

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 December 28, 1997

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-5560  
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ALPHA INDUSTRIES, INC.  
(Exact name of registrant as specified in its charter)

DELAWARE  
(State or other jurisdiction of  
incorporation or organization)

04-2302115  
(I.R.S. Employer  
Identification No.)

20 SYLVAN ROAD, WOBURN, MASSACHUSETTS  
(Address of principal executive offices)

01801  
(Zip Code)

Registrant's telephone number, including area code: (617) 935-5150

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

Yes  No

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

CLASS	OUTSTANDING AT JANUARY 25, 1998
COMMON STOCK, PAR VALUE \$.25 PER SHARE	10,340,211

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STATEMENT OF FAIR PRESENTATION

The financial information included herein is unaudited. In addition, the financial information does not include all disclosures required under generally accepted accounting principles because certain note information included in the Company's annual report to shareholders has been omitted and such information should be read in conjunction with the prior year's annual report. However, the financial information reflects all adjustments (consisting solely of normal recurring adjustments) which are, in the opinion of management, necessary to a fair statement of the results for the interim periods. The Company considers the disclosures adequate to make the information presented not misleading.

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Alpha Industries, Inc. and Subsidiaries  
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CONSOLIDATED BALANCE SHEETS  
(In thousands except share and per share amounts)

	DECEMBER 28, 1997 (UNAUDITED)	MARCH 30, 1997 (AUDITED)
-----		
ASSETS		
Current assets		
Cash and cash equivalents at cost.....	\$ 11,895	\$ 5,815
Short-term investments (approximates market).....	---	1,218
Accounts receivable.....	17,707	17,019
Inventories (Note 1) .....	8,994	10,267
Prepayments and other current assets.....	761	857
	-----	-----
Total current assets.....	39,357	35,176
	-----	-----
Property, plant and equipment, less accumulated depreciation and amortization of \$59,507 and \$54,450.....	31,080	28,608
Other assets.....	1,012	1,469
	-----	-----
	\$ 71,449	\$ 65,253
	=====	=====
-----		
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Current maturities of long-term debt.....	\$ 1,866	\$ 2,939
Current maturities of capital lease obligations.....	22	230
Accounts payable.....	5,025	5,620
Repositioning reserve.....	308	1,106
Payroll and related expenses.....	5,692	5,359
Other accrued liabilities.....	3,792	1,513
	-----	-----
Total current liabilities.....	16,705	16,767
	-----	-----
Long-term debt.....	2,132	3,606
	-----	-----
Long-term capital lease obligations.....	8	8
	-----	-----
Other long-term liabilities.....	1,430	1,486
	-----	-----
Commitments and contingencies (Note 4)		
Stockholders' equity		
Common stock par value \$.25 per share: authorized 30,000,000 shares; issued 10,405,587 and 10,126,413 shares.....	2,601	2,531
Additional paid-in capital.....	55,882	54,640
Retained earnings (accumulated deficit).....	( 6,906)	(13,516)
Less - Treasury shares 114,242 and 161,139 shares at cost.....	359	195
Unearned compensation-restricted stock.....	44	74
	-----	-----
Total stockholders' equity.....	51,174	43,386
	-----	-----
	\$ 71,449	\$ 65,253
	=====	=====
-----		

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

CONSOLIDATED STATEMENTS OF INCOME  
(Unaudited)  
(In thousands except per share data)

	THIRD QUARTER ENDED		NINE MONTHS ENDED	
	DEC. 28, 1997	DEC. 29, 1996	DEC. 28, 1997	DEC. 29, 1996
Net sales.....	\$ 30,751	\$ 22,287	\$ 85,027	\$ 62,490
Cost of sales.....	18,928	17,046	53,678	50,638
Research and development expenses.....	2,545	2,275	7,286	7,233
Selling and administrative expenses.....	5,684	4,953	16,459	14,791
Operating income (loss).....	3,594	(1,987)	7,604	(10,172)
Interest expense.....	(126)	(183)	(397)	(430)
Interest income and other, net.....	39	95	138	375
Income (loss) before income taxes.....	3,507	(2,075)	7,345	(10,227)
Provision for income taxes.....	351	---	735	---
Net income (loss).....	\$ 3,156	\$ (2,075)	\$ 6,610	\$ (10,227)
Net income (loss) per share diluted.....	\$ 0.30	\$ (0.21)	\$ 0.63	\$ (1.04)
Net income (loss) per share basic.....	\$ 0.31	\$ (0.21)	\$ 0.65	\$ (1.04)
Weighted average common shares and potentially dilutive shares(Note 3).....	10,641	9,912	10,414	9,814
Weighted average common shares (Note 3).....	10,280	9,912	10,136	9,814

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

CONSOLIDATED STATEMENTS OF CASH FLOWS  
(Unaudited)  
(In thousands)

	NINE MONTHS ENDED	
	DEC. 28, 1997	DEC. 29, 1996
-----		
Cash flows from operating activities:		
Net income (loss).....	\$ 6,610	\$(10,227)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operations:		
Depreciation and amortization of property, plant and equipment.....	5,057	4,377
Contribution of treasury shares to Savings and Retirement Plan.....	606	628
Amortization of unearned compensation - restricted stock, net.....	30	39
(Decrease) increase in other liabilities and long-term benefits.....	(56)	109
(Increase) decrease in other assets.....	444	124
Change in assets and liabilities:		
Accounts receivable .....	(688)	257
Inventories.....	1,273	(530)
Other current assets.....	96	395
Accounts payable.....	(595)	(2,835)
Other accrued liabilities and expenses.....	2,612	96
Repositioning reserve.....	(798)	---
	-----	-----
Net cash provided by (used in) operations.....	14,591	(7,567)
	-----	-----
Cash flows from investing activities:		
Purchases of short-term investments.....	(843)	(3,521)
Maturities of short-term investments.....	2,061	4,618
Additions to property, plant and equipment.....	(7,529)	(6,193)
	-----	-----
Net cash used in investing activities.....	(6,311)	(5,096)
	-----	-----
Cash flows from financing activities:		
Proceeds from notes payable.....	---	3,952
Payments on long-term debt.....	(2,547)	(796)
Deferred charges related to long-term debt.....	13	3
Payments on capital lease obligations.....	(208)	(321)
Proceeds from sale of stock.....	66	39
Exercise of stock options.....	476	460
	-----	-----
Net cash provided by (used in) financing activities.....	(2,200)	3,337
	-----	-----
Net increase (decrease) in cash and cash equivalents.....	6,080	(9,326)
Cash and cash equivalents, beginning of period.....	5,815	11,326
	-----	-----
Cash and cash equivalents, end of period.....	\$ 11,895	\$ 2,000
	=====	=====
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The accompanying notes are an integral part of these financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
 (unaudited)

NOTE 1 INVENTORIES

Inventories consist of the following (in thousands):	DEC. 28, 1997	MARCH 30, 1997
Raw materials.....	\$ 4,638	\$ 4,886
Work-in-process.....	2,196	3,439
Finished goods.....	2,160	1,942
	-----	-----
	\$ 8,994	\$ 10,267
	=====	=====

NOTE 2 COMPANY OPERATIONS

During the nine months ended December 28, 1997, one customer accounted for approximately 24% of the Company's sales.

