

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

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

FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2000

COMMISSION FILE NUMBER 000-30229

SONUS NETWORKS, INC.

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE
(STATE OR OTHER JURISDICTION
OF INCORPORATION OR
ORGANIZATION)

04-3387074
(I.R.S. EMPLOYER IDENTIFICATION NO.)

5 CARLISLE ROAD, WESTFORD, MASSACHUSETTS 01886
(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES, INCLUDING ZIP CODE)
(978) 692-8999

(REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

(1) Yes /X/ No / /

(2) Yes / / No /X/

ALTHOUGH THE REGISTRANT HAS FILED ALL REPORTS REQUIRED TO BE FILED BY SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 DURING THE PERIOD THAT THE REGISTRANT WAS REQUIRED TO FILE SUCH REPORTS, THE REGISTRANT DID NOT BECOME SUBJECT TO SUCH FILING REQUIREMENTS UNTIL THE REGISTRATION OF CERTAIN SHARES OF ITS COMMON STOCK PURSUANT TO A REGISTRATION STATEMENT ON FORM S-1 (THE "REGISTRATION STATEMENT") WHICH WAS DECLARED EFFECTIVE BY THE SECURITIES AND EXCHANGE COMMISSION ON MAY 24, 2000.

As of July 24, 2000, there were 61,014,358 shares of Common Stock, \$0.001 par value per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Registration Statement on Form S-1 (Registration No. 333-32206) are incorporated by reference herein.

SONUS NETWORKS, INC.
FORM 10-Q
QUARTER ENDED JUNE 30, 2000
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PART I--FINANCIAL INFORMATION

ITEM 1: FINANCIAL STATEMENTS

SONUS NETWORKS, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(IN THOUSANDS, EXCEPT SHARE DATA)

	JUNE 30, 2000	DECEMBER 31, 1999
	-----	-----
	(UNAUDITED)	
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents.....	\$142,987	\$ 8,885

Marketable securities.....	12,714	14,681
Accounts receivable, net.....	2,444	--
Inventories.....	7,704	2,210
Other current assets.....	761	298
	-----	-----
Total current assets.....	166,610	26,074
Property and equipment, net.....	7,794	4,269
Other assets, net.....	696	439
	-----	-----
	\$175,100	\$ 30,782
	=====	=====

LIABILITIES, REDEEMABLE CONVERTIBLE PREFERRED STOCK AND
STOCKHOLDERS' EQUITY (DEFICIT)

CURRENT LIABILITIES:		
Current portion of long-term obligations.....	\$ --	\$ 1,336
Accounts payable.....	5,895	1,412
Accrued expenses.....	8,391	2,691
Deferred revenue.....	5,091	1,031
	-----	-----
Total current liabilities.....	19,377	6,470
LONG-TERM OBLIGATIONS, less current portion.....	--	3,402
COMMITMENTS.....		
REDEEMABLE CONVERTIBLE PREFERRED STOCK.....	--	46,109
STOCKHOLDERS' EQUITY (DEFICIT):		
Preferred stock, \$0.01 par value, 5,000,000 shares authorized; none issued and outstanding.....	--	--
Common stock, \$0.001 par value, 300,000,000 shares authorized; 61,270,658 and 21,836,974 issued at June 30, 2000 and December 31, 1999, respectively.....	61	22
Capital in excess of par value.....	260,872	25,611
Accumulated deficit.....	(65,311)	(33,882)
Stock subscriptions receivable.....	(346)	(346)
Deferred compensation.....	(39,488)	(16,604)
Treasury stock, at cost: 257,500 common shares at June 30, 2000.....	(65)	--
	-----	-----
Total stockholders' equity (deficit).....	155,723	(25,199)
	-----	-----
	\$175,100	\$ 30,782
	=====	=====

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

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SONUS NETWORKS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(IN THOUSANDS, EXCEPT PER SHARE DATA)

(UNAUDITED)

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2000	1999	2000	1999
	-----	-----	-----	-----
REVENUES.....	\$ 6,511	\$ --	\$ 7,604	\$ --
Manufacturing expenses and product costs (1).....	4,555	349	6,017	572
	-----	-----	-----	-----
GROSS PROFIT (LOSS).....	1,956	(349)	1,587	(572)
OPERATING EXPENSES:				
Research and development (1).....	6,355	2,387	11,199	5,071
Sales and marketing (1).....	4,381	834	7,739	1,272
General and administrative (1).....	1,277	375	1,990	676
Stock-based compensation.....	6,386	564	13,365	1,081
	-----	-----	-----	-----
Total operating expenses.....	18,399	4,160	34,293	8,100

LOSS FROM OPERATIONS.....	(16,443)	(4,509)	(32,706)	(8,672)
Interest expense.....	(93)	(46)	(209)	(83)
Interest income.....	1,182	138	1,526	295
NET LOSS.....	\$ (15,354)	\$ (4,417)	\$ (31,389)	\$ (8,460)
NET LOSS PER SHARE (NOTE 1(g)):				
Basic and diluted.....	\$ (0.72)	\$ (1.04)	\$ (2.15)	\$ (2.25)
Pro forma basic and diluted.....	\$ (0.36)	\$ (0.15)	\$ (0.77)	\$ (0.29)
SHARES USED IN COMPUTING NET LOSS PER SHARE (NOTE 1(g)):				
Basic and diluted.....	21,426	4,234	14,585	3,759
Pro forma basic and diluted.....	43,091	30,120	41,006	29,621

(1) Excludes non-cash, stock-based compensation expense as follows:

Manufacturing expenses and product costs.....	\$ 116	\$ 17	\$ 189	\$ 25
Research and development.....	2,520	170	6,167	291
Sales and marketing.....	2,927	350	5,666	564
General and administrative.....	823	27	1,343	201
	\$ 6,386	\$ 564	\$ 13,365	\$ 1,081

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

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SONUS NETWORKS, INC.

CONDENSED CONSOLIDATED STATEMENT OF REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)

(IN THOUSANDS, EXCEPT SHARE DATA)

(UNAUDITED)

	REDEEMABLE CONVERTIBLE PREFERRED STOCK		COMMON STOCK		CAPITAL IN EXCESS OF PAR VALUE	ACCUMULATED DEFICIT	STOCK SUBSCRIPTIONS RECEIVABLE
	SHARES	REDEMPTION VALUE	SHARES	PAR VALUE			
Balance, January 1, 2000.....	12,323,968	\$46,109	21,836,974	\$22	\$ 25,611	\$ (33,882)	\$ (346)
Issuance of Series D preferred stock for cash, net of issuance costs of \$40.....	1,509,154	24,750	--	--	--	(40)	--
Issuance of common stock to public, net of issuance costs of \$10,567.....	--	--	5,750,000	6	121,688	--	--
Issuance of common stock to employees.....	--	--	1,288,557	1	6,424	--	--
Conversion of preferred stock to common stock.....	(13,833,122)	(70,859)	32,319,074	32	70,827	--	--
Exercise of stock options.....	--	--	76,053	--	73	--	--
Repurchase of common stock.....	--	--	--	--	--	--	--
Compensation associated with the grant of stock options and sale of restricted stock to non-employees.....	--	--	--	--	2,389	--	--
Deferred compensation related to stock option grants and sale of restricted common stock.....	--	--	--	--	33,860	--	--
Amortization of deferred compensation.....	--	--	--	--	--	--	--
Net loss.....	--	--	--	--	--	(31,389)	--
Balance, June 30, 2000.....	--	\$ --	61,270,658	\$61	\$260,872	\$ (65,311)	\$ (346)

	DEFERRED COMPENSATION	TREASURY STOCK		TOTAL STOCKHOLDERS' EQUITY (DEFICIT)
		SHARES	COST	
Balance, January 1, 2000.....	\$ (16,604)	--	\$ --	\$ (25,199)

Issuance of Series D preferred stock for cash, net of issuance costs of \$40.....	--	--	--	(40)
Issuance of common stock to public, net of issuance costs of \$10,567.....	--	--	--	121,694
Issuance of common stock to employees.....	--	--	--	6,425
Conversion of preferred stock to common stock.....	--	--	--	70,859
Exercise of stock options.....	--	--	--	73
Repurchase of common stock.....	--	257,500	(65)	(65)
Compensation associated with the grant of stock options and sale of restricted stock to non-employees.....	--	--	--	2,389
Deferred compensation related to stock option grants and sale of restricted common stock.....	(33,860)	--	--	--
Amortization of deferred compensation.....	10,976	--	--	10,976
Net loss.....	--	--	--	(31,389)
Balance, June 30, 2000.....	\$ (39,488)	257,500	\$ (65)	\$155,723
	=====	=====	=====	=====

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

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SONUS NETWORKS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(IN THOUSANDS)

(UNAUDITED)

	SIX MONTHS ENDED JUNE 30,	
	2000	1999
	-----	-----
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss.....	\$ (31,389)	\$ (8,460)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization.....	1,762	499
Compensation expense associated with the grant of stock options and issuance of restricted stock to non-employees.....	2,389	27
Amortization of deferred compensation.....	10,976	1,054
Changes in current assets and liabilities:		
Accounts receivable.....	(2,444)	--
Inventories.....	(5,494)	(920)
Other current assets.....	(463)	(225)
Accounts payable.....	4,483	989
Accrued expenses.....	5,700	562
Deferred revenue.....	4,060	--
Net cash used in operating activities.....	(10,420)	(6,474)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment.....	(5,159)	(1,542)
Maturities of marketable securities.....	19,548	17,973
Purchases of marketable securities.....	(17,581)	(5,056)
Other assets.....	(385)	(82)
Net cash provided by (used in) investing activities.....	(3,577)	11,293
CASH FLOWS FROM FINANCING ACTIVITIES:		
Net proceeds from sale of common stock.....	128,119	514
Proceeds from exercise of stock options.....	73	10
Net proceeds from issuance of preferred stock.....	24,710	241
Proceeds from long-term obligations.....	405	727
Payments of long-term obligations.....	(5,143)	(200)
Repurchase of common stock.....	(65)	--

Net cash provided by financing activities.....	148,099	1,293
NET INCREASE IN CASH AND CASH EQUIVALENTS.....	134,102	6,112
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD.....	8,885	3,584
CASH AND CASH EQUIVALENTS, END OF PERIOD.....	\$142,987	\$ 9,696
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:		
Cash paid during the period for interest.....	\$ 209	\$ 83
SUPPLEMENTARY DISCLOSURE OF NONCASH TRANSACTION:		
Conversion of redeemable convertible preferred stock into common stock.....	\$ 70,859	\$ --

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

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SONUS NETWORKS, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(UNAUDITED)

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(A) BASIS OF PRESENTATION AND PRINCIPLES OF CONSOLIDATION

The accompanying unaudited condensed consolidated financial statements have been prepared by Sonus Networks, Inc. (the "Company" or "Sonus") and reflect all adjustments, consisting only of normal recurring adjustments, which in the opinion of management are necessary for a fair statement of the results for the interim periods. The condensed consolidated financial statements have been prepared in accordance with the regulations of the Securities and Exchange Commission ("SEC"), but omit or condense certain information and footnote disclosure pursuant to existing SEC rules and regulations. Results for the interim periods are not necessarily indicative of results for the entire fiscal year. These statements should be read in conjunction with the financial statements and related footnotes included in the Company's registration statement Form S-1 (File No. 333-32206) declared effective by the SEC on May 24, 2000.

The condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary. All material intercompany transactions and balances have been eliminated.

(B) CASH EQUIVALENTS AND MARKETABLE SECURITIES

Cash equivalents are stated at cost plus accrued interest, which approximates market value, and have maturities of three months or less at the date of purchase.

Marketable securities are classified as held-to-maturity, as Sonus has the intent and ability to hold to maturity. Marketable securities are reported at amortized cost. Cash equivalents and marketable securities are invested in high-quality credit instruments, primarily U.S. Government obligations and corporate obligations with contractual maturities of less than one year. There have been no gains or losses to date.

(C) CONCENTRATION OF CREDIT RISK AND LIMITED SUPPLIERS

The financial instruments that potentially subject Sonus to concentrations of credit risk are cash, marketable securities and receivables. Sonus has no significant off-balance-sheet concentrations such as foreign exchange contracts, options contracts or other foreign hedging arrangements. Sonus' cash holdings are diversified between three financial institutions. For the three and six months ended June 30, 2000, three and four customers each accounted for more than 10% of revenues. As of June 30, 2000, three customers accounted for more than 10% of the accounts receivable balance.

Certain components and software licenses from third-parties used in Sonus'

products are procured from a single source. The failure of a supplier, including a subcontractor, to deliver on schedule could delay or interrupt Sonus' delivery of products and thereby adversely affect Sonus' revenues and operating results.

(D) REVENUE RECOGNITION

Sonus recognizes revenue from product sales to end users, resellers and distributors upon shipment, provided there are no uncertainties regarding acceptance, persuasive evidence of an arrangement exists, the sales price is fixed or determinable and collection of the related receivable is probable. If uncertainties exist, Sonus recognizes revenue when those uncertainties are resolved. In multiple element arrangements, Sonus uses the residual method in accordance with Statements of Position 97-2 and 98-9. Service revenue is recognized as the services are provided. Amounts collected prior to satisfying the revenue recognition

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SONUS NETWORKS, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(UNAUDITED)

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

criteria are reflected as deferred revenue. Warranty costs are estimated and recorded by Sonus at the time of product revenue recognition.

(E) STOCK BASED COMPENSATION

Sonus uses the intrinsic value-based method of Accounting Principles Board Opinion No. 25, ACCOUNTING FOR STOCK ISSUED TO EMPLOYEES, to account for all of its employee stock-based compensation plans and uses the fair value method to account for all non-employee stock-based compensation.

(F) COMPREHENSIVE LOSS

Sonus applies Financial Accounting Standards Board ("FASB") Statement of Financial Accounting Standards ("SFAS") No. 130, REPORTING COMPREHENSIVE INCOME. The comprehensive loss for the period for the three and six months ended June 30, 2000 and 1999 does not differ from the reported loss.

(G) NET LOSS PER SHARE

Basic net loss per share is computed by dividing the net loss for the period by the weighted average number of shares of unrestricted common stock outstanding during the period. Diluted net loss per share is computed by dividing the net loss for the period by the weighted average number of shares of unrestricted common stock and potential common stock outstanding during the period, if dilutive. Potential common stock comprises restricted shares of common stock and common shares issuable upon the exercise of stock options. Shares of common stock issuable upon the conversion of Sonus' redeemable convertible preferred stock have also been excluded from the date of issuance.

Options to purchase 4,198,000 and 869,000 shares of common stock have not been included in the computation of diluted net loss per share for the three and six months ended June 30, 2000 and 1999, respectively, as their effects would have been anti-dilutive.

Pro forma basic and diluted net loss per share for the three and six months ended June 30, 2000 and 1999 are computed using the weighted average number of unrestricted common shares outstanding, including the pro forma effects of the automatic conversion of Sonus' Series A, B, C and D redeemable convertible preferred stock into shares of Sonus' common stock which occurred upon the closing of Sonus' Initial Public Offering ("IPO"), as if such conversion occurred at the date of original issuance. There were no dilutive shares of potential common stock for these periods as the Company incurred a net loss in each period.

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SONUS NETWORKS, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(UNAUDITED)

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

The following table sets forth the computation of basic and diluted net loss per share and pro forma basic and diluted net loss per share:

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2000	1999	2000	1999
	(IN THOUSANDS, EXCEPT PER SHARE DATA)			
NET LOSS.....	\$ (15,354)	\$ (4,417)	\$ (31,389)	\$ (8,460)
HISTORICAL-				
Weighted average common shares outstanding.....	35,404	18,683	28,857	17,870
Less weighted average restricted common shares outstanding.....	(13,978)	(14,449)	(14,272)	(14,111)
Shares used in computing basic and diluted net loss per share.....	21,426	4,234	14,585	3,759
Basic and diluted net loss per share.....	\$ (0.72)	\$ (1.04)	\$ (2.15)	\$ (2.25)
PRO FORMA-				
Shares used in computing historical basic and diluted net loss per share.....	21,426	4,234	14,585	3,759
Weighted average number of shares assumed upon conversion of redeemable convertible preferred stock.....	21,665	25,886	26,421	25,862
Shares used in computing pro forma basic and diluted net loss per share.....	43,091	30,120	41,006	29,621
Pro forma basic and diluted net loss per share.....	\$ (0.36)	\$ (0.15)	\$ (0.77)	\$ (0.29)

NOTE 2. INVENTORIES

Inventories are stated at the lower of cost (first-in, first-out basis) or market and consist of the following, in thousands:

	JUNE 30, 2000	DECEMBER 31, 1999
Raw materials.....	\$ 432	\$ 305
Work in progress.....	3,055	941
Finished goods.....	4,217	964
	\$7,704	\$2,210

NOTE 3. LONG-TERM OBLIGATIONS

Sonus had a \$7.0 million equipment line of credit with a bank, bearing interest at the bank's prime rate plus 0.5%, available through June 30, 2000. In June 2000, \$5.1 million, representing all amounts then outstanding under this line were repaid and the equipment line of credit was terminated.

NOTE 4. REDEEMABLE CONVERTIBLE PREFERRED STOCK

Upon the completion of the IPO, each share of Series A, B, C and D redeemable convertible preferred stock was converted into an aggregate of 32,319,074 shares of common stock. Each share of Series A, B and C preferred stock was converted into 2.5 shares of common stock and each share of Series D preferred stock was converted into one share of common stock.

NOTE 5. STOCKHOLDERS' EQUITY (DEFICIT)

(A) IPO

On May 31, 2000, the Company completed its IPO of 5,750,000 shares of common stock, which includes the exercise of the underwriters' over allotment option of 750,000 shares, at \$23.00 per share. The proceeds from the IPO were \$121.7 million, after deducting the underwriters' discounts and commissions and estimated offering expenses paid by us of \$10.6 million.

(B) STOCK-BASED COMPENSATION

Stock-based compensation expenses include the amortization of deferred employee compensation and other equity related expenses for non-employees.

In connection with certain employee stock option grants and the issuance of employee restricted common stock, the Company recorded deferred stock-based compensation of \$33,860,000 for the six months ended June 30, 2000 and \$25,065,000 for the year ended December 31, 1999. Deferred stock-based compensation represents the difference between the option exercise price or purchase price and the fair value of the Company's common stock on the date of grant or sale for accounting purposes. Deferred compensation will be recognized as an expense over the vesting period of the underlying stock options and restricted common stock. Stock-based compensation expense was \$6,376,000 and \$559,000 for the three months ended June 30, 2000 and 1999, respectively, and \$10,976,000 and \$1,054,000 for the six months ended June 30, 2000 and 1999, respectively.

