflict between the terms of this Warrant and the Purchase Agreement, the Purchase Agreement shall control.

1. Title to Warrant. Prior to the Termination Date and subject to compliance with applicable laws, this Warrant and all rights hereunder are transferable, in whole or in part, at the office or agency of the Company by the Holder hereof in person or by duly authorized attorney, upon surrender of this Warrant together with the Assignment Form annexed hereto properly endorsed.

2. Authorization of Shares. The Company covenants that all shares of Common Stock which may be issued upon the exercise of rights represented by this Warrant will, upon exercise of the rights represented by this Warrant, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

3. Exercise of Warrant.

(a) Except as provided in Sections 3(b), 3(c) or 4 herein, exercise of the purchase rights represented by this Warrant may be made at any time or times on or after the Initial Exercise Date, and before the close of business on the Termination Date by the surrender of this Warrant and the Notice of Exercise Form annexed hereto duly executed, at the office of the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder hereof at the address of such Holder appearing on the books of the Company) and upon payment of the Exercise Price of the shares thereby purchased by wire transfer or cashier's check drawn on a United States bank, the Holder of this Warrant shall be entitled to receive a certificate for the number of shares of Common Stock so purchased. This Warrant may also be exercised in whole or in part by means of a "cashless exercise" by tendering this Warrant to the Company to receive a number of shares of Common Stock equal in Market Value to the difference between the Market Value of the shares of Common Stock issuable upon such exercise of this Warrant and the total cash exercise price of that part of the Warrant being exercised. "Market Value" for this purpose shall be the closing price of the Common Stock as reported by Bloomberg L.P. on the date of such cashless exercise. Certificates for shares purchased hereunder shall be delivered to the Holder hereof within three (3) trading days after the date on which this Warrant shall have been exercised as aforesaid. This Warrant shall be deemed to have been exercised and such certificate or certificates shall be deemed to have been issued, and the Holder or any other person so designated to be named therein shall be deemed to have become the Holder of record of such shares for all purposes, as of the date the Warrant has been exercised if the Holder has paid the Company the Exercise Price and all taxes required to be paid by the Holder, if any, pursuant to Section 5 prior to the issuance of such shares. If this Warrant shall have been exercised in part, the Company shall, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased shares of Common

Stock called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(b) Anything in Section 3(a) to the contrary notwithstanding, in no event shall the Holder be entitled to exercise this Warrant if, upon giving effect to such exercise, the Holder and its "affiliates" (as defined in Rule 405 under the Securities Act) would beneficially own an aggregate number of shares of Common Stock that would exceed 9.9% of the outstanding shares of the Common Stock following such exercise. For purposes of this Section 3(b), the aggregate number of shares of Common Stock beneficially owned by the Holder and its affiliates shall include the number of shares of Common Stock issuable upon exercise of the Warrants with respect to which the determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon exercise or conversion of the unexercised or unconverted portion of any other Securities (including, without limitation, any Purchased Shares or other Warrants), subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder and its affiliates. Except as set forth in the preceding sentence, for purposes of this Section 3(b), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Act. For purposes of this Section 3(b), in determining the number of outstanding shares of Common Stock the Holder may rely on the number of outstanding shares of Common Stock as reflected in (1) the Company's most recent quarterly or annual filing with the SEC, as the case may be, (2) a more recent public announcement by the Company or (3) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written or oral request of the Holder, the Company shall immediately confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to conversion of the Purchased Shares and exercises of Warrants by the Holder since the date as of which such number of outstanding shares of Common Stock was reported. To

the extent that the limitation contained in this Section 3(b) applies, the determination of whether this Warrant is exercisable (in relation to other Securities owned by the Holder) shall be in the sole discretion of the Holder, and the exercise of this Warrant shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other Securities owned by the Holder), subject to such aggregate percentage limitation, and the Company shall have no obligation or right to verify or confirm the accuracy of such determination. Nothing contained herein shall be deemed to restrict the right of the Holder to exercise this Warrant at such time as such exercise will not violate the provisions of this Section. The Holder may waive the provisions of this Section 3(b) as to itself (and solely as to itself) upon not less than 75 days' prior notice to the Company, and the provisions of this Section 3(b) shall continue to apply until such 75th day (or such later date as may be specified in such notice of waiver). No exercise in violation of this Section, but otherwise in accordance with this Warrant, shall affect the status of the Common Stock issued upon such exercise as validly issued, fully paid and nonassessable.