NOTE 3 EARNINGS PER SHARE

Effective December 28, 1997, the Company adopted Statement of Financial Accounting Standards No. 128, "Earnings Per Share" (FAS 128) which changed the method of computing and presenting earnings per common share. All periods presented have been restated in accordance with FAS 128.

Earnings (loss) per common share diluted for the nine months ended December 28, 1997 and December 29, 1996 were computed using the weighted average number of outstanding common shares plus potentially dilutive shares, if applicable, of 10,413,698 and 9,813,585 shares, respectively. Earnings (loss) per common share basic for the nine months ended December 28, 1997 and December 29, 1996 were computed using the weighted average number of outstanding common shares of 10,136,334 and 9,813,585 shares, respectively.

NOTE 4 COMMITMENTS AND CONTINGENCIES

The Company is party to suits and claims arising in the normal course of business. Management believes these are adequately provided for or will result in no significant additional liability to the Company.

PART I - ITEM 2

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

RESULTS OF OPERATIONS

The Company continues to project that it will show growth, quarter over quarter, in orders, shipments and profits.

Sales for the first nine months of fiscal 1998 totaled \$85.0 million compared with sales of \$62.5 million for the same period last year. Sales for the third quarter of fiscal 1998 totaled \$30.8 million up 38% over the comparable period last year. New orders received for the first nine months of fiscal 1998 were \$88.9 million, compared with \$59.9 million for the same period last year. These results make the sixth consecutive quarter with growth in shipments and orders and a positive book-to-bill for the Company's continuing operations. The Company reported a book-to-bill ratio for the first nine months of fiscal 1998 of 1.05. Overall, the increases in sales and orders are the result of continued strong growth in demand for the Company's high-volume semiconductors, including GaAs (Gallium Arsenide) integrated circuits (IC), which are sold to original equipment manufacturers in the rapidly expanding wireless industry. In conjunction with this growth, sales to one customer represented approximately 24% of the Company's total sales for the first nine months of fiscal 1998.

Gross profit for the first nine months of fiscal 1998 totaled \$31.3 million or 36.9% of sales compared with \$11.9 million or 19.0% of sales for the comparable period last year. Gross profit for the third quarter was \$11.8 million or 38.4% of sales compared with \$5.2 million or 23.5% of sales for the same period last year. Gross margins continue to improve quarter over quarter primarily as the result of increased sales volumes and the leveraging of capacity of the Company's high volume semiconductor operation as well as reduced manufacturing costs at Trans-Tech, the Company's ceramic component subsidiary in Maryland. The reduced manufacturing costs at Trans-Tech resulted from nonrecurring actions included in fiscal 1997.

Research and development expenses for the first nine months of fiscal 1998 were approximately \$7.3 million relatively constant with the same period last year, but for the third quarter increased \$270 thousand compared with the comparable quarter last year. Approximately 75% of the Company's total research and development expenditures are for the development of processes and applications related to high volume products, which are targeted at the rapidly-growing wireless markets. The Company is strongly committed to continuing its investment in the GaAs IC and high volume wireless products to better serve its targeted markets, particularly as it continues to introduce new products that its key customers need.

Selling and administrative expenses totaled \$16.5 million or 19.4% of sales for the first nine months of fiscal 1998, as compared with 23.7% of sales for the same period last year. The first nine months of fiscal 1997 included approximately \$900 thousand associated with severance costs related to various corporate executives. For the third quarter ended December 28, 1997, selling and administrative expenses represented 18.5% of sales, as compared to 22.2% of sales for the comparable quarter last year. Selling and administrative expenses continue to rise in aggregate but to steadily decrease as a percentage of sales. The increased spending reflects the higher investments in the sales, marketing and administrative activities namely the addition of dedicated account managers for key wireless OEM manufacturers, improvements to the Company's information systems, such as adding Electronic Data Interchange (EDI) capabilities, training costs and recruiting costs for key positions.

Interest expense for the first nine months and third quarter of fiscal 1998 continues to decrease due to a decline in short term borrowings. Other income, net of expenses, for the nine months and third quarter ended December 28, 1997 decreased \$237 thousand and \$56 thousand respectively due to lower interest income from a decline in short-term investments and losses from early disposition and replacement of certain low-volume manufacturing equipment.

The Company's effective tax rate for the first nine months of fiscal 1998 was 10% compared to the current combined federal, state and foreign rate of approximately 40%. This rate differed from statutory rates primarily as a

result of the utilization of net operating loss carryforwards. At December 28, 1997, the Company had available net operating loss carryforwards of approximately \$29.4 million, which expire commencing in 2004.

For the first nine months of fiscal 1998, the Company reported a net income of \$6.6 million or \$0.63 per share diluted compared with a net loss of \$10.2 million or \$1.04 per share for the comparable period last year. For the third quarter ended December 28, 1997 the Company reported net income of \$3.2 million or \$0.30 per share diluted compared with a net loss of \$2.1 million or \$0.21 per share.

#### FINANCIAL CONDITION

At December 28, 1997, working capital totaled \$22.7 million and included \$11.9 million in cash and cash equivalents, compared with \$18.4 million of working capital at the end of fiscal 1997. Cash increased \$6.1 million for the first nine months of fiscal 1998 as operations generated \$14.6 million of cash principally from net income, depreciation, and a decline in working capital requirements. Uses of cash included the \$2.5 million repayment of short-term debt and \$7.5 million for fixed assets. The Company continued its investments in capital expenditures particularly for the semiconductor wafer fab operation and the IC and discrete semiconductor assembly and test areas, as well as for improved manufacturing capabilities at the ceramics manufacturing facility. The Company remains strongly committed to adding the required capacity needed to service the wireless markets as demand continues to grow.