Sonus has valued the stock options and the issuances of restricted common stock to non-employees based upon the fair market value of the services rendered where Sonus believes the value of these services is more readily determinable than the value of the options or restricted stock. All other grants of options and issuances of restricted stock to non-employees are valued based upon the Black-Scholes option pricing model. As of June 30, 2000, Sonus has 45,000 stock options and 40,000 shares of restricted common stock outstanding to non-employees. Sonus has recorded stock-based compensation expense of \$10,000 and \$5,000 for the grant of options and issuances of restricted stock to non-employees for the three months ended June 30, 2000 and 1999, respectively and \$2,389,000 and \$27,000 for the six months ended June 30, 2000 and 1999, respectively. In accordance with Emerging Issues Task Force 96-18, Sonus will record the value at the time the services are provided.

ITEM 2: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Management's Discussion and Analysis of Financial Condition and Results of Operations contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, which are subject to a number of risks and uncertainties. These forward-looking statements are based on our current expectations, assumptions, estimates and projections about ourselves and our industry. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including the factors set forth in "Cautionary Statements" beginning on page 12 of this Quarterly Report on Form 10-Q. This discussion should be read in conjunction with the condensed consolidated unaudited financial statements and related notes for the periods specified. Further reference should be made to the Company's Registration Statement on Form S-1 (File No. 333-32206).

OVERVIEW

We are a leading provider of voice infrastructure products for the new public network. We offer a new generation of carrier-class switching equipment and software that enable voice services to be delivered over packet-based networks.

Since our inception, we have incurred significant losses and, as of June 30, 2000, had an accumulated deficit of \$65.3 million. We have not achieved profitability on a quarterly or an annual basis, and anticipate that we will continue to incur net losses. We have a lengthy sales cycle for our products and, accordingly, we expect to incur sales and other expenses before we realize the related revenues. We expect to incur significant sales and marketing, research and development and general and administrative expenses and, as a result, we will need to generate significant revenues to achieve and maintain profitability.

We sell our products through a direct sales force, resellers and distributors. In the future, we anticipate expanding our sales efforts to include additional overseas distribution partners. Customers' decisions to purchase our products to deploy in commercial networks involve a significant commitment of resources and a lengthy evaluation, testing and product qualification process. We believe these long sales cycles, as well as our expectation that customers will tend to sporadically place large orders with short lead times, will cause our revenues and results of operations to vary significantly and unexpectedly from quarter to quarter. We expect to recognize revenues from a limited number of customers for the foreseeable future.

We recognize revenue from product sales to end users, resellers and distributors upon shipment, provided there are no uncertainties regarding acceptance, persuasive evidence of an arrangement exists, the sales price is fixed or determinable and collection of the related receivable is probable. If uncertainties exist, we recognize revenue when those uncertainties are resolved. Service revenue is recognized as the services are performed. Amounts collected prior to satisfying our revenue recognition criteria are reflected as deferred revenue. We estimate and record warranty costs at the time of product revenue recognition. In November 1999, we began shipping our products and during the three months ended March 31, 2000 recognized our first revenues of \$1.1 million. In the three months ended June 30, 2000, we recognized \$6.5 million in revenue. As of June 30, 2000 we had a total of \$5.1 million in deferred revenue that we expect to recognize during the balance of fiscal 2000. See note 1(d) to our unaudited condensed consolidated financial statements.

RESULTS OF OPERATIONS

THREE AND SIX MONTHS ENDED JUNE 30, 2000 AND 1999

REVENUES. Revenues were \$6.5 million and \$7.6 million for the three and six months ended June 30, 2000, respectively. No revenues were reported for the three and six months ended June 30, 1999. We had

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three and four customers, during the three and six months ended June 30, 2000, each of whom contributed more than 10% of our revenue, respectively.

MANUFACTURING EXPENSES AND PRODUCT COSTS. Manufacturing expenses and product costs consist primarily of amounts paid to contract manufacturers, manufacturing and service personnel and related costs. Manufacturing expenses and product costs were \$4.6 million and \$6.0 million for the three and six months ended June 30, 2000, respectively, an increase of \$4.2 million and \$5.4 million as compared to the three and six months ended June 30, 1999, respectively. Both increases are primarily the result of an increase in product and personnel costs associated with the revenue increase.

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses consist primarily of salaries and related personnel costs, recruiting expenses and prototype costs related to the design, development, testing and enhancement of our products. We expense our research and development costs as incurred. Research and development expenses increased \$4.0 million to \$6.4 million for the three months ended June 30, 2000, compared to \$2.4 million for the same period in fiscal 1999. Research and development expenses increased \$6.1 million to \$11.2 million for the six months ended June 30, 2000, compared to \$5.1 million for the same period in fiscal 1999. The increases in expenses were primarily a result of increases in personnel and personnel-related expenses, offset in part by lower prototype expenses for the development of our products. Research and development is essential to our future success and we expect the dollar amounts of research and development expenses to increase in future periods.

SALES AND MARKETING EXPENSES. Sales and marketing expenses consist primarily of salaries and related personnel expenses, commissions, travel and

entertainment expenses, promotions, customer evaluations and other marketing expenses. Sales and marketing expenses increased \$3.6 million to \$4.4 million for the three months ended June 30, 2000, compared to \$0.8 million for the same period in fiscal 1999. Sales and marketing expenses increased \$6.4 million to \$7.7 million for the six months ended June 30, 2000, compared to \$1.3 million for the same period in fiscal 1999. The increases in expenses were primarily a result of increases in sales and marketing personnel, sales commissions, marketing programs, and travel and related expenses. We intend to continue to expand our domestic and international sales force and marketing efforts, and as a result, expect that the dollar amounts of sales and marketing expenses will increase in future periods.

GENERAL AND ADMINISTRATIVE EXPENSES. General and administrative expenses consist primarily of salaries and related expenses for executive and administrative personnel, recruiting expenses and professional fees. General and administrative expenses increased \$0.9 million to \$1.3 million for the three months ended June 30, 2000, compared to \$0.4 million for the same period in fiscal 1999. General and administrative expenses increased \$1.3 million to \$2.0 million for the six months ended June 30, 2000, compared to \$0.7 million for the same period in fiscal 1999. The increases reflect costs associated with being a public company, hiring of additional general and administrative personnel and for professional services. We expect that the dollar amounts of general and administrative expenses will increase in future periods as a result of expansion of business activity and the costs associated with being a publicly traded company.

STOCK-BASED COMPENSATION EXPENSES. Stock-based compensation expenses include the amortization of stock compensation charges resulting from the granting of stock options and the sales of restricted common stock to employees with exercise or sales prices that may be deemed for accounting purposes to be below the fair value of our common stock on the date of grant, and compensation expense associated with the grant of stock options and issuance of restricted stock to non-employees. Deferred compensation amounts are being amortized over the vesting periods of the applicable options or restricted stock, which are four to five years. The compensation expense associated with non-employees is recorded at the time services are provided. See note 5(b) to our unaudited condensed consolidated financial statements.

Stock-based compensation expenses were \$6.4 million for the three months ended June 30, 2000, an increase of \$5.8 million from \$0.6 million for the three months ended June 30, 1999. Stock-based

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compensation expenses were \$13.4 million for the six months ended June 30, 2000, an increase of \$12.3 million from \$1.1 million for the same period in fiscal 1999. These increases are due to the amortization of deferred stock-based compensation resulting from the granting of additional stock options and sale of restricted common stock to employees and compensation expense associated with non-employees. Based on the grant of stock options and sale of restricted common stock through June 30, 2000, we expect stock-based compensation expense to impact our results through fiscal 2004.

INTEREST INCOME (EXPENSE), NET. Interest income, net of interest expense was \$1.1 million and \$0.1 million for the three months ended June 30, 2000 and 1999, respectively. Interest income, net of interest expense increased \$1.1 million to \$1.3 million for the six months ended June 30, 2000, compared to \$0.2 million for the same period in fiscal 1999. These increases reflect higher invested balances as a result of our May 2000 IPO and private financings, partially offset by an increase in interest expense from incurred borrowings.

INCOME TAXES. No provision for income taxes has been recorded for the three and six months ended June 30, 2000 and 1999, due to accumulated net losses. We did not record any tax benefits relating to these losses or other tax benefits due to the uncertainty surrounding the timing of the realization of these future tax benefits.

LIQUIDITY AND CAPITAL RESOURCES

Prior to our IPO, we financed our operations primarily through private sales of redeemable convertible preferred stock totaling \$70.7 million in net proceeds. Upon the closing of our IPO on May 31, 2000, the Company received cash proceeds, net of underwriters' discount and offering expenses, totaling \$121.7, and all of our redeemable convertible preferred stock converted into 32,319,074 shares of common stock. At June 30, 2000, cash, cash equivalents and marketable

securities totaled \$155.7 million.

Net cash used in operating activities was \$10.4 million for the six months ended June 30, 2000, as compared to \$6.5 million for the six months ended June 30, 1999. The increase in net cash used in operating activities compared to the comparable period of the preceding year reflects increasing net losses and, to a lesser extent, inventory purchases and accounts receivable, offset in part by increases in accounts payable, accrued expenses and deferred revenue.

Net cash used in investing activities was \$3.6 million for the six months ended June 30, 2000, as compared to cash provided of \$11.3 million for the six months ended June 30, 1999. Net cash used for investing activities in each period reflects purchases of property and equipment, primarily computers and test equipment for our development and manufacturing activities, and net purchases and maturities of marketable securities. We expect capital expenditures to increase in the year 2000 to approximately \$14.0 million, due to our expansion and expenditures for software licenses, computers, and test equipment.

Net cash provided by financing activities was \$148.1 million for the six months ended June 30, 2000 as compared to \$1.3 million for the six months ended June 30, 1999. The increase was primarily a result of the net cash proceeds from the Company's IPO and the sale of Series D redeemable convertible preferred stock.

We believe our current cash, cash equivalents and marketable securities will be sufficient to meet our anticipated cash needs for working capital and capital expenditures for at least 12 months. If our existing resources and cash generated from operations are insufficient to satisfy our liquidity requirements, we may seek to sell additional equity or debt securities. The sale of additional equity or convertible debt securities could result in additional dilution to our stockholders, and we cannot be certain that additional financing will be available in amounts or on terms acceptable to us, if at all. If we are unable to obtain this additional financing, we may be required to reduce the scope of our planned product development and sales and marketing efforts, which could harm our business, financial condition and operating results.

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CAUTIONARY STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the Securities Litigation Reform Act of 1995 that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including those set forth in the following cautionary statements and elsewhere in this Quarterly Report on Form 10-Q. If any of the following risks were to occur, our business, financial condition or results of operations would likely suffer and the trading price of our common stock would likely decline.

WE EXPECT THAT A MAJORITY OF OUR REVENUES WILL BE GENERATED FROM A LIMITED NUMBER OF CUSTOMERS, AND OUR REVENUES WILL NOT GROW IF WE DO NOT SUCCESSFULLY SELL PRODUCTS TO THESE CUSTOMERS

To date, we have shipped our products to a limited number of customers, and only during the first quarter of fiscal 2000 did we begin to recognize revenues. We expect that in the foreseeable future, substantially all of our revenues will depend on sales of our products to a limited number of customers. Our customers are not contractually committed to purchase any minimum quantities of products from us. The customers to whom we have shipped are currently using our products in laboratory testing, internal trials, or in limited deployment in their commercial networks.

Our customers may not deploy our products in their commercial networks on a timely basis, or at all, and any delay or failure by our customers to introduce commercial services based on our products, or a downturn in their business, would seriously harm our ability to sell products and generate revenues.

WE WILL NOT BE SUCCESSFUL IF WE DO NOT GROW OUR CUSTOMER BASE BEYOND OUR INITIAL FEW CUSTOMERS

Our future success will depend on our ability to attract additional customers beyond our current limited number. The growth of our customer base could be adversely affected by:

- customer unwillingness to implement our new voice infrastructure products;
- any delays or difficulties that we may incur in completing the development and introduction of our planned products or product enhancements;
- new product introductions by our competitors;
- any failure of our products to perform as expected; or
- any difficulty we may incur in meeting customers' delivery requirements.

If we do not expand our customer base to include additional customers that deploy our products in operational, commercial networks, our revenues will not grow significantly, or at all.

THE MARKET FOR VOICE INFRASTRUCTURE FOR THE NEW PUBLIC NETWORK IS NEW AND EVOLVING AND OUR BUSINESS WILL SUFFER IF IT DOES NOT DEVELOP AS WE EXPECT

The market for our products is rapidly evolving. Packet-based technology may not be widely accepted as a platform for voice and a viable market for our products may not develop or be sustainable. If this market does not develop, or develops more slowly than we expect, we may not be able to sell our products in significant volumes, or at all.

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WE ARE ENTIRELY DEPENDENT UPON OUR VOICE INFRASTRUCTURE PRODUCTS AND OUR FUTURE REVENUES DEPEND UPON THEIR COMMERCIAL SUCCESS

Our future growth depends upon the commercial success of our voice infrastructure products, particularly the GSX9000 Open Services Switch and the System 9200 Internet offload solution. We intend to develop and introduce new products and enhancements to existing products in the future. We may not successfully complete the development or introduction of these products. If our target customers do not adopt, purchase and successfully deploy our current or planned products, our revenues will not grow.

BECAUSE OUR PRODUCTS ARE SOPHISTICATED AND DESIGNED TO BE DEPLOYED IN COMPLEX ENVIRONMENTS, THEY MAY HAVE ERRORS OR DEFECTS THAT WE FIND ONLY AFTER FULL DEPLOYMENT, WHICH COULD SERIOUSLY HARM OUR BUSINESS

Our products are sophisticated and are designed to be deployed in large and complex networks. Because of the nature of our products, they can only be fully tested when substantially deployed in very large networks with high volumes of traffic. Some of our customers have only recently begun to commercially deploy our products and they may discover errors or defects in the software or hardware, or the products may not operate as expected.

If we are unable to fix errors or other performance problems that may be identified after full deployment of our products, we could experience:

- loss of, or delay in, revenues;
- loss of customers and market share;
- a failure to attract new customers or achieve market acceptance for our products;
- increased service, support and warranty costs and a diversion of development resources; and
- costly and time-consuming legal actions by our customers.

IF WE DO NOT RESPOND RAPIDLY TO TECHNOLOGICAL CHANGES OR TO CHANGES IN INDUSTRY STANDARDS, OUR PRODUCTS COULD BECOME OBSOLETE

The market for voice infrastructure products for the new public network is likely to be characterized by rapid technological change and frequent new product introductions. We may be unable to respond quickly or effectively to these developments. We may experience difficulties with software development, hardware design, manufacturing or marketing that could delay or prevent our development, introduction or marketing of new products and enhancements. The introduction of new products by competitors, the market acceptance of products based on new or alternative technologies or the emergence of new industry standards could render our existing or future products obsolete. If the

standards adopted are different from those that we have chosen to support, market acceptance of our products may be significantly reduced or delayed. If our products become technologically obsolete, we may be unable to sell our products in the marketplace and generate revenues.

WE DEPEND UPON CONTRACT MANUFACTURERS AND ANY DISRUPTION IN THESE RELATIONSHIPS MAY CAUSE US TO FAIL TO MEET THE DEMANDS OF OUR CUSTOMERS AND DAMAGE OUR CUSTOMER RELATIONSHIPS

We rely on a small number of contract manufacturers to manufacture our products according to our specifications and to fill orders on a timely basis. Our contract manufacturers provide comprehensive manufacturing services, including assembly of our products and procurement of materials. Each of our contract manufacturers also builds products for other companies and may not always have sufficient quantities of inventory available to fill our orders, or may not allocate their internal resources to fill these orders on a timely basis. We do not have long-term supply contracts with our manufacturers and they are

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not required to manufacture products for any specified period. We do not have internal manufacturing capabilities to meet our customers' demands. Qualifying a new contract manufacturer and commencing commercial-scale production is expensive and time consuming and could result in a significant interruption in the supply of our products. If a change in contract manufacturers results in delays of our fulfillment of customer orders or if a contract manufacturer fails to make timely delivery of orders, we may lose revenues and suffer damage to our customer relationships.

WE HAVE BEEN IN BUSINESS FOR A SHORT PERIOD OF TIME AND YOUR BASIS FOR EVALUATING US IS LIMITED

We were founded in August 1997, and only during the first quarter of fiscal 2000 did we begin to recognize any revenues. We have a limited meaningful operating history upon which you may evaluate us and our prospects. Moreover, we cannot be sure that we have accurately identified all of the risks to our business. Also, our assessment of the prospects for our success may prove inaccurate.

THERE MAY BE SALES OF A SUBSTANTIAL AMOUNT OF OUR COMMON STOCK THAT COULD CAUSE OUR STOCK PRICE TO FALL

Certain of Sonus' stockholders hold a substantial number of shares of common stock which are currently subject to lock-up agreements or other restrictive agreements limiting their ability to sell such shares. These stockholders may be able to sell such shares in the public market in the near future. Sales of a substantial number of shares of our common stock in the public market within a short period of time could cause our stock price to fall significantly. In addition, the sale of these shares could impair our ability to raise capital through the sale of additional stock.

THE UNPREDICTABILITY OF OUR QUARTERLY RESULTS MAY ADVERSELY AFFECT THE TRADING PRICE OF OUR COMMON STOCK

Our revenues and operating results will vary significantly from quarter to quarter due to a number of factors, many of which are outside of our control and any of which may cause our stock price to fluctuate. Generally, purchases by service providers of telecommunications equipment from manufacturers have been unpredictable and clustered, rather than steady, as the providers build out their networks. The primary factors that may affect our revenues and results include the following:

- fluctuation in demand for our voice infrastructure products and the timing and size of customer orders;
- the length and variability of the sales cycle for our products and the corresponding timing of recognizing revenues and deferred revenues;
- new product introductions and enhancements by our competitors and us;
- changes in our pricing policies, the pricing policies of our competitors and the prices of the components of our products;
- our ability to develop, introduce and ship new products and product

enhancements that meet customer requirements in a timely manner;

- the mix of product configurations sold;
- our ability to obtain sufficient supplies of sole or limited source components;
- our ability to attain and maintain production volumes and quality levels for our products;
- costs related to acquisitions of complementary products, technologies or businesses; and

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- general economic conditions, as well as those specific to the telecommunications, networking and related industries.