(c) Notwithstanding any other provision herein, the Company shall not be obligated to issue any shares of Common Stock upon exercise of this Warrant if the issuance of such shares of Common Stock would exceed any cap or limitation on the number of shares (the "Exchange Cap") imposed by the rules or regulations of the Principal Market, if and to the extent applicable, except that such limitation shall not apply in the event that the Company (i) obtains the approval of its stockholders as required by applicable rules and regulations of the Principal Market for issuances of Common Stock in excess of the Exchange Cap, or (ii) obtains a written opinion from outside counsel to the Company that such approval is not required, which opinion shall be reasonably satisfactory to the Investors. Until such approval or written opinion is obtained or such action has been taken by the Investors, no Holder of this Warrant shall be issued, upon exercise this Warrant, shares of Common Stock in an amount that, when added to all Securities issued to such Holder, is greater than the product of (x) the Exchange Cap amount multiplied by (y) a fraction, the numerator of which is the number of Warrant Shares issuable upon exercise to such Holder pursuant to this Warrant and the denominator of which is the aggregate amount of all the Warrant Shares issuable upon exercise to the Holders of all Warrants issued under the Purchase Agreement (the "Cap Allocation Amount"). In the event that the Holder shall sell or otherwise transfer any portion of this Warrant, the transferee shall be allocated a pro rata portion of the Holder's Cap Allocation Amount. In the event that the Holder shall exercise all of this Warrant into a number of shares of Common Stock that, in the aggregate, is less than the Holder's Cap Allocation Amount, then the difference between the Holder's Cap Allocation Amount and the number of shares of Common Stock actually issued to such Holder shall be allocated to the respective Cap Allocation Amounts of the Investors on a pro rata basis in proportion to the number of Warrant Shares issuable upon exercise then held by the Investors.

4. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall issue one additional share of Common Stock.

5. Charges, Taxes and Expenses. Issuance of certificates for shares of Common Stock upon the exercise of this Warrant shall be made without charge to the Holder hereof for any issue or transfer tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event certificates for shares of Common Stock are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder; and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto.

6. Further Assurances. The Company will take all action that may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of stock, free from all taxes, liens and charges with respect to the issue thereof, on the exercise of all or any portion of this Warrant from time to time outstanding.

7. Transfer, Division and Combination. (a) Subject to compliance with any applicable securities laws, transfer of this Warrant and all rights hereunder, in whole or in part, shall be registered on the books of the Company to be maintained for such purpose, upon surrender of this Warrant at the principal office of the Company, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. A Warrant, if properly assigned, may be exercised by a new Holder for the purchase of shares of Common Stock without having a new Warrant issued.

(b) This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 7(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice.

(c) The Company shall prepare, issue and deliver at its own expense (other than transfer taxes) the new Warrant or Warrants under this Section 7.

(d) The Company agrees to maintain, at its aforesaid office, books for the registration and the registration of transfer of the Warrants.

8. No Rights as Shareholder until Exercise. This Warrant does not entitle the Holder hereof to any voting rights or other rights as a shareholder of the Company prior to the exercise hereof. Upon the surrender of this Warrant and the payment of the aggregate Exercise Price, the Warrant Shares so purchased shall be and be deemed to be issued to such Holder as the record owner of such shares as of the close of business on the later of the date of such surrender or payment.

9. Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which shall include the posting of a bond only if the Holder is not the purchaser of this Warrant under the Purchase Agreement or an affiliate of such purchaser), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

10. Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday, Sunday or a legal holiday, then such action may be taken or such right may be exercised on the next succeeding day not a Saturday, Sunday or legal holiday.