The Company expects to generate sufficient cash from operations to fund the necessary capital investments needed to support projected levels of growth. With cash of \$11.9 million, a \$7.5 million line of credit and a \$7.5 million equipment line of credit currently available, the Company believes it has adequate funds to support its current operating needs. The Company will continue to evaluate other available sources of financing, such as sales leasebacks or borrowing against its debt-free Massachusetts facility.

#### OTHER MATTERS

Management is aware of the potential software logic anomalies associated with the year 2000 date change. The Company is in the process of evaluating the potential issues that might need to be addressed in connection with its operations. Based on preliminary information, costs of addressing the issue are not expected to have any material effect upon the Company's financial position, results of operations, or cash flows in future periods.

In February 1997, the Financial Accounting Standards Board (FASB) issued Financial Accounting Standards No.128, "Earnings Per Share" (FAS 128). FAS 128 supersedes Accounting Principles Board Opinion No.15 and specifies the computation, presentation and disclosure requirements for earnings per share. FAS 128 is effective for financial statements for both interim and annual periods ending after December 15, 1997 and early application is not permitted. Accordingly, the Company has applied FAS 128 for the quarter ended December 28, 1997 and restated prior period information as required under the statement. The adoption of FAS 128 had no material impact on reported earnings per share.

In June 1997, the FASB issued Financial Accounting Standards No. 130, "Reporting Comprehensive Income" and No. 131, " Disclosure about Segments of an Enterprise and Related Information", which are effective for fiscal years beginning after December 15, 1997. The Company is currently evaluating the effects of these new standards.

Safe Harbor Statement - Except for the historical information contained herein, this Form 10-Q contains forward-looking statements that are inherently subject to risks and uncertainties. The Company's results could differ materially based on various factors, including without limitation: cancellation or deferral of customer orders, dependence on a small number of large customers, difficulties in the timely development and market acceptance of new products, market developments that vary from the current public expectations concerning the growth of wireless communications, difficulties in manufacturing new or existing products in sufficient quantity or quality, increased competitive pressures, decreasing selling prices for the Company's products, or changes in economic conditions. Further information on factors that could affect the Company's financial results is included in the Company's periodic reports filed with the S.E.C., including the most recent Form 10-K and subsequent 10-Qs.



PART II - OTHER INFORMATION

ITEM 1 LEGAL PROCEEDINGS

The Company does not have any material pending legal proceedings other than routine litigation incidental to its business.

The Company has been notified by federal and state environmental agencies of its potential liability with respect to the Spectron, Inc. Superfund site in Elkton, Maryland. Several hundred other companies have also been notified about their potential liability regarding this site. The Company continues to deny that it has any responsibility with respect to this site other than as a de minimis party. Management is of the opinion that the outcome of the aforementioned environmental matter will not have a material effect on the Company's operations or financial position.

ITEM 6 EXHIBITS AND REPORTS ON FORM 8-K

(a) Exhibits

- (3) Certificate of Incorporation and By-laws.
  - (a) Restated Certificate of Incorporation (Filed as Exhibit 3 (a) to Registration Statement on Form S-3 (Registration No. 33-63857))\*.
  - (b) Amended and restated By-laws of the Corporation dated April 30, 1992 (Filed as Exhibit 3(b) to the Annual Report on Form 10-K for the year ended March 29, 1992)\*.
- (4) Instruments defining rights of security holders, including indentures.
  - (a) Specimen Certificate of Common Stock (Filed as Exhibit 4(a) to Registration Statement on Form S-3 (Registration No. 33-63857))\*.
  - (b) Frederick County Industrial Development Revenue Bond, Deed of Trust, Loan Agreement and Guaranty and Indemnification Agreement dated June 17, 1982 (Filed as Exhibit 4(g) to the Registration Statement on Form S-8 filed July 29, 1982)\*. Bond and Loan Document Modification Agreement dated December 9, 1993 (Filed as Exhibit 4(c) to the Quarterly Report on Form 10-Q for the quarter ended December 26, 1993)\*.
  - (c) Amended and restated Shareholder Rights Agreement dated as of December 5, 1996 between Registrant and American Stock Transfer and Trust Company, as Rights Agent as amended and restated June 23, 1997. (Filed as Exhibit 4(c) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*.
  - (d) Loan and Security Agreement dated December 15, 1993 between Trans-Tech, Inc., and County Commissioners of Frederick County (Filed as Exhibit 4(h) to the Quarterly Report on Form 10-Q for the quarter ended July 3, 1994)\*.
  - (e) Stock Purchase Warrant for 50,000 shares of the Registrant's Common Stock issued to Silicon Valley Bank as of April 1, 1994 (Filed as Exhibit 4(i) to the Quarterly Report on Form 10-Q for the quarter ended July 3, 1994)\*.
  - (f) Amended and restated Credit Agreement dated October 1, 1997 between Alpha Industries, Inc., and Trans-Tech Inc. and Fleet Bank of Massachusetts and Silicon Valley Bank.

(10) Material Contracts.