As with other telecommunications product suppliers, we may recognize a substantial portion of our revenue in a given quarter from sales booked and shipped in the last weeks of that quarter. As a result, a delay in customer orders is likely to result in a delay in shipments and recognition of revenue beyond the end of a given quarter, which would have a significant impact on our operating results for that quarter.

Our operating expenses are largely based on anticipated organizational growth and revenue trends. As a result, a delay in generating or recognizing revenues for the reasons set forth above, or for any other reason, could cause significant variations in our operating results. We believe that quarter-to-quarter comparisons of our operating results are not a good indication of our future performance. It is likely that in some future quarters, our operating results may be below the expectations of public market analysts and investors. In this event, the price of our common stock will probably substantially decrease.

WE MAY NOT BECOME PROFITABLE

We have incurred significant losses since inception and expect to continue to incur losses in the future. As of June 30, 2000, we had an accumulated deficit of \$65.3 million and had only recognized cumulative revenues since inception of \$7.6 million through the second quarter of fiscal 2000. We have not achieved profitability on a quarterly or annual basis. Our revenues may not grow and we may never generate sufficient revenues to achieve or sustain profitability. We expect to continue to incur significant and increasing sales and marketing, product development, administrative and other expenses. As a result, we will need to generate significant revenues to achieve and maintain profitability.

WE WILL NOT RETAIN CUSTOMERS OR ATTRACT NEW CUSTOMERS IF WE DO NOT ANTICIPATE AND MEET SPECIFIC CUSTOMER REQUIREMENTS AND IF OUR PRODUCTS DO NOT INTEROPERATE WITH OUR CUSTOMERS' EXISTING NETWORKS

To achieve market acceptance for our products, we must effectively anticipate, and adapt in a timely manner to, customer requirements and offer products and services that meet changing customer demands. Prospective customers may require product features and capabilities that our current products do not have. The introduction of new or enhanced products also requires that we carefully manage the transition from older products in order to minimize disruption in customer ordering patterns and ensure that adequate supplies of new products can be delivered to meet anticipated customer demand. If we fail to develop products and offer services that satisfy customer requirements, or to effectively manage the transition from older products, our ability to create or increase demand for our products would be seriously harmed and we may lose current and prospective customers.

Many of our customers will require that our products be designed to interface with their existing networks, each of which may have different specifications. Issues caused by an unanticipated lack of interoperability may result in significant warranty, support and repair costs, divert the attention of our engineering personnel from our hardware and software development efforts and cause significant customer relations problems. If our products do not interoperate with those of our customers' networks, installations could be delayed or orders for our products could be cancelled, which would seriously harm our gross margins and result in loss of revenues or customers.

IF WE FAIL TO COMPETE SUCCESSFULLY, OUR ABILITY TO INCREASE OUR REVENUES OR ACHIEVE PROFITABILITY WILL BE IMPAIRED

Competition in the telecommunications market is intense. This market has historically been dominated by large companies, such as Lucent Technologies and Nortel Networks, both of whom are our direct competitors. We also face competition from other large telecommunications and networking companies, including Cisco Systems, Siemens and Tellabs, that have entered our market by acquiring companies that

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design competing products. In addition, a number of private companies have announced plans for new products that address the same market opportunity that we address. Because this market is rapidly evolving, additional competitors with significant financial resources may enter these markets and further intensify competition.

Many of our current and potential competitors have significantly greater selling and marketing, technical, manufacturing, financial and other resources, including the ability to offer vendor-sponsored financing programs. If we are unable or unwilling to offer vendor-sponsored financing, prospective customers may decide to purchase products from one of our competitors who offers this type of financing. Furthermore, some of our competitors are currently selling significant amounts of other products to our current and prospective customers. Our competitors' broad product portfolios coupled with already existing relationships may cause our customers to buy our competitors' products.

To compete effectively, we must deliver products that:

- provide extremely high reliability and voice quality;
- scale easily and efficiently;
- interoperate with existing network designs and other vendors' equipment;
- provide effective network management;
- are accompanied by comprehensive customer support and professional services; and
- provide a cost-effective and space-efficient solution for service providers.

If we are unable to compete successfully against our current and future competitors, we could experience price reductions, order cancellations, loss of revenues and reduced gross margins.

WE AND OUR CONTRACT MANUFACTURERS RELY ON SINGLE OR LIMITED SOURCES FOR SUPPLY OF SOME COMPONENTS OF OUR PRODUCTS AND IF WE FAIL TO ADEQUATELY PREDICT OUR MANUFACTURING REQUIREMENTS OR IF OUR SUPPLY OF ANY OF THESE COMPONENTS IS DISRUPTED, WE WILL BE UNABLE TO SHIP OUR PRODUCTS

We and our contract manufacturers currently purchase several key components of our products, including commercial digital signal processors, from single or limited sources. We purchase these components on a purchase order basis. If we overestimate our component requirements, we could have excess inventory, which would increase our costs. If we underestimate our requirements, we may not have adequate supply, which could interrupt manufacturing of our products and result in delays in shipments and revenues.

We currently do not have long-term supply contracts with our component suppliers and they are not required to supply us with products for any specified periods, in any specified quantities or at any set price, except as may be specified in a particular purchase order. In the event of a disruption or delay in supply, or inability to obtain products, we may not be able to develop an alternate source in a timely manner or at favorable prices, or at all. A failure to find acceptable alternative sources could hurt our ability to deliver high-quality products to our customers and negatively affect our operating margins. In addition, our reliance on our suppliers exposes us to potential supplier production difficulties or quality variations. Our customers rely upon our ability to meet committed delivery dates, and any disruption in the supply of key components would seriously impact our ability to meet these dates and could result in legal action by our customers, loss of customers or harm to our ability to attract new customers.

IF WE ARE NOT ABLE TO OBTAIN NECESSARY LICENSES OF THIRD-PARTY TECHNOLOGY AT ACCEPTABLE PRICES, OR AT ALL, OUR PRODUCTS COULD BECOME OBSOLETE

We have incorporated third-party licensed technology into our current products. From time to time, we may be required to license additional technology from third parties to develop new products or product enhancements. Third-party licenses may not be available or continue to be available to us on commercially reasonable terms. The inability to maintain or re-license any third-party licenses required in our current products, or to obtain any new third-party licenses to develop new products and product enhancements could require us to obtain substitute technology of lower quality or performance standards or at greater cost, and delay or prevent us from making these products or enhancements, any of which could seriously harm the competitiveness of our products.

OUR FAILURE TO MANAGE OUR EXPANSION EFFECTIVELY IN A RAPIDLY CHANGING MARKET COULD INCREASE OUR COSTS, HARM OUR ABILITY TO SELL FUTURE PRODUCTS AND IMPAIR OUR FUTURE GROWTH

We intend to expand our operations rapidly and plan to hire a significant number of employees during the remainder of 2000. Our growth has placed, and our anticipated growth will continue to place, a significant strain on our management systems and resources. Our ability to successfully offer our products and implement our business plan in a rapidly evolving market requires effective planning and management processes. We expect that we will need to continue to improve our financial, managerial and manufacturing controls and reporting systems, and will need to continue to expand, train and manage our work force worldwide. If we fail to implement adequate control systems in an efficient and timely manner, our costs may be increased and our growth could be impaired and we may not be able to accurately anticipate and fulfill market demand, the result of which will be a loss of revenues and customers.

IF WE FAIL TO HIRE AND RETAIN NEEDED PERSONNEL, THE IMPLEMENTATION OF OUR BUSINESS PLAN COULD SLOW OR OUR FUTURE GROWTH COULD HALT

Competition for highly skilled engineering, sales, marketing and support personnel is intense because there are a limited number of people available with the necessary technical skills and understanding of our market. Any failure to attract, assimilate or retain qualified personnel to fulfill our current or future needs could impair our growth. The support of our products requires highly trained customer support and professional services personnel. Once we hire them, they may require extensive training in our voice infrastructure products. If we are unable to hire, train and retain our customer support and professional services personnel, we may not be able to increase sales of our products.

Our future success depends upon the continued services of our executive officers who have critical industry experience and relationships that we rely on to implement our business plan. None of our officers or key employees is bound by an employment agreement for any specific term. The loss of the services of any of our officers or key employees could delay the development and introduction of, and negatively impact our ability to sell, our products.

OUR ABILITY TO COMPETE AND OUR BUSINESS COULD BE JEOPARDIZED IF WE ARE UNABLE TO PROTECT OUR INTELLECTUAL PROPERTY OR BECOME SUBJECT TO INTELLECTUAL PROPERTY RIGHTS LITIGATION, WHICH COULD REQUIRE US TO INCUR SIGNIFICANT COSTS

We rely on a combination of patent, copyright, trademark and trade secret laws and restrictions on disclosure to protect our intellectual property rights. Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy or otherwise obtain and use our products or technology. Monitoring unauthorized use of our products is difficult and we cannot be certain that the steps we have taken will prevent unauthorized use of our technology, particularly in foreign countries where the laws may

not protect our proprietary rights as fully as in the United States. If competitors are able to use our technology, our ability to compete effectively could be harmed.

In addition, we may also become involved in litigation as a result of

allegations that we infringe intellectual property rights of others. Any parties asserting that our products infringe upon their proprietary rights would force us to defend ourselves and possibly our customers or contract manufacturers against the alleged infringement. These claims and any resulting lawsuit, if successful, could subject us to significant liability for damages and invalidation of our proprietary rights. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling, incorporating or using our products that use the challenged intellectual property;
- obtain from the owner of the infringed intellectual property right a license to sell or use the relevant technology, which license may not be available on reasonable terms, or at all; or
- redesign those products that use any allegedly infringing technology.

Any lawsuits regarding intellectual property rights, regardless of their success, would be time-consuming, expensive to resolve and would divert our management's time and attention.

IF WE ARE SUBJECT TO UNFAIR HIRING CLAIMS, WE COULD INCUR SUBSTANTIAL COSTS IN DEFENDING OURSELVES

Companies in our industry whose employees accept positions with competitors frequently claim that their competitors have engaged in unfair hiring practices. We may be subject to claims of this kind in the future as we seek to hire qualified personnel. Those claims may result in material litigation. We could incur substantial costs defending ourselves or our employees against those claims, regardless of their merits. In addition, defending ourselves from those types of claims could divert our management's attention from our operations. If we are found to have engaged in unfair hiring practices, or our employees are found to have violated agreements with previous employers, we may suffer a significant disruption in our operations.

WE MAY FACE RISKS ASSOCIATED WITH OUR INTERNATIONAL EXPANSION THAT COULD IMPAIR OUR ABILITY TO GROW OUR REVENUES ABROAD

We intend to expand into international markets. This expansion will require significant management attention and financial resources to successfully develop direct and indirect international sales and support channels. In addition, we may not be able to develop international market demand for our products, which could impair our ability to grow our revenues.

We have limited experience marketing and distributing our products internationally and, to do so, we expect that we will need to develop versions of our products that comply with local standards. Furthermore, international operations are subject to other inherent risks, including:

- greater difficulty collecting accounts receivable and longer collection periods;
- difficulties and costs of staffing and managing foreign operations;
- the impact of differing technical standards outside the United States;
- the impact of recessions in economies outside the United States;
- unexpected changes in regulatory requirements and currency exchange rates;
- certification requirements;
- reduced protection for intellectual property rights in some countries; and
- potentially adverse tax consequences.

ANY INVESTMENTS OR ACQUISITIONS WE MAKE COULD DISRUPT OUR BUSINESS AND SERIOUSLY HARM OUR FINANCIAL CONDITION

Although we have no current agreements to do so, we intend to consider investing in, or acquiring, complementary products, technologies or businesses. In the event of any future investments or acquisitions, we could:

- issue stock that would dilute our current stockholders' percentage ownership;
- incur debt or assume liabilities;
- incur significant amortization expenses related to goodwill and other intangible assets; or
- incur large and immediate write-offs.

Our integration of any acquired products, technologies or businesses will also involve numerous risks, including:

- problems and unanticipated costs associated with combining the purchased products, technologies or businesses;
- diversion of management's attention from our core business;
- adverse effects on existing business relationships with suppliers and customers;
- risks associated with entering markets in which we have limited or no prior experience; and
- potential loss of key employees, particularly those of the acquired organizations.

We may be unable to successfully integrate any products, technologies, businesses or personnel that we might acquire in the future without significant costs or disruption to our business.

WE MAY NEED ADDITIONAL CAPITAL IN THE FUTURE, WHICH MAY NOT BE AVAILABLE TO US, AND IF IT IS AVAILABLE, MAY DILUTE OWNERS OF OUR COMMON STOCK

We may need to raise additional funds through public or private debt or equity financings in order to:

- fund ongoing operations;
- take advantage of opportunities, including more rapid expansion or acquisition of complementary products, technologies or businesses;
- develop new products; or
- respond to competitive pressures.

Any additional capital raised through the sale of equity may dilute an investor's percentage ownership of our common stock. Furthermore, additional financings may not be available on terms favorable to us, or at all. A failure to obtain additional funding could prevent us from making expenditures that may be required to grow or maintain our operations.

OUR STOCK PRICE MAY BE VOLATILE

The market for technology stocks has been extremely volatile. The following factors could cause the market price of our common stock to fluctuate significantly:

- loss of any of our major customers;
- the addition or departure of key personnel;
- variations in our quarterly operating results;

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- announcements by us or our competitors of significant contracts, new products or product enhancements, acquisitions, distribution partnerships, joint ventures or capital commitments;
- changes in financial estimates by securities analysts;
- sales of common stock or other securities by us or by our existing stockholders in the future;

- changes in market valuations of telecommunications and networking companies; and
- fluctuations in stock market prices and volumes.

In addition, the stock market in general, and the Nasdaq National Market and technology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. The trading prices of many technology companies' stocks are at or near historical highs and these trading prices and multiples are substantially above historical levels and may not be sustained. These broad market and industry trends may materially and adversely affect the market price of our common stock, regardless of our actual operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been initiated against these companies. Class-action litigation, if initiated, could result in substantial costs and a diversion of management's attention and resources. All of these factors could cause the market price of our stock to drop and you may not be able to sell your shares at or above the initial offering price.

INSIDERS WILL CONTINUE TO HAVE SUBSTANTIAL CONTROL OVER US AFTER THIS OFFERING AND COULD LIMIT YOUR ABILITY TO INFLUENCE THE OUTCOME OF KEY TRANSACTIONS, INCLUDING CHANGES OF CONTROL

Our executive officers, directors and entities affiliated with them in the aggregate, beneficially own a significant portion of our outstanding common stock. These stockholders, if acting together, would be able to influence significantly all matters requiring approval by our stockholders, including the election of directors and the approval of mergers or other business combination transactions.

PROVISIONS OF OUR CHARTER DOCUMENTS AND DELAWARE LAW MAY HAVE ANTI-TAKEOVER EFFECTS THAT COULD PREVENT A CHANGE OF CONTROL

Provisions of our amended and restated certificate of incorporation, amended and restated by-laws, and Delaware law could make it more difficult for a third party to acquire us, even if doing so would be beneficial to our stockholders.

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ITEM 3: QUALITATIVE AND QUANTITATIVE DISCLOSURES ABOUT MARKET RISK

We do not currently use derivative financial instruments. We generally place our marketable security investments in high-quality credit instruments, primarily U.S. Government obligations and corporate obligations with contractual maturities of less than one year. We do not expect any material loss from our marketable security investments and therefore believe that our potential interest rate exposure is not material.

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PART II--OTHER INFORMATION

ITEM 2: CHANGES IN SECURITIES AND USE OF PROCEEDS

On May 24, 2000, the Securities and Exchange Commission declared effective the Company's Registration Statement on Form S-1 (File Number 333-32206), relating to the initial public offering of the Company's common stock, \$0.001 par value. The managing underwriters in the initial public offering were Goldman, Sachs & Co., FleetBoston Robertson Stephens Inc., J.P. Morgan Securities Inc. and Lehman Brothers Inc. The offering was completed on May 31, 2000 and all 5,750,000 shares covered by the Registration Statement, which includes the exercise of the underwriters' over allotment option of 750,000 shares, were sold by the Company at \$23.00 per share. The net proceeds from the initial public offering were approximately \$121.7 million, after deducting the underwriters' discounts and commissions and estimated offering expenses payable by us of approximately \$10.6 million in the aggregate.

We expect to use the net proceeds from this offering for general corporate purposes, including the funding of operating losses, the expansion of sales, marketing and product development activities, working capital, and capital expenditures. In addition, we may use a portion of the net proceeds to acquire complementary products, technologies or businesses; however, we currently have no plans, commitments or agreements with respect to any of these types of transactions. Pending their use, we have invested the net proceeds in

investment-grade, interest-bearing securities.

ITEM 6: EXHIBITS AND REPORTS ON FORM 8-K

(a) Exhibits:

EXHIBIT NUMBER

- | | |
|------|---|
| 1.1 | Underwriting Agreement by and among Goldman, Sachs & Co., FleetBoston Robertson Stephens Inc., Lehman Brothers Inc. and J.P. Morgan Securities Inc. dated March 24, 2000. |
| 3.1 | Fourth Amended and Restated Certificate of Incorporation of the Company. |
| 3.2 | Amended and Restated By-Laws of the Company. |
| 27.1 | Financial Data Schedule. |

(b) Reports on Form 8-K:

No Reports on Form 8-K were filed by the Company during the three months ended June 30, 2000.

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SIGNATURE

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

SONUS NETWORKS, INC.

Dated: August 9, 2000

By: /s/ STEPHEN J. NILL

Stephen J. Nill, Chief Financial Officer,
Vice President of Finance and
Administration and Treasurer (authorized
officer and principal financial and
accounting officer)

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EXHIBIT INDEX

EXHIBIT NO.

DESCRIPTION

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| 1.1 | Underwriting Agreement by and among Goldman, Sachs & Co., FleetBoston Robertson Stephens Inc., Lehman Brothers Inc. and J.P. Morgan Securities Inc. dated March 24, 2000. |
| 3.1 | Fourth Amended and Restated Certificate of Incorporation of the Company. |
| 3.2 | Amended and Restated By-Laws of the Company. |
| 27.1 | Financial Data Schedule. |

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SONUS NETWORKS, INC.

COMMON STOCK

(\$0.001 PAR VALUE PER SHARE)

UNDERWRITING AGREEMENT

May 24, 2000

Goldman, Sachs & Co.,
FleetBoston Robertson Stephens Inc.
Lehman Brothers Inc.
J.P. Morgan Securities Inc.