11. Adjustments of Exercise Price and Number of Warrant Shares.

(a) Stock Splits, etc. The number and kind of securities purchasable upon the exercise of this Warrant and the Exercise Price shall be subject to adjustment from time to time upon the happening of any of the following. In case the Company shall (i) pay a dividend in shares of Common Stock or make a distribution in shares of Common Stock to the Holders of its outstanding Common Stock, (ii) subdivide its outstanding shares of Common Stock into a greater number of shares of Common Stock, (iii) combine its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issue any shares of its capital stock in a reclassification of the Common Stock, then the number of Warrant Shares purchasable upon exercise of this Warrant immediately prior thereto shall be adjusted so that the Holder shall be entitled to receive the kind and number of Warrant Shares or other securities of the Company which he would have owned or have been entitled to receive had such Warrant been exercised in advance thereof. Upon each such adjustment of the kind and number of Warrant Shares or other securities of the Company which are purchasable hereunder, the Holder shall thereafter be entitled to purchase the number of Warrant Shares or other securities resulting from such adjustment at an Exercise Price per Warrant Share or other security obtained by multiplying the Exercise Price in effect immediately prior to such adjustment by the number of Warrant Shares purchasable pursuant hereto immediately prior to such adjustment and dividing by the number of Warrant Shares or other securities of the Company resulting from such adjustment. An adjustment made pursuant to this paragraph shall become effective immediately after the effective date of such event retroactive to the record date, if any, for such event.

(b) Reorganization, Reclassification, Merger, Consolidation or Disposition of Assets. In case the Company shall reorganize its capital, reclassify its capital stock, consolidate or merge with or into another corporation (where the Company is not the surviving corporation or where there is a change in or distribution with respect to the Common Stock), or sell, transfer or otherwise dispose of all or substantially all its property, assets or business to another corporation and, pursuant to the terms of such reorganization, reclassification, merger, consolidation or disposition of assets, shares of common stock of the successor or acquiring corporation, or any cash, shares of stock or other securities or property of any nature whatsoever (including warrants or other subscription or purchase rights) in addition to or in lieu of common stock of the successor or acquiring corporation ("Other Property"), are to be received by or distributed to the holders of Common Stock, then the Holder shall have the right thereafter to receive, upon exercise of this Warrant, the number of shares of common stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and Other Property receivable upon or as a result of such reorganization, reclassification, merger, consolidation or disposition of assets by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such event. In case of any such reorganization, reclassification, merger, consolidation or disposition of assets, the successor or acquiring corporation (if other than the Company) shall expressly assume the due and punctual observance and performance of each and every covenant and condition of this Warrant to be performed and observed by the Company and all the obligations and liabilities hereunder, subject to such modifications as may be deemed appropriate (as determined in good faith by resolution of the Board of Directors of the Company) in order to provide for adjustments of shares of Common Stock for which this Warrant is exercisable which shall be as nearly equivalent as practicable to the adjustments provided for in this Section 11. For purposes of this Section 11, "common stock of the successor or acquiring corporation" shall include stock of such corporation of any class which is not preferred as to dividends or assets over any other class of stock of such corporation and which is not subject to redemption and shall also include any evidences of indebtedness, shares of stock or other securities which are convertible into or exchangeable for any such stock, either immediately or upon the arrival of a specified date or the happening of a specified event and any warrants or other rights to subscribe for or purchase any such stock. The foregoing provisions of this Section 11 shall similarly apply to successive reorganizations, reclassifications, mergers, consolidations or disposition of assets.

(c) Rights of Holders Upon Dilutive Issuances. Subject to the exclusions contained in subsection 11(d) below, if during the period ending twelve (12) months following each Closing Date (the "MFN Period"), the Company sells any shares of its Common Stock in a capital raising transaction at a Per Share Selling Price (as defined in the Company's Series B Certificate of Designations) lower than the Exercise Price per share applicable to that Closing, then the Exercise Price of the Warrants purchased at that Closing and then unexercised shall be adjusted downward to equal such lower Per Share Selling Price. The Company shall give to the Holders written notice of any such sale within 24 hours of the closing of any such sale.