- (a) Alpha Industries, Inc., 1986 Long-Term Incentive Plan as amended (Filed as Exhibit 10(a) to the Quarterly Report on Form 10-Q for the quarter ended October 2, 1994)\*. (1)
- (b) Alpha Industries, Inc., Employee Stock Purchase Plan as amended October 22, 1992 (Filed as Exhibit 10(b) to the Annual Report on Form 10-K for the fiscal year ended March 28, 1993)\* and amended August 22, 1995 (Filed as Exhibit 10(b) to the Annual Report on Form 10-K for the fiscal year ended March 31, 1996)\*. (1)
- (c) SERP Trust Agreement between the Registrant and the First National Bank of Boston as Trustee dated April 8, 1991 (Filed as Exhibit 10(c) to the Annual Report on Form 10-K for the fiscal year ended March 31, 1991)\*. (1)
- (d) Alpha Industries, Inc., Long-Term Compensation Plan dated September 24, 1990 (Filed as Exhibit 10(i) to the Annual Report on Form 10-K for the fiscal year ended March 29, 1992)\*; amended March 28, 1991 (Filed as Exhibit 10 (a) to the Quarterly Report on Form 10-Q for the quarter ended June 27, 1993)\* and as further amended October 27, 1994 (Filed as Exhibit 10(f) to the Annual Report on Form 10-K for the fiscal year ended April 2, 1995)\*. (1)
- (e) Master Equipment Lease Agreement between AT&T Commercial Finance Corporation and the Registrant dated June 19, 1992 (Filed as Exhibit 10(j) to the Annual Report on Form 10-K for the fiscal year ended March 28, 1993)\*.
- (f) Severance Agreement dated January 13, 1997 between the Registrant and Thomas C. Leonard (Filed as Exhibit 10(f) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*. (1)
- (g) Severance Agreement dated May 20, 1997 between the Registrant and David J. Aldrich (Filed as Exhibit 10(g) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*. (1)
- (h) Severance Agreement dated January 14, 1997 between the Registrant and Richard Langman (Filed as Exhibit 10(h) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*. (1)
- (i) Employment Agreement dated October 4, 1996 between the Registrant and Martin J. Reid (Filed as Exhibit 10(i) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*. (1)
- (j) Consulting Agreement dated August 13, 1992 between the Registrant and Sidney Topol (Filed as Exhibit 10(p) to the Annual Report on Form 10-K for the fiscal year ended April 3, 1994)\*.(1)
- (k) Master Lease Agreement between Comdisco, Inc. and the Registrant dated September 16, 1994 (Filed as Exhibit 10(q) to the Quarterly Report on Form 10-Q for the quarter ended October 2, 1994)\*.
- (l) Alpha Industries, Inc., 1994 Non-Qualified Stock Option Plan for Non-Employee Directors (Filed as Exhibit 10(r) to the Quarterly Report on Form 10-Q for the quarter ended October 2, 1994)\*. (1)
- (m) Alpha Industries Executive Compensation Plan dated January 1, 1995 and Trust for the Alpha Industries Executive Compensation Plan dated January 3, 1995 (Filed as Exhibit 10(p) to the Annual Report on Form 10-K for the fiscal year ended April 2, 1995)\*.(1)
- (n) Alpha Industries, Inc. Savings and Retirement 401(k) Plan dated July 1, 1996 (Filed as Exhibit 10(n) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*.

- (o) Change in Control Agreement between the Registrant and Paul E. Vincent dated August 23, 1996 (Filed as Exhibit 10(o) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*. (1)
- (p) Change in Control Agreement between the Registrant and James C. Nemiah dated August 23, 1996 (Filed as Exhibit 10(p) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*. (1)
- (q) Severance Agreement dated April 30, 1996 between the Registrant and Jean Pierre Gillard (Filed as Exhibit 10(q) to the Annual Report on Form 10-K for the fiscal year ended March 30, 1997)\*. (1)
- (r) Lease Agreement between MIE Properties, Inc. and Trans-Tech, Inc. (Filed as Exhibit 10(r) to the Quarterly Report on Form 10-Q for the quarter ended September 29, 1996)\*.

(11) Statement re computation of per share earnings\*\*.

(27) Financial Data Schedule.

(b) Reports on Form 8-K

No reports on Form 8-K were filed with the Securities and Exchange Commission during the fiscal quarter ended December 28, 1997.

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 \* Not filed herewith. In accordance with Rule 12b-32 promulgated pursuant to the Securities Exchange Act of 1934, as amended, reference is hereby made to documents previously filed with the Commission, which are incorporated by reference herein.

\*\* Reference is made to Note 3 of the notes to Consolidated Financial Statements on Page 6 of this Quarterly Report on Form 10-Q, which Note 3 is hereby incorporated by reference herein.

(1) Management Contracts.

SIGNATURES

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

Date: February 9, 1998

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Alpha Industries, Inc. and Subsidiaries  
-----  
Registrant

/s/ Thomas C. Leonard

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Thomas C. Leonard  
Chief Executive Officer  
President

/s/ Paul E. Vincent

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Chief Financial Officer  
Principal Financial Officer  
Principal Accounting Officer

AMENDED AND RESTATED CREDIT AGREEMENT

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Dated as of October 1, 1997

among

ALPHA INDUSTRIES, INC.,  
TRANS-TECH, INC., as Borrowers,

FLEET NATIONAL BANK, as a Bank and as Agent

and

SILICON VALLEY BANK, as a Bank

-----  
Working Capital Line of Credit Loans

\$7,500,000

Equipment Line of Credit Loans

\$5,000,000

1997 Equipment Line of Credit Loans

\$7,500,000  
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#### Exhibits

A-1	-	Working Capital Line of Credit Note (SVB)
A-2	-	Working Capital Line of Credit Note (Fleet)
A-3	-	1997 Equipment Line of Credit Note
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C	-	Compliance Certificate
D	-	Borrowing Base Certificate

#### Schedules

-	Disclosure Schedule
-	Schedule of Approved Foreign Account Debtors



AMENDED AND RESTATED CREDIT AGREEMENT

This AMENDED AND RESTATED CREDIT AGREEMENT, dated as of October 1, 1997 (the "Agreement") by and among ALPHA INDUSTRIES, INC., a Delaware corporation

with its principal place of business at 20 Sylvan Road, Woburn, Massachusetts 01801 ("Alpha"), TRANS-TECH, INC., a Maryland corporation with its principal

place of business at 5520 Adamstown Road, Adamstown, Maryland ("Trans-Tech"),

and FLEET NATIONAL BANK, successor in interest to Fleet Bank of Massachusetts, N.A., a national banking association with its principal place of business at Fleet Center, 75 State Street, Boston, Massachusetts 02109-1810 (together with its successors, "Fleet"), and SILICON VALLEY BANK, a California-chartered bank,

with its principal place of business at 3003 Tasman Drive, Santa Clara, California 95054 and with a loan production office located at Wellesley Office Park, 40 William Street, Wellesley, Massachusetts 02181, doing business under the name "Silicon Valley East" (together with its successors, "SVB"). Alpha and

Trans-Tech are sometimes each referred to herein as a "Borrower" and together as

the "Borrowers". SVB and Fleet are sometimes each referred to herein as a

"Bank") and collectively as the "Banks." Fleet in its capacity as agent for the

Banks is referred to herein as the "Agent". This Agreement amends and restates

in its entirety that certain Credit Agreement, to which both the Borrowers and the Banks are parties, dated as of September 29, 1995, as amended as of July 31, 1996, September 30, 1996 and June 12, 1997 (the "1995 Credit Agreement").

Section Working Capital Line of Credit Loans.