As representatives of the several Underwriters
named in Schedule I hereto,
c/o Goldman, Sachs & Co.,
85 Broad Street,
New York, New York 10004

Ladies and Gentlemen:

Sonus Networks, Inc., a Delaware corporation (the "COMPANY"), proposes, subject to the terms and conditions stated herein, to issue and sell to the Underwriters named in Schedule I hereto (the "UNDERWRITERS") an aggregate of 5,000,000 shares (the "FIRM SHARES") and, at the election of the Underwriters, up to 750,000 additional shares (the "OPTIONAL SHARES") of Common Stock, \$0.001 par value per share (the "STOCK"), of the Company (the Firm Shares and the Optional Shares that the Underwriters elect to purchase pursuant to Section 2 hereof being collectively called the "SHARES").

1. The Company represents and warrants to, and agrees with, each of the Underwriters that:

(a) A registration statement on Form S-1 (File No. 333-32206) (the "INITIAL REGISTRATION STATEMENT") in respect of the Shares has been filed with the Securities and Exchange Commission (the "COMMISSION"); the Initial Registration Statement and any post-effective amendment thereto, each in the form heretofore delivered to you, and, excluding exhibits thereto, to you for each of the other Underwriters, have been declared effective by the Commission in such form; other than a registration statement, if any, increasing the size of the offering (a "RULE 462(b) REGISTRATION STATEMENT"), filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the "ACT"), which became effective upon filing, no other document with respect to the Initial Registration Statement has heretofore been filed with the Commission; and no stop order suspending the effectiveness of the Initial Registration Statement, any post-effective amendment thereto or the Rule 462(b) Registration Statement, if any, has been issued and no proceeding for that purpose has been initiated or threatened by the Commission (any preliminary prospectus included in the Initial Registration Statement or filed

with the Commission pursuant to Rule 424(a) of the rules and regulations of the Commission under the Act is hereinafter called a "PRELIMINARY PROSPECTUS"; the various parts of the Initial Registration Statement and the Rule 462(b) Registration Statement, if any, including all exhibits thereto and including the information contained in the form of final prospectus filed with the Commission pursuant to Rule 424(b) under the Act in accordance with Section 5(a) hereof and deemed by virtue of Rule 430A under the Act to be part of the Initial Registration Statement at the time it was declared effective, each as amended at the time such part of the Initial Registration Statement became effective or such part of the Rule 462(b) Registration Statement, if any, became or hereafter becomes effective, are hereinafter collectively called the "REGISTRATION STATEMENT"; and such final prospectus, in the form first filed pursuant to Rule 424(b) under the Act, is hereinafter called the "PROSPECTUS";

(b) No order preventing or suspending the use of any Preliminary Prospectus has been issued by the Commission, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Act and the rules and regulations of the Commission thereunder, and did not contain an 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 the light of the circumstances under which they were made, not misleading; PROVIDED, HOWEVER, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter through Goldman, Sachs & Co. expressly for use therein;

(c) The Registration Statement conforms, and the Prospectus and any further amendments or supplements to the Registration Statement or the Prospectus will conform, in all material respects to the requirements of the Act and the rules and regulations of the Commission thereunder and do not and will not, as of the applicable effective date as to the Registration Statement and any amendment thereto, and as of the applicable filing date as to the Prospectus and any amendment or supplement thereto, contain an 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 not misleading; PROVIDED, HOWEVER, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter through Goldman, Sachs & Co. expressly for use therein;

(d) There are no contracts or other documents required to be described in the Registration Statement or to be filed as exhibits to the Registration Statement by the Act or by the rules and regulations thereunder which have not been described or filed as required; the contracts so described in the Prospectus to which the Company or any of its subsidiaries is a party have been duly authorized, executed and delivered by the Company and its subsidiaries, as are party thereto, constitute valid and binding agreements of the Company and its subsidiaries, as are party thereto, are enforceable against the Company and its subsidiaries, as are party thereto, in accordance with their respective terms and are in full force and effect on the date hereof; to the best of the Company's knowledge, the contracts so described in the Prospectus to which the Company or any of its subsidiaries is a party are enforceable by the Company and its subsidiaries, as are party thereto, against the other parties thereto in accordance with their respective terms; and neither the Company nor any of its subsidiaries, nor, to the best of the Company's knowledge, any other party is in breach of or default under any of such contracts, except for such breaches or defaults that, singly or in the aggregate, would not result in a material adverse change in or affecting the business, assets, management, financial condition or results of operations of the Company and its subsidiaries taken as a whole;

(e) Neither the Company nor any of its subsidiaries has sustained since the date of the latest audited financial statements included in the Prospectus any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth in the Prospectus; and, since the respective dates as of which information is given in the Registration Statement and the Prospectus, there has not been any change in the capital stock (other than issuances of Stock pursuant to Company stock option, stock incentive or stock purchase plans described in the Registration Statement and Prospectus) or long-term debt of the Company or any of its subsidiaries or any material adverse change, or any development involving a prospective material adverse change, in or affecting the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole;

(f) None of the Company and 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 are described in the Prospectus or such as do not materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company and its subsidiaries; and any real property and buildings held under lease by the Company or any of its subsidiaries are held under valid, subsisting and enforceable leases with such exceptions as are not material and do not interfere

with the use made and proposed to be made of such property and buildings by the Company and its subsidiaries; the Company and its subsidiaries own or lease all such properties as are necessary to their operations as now conducted, except where the failure to so own or lease would not, singly or in the aggregate, result in a material adverse change in or affecting the business, assets, management, financial condition or results of operations of the Company and its subsidiaries taken as a whole;

(g) Each of the Company and its subsidiaries has been duly incorporated and is validly existing as a corporation in good standing under the laws of its respective jurisdiction of organization, each with full power and authority (corporate and other) to own its properties and conduct its business as described in the Prospectus, and has been duly qualified as a foreign corporation for the transaction of business and is in good standing under the laws of each other jurisdiction in which it owns or leases properties or conducts any business so as to require such qualification, or is subject to no material liability or disability by reason of the failure to be so qualified in any such jurisdiction;

(h) The Company has an authorized capitalization as set forth in the Prospectus, and all of the issued shares of capital stock of the Company have been duly authorized and validly issued, are fully paid and non-assessable and conform to the description of the Stock contained in the Prospectus; all of the issued shares of capital stock of each subsidiary of the Company have been duly authorized and validly issued, are fully paid and non-assessable and (except for directors' qualifying shares) are owned directly or indirectly by the Company, free and clear of all liens, encumbrances, equities or claims except such as are described in the Prospectus; except as disclosed in or contemplated by the Prospectus and the consolidated financial statements of the Company, and the related notes thereto, included in the Prospectus, neither the Company nor any subsidiary has outstanding any options to purchase, or any preemptive rights or other rights to subscribe for or to purchase any securities or obligations convertible into, or any contracts or commitments to issue or sell, shares of its capital stock or any such options, rights, convertible securities or obligations; and the description of the Company's stock option and stock purchase plans and the options or other rights granted and exercised thereunder set forth

in the Prospectus accurately and fairly presents the information required to be shown with respect to such plans, options and rights;

(i) The unissued Shares to be issued and sold by the Company to the Underwriters hereunder have been duly authorized and, when issued and delivered against payment therefor as provided herein, will be validly issued and fully paid and non-assessable and will conform to the description of the Stock contained in the Prospectus; no preemptive rights or other rights to subscribe for or purchase exist with respect to the issuance and sale of the Shares by the Company pursuant to this Agreement; no stockholder of the Company has any right, which has not been waived, to require the Company to register the sale of any shares of capital stock owned by such stockholder under the Act in the public offering contemplated by this Agreement; no stockholder of the Company has any right to require the Company to register the sale of any shares of capital stock owned by such stockholder under the Act in the 180-day period after the date of the Prospectus other than as described in the Prospectus; and no further approval or authority of the stockholders or the Board of Directors of the Company will be required for the issuance and sale of the Shares to be sold by the Company as contemplated herein;

(j) The Company has full corporate power and authority to enter into this Agreement; this Agreement has been duly authorized, executed and delivered by the Company, constitutes a valid and binding obligation of the Company and is enforceable against the Company in accordance with its terms;

(k) The issue and sale of the Shares by the Company and the compliance by the Company with all of the provisions of this Agreement and the consummation of the transactions herein contemplated will not conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, any material indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the property or assets of the Company or any of its subsidiaries is subject, nor will such action result in any violation of the

provisions of the Certificate of Incorporation or By-laws of the Company or any statute or any order, rule or regulation of any court or governmental agency or body having jurisdiction over the Company or any of its subsidiaries or any of their properties; and no consent, approval, authorization, order, filing, registration or qualification of or with any such court or governmental agency or body is required for the issue and sale of the Shares or the consummation by the Company of the transactions contemplated by this Agreement, except the registration under the Act of the Shares and such consents, approvals, authorizations, filings, registrations or qualifications as may be required under state securities or Blue Sky laws in connection with the purchase and distribution of the Shares by the Underwriters;

(l) Except as disclosed in the Prospectus, there are no legal or governmental actions, suits or proceedings pending or, to the best of the Company's knowledge, threatened to which the Company or any of its subsidiaries is or may be a party or of which property owned or leased by the Company or any of its subsidiaries is or may be the subject, which actions, suits or proceedings are required to be described in the Registration Statement by the Act or the rules and regulations thereunder or which might, singly or in the aggregate, prevent or adversely affect the transactions contemplated by this Agreement or result in a material adverse change in or affecting the business, assets, management, financial position (after giving effect to the offering of the Shares) or results of operations of the Company and its subsidiaries taken as a whole; and, to the best of the Company's knowledge, no such proceedings are threatened or contemplated by governmental authorities or others; no labor disturbance by the employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is imminent

which might be expected to affect adversely the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole; and neither the Company nor any of its subsidiaries is a party or subject to the provisions of any injunction, judgment, decree or order of any court, regulatory body, administrative agency or other governmental body;

(m) Neither the Company nor any of its subsidiaries is in violation of its Certificate of Incorporation or By-laws or any similar organizational documents or in default in the performance or observance of any obligation, agreement, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it or any of its properties may be bound except for such violations or defaults that would not, singly or in the aggregate, result in a material adverse change in or affecting the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole;

(n) The statements set forth in the Prospectus under the caption "Description of Capital Stock", insofar as they purport to constitute a summary of the terms of the Stock and under the caption "Underwriting", insofar as they purport to describe the provisions of the laws and documents referred to therein, are accurate, complete and fair;

(o) The Company is not and, after giving effect to the offering and sale of the Shares, will not be an "investment company", as such term is defined in the Investment Company Act of 1940, as amended (the "INVESTMENT COMPANY ACT");

(p) Neither the Company nor any of its affiliates does business with the government of Cuba or with any person or affiliate located in Cuba within the meaning of Section 517.075, Florida Statutes;

(q) The Company and its subsidiaries possess all licenses, certificates, authorizations or permits issued by the appropriate governmental or regulatory agencies or authorities that are necessary to enable them to own, lease and operate their respective properties and to carry on their respective businesses as currently conducted and which are material to the Company and its subsidiaries, and neither the Company nor any of its subsidiaries has received any notice of proceedings relating to the revocation or modification of any such license, certificate, authorization or permit which, singly or in the aggregate, would be expected to materially and adversely affect the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole;

(r) The consolidated financial statements and schedules of the Company, and the related notes thereto, included in the Registration Statement and the Prospectus present fairly in all material respects the financial position of the Company as of the respective dates of such financial statements and schedules, and the results of operations and cash flows of the Company for the respective periods covered thereby; such statements, schedules and related notes have been prepared in accordance with generally accepted accounting principles applied on a consistent basis as certified by the independent public accountants named in paragraph (s) below; no other financial statements or schedules are required to be included in the Registration Statement; and the selected financial data set forth in the Prospectus under the captions "Summary Financial Information," "Capitalization" and "Selected Financial Data" fairly present the information set forth therein on the basis stated in the Registration Statement;

(s) Arthur Andersen LLP, who have certified certain financial statements of the Company and its subsidiaries, are independent public accountants as required by the Act and the rules and regulations of the Commission thereunder;

(t) The Company has reviewed its operations and that of its subsidiaries and any third parties with which the Company or any of its subsidiaries has a material relationship to evaluate the extent to which the business or operations of the Company or any of its subsidiaries has been or will be affected by the Year 2000 Problem. As a result of such review, the Company has no reason to believe, and does not believe, that the Year 2000 Problem has had or will have a material adverse effect on the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole or has resulted in or will result in any material loss or interference with the Company's business or operations. The "Year 2000 Problem" as used herein means any significant risk that computer hardware or software used in the receipt, transmission, processing, manipulation, storage, retrieval, retransmission or other utilization of data or in the operation of mechanical or electrical systems of any kind is not functioning or will not function, in the case of dates or time periods occurring after December 31, 1999, at least as effectively as in the case of dates or time periods occurring prior to January 1, 2000;

(u) The Company and its subsidiaries are in compliance with any and all applicable foreign, federal, state and local laws and regulations relating to the protection of human health and safety, including without limitation those relating to occupational safety and health, the environment or hazardous or toxic substances or wastes, pollutants or contaminants, including without limitation those relating to the storage, handling or transportation of hazardous or toxic materials (collectively, "ENVIRONMENTAL LAWS"), except where such noncompliance with Environmental Laws would not, singly or in the aggregate, be expected to have a material adverse effect on the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole. The Company, in its reasonable judgment, has concluded that, based upon facts and circumstances existing as of the date hereof, any costs or liabilities associated with Environmental Laws (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties) would not, singly or in the aggregate, reasonably be expected to have a material adverse effect on the business, assets, management, financial position or results of operation of the Company and its subsidiaries taken as a whole;

(v) Except as disclosed in the Prospectus, the Company and its subsidiaries own or have the right to use all trademarks, trade names, patent rights, copyrights, licenses, trade secrets, know-how, intellectual property and other similar rights necessary to conduct their business as now conducted; the Company has no knowledge of any infringement by the Company or any of its subsidiaries of any trademark, trade name, patent, copyright, license, trade secret, know-how, intellectual property or other similar rights of others; and there are no claims of infringement being made against the Company or any of its subsidiaries regarding trademark, trade name, patent, copyright, license, trade secret, know-how, intellectual property or other similar rights which could, singly or in the aggregate, have a material adverse effect on the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole; the Company has no knowledge of any

infringement by any third party of the trademark, trade name, patent, copyright, license, trade secret, know-how, intellectual property or other similar rights of the Company or any of its subsidiaries; none of the

technology employed by the Company or any of its subsidiaries has been obtained or is being used by the Company or any of its subsidiaries in violation of any contractual or fiduciary obligation binding on the Company, its subsidiaries or any of their respective directors or executive officers or, to the best of the Company's knowledge, any of their respective employees or consultants or otherwise in violation of the rights of any person; none of the Company, its subsidiaries and, to the best of the Company's knowledge, any of its employees has received any written or, to the Company's knowledge, oral communications alleging that the Company or any of its subsidiaries has violated or, by conducting its business as proposed, would violate any of the intellectual property or proprietary rights of any other person except for such violations as would not, singly or in the aggregate, have a material adverse effect on the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole; neither the execution nor delivery of this Agreement, nor the operation of the business of the Company and its subsidiaries by the employees of the Company or its subsidiaries, nor the conduct of the business of the Company and its subsidiaries as proposed, will, to the Company's knowledge, result in a breach or violation 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 except for such breaches, violations or defaults as would not, singly or in the aggregate, have a material adverse effect on the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole; and the Company and its subsidiaries have taken and will maintain reasonable measures to prevent the unauthorized dissemination or publication of its confidential information or the confidential information of third parties in its possession;

(w) The Company and each of its subsidiaries have filed all necessary federal, state, local and foreign income and franchise tax returns and have paid all taxes shown as due thereon; and the Company has no knowledge of any tax deficiencies which has been or might be asserted or threatened against the Company or any of its subsidiaries which could, singly or in the aggregate, materially and adversely affect the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole;

(x) Each of the Company and its subsidiaries maintains insurance of the types and in the amounts which it reasonably deems adequate for its business, including, but not limited to, insurance covering real and personal property owned or leased by the Company and its subsidiaries against theft, damage, destruction, acts of vandalism and all other risks customarily insured against, all of which insurance is in full force and effect;

(y) Neither the Company nor any of its subsidiaries has at any time during the last five years (i) made any unlawful contribution to any candidate for foreign office, or failed to disclose fully any contribution in violation of law, or (ii) made any payment to any foreign, federal or state governmental officer or official, or other person charged with similar public or quasi-public duties, other than payments required or permitted by the laws of the United States or any jurisdiction thereof;

(z) The Company has not taken and will not take, directly or indirectly through any of its directors, officers or controlling persons, any action which is designed to or which has constituted or which might reasonably be expected to cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares; and

(aa) The Company has filed a registration statement pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended, to register the Common Stock, has filed an

application to list the Common Stock on the National Association of Securities Dealers Automated Quotations National Market System ("NASDAQ") and has received

notification that the listing has been approved, subject to notice of issuance of the Shares.

2. Subject to the terms and conditions herein set forth, (a) the Company agrees to issue and sell to each of the Underwriters, and each of the Underwriters agrees, severally and not jointly, to purchase from the Company, at a purchase price per share of \$21.39, the number of Firm Shares set forth opposite the name of such Underwriter in Schedule I hereto and (b) in the event and to the extent that the Underwriters shall exercise the election to purchase Optional Shares as provided below, the Company agrees to issue and sell to each of the Underwriters, and each of the Underwriters agrees, severally and not jointly, to purchase from the Company, at the purchase price per share set forth in clause (a) of this Section 2, that portion of the number of Optional Shares as to which such election shall have been exercised (to be adjusted by you so as to eliminate fractional shares) determined by multiplying such number of Optional Shares by a fraction, the numerator of which is the maximum number of Optional Shares which such Underwriter is entitled to purchase as set forth opposite the name of such Underwriter in Schedule I hereto and the denominator of which is the maximum number of Optional Shares that all of the Underwriters are entitled to purchase hereunder.

The Company hereby grants to the Underwriters the right to purchase at their election up to 750,000 Optional Shares, at the purchase price per share set forth in the paragraph above, for the sole purpose of covering sales of shares in excess of the number of Firm Shares. Any such election to purchase Optional Shares may be exercised only by written notice from you to the Company, given within a period of 30 calendar days after the date of this Agreement, setting forth the aggregate number of Optional Shares to be purchased and the date on which such Optional Shares are to be delivered, as determined by you but in no event earlier than the First Time of Delivery (as defined in Section 4 hereof) or, unless you and the Company otherwise agree in writing, earlier than two or later than ten business days after the date of such notice.