(d) Exclusions. Anything herein to the contrary notwithstanding, the Company shall not be required to make any adjustment of the Exercise Price in the case of (i) the issuance or sale of options, or the shares of stock issuable upon exercise of such options, to purchase shares of Common Stock to directors, officers, employees or consultants of the Company pursuant to stock options or stock purchase plans or agreements in existence on the date hereof, whether "qualified" for tax purposes or not, pursuant to plans or arrangements approved by the Board of Directors and stockholders, (ii) the issuance of Common Stock pursuant to warrants outstanding as of the date hereof and (iii) the issuance of Common Stock upon conversion of the Series A Preferred Stock or Series B Preferred Stock. The issuances or sales described in the preceding clauses (i), (ii) and (iii) shall be ignored for purposes of calculating any adjustment to the Exercise Price.

(e) Nominal Adjustment. The Company shall not be required to make an adjustment in the Exercise Price under this Section 11 if such adjustment is less that $0.01. However, the Company shall be required to carry forward on its books all adjustments that would have been made but for this Section 11(d) and shall take such adjustment into account when making subsequent adjustments under this Section 11. All calculations under this Section 11 shall be made to the nearest cent.

12. Voluntary Adjustment by the Company. The Company may at any time during the term of this Warrant, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

13. Notice of Adjustment. Whenever the number of Warrant Shares or number or kind of securities or other property purchasable upon the exercise of this Warrant or the Exercise Price is adjusted, as herein provided, the Company shall promptly mail by registered or certified mail, return receipt requested, to the Holder of this Warrant notice of such adjustment or adjustments setting forth the number of Warrant Shares (and Other Property) purchasable upon the exercise of this Warrant and the Exercise Price of such Warrant Shares (and Other Property) after such adjustment, setting forth a brief statement of the facts requiring such adjustment and setting forth the computation by which such adjustment was made. Such notice, in the absence of manifest error, shall be conclusive evidence of the correctness of such adjustment.

14. Notice of Corporate Action. If at any time:

(a) the Company shall take a record of the holders of Common Stock for the purpose of entitling them to receive a dividend or other distribution, or any right to subscribe for or purchase any evidences of its indebtedness, any shares of stock of any class or any other securities or property, or to receive any other right; or

(b) there shall be any capital reorganization of the Company, any reclassification or recapitalization of the capital stock of the Company or any consolidation or merger of

the Company with, or any sale, transfer or other disposition of all or substantially all the property, assets or business of the Company to, another corporation; or

(c) there shall be a voluntary or involuntary dissolution, liquidation or winding up of the Company; then, in any one or more of such cases, the Company shall give to the Holder (i) at least 30 days' prior written notice of the date on which a record date shall be selected for such dividend, distribution or right or for determining rights to vote in respect of any such reorganization, reclassification, merger, consolidation, sale, transfer, disposition, liquidation or winding up, and (ii) in the case of any such reorganization, reclassification, merger, consolidation, sale, transfer, disposition, dissolution, liquidation or winding up, at least 30 days' prior written notice of the date when the same shall take place. Such notice in accordance with the foregoing clause also shall specify (i) the date on which any such record is to be taken for the purpose of such dividend, distribution or right, the date on which the holders of Common Stock shall be entitled to any such dividend, distribution or right, and the amount and character thereof, and (ii) the date on which any such reorganization, reclassification, merger, consolidation, sale, transfer, disposition, dissolution, liquidation or winding up is to take place and the time, if any such time is to be fixed, as of which the holders of Common Stock shall be entitled to exchange their shares of Common Stock for securities or Other Property deliverable upon such disposition, dissolution, liquidation or winding up. Each such written notice shall be sufficiently given if addressed to the Holder at the last address of the Holder appearing on the books of the Company and delivered in accordance with Section 16(d).