. Amount. Subject to and upon the terms and conditions set forth below, each of the Banks severally agrees to make loans (each a "Working Capital Line of Credit Loan" and collectively, the "Working Capital Line of Credit Loans") to the Borrowers under this Section 1.1 from time to time to and including September 30, 1999 (the "Working Capital Commitment Expiration Date"),

unless earlier terminated pursuant to Section 1.7, in an aggregate principal amount not to exceed at any one time outstanding their respective Working Capital Line of Credit Commitments as set forth in Section 1.2 below (together, the "Total Working Capital Line Commitment"), subject to the limitation set

forth in Section 1.5. Within the limit of the Working Capital Line Commitment, the Borrowers may borrow, repay and reborrow at any time or from time to time until the Working Capital Commitment Expiration Date, or the termination of the Working Capital Line Commitment, whichever occurs earlier.

. Working Capital Line of Credit Commitments. The Total Working Capital Line Commitment shall be \$7,500,000 in the aggregate; the Working Capital Line Commitment of SVB shall be \$3,750,000; and the Working Capital Line Commitment of Fleet shall be \$3,750,000.

. Working Capital Line of Credit Notes. The Working Capital Line of Credit Loans made by each Bank shall be evidenced (i) in the case of SVB, by a promissory note payable to the order of SVB with interest in accordance with the terms of the Promissory Note of the Borrowers to be issued in substantially the form of attached Exhibit A-1, dated the date hereof and (ii) in the case of Fleet by a promissory note payable to the order of Fleet with interest in accordance with the terms of the Promissory Note of the Borrowers to be issued in substantially the form of attached Exhibit A-2, dated the date hereof (each a "Working Capital Note" and together the "Working Capital Notes").

. Requests For Line of Credit Loans. Whenever either Borrower desires to obtain a Working Capital Line of Credit Loan, such Borrower shall notify Fleet in accordance with the provisions of 3.6 below. Not later than 1:00 p.m. (Boston time) on the date specified for the making of each such Working Capital Line of Credit Loan, each Bank shall make available to Fleet, at Fleet's principal office, an amount equal to such Bank's respective Working Capital Commitment Percentage multiplied by the amount of the Working Capital Line of Credit Loan requested as set forth above. Subject to the terms and conditions of this Agreement, the amount so received by Fleet shall be made

available to the Borrowers by crediting the same in immediately available funds,  
to Alpha's regular deposit account with Fleet.

. Working Capital Borrowing Base. The Borrowers shall not permit,

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or request any advance or the issuance of any Letter of Credit hereunder that would cause, the sum of (a) the aggregate unpaid principal amount of all Working Capital Line of Credit Loans under the Total Working Capital Line Commitment and (b) Aggregate Letter of Credit Usage (the sum of (a) and (b), the "Working

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Capital Extensions of Credit") to exceed at any time an amount equal to the

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lesser of (i) the Total Working Capital Line Commitment or (ii) the sum of 80% of all Eligible Domestic Accounts Receivable (after subtracting the Domestic Delinquency Reserve Amount) and 80% of all Eligible International Accounts Receivable (after subtracting the International Delinquency Reserve Amount) at such time (the lesser of (i) and (ii), the "Working Capital Borrowing Base").

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If at any time the aggregate principal amount of all Working Capital Extensions of Credit exceeds the Working Capital Borrowing Base, the Borrowers shall, on the next Banking Day, prepay such excess principal amount together with accrued interest thereon at the applicable rate.

. Maturity Date of Working Capital Line of Credit Loans. All

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Working Capital Line of Credit Loans shall mature and the total unpaid principal amount thereunder shall be due and payable on September 30, 1999 (the "Working

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Capital Line Maturity Date"), at which time all amounts advanced under this

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Section 1 shall be immediately due and payable.

. Termination of Working Capital Line Commitment. The Borrowers,

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upon ( ) notice to the Banks in accordance with the provisions of Section 3.6 and ( ) the repayment in full of the outstanding principal balance of the Working Capital Line of Credit Loans (and accrued interest thereon) and the payment in full of the unpaid balance of the Facility Fee provided for in Section 5.8 through the Working Capital Commitment Expiration Date together with any expenses or other fees owed by the Borrowers to the Banks under or pursuant to this Agreement, may elect to permanently terminate the Total Working Capital Line Commitment.

. Letters of Credit.

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(a) The Borrowers may use up to \$2,000,000 of the Working Capital Line of Credit Commitment for Letters of Credit to be issued by Fleet, provided

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that in each case (a) the relevant Borrower executes and delivers a letter of credit application and reimbursement agreement satisfactory to Fleet and complies with any conditions to the issuance of such Letter of Credit (including payment of any applicable fees); (b) Fleet has approved the form of such Letter of Credit and the purpose of its issuance; (c) such Letter of Credit bears an expiration date not later than 45 days prior to the Commitment Expiration Date; and (d) the conditions set forth in Sections 5.2 and 5.3 shall have been satisfied as of the date of the issuance of the Letter of Credit.

(b) Effective upon the issuance of each Letter of Credit and without any further action of any Bank in respect thereof, Fleet hereby grants to SVB, and SVB hereby acquires from Fleet, a participating interest in such Letter of Credit to the extent of SVB's Working Capital Commitment Percentage thereof (the "Letter of Credit Participation"), and SVB agrees that it shall be absolutely

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liable, without regard to any Default or Event of Default, to the extent of its Working Capital Commitment Percentage, to reimburse Fleet on demand for the amount of each draft paid by Fleet under each Letter of Credit to the extent that such amount is not reimbursed by the Borrower, except to the extent such deficiency is attributable to Fleet's gross negligence or intentional misconduct. Fleet shall promptly notify SVB of the issuance of any Letter of Credit under this Section 1.8.

Section Equipment Line of Credit Loans.

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. Amount. Subject to and upon the terms and conditions set forth

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below, Fleet agrees to make loans (each an "Equipment Line of Credit Loan") and collectively, the "Equipment Line of Credit Loans") to the Borrowers under this

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Section 2.1 from time to time to and including August 31, 1996 (the "Equipment

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Line Commitment Expiration Date"), unless earlier terminated pursuant to

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Sections 2.6 or

9.2, in an aggregate amount not to exceed at any one time outstanding \$5,000,000 (the "Equipment Line Commitment"), subject to the limitation set forth in

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Section 2.4, 2.6(b).