3. Upon the authorization by you of the release of the Firm Shares, the several Underwriters propose to offer the Firm Shares for sale upon the terms and conditions set forth in the Prospectus.

4. (a) The Shares to be purchased by each Underwriter hereunder, in definitive form, and in such authorized denominations and registered in such names as Goldman, Sachs & Co. may request upon at least forty-eight hours' prior notice to the Company shall be delivered by or on behalf of the Company to Goldman, Sachs & Co., through the facilities of the Depository Trust Company ("DTC"), for the account of such Underwriter, against payment by or on behalf of such Underwriter of the purchase price therefor by wire transfer of Federal (same-day) funds to the account specified by the Company to Goldman, Sachs & Co. at least forty-eight hours in advance. The Company will cause the certificates representing the Shares to be made available for checking and packaging at least twenty-four hours prior to the Time of Delivery (as defined below) with respect thereto at the office of DTC or its designated custodian (the "DESIGNATED OFFICE"). The time and date of such delivery and payment shall be, with respect to the Firm Shares, 9:30 a.m., New York City time, on May 31, 2000 or such other time and date as Goldman, Sachs & Co. and the Company may agree upon in writing, and, with respect to the Optional Shares, 9:30 a.m., New York time, on the date specified by Goldman, Sachs & Co. in the written notice given by Goldman, Sachs & Co. of the Underwriters' election to purchase such Optional Shares, or such other time and date as Goldman, Sachs & Co. and the Company may agree upon in writing. Such time and date for delivery of the Firm Shares is herein called the "FIRST TIME OF DELIVERY", such time and date for delivery of the Optional Shares, if not the First

Time of Delivery, is herein called the "SECOND TIME OF DELIVERY", and each such time and date for delivery is herein called a "TIME OF DELIVERY".

(b) The documents to be delivered at each Time of Delivery by or on behalf of the parties hereto pursuant to Section 7 hereof, including the cross receipt for the Shares and any additional documents requested by the Underwriters pursuant to Section 7 hereof, will be delivered at the offices of Bingham Dana LLP, Boston, Massachusetts 02110 (the "CLOSING LOCATION"), and the Shares will be delivered at the Designated Office, all at such Time of Delivery. A meeting will be held at the Closing Location at 6:00 p.m., New York City time, on the New York Business Day next preceding such Time of Delivery, at which meeting the final drafts of the documents to be delivered pursuant to the

preceding sentence will be available for review by the parties hereto. For the purposes of this Section 4, "NEW YORK BUSINESS DAY" shall mean each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in New York are generally authorized or obligated by law or executive order to close.

5. The Company agrees with each of the Underwriters:

(a) To prepare the Prospectus in a form approved by you and to file such Prospectus pursuant to Rule 424(b) under the Act not later than the Commission's close of business on the second business day following the execution and delivery of this Agreement, or, if applicable, such earlier time as may be required by Rule 430A(a)(3) under the Act; to make no further amendment or any supplement to the Registration Statement or Prospectus which shall be disapproved by you promptly after reasonable notice thereof; to advise you, promptly after it receives notice thereof, of the time when any amendment to the Registration Statement has been filed or becomes effective or any supplement to the Prospectus or any amended Prospectus has been filed and to furnish you with copies thereof; to advise you, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or the Prospectus, of the suspension of the qualification of the Shares for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement or Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or the Prospectus or suspending any such qualification, promptly to use its best efforts to obtain the withdrawal of such order;

(b) Promptly from time to time to take such action as you may reasonably request to qualify the Shares for offering and sale under the securities laws of such jurisdictions as you may reasonably request and to comply with such laws so as to permit the continuance of sales and dealings therein in such jurisdictions for as long as may be necessary to complete the distribution of the Shares, provided that in connection therewith the Company shall not be required to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction;

(c) Prior to 10:00 A.M., New York City time, on the New York Business Day next succeeding the date of this Agreement and from time to time, to furnish the Underwriters with copies of the Prospectus in New York City in such quantities as you may reasonably request, and, if the delivery of a prospectus is required under the Act at any time prior to the expiration of nine months after the time of issue of the Prospectus in connection with the offering or sale of the Shares and if at such time any event shall have occurred as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit

to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made when such Prospectus is delivered, not misleading, or, if for any other reason it shall be necessary during such period to amend or supplement the Prospectus in order to comply with the Act, to notify you and upon your request to prepare and furnish without charge to each Underwriter and to any dealer in securities as many copies as you may from time to time reasonably request of an amended Prospectus or a supplement to the Prospectus which will correct such statement or omission or effect such compliance, and in case any Underwriter is required under the Act to deliver a prospectus in connection with sales of any of the Shares at any time nine months or more after the time of issue of the Prospectus, upon your request but at the expense of such Underwriter, to prepare and deliver to such Underwriter as many copies as you may request of an amended or supplemented Prospectus complying with Section 10(a)(3) of the Act;

(d) To make generally available to its securityholders as soon as practicable, but in any event not later than eighteen months after the effective date of the Registration Statement (as defined in Rule 158(c) under the Act), an earnings statement of the Company and its subsidiaries (which need not be audited) complying with Section 11(a) of the Act and the rules and regulations thereunder (including, at the option of the Company, Rule 158);

(e) During the period beginning from the date hereof and

continuing to and including the date 180 days after the date of the Prospectus, not to offer, sell, contract to sell or otherwise dispose of, except as provided hereunder any securities of the Company that are substantially similar to the Shares, including but not limited to any securities that are convertible into or exchangeable for, or that represent the right to receive, Stock or any such substantially similar securities (other than pursuant to employee stock option, stock incentive or stock purchase plans existing on, upon the exercise of securities that represent the right to receive Stock outstanding as of, or upon the conversion or exchange of convertible or exchangeable securities outstanding as of, the date of this Agreement), without your prior written consent;

(f) To furnish to its stockholders within the time period prescribed by the Securities Exchange Act of 1934, as amended (the "EXCHANGE ACT"), and the rules and regulations thereunder, an annual report (including a balance sheet and statements of income, stockholders' equity and cash flows of the Company and its consolidated subsidiaries certified by independent public accountants) and, within the time periods prescribed by the Exchange Act and the rules and regulations thereunder (beginning with the fiscal quarter ending after the effective date of the Registration Statement), to make available to its stockholders consolidated summary financial information of the Company and its subsidiaries for such quarter in reasonable detail;

(g) During a period of five years from the effective date of the Registration Statement, to furnish to you upon request copies of all reports or other communications (financial or other) furnished to stockholders, and to deliver to you (i) as soon as they are available, copies of any reports and financial statements furnished to or filed with the Commission or any national securities exchange on which any class of securities of the Company is listed; and (ii) subject to your obligations under applicable law, such additional information concerning the business and financial condition of the Company as you may from time to time reasonably request (such financial statements to be on a consolidated basis to the extent the accounts of the Company and its subsidiaries are consolidated in reports furnished to its stockholders generally or to the Commission);

(h) To use the net proceeds received by it from the sale of the Shares pursuant to this Agreement in the manner specified in the Prospectus under the caption "Use of Proceeds" and in a manner such that the Company will not become an "investment company" as that term is defined in the Investment Company Act;

(i) To file with the Commission such information on Form 10-Q or Form 10-K as may be required by Rule 463 under the Act;

(j) If the Company elects to rely upon Rule 462(b), the Company shall file a Rule 462(b) Registration Statement with the Commission in compliance with Rule 462(b) by 10:00 P.M., Washington, D.C. time, on the date of this Agreement, and the Company shall at the time of filing either pay to the Commission the filing fee for the Rule 462(b) Registration Statement or give irrevocable instructions for the payment of such fee pursuant to Rule 111(b) under the Act;

(k) Not to grant options, warrants or other rights to purchase shares of Stock that would become exercisable during the period beginning on the date hereof and continuing to and including the date 180 days after the date of the Prospectus, other than options under the Company's 2000 Employee Stock Purchase Plan and such options, warrants or other rights granted to persons who, prior to such grant, execute agreements substantially to the effect set forth in Subsection 5(e) hereof in form and substance satisfactory to you; and

(l) During the period beginning on the date hereof and continuing to and including the date 180 days after the date of the Prospectus, to issue stop transfer instructions with respect to the Stock to the transfer agent and registrar for the Stock and use its best efforts to cause such transfer agent and registrar to enforce such instructions; to enforce agreements in favor of the Company with respect to restrictions on transfer of the Stock and agreements to enter into lock-up agreements with you; and, during the period beginning on the date hereof and continuing to and including the date 180 days after the date of the Prospectus, to place legends on or use its best efforts to cause the transfer agent and registrar for the Stock to place appropriate legends on certificates representing the Stock noting all restrictions on transfer thereof.

6. The Company covenants and agrees with the several Underwriters that the Company will pay or cause to be paid the following: (i) the fees, disbursements and expenses of the Company's counsel and accountants in connection with the registration of the Shares under the Act and all other expenses in connection with the preparation, printing and filing of the Registration Statement, any Preliminary Prospectus and the Prospectus and amendments and supplements thereto and the mailing and delivering of copies thereof to the Underwriters and dealers; (ii) the cost of printing or producing any Agreement among Underwriters, this Agreement, the Blue Sky Memorandum, closing documents (including any compilations thereof) and any other documents in connection with the offering, purchase, sale and delivery of the Shares, and the fees and disbursements of counsel for the Underwriters in connection with securing any required review by the National Association of Securities Dealers, Inc. of the terms of the sale of the Shares; (iii) all expenses in connection with the qualification of the Shares for offering and sale under state securities laws as provided in Section 5(b) hereof, including the fees and disbursements of counsel for the Underwriters in connection with such qualification and in connection with the Blue Sky survey; (iv) all fees and expenses in connection with listing the Shares on the NASDAQ; (v) the filing fees incident to securing any required review by the National Association of Securities Dealers, Inc. of the terms of the sale of the Shares; (vi) the cost of preparing stock certificates; (vii) the cost and charges of any transfer agent or registrar; and (viii) all other costs and expenses incident to the performance of its obligations hereunder which are not otherwise specifically provided for in this Section. It is understood, however, that,

(x) except as provided in this Section, and Sections 8 and 11 hereof, the Underwriters will pay all of their own costs and expenses, including the fees of their counsel, stock transfer taxes on resale of any of the Shares by them, and any advertising expenses connected with any offers they may make, and (y) other than with respect to filing or similar fees, the maximum liability of the Company under clauses (ii) and (iii) above shall be \$20,000.

7. The obligations of the Underwriters hereunder, as to the Shares to be delivered at each Time of Delivery, shall be subject, in their discretion, to the condition that all representations and warranties and other statements of the Company herein are, at and as of such Time of Delivery, true and correct, the condition that the Company shall have performed all of its obligations hereunder theretofore to be performed, and the following additional conditions:

(a) The Prospectus shall have been filed with the Commission pursuant to Rule 424(b) within the applicable time period prescribed for such filing by the rules and regulations under the Act and in accordance with Section 5(a) hereof; if the Company has elected to rely upon Rule 462(b), the Rule 462(b) Registration Statement shall have become effective by 10:00 P.M., Washington, D.C. time, on the date of this Agreement; no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission; and all requests for additional information on the part of the Commission shall have been complied with to your reasonable satisfaction;

(b) Ropes & Gray, counsel for the Underwriters, shall have furnished to you such written opinion or opinions (a draft of each such opinion is attached as Annex II(a) hereto), dated such Time of Delivery, with respect to the matters covered in paragraphs (i), (ii), (vi), (ix) and (xi) of subsection (c) below as well as such other related matters as you may reasonably request, and such counsel shall have received such papers and information as they may reasonably request to enable them to pass upon such matters;

(c) Bingham Dana LLP, counsel for the Company, shall have furnished to you their written opinion (a draft of such opinion is attached as Annex II(b) hereto), dated such Time of Delivery, in form and substance satisfactory to you, to the effect that:

(i) The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware, with corporate power and authority to own its properties and conduct its business as described in the Prospectus;

(ii) The Company has an authorized capitalization as set forth in the Prospectus, and all of the issued shares of capital stock of the Company (including the Shares being delivered at such Time of Delivery) have been duly authorized and validly issued and are fully paid and non-assessable; and the Shares conform to the description of the Stock contained in the Prospectus;

(iii) The Company is duly qualified as a foreign corporation for the transaction of business and is in good standing under the laws of The Commonwealth of Massachusetts;

(iv) Each subsidiary of the Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of its jurisdiction of incorporation; and all of the issued shares of capital stock of each such subsidiary have been duly authorized and validly issued, are fully paid and non-assessable, and (except

for directors' qualifying shares) are owned directly or indirectly by the Company, free and clear of all liens, encumbrances, equities or claims to the knowledge of such counsel;

(v) To the best of such counsel's knowledge and other than as set forth in the Prospectus, there are no legal or governmental proceedings pending to which the Company or any of its subsidiaries is a party or of which any property of the Company or any of its subsidiaries is the subject which, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate be reasonably expected to have a material adverse effect on the business, assets, management, financial position or results of operations of the Company and its subsidiaries taken as a whole; and, to the best of such counsel's knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others;

(vi) The Company has full corporate power and authority to enter into this Agreement and this Agreement has been duly authorized, executed and delivered by the Company;

(vii) The issue and sale of the Shares being delivered at such Time of Delivery by the Company and the compliance by the Company with all of the provisions of this Agreement and the consummation of the transactions herein contemplated will not conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument known to such counsel to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the property or assets of the Company or any of its subsidiaries is subject, nor will such action result in any violation of the provisions of the Certificate of Incorporation or By-laws of the Company or any statute or any order, rule or regulation known to such counsel of any federal or Massachusetts court or governmental agency or body having jurisdiction over the Company or any of its subsidiaries or any of their properties;

(viii) No consent, approval, authorization, order, filing, registration or qualification of or with any such federal or Massachusetts court or governmental agency or body is required for the issue and sale of the Shares or the consummation by the Company of the transactions contemplated by this Agreement, except the registration under the Act of the Shares, and such consents, approvals, authorizations, filings, registrations or qualifications as may be required under state securities or Blue Sky laws in connection with the purchase and distribution of the Shares by the Underwriters;

(ix) The statements set forth in the Prospectus under the caption "Description of Capital Stock", insofar as they purport to constitute a summary of the terms of the Stock and under the captions "Shares Eligible for Future Sale" and "Underwriting", insofar as they purport to describe the provisions of the laws and documents referred to therein, are accurate, complete and fair in all material respects;

(x) The Company is not an "investment company", as such term is defined in the Investment Company Act;

(xi) The Registration Statement and the Prospectus and any further amendments and supplements thereto made by the Company prior to such Time of Delivery (other than the financial statements and related schedules and other financial and accounting data therein, as to which such counsel need express no opinion) comply

as to form in all material respects with the requirements of the Act and the rules and regulations thereunder; although they do not assume any responsibility for the accuracy, completeness or fairness of the statements contained in the Registration Statement or the Prospectus, except for those referred to in the opinion in subsection (viii) of this section 7(c), they have no reason to believe that, as of its effective date, the Registration Statement or any further amendment thereto made by the Company prior to such Time of Delivery (other than the financial statements and related schedules and other financial and accounting data therein, as to which such counsel need express no opinion) contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading or that, as of its date, the Prospectus or any further amendment or supplement thereto made by the Company prior to such Time of Delivery (other than the financial statements and related schedules and other financial and accounting data therein, as to which such counsel need express no opinion) contained an untrue statement of a material fact or omitted to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading or that, as of such Time of Delivery, either the Registration Statement or the Prospectus or any further amendment or supplement thereto made by the Company prior to such Time of Delivery (other than the financial statements and related schedules and other financial and accounting data therein, as to which such counsel need express no opinion) contains an untrue statement of a material fact or omits to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; and they do not know of any amendment to the Registration Statement required to be filed or of any contracts or other documents of a character required to be filed as an exhibit to the Registration Statement or required to be described in the Registration Statement or the Prospectus which are not filed or described as required; and

(xii) The Registration Statement has become effective under the Act. To the best of such counsel's knowledge, no stop order suspending the effectiveness of the Registration Statement has been issued by the Commission nor has any proceeding been instituted for that purpose under the Act. The Prospectus has been filed with the Commission pursuant to Rule 424(b) of the rules and regulations under the Act within the time period required thereby.

(d) On the date of the Prospectus at a time prior to the execution of this Agreement, at 9:30 a.m., New York City time, on the effective date of any post-effective amendment to the Registration Statement filed subsequent to the date of this Agreement and also at each Time of Delivery, Arthur Andersen LLP shall have furnished to you a letter or letters, dated the respective dates of delivery thereof, in form and substance satisfactory to you, to the effect set forth in Annex I hereto (the executed copy of the letter delivered prior to the execution of this Agreement is attached as Annex I(a) hereto and a draft of the form of letter to be delivered on the effective date of any post-effective amendment to the Registration Statement and as of each Time of Delivery is attached as Annex I(b) hereto);

(e) (i) Neither the Company nor any of its subsidiaries shall have sustained since the date of the latest audited financial statements included in the Prospectus any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Prospectus, and (ii) since the

respective dates as of which information is given in the Prospectus there shall not have been any change in the capital stock or long-term debt of the Company or any of its subsidiaries or any change, or any development involving a prospective change, in or affecting the business, assets, management, financial position, stockholders' equity or results of operations of the Company and its subsidiaries taken as a whole, otherwise than as set forth or contemplated in the Prospectus, the effect of which, in any such case described in clause (i) or (ii), is in the judgment of the Representatives so material and adverse as to make it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares being delivered at such Time of Delivery on the terms and in the manner contemplated in the Prospectus;

(f) On or after the date hereof there shall not have occurred any of the following: (i) a suspension or material limitation in trading in securities generally on the New York Stock Exchange or on NASDAQ; (ii) a suspension or material limitation in trading in the Company's securities on NASDAQ; (iii) a general moratorium on commercial banking activities declared by either Federal or New York or Massachusetts state authorities; or (iv) the outbreak or escalation of hostilities involving the United States or the declaration by the United States of a national emergency or war, if the effect of any such event specified in this clause (iv) in the judgment of the Representatives makes it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares being delivered at such Time of Delivery on the terms and in the manner contemplated in the Prospectus;

(g) The Shares to be sold at such Time of Delivery shall have been duly listed for quotation on NASDAQ;

(h) The Company has obtained and delivered to the Underwriters executed copies of an agreement from the stockholders of the Company listed on Schedule II hereto, substantially to the effect set forth in Subsection 5(e) hereof in form and substance satisfactory to you;

(i) The Company shall have complied with the provisions of Section 5(c) hereof with respect to the furnishing of prospectuses on the New York Business Day next succeeding the date of this Agreement;

(j) Beachcroft Wansbroughs, local counsel for Sonus Networks Limited, a United Kingdom corporation (the "FOREIGN SUBSIDIARY"), shall have furnished to you their written opinion (a draft of such opinion is attached as Annex II(c) hereto), dated such Time of Delivery, in form and substance satisfactory to you, to the effect that:

(i) The Foreign Subsidiary has been duly incorporated and is validly existing as a corporation in good standing under the laws of the United Kingdom; and

(ii) All of the issued shares of capital stock of the Foreign Subsidiary have been duly authorized and validly issued, are fully paid and nonassessable, and are owned directly or indirectly by the Company, free and clear of all liens, encumbrances, equities or claims to the knowledge of such counsel;

(k) The Company shall have furnished or caused to be furnished to you at such Time of Delivery certificates of officers of the Company satisfactory to you as to the accuracy of the representations and warranties of the Company herein at and as of such Time of Delivery, as to the performance by the Company of all of its obligations hereunder to be performed at or prior to such Time of Delivery, as to the matters set forth in subsections (a) and (e) of this Section and as to such other matters as you may reasonably request.