15. Authorized Shares.

(a) The Company covenants that during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of executing stock certificates to execute and issue the necessary certificates for the Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Principal Market.

(b) The Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of the Holder against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) use its best efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(c) Upon the request of the the Holder, the Company will at any time during the period this Warrant is outstanding acknowledge in writing, in form reasonably satisfactory to the Holder, the continuing validity of this Warrant and the obligations of the Company hereunder.

(d) Before taking any action which would cause an adjustment reducing the current Exercise Price below the then par value, if any, of the Warrant Shares, the Company shall take any corporate action which may be necessary in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares at such adjusted Exercise Price.

(e) Before taking any action which would result in an adjustment in the number of Warrant Shares or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

16. Miscellaneous.

(a) Jurisdiction. This Warrant shall be binding upon any successors or assigns of he Company. This Warrant shall constitute a contract under the laws of Delaware without regard to its conflict of law principles or rules, and be subject to arbitration pursuant to the terms set forth in the Purchase Agreement.

(b) Restrictions. The Holder hereof acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, will have restrictions upon resale imposed by state and federal securities laws.

(c) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of the Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding all rights hereunder terminate on the Termination Date. If the Company fails to comply with any provision of this Warrant, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(d) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder hereof by the Company shall be delivered in accordance with the notice provisions of the Purchase Agreement.

(e) Limitation of Liability. No provision hereof, in the absence of affirmative action by the Holder to purchase shares of Common Stock, and no enumeration herein of the rights or privileges of the Holder hereof, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(f) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive the defense in any action for specific performance that a remedy at law would be adequate.

(g) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors of the Company and the successors and permitted assigns of the Holder. The provisions of this Warrant are intended to be for the benefit of all holders from time to time of this Warrant and shall be enforceable by any such Holder or holder of Warrant Shares.

(h) Indemnification. The Company agrees to indemnify and hold harmless the Holder from and against any liabilities, obligations, losses, damages, penalties, actions, judgments, suits, claims, costs, attorneys' fees, expenses and disbursements of any kind which may be imposed upon, incurred by or asserted against the Holder in any manner relating to or arising out of any failure by the Company to perform or observe in any material respect any of its covenants, agreements, undertakings or obligations set forth in this Warrant; provided, however, that the Company will not be liable hereunder to the extent that any liabilities, obligations, losses, damages, penalties, actions, judgments, suits, claims, costs, attorneys' fees, expenses or disbursements are found in a final non-appealable judgment by a court to have resulted from the Holder's bad faith or willful misconduct in its capacity as a stockholder or warrantholder of the Company.

(i) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

(j) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(k) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

[Signature page follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized.

Dated: September 28, 2000

ATLANTIC TECHNOLOGY VENTURES, INC.

By: /s/ Frederic P. Zotos

Name: Frederic P. Zotos
Title: President

NOTICE OF EXERCISE

To: Atlantic Technology Ventures, Inc.

(1) The undersigned hereby elects to purchase _____ shares of Common Stock (the "Common Stock"), of Atlantic Technology Ventures, Inc., pursuant to the terms of the attached Warrant, and [ ] tenders herewith payment of the exercise price in full OR [ ] tenders the Warrant for cashless exercise, together with all applicable transfer taxes, if any.

(2) Calculation of cashless exercise value, if applicable:
_____

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(3) Please issue a certificate or certificates representing said shares of Common Stock in the name of the undersigned or in such other name as is specified below:

(Name)

(Address)

Dated:

Signature

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute
this form and supply required information.
Do not use this form to exercise the Warrant.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to_____ whose address is

- ----------.

- ----------

Dated: _____, _____

Holder's Signature: _____

Holder's Address: _____

Signature Guaranteed: _____

NOTE: The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatsoever, and must be guaranteed by a bank or trust company. Officers of corporations and those acting in an fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.