. Equipment Notes. The Equipment Line of Credit Loans shall be  
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evidenced by and payable with interest in accordance with the note of the Borrowers previously delivered to Fleet (the "Equipment Line Note").  
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. Requests For Equipment Line Loans. Either Borrower may make  
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requests of Fleet for Equipment Line of Credit Loans, and Fleet shall make such loans in the same manner as provided in Section 1.4 and Section 3.6 with respect to Working Capital Line of Credit Loans, except that together with the notice of borrowing, such Borrower shall furnish to Fleet copies of all invoices for items of Eligible Equipment and such other information as Fleet shall reasonably request.

. Restrictions on Advances. Equipment Line of Credit Loans may be  
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made only with respect to an item or items of Eligible Equipment specifically identified in accordance with Section 2.3, 2.6(b), and the principal amount of any such Equipment Line of Credit Loans may not exceed 80% of the invoice price of such item or items of Eligible Equipment, not including prepackaged software and soft costs, sales taxes, shipping charges, installation charges, training charges and similar charges and expenses.

. Maturity Date of Equipment Line Loans. All Equipment Line of  
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Credit Loans shall be repayable in installments in accordance with the terms of the Equipment Line Note, provided that all Equipment Line of Credit Loans shall mature and the total principal amount thereunder shall be payable on August 1, 1999 (the "Equipment Line Maturity Date"), at which time all amounts advanced  
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under this Section 2, 2.6(b) shall be immediately due and payable.

. Termination of Equipment Line Commitment. The Borrowers, upon ()  
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notice to Fleet in accordance with the provisions of Section 3.6, and () the repayment in full of the outstanding principal balance of the Equipment Line of Credit Loans (and accrued interest thereon) and the payment in full of any expenses or other fees owed by the Borrowers to Fleet under or pursuant to the Equipment Line Commitment and the Equipment Line of Credit Loans, may elect to permanently terminate the Equipment Line Commitment.

Section 2A 1997 Equipment Line of Credit Loans.  
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2A.1 Amount. Subject to and upon the terms and conditions set forth  
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below, Fleet agrees to make loans (each an "1997 Equipment Line of Credit Loan")  
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and collectively, the "1997 Equipment Line of Credit Loans") to the Borrowers  
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under this Section 2A.1 from time to time to and including September 30, 1998 (the "1997 Equipment Line Commitment Expiration Date"), unless earlier  
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terminated pursuant to Sections 2A.6 or 9.2, in an aggregate amount not to exceed at any one time outstanding \$7,500,000 (the "1997 Equipment Line  
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Commitment"), subject to the limitation set forth in Section 2A.4.  
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2A.2 1997 Equipment Line Note. The 1997 Equipment Line of Credit  
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Loans shall be evidenced by and payable with interest in accordance with the note of the Borrowers in the form of attached Exhibit A-3 (the "1997 Equipment  
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Line Note"). The Working Capital Line Notes, the Equipment Line Note and the  
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1997 Equipment Line Note are sometimes together referred to herein as the  
"Borrower Notes".  
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2A.3 Requests For 1997 Equipment Line Loans. Either Borrower may  
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make requests of Fleet for 1997 Equipment Line of Credit Loans, and Fleet shall make such loans in the same manner as provided in Section 1.4 and Section 3.6 with respect to Working Capital Line of Credit Loans, except that, together with the notice of borrowing, such Borrower shall furnish to Fleet copies of all invoices for items of Eligible Equipment and such other information as Fleet shall reasonably request; provided, however, that  
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the Borrowers shall not make, and Fleet shall have no obligation to honor, more than one (1) request, in the aggregate, for 1997 Equipment Line of Credit Loans during any fiscal quarter and, provided, further, that any such request shall be

submitted to Fleet no later than 21 days after the beginning of such fiscal quarter and shall relate only to purchases made on April 1, 1997 or thereafter.

2A.4 Restrictions on Advances. 1997 Equipment Line of Credit Loans

may be made only with respect to an item or items of Eligible Equipment specifically identified in accordance with Section 2A.3 and the principal amount of any such 1997 Equipment Line of Credit Loans may not exceed 80% of the invoice price of such item or items of Eligible Equipment, not including prepackaged software and soft costs, sales taxes, shipping charges, installation charges, training charges and similar charges and expenses.

2A.5 Maturity Date of 1997 Equipment Line Loans. All 1997 Equipment

Line of Credit Loans shall be repayable in installments in accordance with the terms of the 1997 Equipment Line Note, provided that all 1997 Equipment Line of

Credit Loans shall mature and the total principal amount thereunder shall be payable no later than September 30, 2002 (the "1997 Equipment Line Maturity Date"), at which time all amounts advanced under this Section 2, 2.6(b)A shall be immediately due and payable.

2A.6 Termination of 1997 Equipment Line Commitment. The Borrowers,

upon (a) notice to Fleet in accordance with the provisions of Section 3.6, and (b) the repayment in full of the outstanding principal balance of the 1997 Equipment Line of Credit Loans (and accrued interest thereon) and the payment in full of any expenses or other fees owed by the Borrowers to Fleet under or pursuant to the 1997 Equipment Line Commitment and the 1997 Equipment Line of Credit Loans, may elect to permanently terminate the 1997 Equipment Line Commitment.

Section Interest Rates; Payments and Optional Prepayments.

Interest Rates.

( ) Working Capital Line of Credit Loans. The Borrowers agree to pay

interest on the unpaid principal amount of each Working Capital Line of Credit Loan for each day from and including the date such Working Capital Line of Credit Loan was made to but excluding the date the principal on such Working Capital Line of Credit Loan is due (whether at maturity, by acceleration or otherwise), at the fluctuating rate per annum equal to the Prime Rate per annum,

plus the Applicable Prime Margin, which shall initially be 1/2% per annum. All such Working Capital Line of Credit Loans shall constitute Prime Rate Loans for purposes hereof.

( ) Equipment Line of Credit Loans and 1997 Equipment Line of Credit

Loans. The Borrowers agree to pay interest on the unpaid principal amount of

each Equipment Line of Credit Loan and each 1997 Equipment Line of Credit Loan for each day from and including the date such Equipment Line of Credit Loan or 1997 Equipment Line of Credit Loan was made to but excluding the date the principal on such Equipment Line of Credit Loan or 1997 Equipment Line of Credit Loan is due (whether at maturity, by acceleration or otherwise), at the following fluctuating rates per annum:

( ) for Prime Rate Loans, at the Prime Rate per annum, plus the Applicable Prime Margin, which shall initially be 1/2% per annum; and

( ) for LIBOR Loans, at the LIBOR Rate, plus the Applicable LIBOR Margin, which shall initially be 300 basis points per annum.