8. (a) The Company will indemnify and hold harmless each Underwriter against any losses, claims, damages or liabilities, joint or several, to which such Underwriter may become subject,

under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, the Registration Statement or the Prospectus, or any amendment or supplement thereto, or arise out of or are based upon the omission

or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse each Underwriter for any legal or other expenses reasonably incurred by such Underwriter in connection with investigating or defending any such action or claim as such expenses are incurred; PROVIDED, HOWEVER, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in any Preliminary Prospectus, the Registration Statement or the Prospectus or any such amendment or supplement in reliance upon and in conformity with written information furnished to the Company by any Underwriter through Goldman, Sachs & Co. expressly for use therein.

(b) Each Underwriter will indemnify and hold harmless the Company against any losses, claims, damages or liabilities to which the Company may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, the Registration Statement or the Prospectus, or any amendment or supplement thereto, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in any Preliminary Prospectus, the Registration Statement or the Prospectus or any such amendment or supplement in reliance upon and in conformity with written information furnished to the Company by such Underwriter through Goldman, Sachs & Co. expressly for use therein; and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending any such action or claim as such expenses are incurred.

(c) Promptly after receipt by an indemnified party under subsection (a) or (b) above of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party shall not relieve it from any liability which it may have to any indemnified party otherwise than under such subsection. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under such subsection for any legal expenses of other counsel or any other expenses, in each case subsequently incurred by such indemnified party, in connection with the defense thereof other than reasonable costs of investigation. No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry of any judgment with respect to, any pending or threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to

such action or claim) unless such settlement, compromise or judgment (i) includes an unconditional release of the indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party.

(d) If the indemnification provided for in this Section 8 is unavailable to or insufficient to hold harmless an indemnified party under subsection (a) or (b) above in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Shares. If, however, the allocation

provided by the immediately preceding sentence is not permitted by applicable law or if the indemnified party failed to give the notice required under subsection (c) above, then each indemnifying party shall contribute to such amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to this subsection (d) were determined by PRO RATA allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this subsection (d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportion to their respective underwriting obligations and not joint.

(e) The obligations of the Company under this Section 8 shall be in addition to any liability which the Company may otherwise have and shall extend, upon the same terms and conditions, to each person, if any, who controls any Underwriter within the meaning of the Act; and the obligations of the Underwriters under this Section 8 shall be in addition to any liability

which the respective Underwriters may otherwise have and shall extend, upon the same terms and conditions, to each officer and director of the Company (including any person who, with his or her consent, is named in the Registration Statement as about to become a director of the Company) and to each person, if any, who controls the Company within the meaning of the Act.

9. (a) If any Underwriter shall default in its obligation to purchase the Shares which it has agreed to purchase hereunder at a Time of Delivery, you may in your discretion arrange for you or another party or other parties to purchase such Shares on the terms contained herein. If within thirty-six hours after such default by any Underwriter you do not arrange for the purchase of such Shares, then the Company shall be entitled to a further period of thirty-six hours within which to procure another party or other parties satisfactory to you to purchase such Shares on such terms. In the event that, within the respective prescribed periods, you notify the Company that you have so arranged for the purchase of such Shares, or the Company notifies you that it has so arranged for the purchase of such Shares, you or the Company shall have the right to postpone such Time of Delivery for a period of not more than seven days, in order to effect whatever changes may thereby be made necessary in the Registration Statement or the Prospectus, or in any other documents or arrangements, and the Company agrees to file promptly any amendments to the Registration Statement or the Prospectus which in your opinion may thereby be made necessary. The term "Underwriter" as used in this Agreement shall include any person substituted under this Section with like effect as if such person had originally been a party to this Agreement with respect to such Shares.

(b) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by you and the Company as provided in subsection (a) above, the aggregate number of such Shares which remains unpurchased does not exceed one-eleventh of the aggregate number of all the Shares to be purchased at such Time of Delivery, then the Company shall have the right to require each non-defaulting Underwriter to purchase the number of shares which such Underwriter agreed to purchase hereunder at such Time of Delivery and, in addition, to require each non-defaulting Underwriter to purchase its pro rata share (based on the number of Shares which such Underwriter agreed to purchase hereunder) of the Shares of such defaulting Underwriter or Underwriters for which such arrangements have not been made; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

(c) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by you and the Company as provided in subsection (a) above, the aggregate number of such Shares which remains unpurchased exceeds one-eleventh of the aggregate number of all the Shares to be purchased at such Time of Delivery, or if the Company shall not exercise the right described in subsection (b) above to require non-defaulting Underwriters to purchase Shares of a defaulting Underwriter or Underwriters, then this Agreement (or, with respect to the Second Time of Delivery, the obligations of the Underwriters to purchase and of the Company to sell the Optional Shares) shall thereupon terminate, without liability on the part of any non-defaulting Underwriter or the Company, except for the expenses to be borne by the Company and the Underwriters as provided in Section 6 hereof and the indemnity and contribution agreements in Section 8 hereof; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

10. The respective indemnities, agreements, representations, warranties and other statements of the Company and the several Underwriters, as set forth in this Agreement or made by or on behalf

of them, respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation (or any statement as to the results thereof) made by or on behalf of any Underwriter or any controlling person of any Underwriter, or the Company, or any officer or director or controlling person of the Company, and shall survive delivery of and payment for the Shares.

11. If this Agreement shall be terminated pursuant to Section 9 hereof, the Company shall not then be under any liability to any Underwriter except as provided in Sections 6 and 8 hereof; but, if for any other reason, any Shares are not delivered by or on behalf of the Company as provided herein, the Company will reimburse the Underwriters through you for all out-of-pocket expenses approved in writing by you, including fees and disbursements of counsel, in each case reasonably incurred by the Underwriters in making preparations for the purchase, sale and delivery of the Shares not so delivered, but the Company shall then be under no further liability to any Underwriter except as provided in Sections 6 and 8 hereof.

12. In all dealings hereunder, you shall act on behalf of each of the Underwriters, and the parties hereto shall be entitled to act and rely upon any statement, request, notice or agreement on behalf of any Underwriter made or given by you jointly or by Goldman, Sachs & Co. on behalf of you as the representatives.

All statements, requests, notices and agreements hereunder shall be in writing, and if to the Underwriters shall be delivered or sent by mail, telex or facsimile transmission to you as the representatives in care of Goldman, Sachs & Co., One Liberty Plaza, 7th Floor, New York, New York 10006, Attention: Registration Department; and if to the Company shall be delivered or sent by mail to the address of the Company set forth in the Registration Statement, Attention: Secretary; provided, however, that any notice to an Underwriter pursuant to Section 8(c) hereof shall be delivered or sent by mail, telex or facsimile transmission to such Underwriter at its address set forth in its Underwriters' Questionnaire, or telex constituting such Questionnaire, which address will be supplied to the Company by you upon request. Any such statements, requests, notices or agreements shall take effect upon receipt thereof.

13. This Agreement shall be binding upon, and inure solely to the benefit of, the Underwriters, the Company and, to the extent provided in Sections 8 and 10

hereof, the officers and directors of the Company and each person who controls the Company or any Underwriter, and their respective heirs, executors, administrators, successors and assigns, and no other person shall acquire or have any right under or by virtue of this Agreement. No purchaser of any of the Shares from any Underwriter shall be deemed a successor or assign by reason merely of such purchase.

14. Time shall be of the essence of this Agreement. As used herein, the term "business day" shall mean any day when the Commission's office in Washington, D.C. is open for business.

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

16. This Agreement may be executed by any one or more of the parties hereto in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same instrument.

If the foregoing is in accordance with your understanding, please sign and return to us one for the Company and each of the Representatives plus one for each counsel counterparts hereof, and upon the acceptance hereof by you, on behalf of each of the Underwriters, this letter and such acceptance hereof shall constitute a binding agreement between each of the Underwriters and the Company. It is understood that your acceptance of this letter on behalf of each of the Underwriters is pursuant to the authority set forth in a form of Agreement among Underwriters, the form of which shall be submitted to the Company for examination upon request, but without warranty on your part as to the authority of the signers thereof.

Very truly yours,

Sonus Networks, Inc.

By:

 Name: Stephen J. Nill
 Title: VP and CFO

Accepted as of the date hereof:

Goldman, Sachs & Co.
 FleetBoston Robertson Stephens Inc.
 Lehman Brothers Inc.
 J.P. Morgan Securities Inc.

By:.....
 (Goldman, Sachs & Co.)

On behalf of each of the Underwriters

SCHEDULE I

UNDERWRITER	TOTAL NUMBER OF FIRM SHARES TO BE PURCHASED	NUMBER OF OPTIONAL SHARES TO BE PURCHASED IF MAXIMUM OPTION EXERCISED
Goldman, Sachs & Co.....	1,970,000	295,500
FleetBoston Robertson Stephens Inc.....	800,000	120,000
Lehman Brothers Inc.....	800,000	120,000
J.P. Morgan Securities.....	800,000	120,000
George K. Baum & Company.....	90,000	13,500
Brad Peery Inc.....	90,000	13,500
Dain Rauscher Incorporated.....	90,000	13,500
A.G. Edwards & Sons, Inc.....	90,000	13,500
Tucker Anthony Incorporated.....	90,000	13,500
SoundView Technology Group Inc.....	90,000	13,500

W.R. Hambrecht + Co., LLC.....	90,000	13,500
Total.....	5,000,000	750,000

FOURTH AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
SONUS NETWORKS, INC.

Sonus Networks, Inc. (the "CORPORATION"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "GENERAL CORPORATION LAW"), hereby certifies as follows:

FIRST: The name of the Corporation is Sonus Networks, Inc. The original Certificate of Incorporation of the Corporation was filed by the Corporation with the Secretary of State of Delaware on August 7, 1997. The original Certificate of Incorporation was subsequently amended and restated on September 23, 1998, on September 10, 1999 and again on March 9, 2000 (the original Certificate of Incorporation, as amended and restated, the "ORIGINAL CERTIFICATE OF INCORPORATION").

SECOND: This Fourth Amended and Restated Certificate of Incorporation: (i) was duly adopted in accordance with the provisions of Sections 242 and 245 of the General Corporation Law; and (ii) was approved by written consent of a majority of the stockholders of the Corporation given in accordance with the provisions of Section 228 of the General Corporation Law.

THIRD: The text of the Original Certificate of Incorporation of the Corporation, as heretofore amended, is hereby further restated and amended to read in its entirety as follows:

FOURTH: This Fourth Amended and Restated Certificate of Incorporation, in accordance with the provisions of Section 103 of the General Corporation Laws, shall be effective on May 31, 2000, at 5:00 p.m., Eastern Time.

ARTICLE I
NAME

The name of the corporation (the "CORPORATION") is Sonus Networks, Inc.

ARTICLE II
REGISTERED AGENT

The address of the Corporation's registered office in the State of Delaware is 1013 Centre Road in the City of Wilmington, County of New Castle; and the name of its registered agent is Corporation Service Company.

ARTICLE III
PURPOSE

The nature of the business or purposes to be conducted or promoted by the Corporation is as follows:

To engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

ARTICLE IV
CAPITAL STOCK

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 305,000,000 shares, consisting solely of:

300,000,000 shares of common stock, par value \$0.001 per share ("COMMON STOCK"); and
5,000,000 shares of preferred stock, par value \$0.01 per share ("PREFERRED STOCK").

The following is a statement of the powers, designations, preferences, privileges, and relative rights in respect of each class of capital stock of the Corporation.

A. COMMON STOCK.

1. GENERAL. The voting, dividend and liquidation rights of the holders of Common Stock are subject to and qualified by the rights of the holders of Preferred Stock.

2. VOTING. The holders of Common Stock are entitled to one vote for each share held at all meetings of stockholders. There shall be no cumulative voting.

3. DIVIDENDS. Dividends may be declared and paid on the Common Stock from funds lawfully available therefor if, as and when determined by the Board of Directors and subject to any preferential dividend rights of any then outstanding shares of Preferred Stock.

4. LIQUIDATION. Upon the dissolution or liquidation of the Corporation, whether voluntary or involuntary, holders of Common Stock will be entitled to receive all assets of the Corporation available for distribution to its stockholders, subject to any preferential rights of any then outstanding shares of Preferred Stock.

B. PREFERRED STOCK.

Shares of Preferred Stock may be issued from time to time in one or more series, each of such series to have such powers, designations, preferences, and relative, participating, optional, or other special rights, if any, and such qualifications and restrictions, if any, of such preferences and rights, as are stated or expressed in the resolution or resolutions of the Board of Directors providing for such series of Preferred Stock. Different series of Preferred Stock shall not be

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construed to constitute different classes of shares for the purposes of voting by classes unless expressly so provided in such resolution or resolutions.

Authority is hereby granted to the Board of Directors from time to time to issue the Preferred Stock in one or more series, and in connection with the creation of any such series, by resolution or resolutions to determine and fix the powers, designations, preferences, and relative, participating, optional, or other special rights, if any, and the qualifications and restrictions, if any, of such preferences and rights, including without limitation dividend rights, conversion rights, voting rights (if any), redemption privileges, and liquidation preferences, of such series of Preferred Stock (which need not be uniform among series), all to the fullest extent now or hereafter permitted by the General Corporation Law of Delaware. Without limiting the generality of the foregoing, the resolution or resolutions providing for the creation or issuance of any series of Preferred Stock may provide that such series shall be superior to, rank equally with, or be junior to the Preferred Stock of any other series, all to the fullest extent permitted by law. No resolution, vote, or consent of the holders of the capital stock of the Corporation shall be required in connection with the creation or issuance of any shares of any series of Preferred Stock authorized by and complying with the conditions of this Amended and Restated Certificate of Incorporation, the right to any such resolution, vote, or consent being expressly waived by all present and future holders of the capital stock of the Corporation.

Any resolution or resolutions adopted by the Board of Directors pursuant to the authority vested in them by this Article IV shall be set forth in a certificate of designation along with the number of shares of stock of such series as to which the resolution or resolutions shall apply and such certificate shall be executed, acknowledged, filed, recorded, and shall become effective, in accordance with Section 103 of the General Corporation Law of the State of Delaware. Unless otherwise provided in any such resolution or resolutions, the number of shares of stock of any such series to which such resolution or resolutions apply may be increased (but not above the total number of authorized shares of the class) or decreased (but not below the number of

shares thereof then outstanding) by a certificate likewise executed, acknowledged, filed and recorded, setting forth a statement that a specified increase or decrease therein has been authorized and directed by a resolution or resolutions likewise adopted by the Board of Directors. In case the number of such shares shall be decreased, the number of shares so specified in the certificate shall resume the status which they had prior to the adoption of the first resolution or resolutions. When no shares of any such class or series are outstanding, either because none were issued or because none remain outstanding, a certificate setting forth a resolution or resolutions adopted by the Board of Directors that none of the authorized shares of such class or series are outstanding, and that none will be issued subject to the certificate of designations previously filed with respect to such class or series, may be executed, acknowledged, filed and recorded in the same manner as previously described and it shall have the effect of eliminating from this Amended and Restated Certificate of Incorporation all matters set forth in the certificate of designations with respect to such class or series of stock. If no shares of any such class or series established by a resolution or resolutions adopted by the Board of Directors have been issued, the voting powers, designations, preferences and relative, participating, optional or other rights, if any, with the qualifications, limitations or restrictions thereof, may be amended by a resolution or resolutions adopted by the Board of Directors. In the event of any such amendment, a certificate which (i) states that no shares of such class or series have been issued, (ii) sets forth the copy of the amending resolution or resolutions and (iii) if the designation of such class or series is being changed, indicates the original designation and the new designation, shall be executed,

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acknowledged, filed, recorded, and shall become effective, in accordance with Section 103 of the General Corporation Law of the State of Delaware.

ARTICLE V
BOARD OF DIRECTORS

The following provisions are inserted for the management of the business and for the conduct of the affairs of the Corporation and for defining and regulating the powers of the Corporation and its directors and stockholders and are in furtherance and not in limitation of the powers conferred upon the Corporation by statute:

(a) The Board of Directors shall be divided into three classes of directors, such classes to be as nearly equal in number of directors as possible, having staggered three-year terms of office, the term of office of the directors of the first such class to expire as of the first annual meeting of the Corporation's stockholders following the closing of the Corporation's first public offering of shares of Common Stock registered pursuant to the Securities Act of 1933, as amended, those of the second class to expire as of the second annual meeting of the Corporation's stockholders following such closing, and those of the third class as of the third annual meeting of the Corporation's stockholders following such closing, such that at each annual meeting of stockholders after such closing, nominees will stand for election to succeed those directors whose terms are to expire as of such meeting. Any director serving as such pursuant to this paragraph (b) of Article V may be removed only for cause and only by the vote of the holders of 66 2/3% of the shares of the Corporation's stock entitled to vote for the election of directors.

(b) The Board of Directors shall have the power and authority: (i) to adopt, amend or repeal By-Laws of the Corporation, subject only to such limitations, if any, as may be from time to time imposed by other provisions of this Certificate, by law, or by the By-Laws; and (ii) to the full extent permitted or not prohibited by law, and without the consent of or other action by the stockholders, to authorize or create mortgage, pledges or other liens or encumbrances upon any or all of the assets, real, personal or mixed, and franchises of the Corporation, including after-acquired property, and to exercise all of the powers of the Corporation in connection therewith.