( ) For purposes of hereof, "Applicable Prime Margin" and "Applicable LIBOR Margin" shall mean the interest rates per annum set forth below and

determined based on the contingencies specified herein:

Applicable Prime Margin	Applicable LIBOR Margin	When Applicable
1/2%	300 basis points	(i) During any fiscal quarter ending December 31, 1997 or thereafter (subject to further reduction pursuant to (ii), (iii) and (iv) below).
1/4%	250 basis points	(ii) During any fiscal quarter ending March 31, 1998 or thereafter (subject to further reduction pursuant to (iii) and (iv) below), provided that Net Income has been at least \$500,000 per quarter for any two consecutive fiscal quarters that ended September 30, 1997 or thereafter. If the Borrowers have satisfied the full requirements of this test on one occasion, any future failure to satisfy the test shall not, except as set forth in Section 3.1(e) below or in any other provision of any Loan Document, result in an increase of the Applicable Prime Margin or the Applicable LIBOR Margin.
0%	200 basis points	(iii) During any fiscal quarter ending June 30, 1998 or thereafter (subject to further reduction pursuant to (iv) below), provided that Net Income has been at least \$500,000 per quarter for any three consecutive fiscal quarters that ended September 30, 1997 or thereafter. If the Borrowers have satisfied the full requirements of this test on one occasion, any future failure to satisfy the test shall not, except as set forth in Section 3.1(e) below or in any other provision of any Loan Document, result in an increase of the Applicable Prime Margin or the Applicable LIBOR Margin.
0%	150 basis points	(iv) During any fiscal quarter ending September 30, 1998 or thereafter, provided that (A) cumulative Net Income for the four consecutive fiscal quarters immediately preceding such fiscal quarter is at least \$5,000,000 and (B) Net Income for each of the four fiscal quarters immediately preceding such fiscal quarter has been at least \$1,000,000.

( ) The Borrowers shall have the option, exercisable at any time and from time, but subject in each case to the notice requirements of Section 3.6 applicable to requests for Equipment Line of Credit Loans and 1997 Equipment Line of Credit Loans that are to constitute Prime Rate Loans under Section 3.1(c)(i), to convert the interest rate applicable to some or all of the Equipment Line of Credit Loans or the 1997 Equipment Line of Credit Loans then outstanding from the fluctuating rate per annum specified in Section 3.1(c) to a fixed rate of interest equal to the fluctuating rate of interest applicable to such Equipment Line of Credit Loans or 1997 Equipment Line of Credit Loans as it stands at the time of the Borrowers' notice to Fleet of conversion to the fixed rate. Following such conversion, the fixed rate applicable to the portion of the outstanding Equipment Line of Credit Loans or 1997 Equipment Line of Credit Loans designated in such notice shall remain in effect until such indebtedness has been paid in full. If the Borrowers pay any portion of the outstanding principal amount of any such converted Equipment Line of Credit Loans or 1997 Equipment Line of Credit Loans other than on the last day of the relevant interest period set forth in the relevant Equipment Line of Credit

Note or 1997 Equipment Line of Credit Note, the Borrowers shall pay to Fleet on demand any amounts required to compensate Fleet for any losses, costs or expenses which it may incur as a result of such prepayment.

( ) Notwithstanding the foregoing, the Borrowers will pay to the Banks interest at the applicable Post-Default Rate on any principal of any Working Capital Line of Credit Loan, any Equipment Line of Credit Loans or any 1997 Equipment Line of Credit Loan (collectively, the "Borrower Loans") and on any

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other amount payable by the Borrowers hereunder (but, if such amount is interest, only to the extent legally enforceable), which shall not be paid in full when due (whether at stated maturity, by acceleration or otherwise), for the period commencing on the due date thereof until the same is paid in full. Accrued interest on each Prime Rate Loan and LIBOR Loan shall be payable monthly in arrears on the first day of each month and in any event, upon the payment, prepayment or conversion thereof, but only on the principal so paid or prepaid or converted; provided that interest payable at the Post-Default Rate shall be

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payable from time to time on demand of any Bank. Promptly after the determination of any interest rate provided for herein or any change therein, each Bank shall notify the Borrowers thereof.

Notwithstanding the foregoing provisions of this Section 3.1, if at any time the rate of interest set forth above (the "Stated Rate") exceeds the

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maximum non-usurious interest rate permissible for any Bank to charge commercial borrowers under applicable law (the "Maximum Rate"), the rate of interest

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charged on any Borrower Loans by any Bank hereunder shall be limited to the Maximum Rate.

In the event any Bank ever receives, collects or applies as interest any sum in excess of the Maximum Rate, such excess amount shall be applied to the reduction of the principal balance of the Borrower Loans in respect of which such interest was paid or to other amounts (other than interest) payable hereunder, and if no such principal is then outstanding, such excess or part thereof remaining shall be paid to the Borrowers.

. Manner and Place of Payment. All payments under this Agreement

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or otherwise in respect of any Borrower Loan shall be made not later than 2:00 p.m. (Boston Time) on the date when due and shall be made in immediately available funds at the Office of the Bank which has made such Borrower Loan or by a Borrower's check drawn on the depository account(s) maintained by such Borrower with such Bank payable to such Bank or its order. All payments shall be made without setoff, counterclaim, withholding or reduction of any kind whatsoever. Each Borrower hereby requests and authorizes each Bank to debit any of such Borrower's accounts with such Bank for payments of interest and principal due on the Borrower Loans and any other obligations owing by the Borrowers to such Bank. Each Bank will notify the Borrowers of all debits which such Bank makes against a Borrower's accounts. Any such debits against a Borrower's accounts in no way shall be deemed a setoff.

. Payments Due on Saturdays, Sundays and Holidays. Whenever any

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payment to be made hereunder or under the Borrower Notes shall be due on a day which is not a Banking Day, such payment may be made on the next succeeding Banking Day, and such extension of time shall be included in computing any interest or fees due.

. Computations. Interest on the Borrower Loans shall be computed on

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the basis of a year of 360 days and actual days elapsed (including the first day but excluding the last day) occurring in the period for which payable.