ARTICLE VI
LIMITATION OF LIABILITY

No director of the Corporation shall be personally liable to the Corporation or to any of its stockholders for monetary damages for breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability; PROVIDED, HOWEVER, that to the extent required from time to time by applicable law, this Article VI shall not eliminate or limit the liability of a director, to the extent such liability is provided by applicable law, (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of Title 8 of the Delaware Code, or (iv) for any transactions from which the director derived an improper personal benefit. No amendment to or repeal of this Article VI shall apply to or have any effect on the liability or alleged liability of any director for or with respect to any

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acts or omissions of such director occurring prior to the effective date of such amendment or repeal.

ARTICLE VII INDEMNIFICATION

The Corporation shall, to the fullest extent permitted by Section 145 of the General Corporation Law of Delaware, as amended from time to time, indemnify each person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was, or has agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgements, fines and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with such action, suit or proceeding and any appeal therefrom.

Indemnification may include payment by the Corporation of expenses in defending an action or proceeding in advance of the final disposition of such action or proceeding upon receipt of an undertaking by the person indemnified to repay such payment if it is ultimately determined that such person is not entitled to indemnification under this Article VII, which undertaking may be accepted without reference to the financial ability of such person to make such repayment.

The Corporation shall not indemnify any such person seeking indemnification in connection with a proceeding (or part thereof) initiated by such person unless the initiation thereof was approved by the Board of Directors.

The indemnification rights provided in this Article VII (i) shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any law, agreement or vote of stockholders or disinterested directors or otherwise, and (ii) shall inure to the benefit of the heirs, executors and administrators of such persons. The Corporation may, to the extent authorized from time to time by its Board of Directors, grant indemnification rights to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article VII.

ARTICLE VIII COMPROMISES AND ARRANGEMENTS

Whenever a compromise or arrangement is proposed between the Corporation and its creditors or any class of them and/or between the Corporation and its stockholders or any Class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of the Corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for the Corporation under the provisions of Section 391 of Title 8 of the Delaware Code or on the application of trustees in dissolution or of any receiver or receivers appointed for the

Corporation under the provisions of Section 279 of Title 8 of the Delaware Code, order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of the Corporation, as the case may be, to be summoned in such a

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manner as the said court directs. If a majority of the number representing three-fourths (3/4ths) in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of the Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of the Corporation as a consequence of such compromise or arrangement, the compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all creditors or class of creditors, and/or stockholders or class of stockholders of the Corporation, as the case may be, and also on the Corporation.

ARTICLE IX
CERTAIN TRANSACTIONS

The Board of Directors, when considering a tender offer or merger or acquisition proposal, may take into account factors in addition to potential economic benefits to stockholders, including without limitation (i) comparison of the proposed consideration to be received by stockholders in relation to the then current market price of the Corporation's capital stock, the estimated current value of the Corporation in a freely negotiated transaction, and the estimated future value of the Corporation as an independent entity, (ii) the impact of such a transaction on the employees, suppliers, and customers of the Corporation and its effect on the communities in which the Corporation operates, and (iii) the impact of such a transaction on the unique corporate culture and atmosphere of the Corporation.

ARTICLE X
STOCKHOLDER ACTION

Any action required or permitted to be taken by the stockholders of the Corporation may be taken only at a duly called annual or special meeting of the stockholders, and not by written consent in lieu of such a meeting, and special meetings of stockholders may be called only by the Chairman of the Board of Directors, the President, or a majority of the Board of Directors.

ARTICLE XI
AMENDMENTS

The affirmative vote of the holders of at least 66 2/3% of the outstanding voting stock of the Corporation (in addition to any separate class vote that may in the future be required pursuant to the terms of any outstanding Preferred Stock) shall be required to amend or repeal the provisions of Articles IV (to the extent it relates to the authority of the Board of Directors to issue shares of Preferred Stock in one or more series, the terms of which may be determined by the Board of Directors), V, VII, IX, X, or XI of this Fourth Amended and Restated Certificate of Incorporation or to reduce the numbers of authorized shares of Common Stock or Preferred Stock.

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IN WITNESS WHEREOF, the undersigned has caused this Fourth Amended and Restated Certificate of Incorporation to be duly executed on its behalf as of May 30, 2000.

SONUS NETWORKS, INC.

By: /s/ HASSAN AHMED

Hassan Ahmed
President

SONUS NETWORKS, INC.

AMENDED AND RESTATED BY-LAWS

ARTICLE I. - GENERAL.

1.1. OFFICES. The registered office of Sonus Networks, Inc. (the "COMPANY") shall be in the City of Wilmington, County of New Castle, State of Delaware. The Company may also have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the Company may require.

1.2. SEAL. The seal, if any, of the Company shall be in the form of a circle and shall have inscribed thereon the name of the Company, the year of its organization and the words "Corporate Seal, Delaware."

1.3. FISCAL YEAR. The fiscal year of the Company shall be the period from January 1 through December 31.

ARTICLE II. - STOCKHOLDERS.

2.1. PLACE OF MEETINGS. Each meeting of the stockholders shall be held upon notice as hereinafter provided, at such place as the Board of Directors shall have determined and as shall be stated in such notice.

2.2. ANNUAL MEETING. The annual meeting of the stockholders shall be held each year on such date and at such time as the Board of Directors may determine. At each annual meeting the stockholders entitled to vote shall elect such members of the Board of Directors as are standing for election, by plurality vote by ballot, and they may transact such other corporate business as may properly be brought before the meeting. At the annual meeting any business may be transacted, irrespective of whether the notice calling such meeting shall have contained a reference thereto, except where notice is required by law, the Company's Certificate of Incorporation, or these by-laws.

2.3. QUORUM. At all meetings of the stockholders the holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum requisite for the transaction of business except as otherwise provided by law, the Company's Certificate of Incorporation, or these by-laws. Whether or not there is such a quorum at any meeting, the chairman of the meeting or the stockholders entitled to vote thereat, present in person or by proxy, by a majority vote, may adjourn the meeting from time to time without notice other than announcement at the meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. At such adjourned meeting, at which the requisite amount of voting stock shall be represented, any business may be transacted that might have been transacted if the meeting had been held as originally called. The stockholders present in person or by

proxy at a duly called meeting at which a quorum is present may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

2.4. RIGHT TO VOTE; PROXIES. Subject to the provisions of the Company's Certificate of Incorporation, each holder of a share or shares of capital stock of the Company having the right to vote at any meeting shall be entitled to one vote for each such share of stock held by him. Any stockholder entitled to vote at any meeting of stockholders may vote either in person or by proxy, but no proxy that is dated more than three years prior to the meeting at which it is offered shall confer the right to vote thereat unless the proxy provides that it shall be effective for a longer period. A proxy may be granted by a writing executed by the stockholder or his authorized agent or by transmission or authorization of transmission of a telegram, cablegram, or other means of electronic transmission to the person who will be the holder of the proxy or to a proxy solicitation firm, proxy support service organization, or like agent

duly authorized by the person who will be the holder of the proxy to receive such transmission, subject to the conditions set forth in Section 212 of the Delaware General Corporation Law, as it may be amended from time to time (the "DGCL").

2.5. VOTING. At all meetings of stockholders, except as otherwise expressly provided for by statute, the Company's Certificate of Incorporation, as it may be amended from time to time, or these by-laws, (i) in all matters other than the election of directors, the affirmative vote of a majority of shares present in person or represented by proxy at the meeting and entitled to vote on such matter shall be the act of the stockholders and (ii) directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors.

2.6. NOTICE OF ANNUAL MEETINGS. Written notice of the annual meeting of the stockholders shall be mailed to each stockholder entitled to vote thereat at such address as appears on the stock books of the Company at least ten (10) days (and not more than sixty (60) days) prior to the meeting. The Board of Directors may postpone any annual meeting of the stockholders at its discretion, even after notice thereof has been mailed. It shall be the duty of every stockholder to furnish to the Secretary of the Company or to the transfer agent, if any, of the class of stock owned by him and his post-office address, and to notify the Secretary of any change therein. Notice need not be given to any stockholder who submits a written waiver of notice signed by him before or after the time stated therein. Attendance of a stockholder at a meeting of stockholders shall constitute a waiver of notice of such meeting, except when the stockholder attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice.

2.7. STOCKHOLDERS' LIST. A complete list of the stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order and showing the address of each stockholder, and the number of shares registered in the name of each stockholder, shall be prepared by the Secretary and filed either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held, at least ten days before such meeting, and shall at all times during the usual hours for business, and during the whole time of said election, be open to the examination of any stockholder for a purpose germane to the meeting.

2.8. SPECIAL MEETINGS. Special meetings of the stockholders for any purpose or purposes, unless otherwise provided by statute, may be called only by the Chairman of the Board of Directors, the President, or a majority of the Board of Directors. Any such person or persons may postpone any special meeting of the stockholders at its or their discretion, even after notice thereof has been mailed.

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2.9. NOTICE OF SPECIAL MEETINGS. Written notice of a special meeting of stockholders, stating the time and place and object thereof shall be mailed, postage prepaid, not less than ten (10) nor more than sixty (60) days before such meeting, to each stockholder entitled to vote thereat, at such address as appears on the books of the Company. No business may be transacted at such meeting except that referred to in said notice, or in a supplemental notice given also in compliance with the provisions hereof, or such other business as may be germane or supplementary to that stated in said notice or notices. Notice need not be given to any stockholder who submits a written waiver of notice signed by him before or after the time stated therein. Attendance of a stockholder at a meeting of stockholders shall constitute a waiver of notice of such meeting, except when the stockholder attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice.

2.10. INSPECTORS.

1. One or more inspectors may be appointed by the Board of Directors before or at any meeting of stockholders, or, if no such appointment shall

have been made, the presiding officer may make such appointment at the meeting. At the meeting for which the inspector or inspectors are appointed, he or they shall open and close the polls, receive and take charge of the proxies and ballots, and decide all questions touching on the qualifications of voters, the validity of proxies, and the acceptance and rejection of votes. If any inspector previously appointed shall fail to attend or refuse or be unable to serve, the presiding officer shall appoint an inspector in his place.

2. At any time at which the Company has a class of voting stock that is (i) listed on a national securities exchange, (ii) authorized for quotation on an inter-dealer quotation system of a registered national securities association, or (iii) held of record by more than 2,000 stockholders, the provisions of Section 231 of the DGCL with respect to inspectors of election and voting procedures shall apply, in lieu of the provisions of paragraph 1 of this Section 2.10.

2.11. STOCKHOLDERS' CONSENT IN LIEU OF MEETING. Unless otherwise provided in the Company's Certificate of Incorporation, any action required to be taken at any annual or special meeting of stockholders of the Company, or any action that may be taken at any annual or special meeting of such stockholders, may be taken only at such a meeting, and not by written consent of stockholders.

2.12. PROCEDURES. For nominations for the Board of Directors or for other business to be properly brought by a stockholder before a meeting of stockholders, the stockholder must first have given timely written notice thereof to the Secretary of the Company. To be timely, a notice of nominations or other business to be brought before an annual meeting of stockholders must be delivered to the Secretary not less than 120 nor more than 150 days prior to the first anniversary of the date of the Company's proxy statement delivered to stockholders in connection with the preceding year's annual meeting, or if the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary, or if no proxy statement was delivered to stockholders by the Company in connection with the preceding year's annual meeting, such notice must be delivered not earlier than 90 days prior to such annual meeting and not later than the later of (i) 60 days prior to the annual meeting or (ii) 10 days following the date on which public announcement of the date of such annual meeting is first made by the Company. With respect to special meetings of stockholders, such notice must be delivered to the Secretary not more than 90 days prior to such meeting and not later than the later of (i) 60 days prior to such meeting or (ii) 10 days following the date on which public announcement of the date of such meeting is first made by the

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Company. Such notice must contain the name and address of the stockholder delivering the notice and a statement with respect to the amount of the Company's stock beneficially and/or legally owned by such stockholder, the nature of any such beneficial ownership of such stock, the beneficial ownership of any such stock legally held by such stockholder but beneficially owned by one or more others, and the length of time for which all such stock has been beneficially and/or legally owned by such stockholder, and information about each nominee for election as a director substantially equivalent to that which would be required in a proxy statement pursuant to the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated by the Securities and Exchange Commission thereunder, and/or a description of the proposed business to be brought before the meeting, as the case may be.

ARTICLE III. - DIRECTORS.

3.1. NUMBER OF DIRECTORS.

(a) Except as otherwise provided by law, the Company's Certificate of Incorporation, or these by-laws, the property and business of the Company shall be managed by or under the direction of a board of directors. Directors need not be stockholders, residents of Delaware, or citizens of the United States. The use of the phrase "whole board" herein refers to the total number of directors which the Company would have if there were no vacancies.

(b) The number of directors constituting the full Board of Directors shall be five (or such other number as the Board of Directors from time to time may determine). The Board of Directors shall be divided into three classes of directors, such classes to be as nearly equal in number of directors as

possible, having staggered three-year terms of office, the term of office of the directors of the first such class to expire as of the first annual meeting of the Company's stockholders following the date on which these Amended and Restated By-laws become effective, those of the second class to expire as of the second annual meeting of the Company's stockholders following such effective date, and those of the third class as of the third annual meeting of the Company's stockholders following such effective date, such that at each annual meeting of stockholders after such effective date, nominees will stand for election to succeed those directors whose terms are to expire as of such meeting. Members of the Board of Directors shall hold office until the annual meeting of stockholders at which their respective successors are elected and qualified or until their earlier death, incapacity, resignation, or removal. Except as the DGCL or the Company's Certificate of Incorporation may otherwise require, in the interim between annual meetings of stockholders or special meetings of stockholders called for the election of directors and/or for the removal of one or more directors and for the filling of any vacancy in that connection, any vacancies in the Board of Directors, including unfilled vacancies resulting from the removal of directors for cause, may be filled by the vote of a majority of the remaining directors then in office, although less than a quorum, or by the sole remaining director.

(c) If the office of any director becomes vacant by reason of death, resignation, disqualification, removal, failure to elect, or otherwise, the remaining directors, although more or less than a quorum, by a majority vote of such remaining directors may elect a successor or successors who shall hold office for the unexpired term.

3.2. RESIGNATION. Any director of the Company may resign at any time by giving written notice to the Chairman of the Board, the President, or the Secretary of the Company. Such resignation shall take effect at the time specified therein, at the time of

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receipt if no time is specified therein and at the time of acceptance if the effectiveness of such resignation is conditioned upon its acceptance. Unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

3.3. REMOVAL. Except as may otherwise be provided by the DGCL or the Company's Certificate of Incorporation, any director or the entire Board of Directors may be removed only for cause and only by the vote of the holders of 66 2/3% of the shares of the Company's stock entitled to vote for the election of directors.

3.4. PLACE OF MEETINGS AND BOOKS. The Board of Directors may hold their meetings and keep the books of the Company outside the State of Delaware, at such places as they may from time to time determine.

3.5. GENERAL POWERS. In addition to the powers and authority expressly conferred upon them by these by-laws, the board may exercise all such powers of the Company and do all such lawful acts and things as are not by statute or by the Company's Certificate of Incorporation or by these by-laws directed or required to be exercised or done by the stockholders.

3.6. OTHER COMMITTEES. The Board of Directors may designate one or more committees, by resolution or resolutions passed by a majority of the whole board; such committee or committees shall consist of one or more directors of the Company, and to the extent provided in the resolution or resolutions designating them, shall have and may exercise specific powers of the Board of Directors in the management of the business and affairs of the Company to the extent permitted by statute and shall have power to authorize the seal of the Company to be affixed to all papers that may require it. Such committee or committees shall have such name or names as may be determined from time to time by resolution adopted by the Board of Directors.

3.7. POWERS DENIED TO COMMITTEES. Committees of the Board of Directors shall not, in any event, have any power or authority to amend the Company's Certificate of Incorporation (except that a committee may, to the extent authorized in the resolution or resolutions providing for the issuance of shares adopted by the Board of Directors as provided in Section 151(a) of the DGCL, fix the designations and any of the preferences or rights of such shares relating to dividends, redemption, dissolution, any distribution of assets of the Company or

the conversion into, or the exchange of such shares for, shares of any other class or classes or any other series of the same or any other class or classes of stock of the Company or fix the number of shares of any series of stock or authorize the increase or decrease of the shares of any series), adopt an agreement of merger or consolidation, recommend to the stockholders the sale, lease, or exchange of all or substantially all of the Company's property and assets, recommend to the stockholders a dissolution of the Company or a revocation of a dissolution, or to amend the by-laws of the Company. Further, no committee of the Board of Directors shall have the power or authority to declare a dividend, to authorize the issuance of stock, or to adopt a certificate of ownership and merger pursuant to Section 253 of the DGCL, unless the resolution or resolutions designating such committee expressly so provides.

3.8. SUBSTITUTE COMMITTEE MEMBER. In the absence or on the disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of such absent or disqualified member. Any committee shall keep regular minutes of its proceedings and report the same to the board as may be required by the board.

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3.9. COMPENSATION OF DIRECTORS. The Board of Directors shall have the power to fix the compensation of directors and members of committees of the Board. The directors may be paid their expenses, if any, of attendance at each meeting of the Board of Directors, may be paid a fixed sum for attendance at each meeting of the Board of Directors or a stated salary as director and may receive stock options grants and issuances of restricted stock under the Company's equity incentive plan(s). No such payment shall preclude any director from serving the Company in any other capacity and receiving compensation therefor. Members of special or standing committees may be allowed like compensation for attending committee meetings.

3.10. REGULAR MEETINGS. No notice shall be required for regular meetings of the Board of Directors for which the time and place have been fixed. Written, oral, or any other mode of notice of the time and place shall be given for special meetings in sufficient time for the convenient assembly of the directors thereat. Notice need not be given to any director who submits a written waiver of notice signed by him before or after the time stated therein. Attendance of any such person at a meeting shall constitute a waiver of notice of such meeting, except when he attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the directors need be specified in any written waiver of notice.

3.11. SPECIAL MEETINGS. Special meetings of the board may be called by the Chairman of the Board, if any, or the President, on two (2) days notice to each director, or such shorter period of time before the meeting as will nonetheless be sufficient for the convenient assembly of the directors so notified; special meetings shall be called by the Secretary in like manner and on like notice, on the written request of two or more directors.

3.12. QUORUM. At all meetings of the Board of Directors, a majority of the whole board shall be necessary and sufficient to constitute a quorum for the transaction of business, and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically permitted or provided by statute, or by the Company's Certificate of Incorporation, or by these by-laws. If at any meeting of the board there shall be less than a quorum present, a majority of those present may adjourn the meeting from time to time until a quorum is obtained, and no further notice thereof need be given other than by announcement at said meeting that shall be so adjourned.

3.13. TELEPHONIC PARTICIPATION IN MEETINGS. Members of the Board of Directors or any committee designated by such board may participate in a meeting of the board or committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting pursuant to this section shall constitute presence in person at such meeting.

3.14. ACTION BY CONSENT. Unless otherwise restricted by the Company's

Certificate of Incorporation or these by-laws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if written consent thereto is signed by all members of the board or of such committee as the case may be and such written consent is filed with the minutes of proceedings of the board or committee.

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ARTICLE IV. - OFFICERS.

4.1. SELECTION; STATUTORY OFFICERS. The officers of the Company shall be chosen by the Board of Directors. There shall be a President, a Secretary, and a Treasurer, and there may be a Chairman of the Board of Directors, one or more Vice Presidents, one or more Assistant Secretaries, and one or more Assistant Treasurers, as the Board of Directors may elect. Any number of offices may be held by the same person, except that the offices of President and Secretary shall not be held by the same person simultaneously.

4.2. TIME OF ELECTION. The officers above named shall be chosen by the Board of Directors at its first meeting after each annual meeting of stockholders. None of said officers need be a director.

4.3. ADDITIONAL OFFICERS. The board may appoint such other officers and agents as it shall deem necessary, who shall hold their offices for such terms and shall exercise such powers and perform such duties as shall be determined from time to time by the board.

4.4. TERMS OF OFFICE. Each officer of the Company shall hold office until his successor is chosen and qualified, or until his earlier resignation or removal. Any officer elected or appointed by the Board of Directors may be removed at any time by the Board of Directors.

4.5. COMPENSATION OF OFFICERS. The Board of Directors shall have power to fix the compensation of all officers of the Company. It may authorize any officer, upon whom the power of appointing subordinate officers may have been conferred, to fix the compensation of such subordinate officers.

4.6. CHAIRMAN OF THE BOARD. The Chairman of the Board of Directors shall preside at all meetings of the stockholders and directors, and shall have such other duties as may be assigned to him from time to time by the Board of Directors.

4.7. PRESIDENT. Unless the Board of Directors otherwise determines, the President shall be the chief executive officer and head of the Company. Unless there is a Chairman of the Board, the President shall preside at all meetings of directors and stockholders. Under the supervision of the Board of Directors, the President shall have the general control and management of its business and affairs, subject, however, to the right of the Board of Directors to confer any specific power, except such as may be by statute exclusively conferred on the President, upon any other officer or officers of the Company. The President shall perform and do all acts and things incident to the position of President and such other duties as may be assigned to him from time to time by the Board of Directors.

4.8. VICE-PRESIDENTS. The Vice-Presidents shall perform such duties on behalf of the Company as may be respectively assigned to them from time to time by the Board of Directors or by the President. The Board of Directors may designate one of the Vice-Presidents as the Executive Vice-President, and in the absence or inability of the President to act, such Executive Vice-President shall have and possess all of the powers and discharge all of the duties of the President, subject to the control of the Board of Directors.

4.9. TREASURER. The Treasurer shall have the care and custody of all the funds and securities of the Company that may come into his hands as Treasurer, and the power and authority to endorse checks, drafts and other instruments for the payment of money for deposit or collection when necessary or proper and to deposit the same to the credit of the Company in such bank or banks or depository as the Board of

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Directors, or the officers or agents to whom the Board of Directors may delegate such authority, may designate, and he may endorse all commercial documents requiring endorsements for or on behalf of the Company. He may sign all receipts and vouchers for the payments made to the Company. He shall render an account of his transactions to the Board of Directors as often as the board or the committee shall require the same. He shall enter regularly in the books to be kept by him for that purpose full and adequate account of all moneys received and paid by him on account of the Company. He shall perform all acts incident to the position of Treasurer, subject to the control of the Board of Directors. He shall when requested, pursuant to vote of the Board of Directors, give a bond to the Company conditioned for the faithful performance of his duties, the expense of which bond shall be borne by the Company.

4.10. SECRETARY. The Secretary shall keep the minutes of all meetings of the Board of Directors and of the stockholders; he shall attend to the giving and serving of all notices of the Company. Except as otherwise ordered by the Board of Directors, he shall attest the seal of the Company upon all contracts and instruments executed under such seal and shall affix the seal of the Company thereto and to all certificates of shares of capital stock of the Company. He shall have charge of the stock certificate book, transfer book and stock ledger, and such other books and papers as the Board of Directors may direct. He shall, in general, perform all the duties of Secretary, subject to the control of the Board of Directors.

4.11. ASSISTANT SECRETARY. The Board of Directors or any two of the officers of the Company acting jointly may appoint or remove one or more Assistant Secretaries of the Company. Any Assistant Secretary upon his appointment shall perform such duties of the Secretary, and also any and all such other duties as the Board of Directors or the President or the Executive Vice-President or the Treasurer or the Secretary may designate.

4.12. ASSISTANT TREASURER. The Board of Directors or any two of the officers of the Company acting jointly may appoint or remove one or more Assistant Treasurers of the Company. Any Assistant Treasurer upon his appointment shall perform such of the duties of the Treasurer, and also any and all such other duties as the Board of Directors or the President or the Executive Vice-President or the Treasurer or the Secretary may designate.

4.13. SUBORDINATE OFFICERS. The Board of Directors may select such subordinate officers as it may deem desirable. Each such officer shall hold office for such period, have such authority, and perform such duties as the Board of Directors may prescribe. The Board of Directors may, from time to time, authorize any officer to appoint and remove subordinate officers and to prescribe the powers and duties thereof.

ARTICLE V. - STOCK.

5.1. STOCK. Each stockholder shall be entitled to a certificate or certificates of stock of the Company in such form as the Board of Directors may from time to time prescribe. The certificates of stock of the Company shall be numbered and shall be entered in the books of the Company as they are issued. They shall certify the holder's name and number and class of shares and shall be signed by both of (i) either the President or a Vice-President, and (ii) any one of the Treasurer or an Assistant Treasurer or the Secretary or an Assistant Secretary, and shall be sealed with the corporate seal of the Company. If such certificate is countersigned (1) by a transfer agent other than the Company or its employee, or, (2) by a registrar other than the Company or its employee, the signature of the officers of the Company and the corporate seal may be facsimiles. In case any officer or officers who shall have signed, or whose facsimile signature or signatures shall have been used on, any such certificate or certificates shall cease to be such officer or officers of the Company, whether because of death, resignation or otherwise, before

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such certificate or certificates shall have been delivered by the Company, such certificate or certificates may nevertheless be adopted by the Company and be issued and delivered as though the person or persons who signed such certificate or certificates or whose facsimile signature shall have been used thereon had not ceased to be such officer or officers of the Company.

5.2. FRACTIONAL SHARE INTERESTS. The Company may, but shall not be required to, issue fractions of a share. If the Company does not issue fractions of a share, it shall (i) arrange for the disposition of fractional interests by those

entitled thereto, (ii) pay in cash the fair value of fractions of a share as of the time when those entitled to receive such fractions are determined, or (iii) issue scrip or warrants in registered or bearer form that shall entitle the holder to receive a certificate for a full share upon the surrender of such scrip or warrants aggregating a full share. A certificate for a fractional share shall, but scrip or warrants shall not unless otherwise provided therein, entitle the holder to exercise voting rights, to receive dividends thereon, and to participate in any of the assets of the Company in the event of liquidation. The Board of Directors may cause scrip or warrants to be issued subject to the conditions that they shall become void if not exchanged for certificates representing full shares before a specified date, or subject to the conditions that the shares for which scrip or warrants are exchangeable may be sold by the Company and the proceeds thereof distributed to the holders of scrip or warrants, or subject to any other conditions that the Board of Directors may impose.

5.3. TRANSFERS OF STOCK. Subject to any transfer restrictions then in force, the shares of stock of the Company shall be transferable only upon its books by the holders thereof in person or by their duly authorized attorneys or legal representatives and upon such transfer the old certificates shall be surrendered to the Company by the delivery thereof to the person in charge of the stock and transfer books and ledgers or to such other person as the directors may designate by whom they shall be canceled and new certificates shall thereupon be issued. The Company shall be entitled to treat the holder of record of any share or shares of stock as the holder in fact thereof and accordingly shall not be bound to recognize any equitable or other claim to or interest in such share on the part of any other person whether or not it shall have express or other notice thereof save as expressly provided by the laws of Delaware.

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5.4. RECORD DATE. For the purpose of determining the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or the allotment of any rights, or entitled to exercise any rights in respect of any change, conversion, or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, that shall not be more than sixty (60) days nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other action. If no such record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held; the record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is necessary, shall be the day on which the first written consent is expressed; and the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto. A determination of stockholders of record entitled to notice of or to vote at any meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

5.5. TRANSFER AGENT AND REGISTRAR. The Board of Directors may appoint one or more transfer agents or transfer clerks and one or more registrars and may require all certificates of stock to bear the signature or signatures of any of them.

5.6. DIVIDENDS.

1. POWER TO DECLARE. Dividends upon the capital stock of the Company, subject to the provisions of the Company's Certificate of Incorporation, if any, may be declared by the Board of Directors at any regular or special meeting, pursuant to law. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the Company's Certificate of Incorporation and the laws of Delaware.

2. RESERVES. Before payment of any dividend, there may be set aside out of any funds of the Company available for dividends such sum or sums as the directors from time to time, in their absolute discretion, think proper

as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the Company, or for such other purpose as the directors shall think conducive to the interest of the Company, and the directors may modify or abolish any such reserve in the manner in which it was created.

5.7. LOST, STOLEN, OR DESTROYED CERTIFICATES. No certificates for shares of stock of the Company shall be issued in place of any certificate alleged to have been lost, stolen, or destroyed, except upon production of such evidence of the loss, theft, or destruction and upon indemnification of the Company and its agents to such extent and in such manner as the Board of Directors may from time to time prescribe.

5.8. INSPECTION OF BOOKS. The stockholders of the Company, by a majority vote at any meeting of stockholders duly called, or in case the stockholders shall fail to act, the Board of Directors shall have power from time to time to determine whether and to what extent and at what times and places and under what conditions and regulations the accounts and books of the Company (other than the stock ledger) or any of them, shall be open to inspection of stockholders; and no stockholder shall have any right to

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inspect any account or book or document of the Company except as conferred by statute or authorized by the Board of Directors or by a resolution of the stockholders.

ARTICLE VI. - MISCELLANEOUS MANAGEMENT PROVISIONS.

6.1. CHECKS, DRAFTS, AND NOTES. All checks, drafts, or orders for the payment of money, and all notes and acceptances of the Company shall be signed by such officer or officers, or such agent or agents, as the Board of Directors may designate.

6.2. NOTICES.

1. Notices to directors may, and notices to stockholders shall, be in writing and delivered personally or mailed to the directors or stockholders at their addresses appearing on the books of the Company. Notice by mail shall be deemed to be given at the time when the same shall be mailed. Notice to directors may also be given by telegram, telecopy or orally, by telephone or in person.

2. Whenever any notice is required to be given under the provisions of any applicable statute or of the Company's Certificate of Incorporation or of these by-laws, a written waiver of notice, signed by the person or persons entitled to said notice, whether before or after the time stated therein or the meeting or action to which such notice relates, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

6.3. CONFLICT OF INTEREST. No contract or transaction between the Company and one or more of its directors or officers, or between the Company and any other corporation, partnership, association, or other organization in which one or more of its directors or officers are directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the board of or committee thereof that authorized the contract or transaction, or solely because his or their votes are counted for such purpose, if: (i) the material facts as to his relationship or interest and as to the contract or transaction are disclosed or are known to the Board of Directors or the committee and the board or committee in good faith authorizes the contract or transaction by the affirmative vote of a majority of the disinterested directors, even though the disinterested directors be less than a quorum; or (ii) the material facts as to his relationship or interest and as to the contract or transaction are disclosed or are known to the stockholders of the Company entitled to vote thereon, and the contract or transaction as specifically approved in good faith by vote of such stockholders; or (iii) the contract or transaction is fair as to the Company as of the time it is authorized, approved, or ratified, by the Board of Directors, a committee or the

stockholders. Common or interested directors may be counted in determining the presence of a quorum at a meeting of the Board of Directors or of a committee that authorizes the contract or transaction.

6.4. VOTING OF SECURITIES OWNED BY THE COMPANY. Subject always to the specific directions of the Board of Directors, (i) any shares or other securities issued by any other corporation and owned or controlled by the Company may be voted in person at any meeting of security holders of such other corporation by the President of the Company if he is present at such meeting, or in his absence by the Treasurer of the Company if he is present at such meeting, and (ii) whenever, in the judgment of the President, it is desirable for the Company to execute a proxy or written consent in respect to any shares or

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other securities issued by any other corporation and owned by the Company, such proxy or consent shall be executed in the name of the Company by the President, without the necessity of any authorization by the Board of Directors, affixation of corporate seal or countersignature or attestation by another officer, provided that if the President is unable to execute such proxy or consent by reason of sickness, absence from the United States or other similar cause, the Treasurer may execute such proxy or consent. Any person or persons designated in the manner above stated as the proxy or proxies of the Company shall have full right, power and authority to vote the shares or other securities issued by such other corporation and owned by the Company the same as such shares or other securities might be voted by the Company.

ARTICLE VII. - INDEMNIFICATION.

7.1. RIGHT TO INDEMNIFICATION. Each person who was or is made a party or is threatened to be made a party to or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "PROCEEDING"), by reason of being or having been a director or officer of the Company or serving or having served at the request of the Company as a director, trustee, officer, employee or agent of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (an "INDEMNITEE"), whether the basis of such proceeding is alleged action or failure to act in an official capacity as a director, trustee, officer, employee or agent or in any other capacity while serving as a director, trustee, officer, employee or agent, shall be indemnified and held harmless by the Company to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Company to provide broader indemnification rights than permitted prior thereto) (as used in this Article 7, the "DELAWARE LAW"), against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered by such Indemnitee in connection therewith and such indemnification shall continue as to an Indemnitee who has ceased to be a director, trustee, officer, employee, or agent and shall inure to the benefit of the Indemnitee's heirs, executors, and administrators; provided, however, that, except as provided in Section 7.2 hereof with respect to Proceedings to enforce rights to indemnification, the Company shall indemnify any such Indemnitee in connection with a Proceeding (or part thereof) initiated by such Indemnitee only if such Proceeding (or part thereof) was authorized by the Board of Directors of the Company. The right to indemnification conferred in this Article 7 shall be a contract right and shall include the right to be paid by the Company the expenses (including attorneys' fees) incurred in defending any such Proceeding in advance of its final disposition (an "ADVANCEMENT OF EXPENSES"); provided, however, that, if the Delaware Law so requires, an Advancement of Expenses incurred by an Indemnitee shall be made only upon delivery to the Company of an undertaking (an "UNDERTAKING"), by or on behalf of such Indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal (a "FINAL ADJUDICATION") that such Indemnitee is not entitled to be indemnified for such expenses under this Article 7 or otherwise.

7.2. RIGHT OF INDEMNITEE TO BRING SUIT. If a claim under Section 7.1 hereof is not paid in full by the Company within sixty days after a written claim has been received by the Company, except in the case of a claim for an Advancement of Expenses, in which case the applicable period shall be twenty days, the Indemnitee may at any time thereafter bring suit against the Company to recover the unpaid amount of the claim. If successful in whole or in part in any such suit, or in a suit brought by the Company to recover an Advancement of Expenses

pursuant to the terms of an Undertaking, the Indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit. In (i) any suit brought by the Indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the Indemnitee to

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enforce a right to an Advancement of Expenses) it shall be a defense that, and (ii) in any suit by the Company to recover an Advancement of Expenses pursuant to the terms of an Undertaking the Company shall be entitled to recover such expenses upon a Final Adjudication that, the Indemnitee has not met the applicable standard of conduct set forth in the Delaware Law. Neither the failure of the Company (including its Board of Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the Indemnitee is proper in the circumstances because the Indemnitee has met the applicable standard of conduct set forth in the Delaware Law, nor an actual determination by the Company (including its Board of Directors, independent legal counsel, or its stockholders) that the Indemnitee has not met such applicable standard of conduct, shall create a presumption that the Indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the Indemnitee, be a defense to such suit. In any suit brought by the Indemnitee to enforce a right to indemnification or to an Advancement of Expenses hereunder, or by the Company to recover an Advancement of Expenses pursuant to the terms of an Undertaking, the burden of proving that the Indemnitee is not entitled to be indemnified, or to such Advancement of Expenses, under this Article 7 or otherwise shall be on the Company.

7.3. NON-EXCLUSIVITY OF RIGHTS. The rights to indemnification and to the Advancement of Expenses conferred in this Article 7 shall not be exclusive of any other right that any person may have or hereafter acquire under any statute, the Company's Certificate or Incorporation, by-law, agreement, vote of stockholders or disinterested directors or otherwise.

7.4. INSURANCE. The Company may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Company or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Company would have the power to indemnify such person against such expense, liability or loss under this Article 7 or under the Delaware Law.

7.5. INDEMNIFICATION OF EMPLOYEES AND AGENTS OF THE COMPANY. The Company may, to the extent authorized from time to time by the Board of Directors, grant rights to indemnification, and to the Advancement of Expenses, to any employee or agent of the Company to the fullest extent of the provisions of this Article 7 with respect to the indemnification and Advancement of Expenses of directors and officers of the Company.

ARTICLE VIII. - AMENDMENTS.

8.1. AMENDMENTS. Subject always to any limitations imposed by the Company's Certificate of Incorporation, these By-Laws may be altered, amended, or repealed, or new By-Laws may be adopted, only by (i) the affirmative vote of the holders of at least a majority of the outstanding voting stock of the Company, provided, that the affirmative vote of the holders of at least 66 2/3% of the outstanding voting stock of the Company shall be required for any such alteration, amendment, repeal, or adoption that would affect or be inconsistent with the provisions of Sections 2.11, 2.12, and this Section 8.1 (in each case, in addition to any separate class vote that may be required pursuant to the terms of any then outstanding preferred stock of the Company), or (ii) by resolution of the Board of Directors duly adopted by not less than a majority of the directors then constituting the full Board of Directors.

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<ARTICLE> 5

<LEGEND>

THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM THE SONUS NETWORKS, INC. CONDENSED CONSOLIDATED BALANCE SHEET AS OF JUNE 30, 2000 (UNAUDITED) AND THE STATEMENT OF OPERATIONS FOR THE SIX MONTHS JUNE 30, 2000 (UNAUDITED) AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS.

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