. Minimum and Maximum Amounts. Each borrowing, conversion and

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prepayment of principal of Borrower Loans shall be in an aggregate principal amount equal to (a) in the case of LIBOR Loans, \$200,000 or a larger multiple of \$50,000 and (b) in the case of Prime Rate Loans, without any minimum amount or any minimum integral multiple thereof (conversions or prepayments of Borrower Loans of different Types or, in the case of LIBOR Loans, having different Interest Periods, at the same time hereunder to be deemed separate conversions and prepayments for purposes of the foregoing, one for each Type or Interest Period); provided that any payment or prepayment in full of any Borrower Loans

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may be in the aggregate outstanding principal amount thereof.

. Certain Notices. Notices to Fleet regarding the Total Working

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Capital Line Commitment, Working Capital Line of Credit Loans, the Equipment Line Commitment, Equipment Line of Credit Loans, the 1997 Equipment Line Commitment and 1997 Equipment Line of Credit Loans of (a) termination of the Working Capital Line of Credit Commitment, the Equipment Line Commitment or the 1997 Equipment Line Commitment, as the case may be, (b) borrowings of Borrower Loans, (c) conversions and prepayments of Borrower Loans and of the duration of Interest Periods, shall be irrevocable and shall be effective only if received by the Bank in question not later than 12:00 Noon (Boston time) on the number of Banking Days prior to the date of the termination, borrowing, conversion and/or prepayment specified below:

	Number of Banking Days Prior Notice
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Termination of Commitment	2
Borrowings, or prepayment of Prime Rate Loans	1
Prepayment of, conversion into, or duration of Interest Periods for, LIBOR Loans	3

Each notice of borrowing, conversion or prepayment shall specify, whether it is a Working Capital Line of Credit Loan, an Equipment Line of Credit Loan or a 1997 Equipment Line of Credit Loan, the amount, the Type of the Borrower Loan to be borrowed, converted or prepaid, the date of borrowing, conversion or prepayment (which shall be a Banking Day in the case of the prepayment of a Prime Rate Loan, or a Working Day in the case of the conversion or prepayment of a LIBOR Loan) and, in the case of LIBOR Loans, the duration of the Interest Period therefor (subject to the definition of Interest Period). Each such notice of duration of an Interest Period shall specify the Borrower Loans to which such Interest Period is to relate. In the event that the Borrowers fail to select the duration of any Interest Period for any LIBOR Loan within the time period and otherwise as provided in this Section 3.6, such LIBOR Loan will be automatically converted into a Prime Rate Loan on the last day of the then current Interest Period for such LIBOR Loan or (if outstanding as Prime Rate Loans) will remain as, or (if not then outstanding) will be made as Prime Rate Loans.

. Additional Costs.

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( ) The Borrowers shall pay to each Bank from time to time such amounts as such Bank may reasonably determine to be necessary to compensate it for any costs incurred by such Bank which such Bank determines are attributable to its making or maintaining of any LIBOR Loans hereunder or its obligation to make any of such Borrower Loans hereunder, or any reduction in any amount receivable by such Bank hereunder in respect of any LIBOR Loan or such obligation (such increases in costs and reductions in amounts receivable being herein called "Additional Costs"), in each case resulting from any Regulatory

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Change which:

(1) changes the basis of taxation of any amounts payable to such Bank under this Agreement or the Note or Notes held by such Bank in respect of any LIBOR Loan; or

(2) imposes or modifies any reserve, special deposit or similar requirements relating to any extensions of credit or other assets of, or any deposits with or other liabilities of, such Bank (including any LIBOR Loan or any deposits referred to in the definition of "LIBOR Rate" below).



Each Bank will notify the Borrowers of any event occurring after the date of this Agreement which will entitle such Bank to compensation pursuant to this Section 3.7 as promptly as practicable after it obtains knowledge thereof and determines to request such compensation. Such Bank will furnish the Borrowers with a statement, in reasonable detail, setting forth the basis and amount of each request by such Bank for compensation under this Section 3.7.

( ) Without limiting the effect of the foregoing provisions of this Section 3.7 in the event that, by reason of any Regulatory Change, any Bank either (i) incurs Additional Costs based on or measured by the excess above a specified level of the amount of a category of deposits or other liabilities of such Bank which includes deposits by reference to which the interest rate on LIBOR Loans is determined as provided in this Agreement or a category of extensions of credit or other assets of such Bank which includes LIBOR Loans or (ii) becomes subject to restrictions on the amount of such a category of liabilities or assets which it may hold, then, if such Bank so elects by notice to the Borrowers, the obligation of such Bank to make LIBOR Loans hereunder shall be suspended until the date such Regulatory Change ceases to be in effect.

( ) Determinations and allocations by any Bank for purposes of this Section 3.7 of the effect of any Regulatory Change on its costs of maintaining its obligations to make LIBOR Loans or of making or maintaining LIBOR Loans or on amounts receivable by it in respect of LIBOR Loans, and of the additional amounts required to compensate such Bank in respect of any Additional Costs, shall be conclusive absent manifest error, provided that such determinations and allocations are made on a reasonable basis, and provided further that in administering this Section each Bank shall not single out the Borrowers for different treatment but shall deal with them on the same basis as the Bank deals with its other customers generally.

. Limitation on Types of Loans. Anything herein to the contrary  
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notwithstanding, if, with respect to any LIBOR Loans, any Bank determines (which determination shall be conclusive) that the relevant rates of interest referred to in the definition of "LIBOR Rate" in Section 10.1 below upon the basis of which the rates of interest for any LIBOR Loan are to be determined do not accurately reflect the cost to such Bank of making or maintaining such LIBOR Loans for the Interest Period therefor, then such Bank shall promptly notify the Borrowers, and so long as such condition remains in effect, such Bank shall be under no obligation to convert Prime Rate Loans into LIBOR Loans and the Borrowers shall, on the last day(s) of the then current Interest Period(s) for the outstanding LIBOR Loans, either prepay such LIBOR Loans or convert such LIBOR Loans into Prime Rate Loans in accordance with Section 3.13.

. Illegality. Notwithstanding any other provision of this Agreement  
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to the contrary, in the event that it becomes unlawful for any Bank to (a) honor its obligation to make LIBOR Loans hereunder, or (b) maintain LIBOR Loans (identifying the illegality in question in reasonable detail) hereunder, then such Bank shall promptly notify the Borrowers and the other Bank thereof and such Bank's obligation to make LIBOR Loans hereunder shall be suspended until such time as such Bank may again make and maintain LIBOR Loans.

. Substitute Prime Rate Loans. If the obligation of any Bank to  
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make LIBOR Loans shall be suspended pursuant to Section 3.7, 3.8 or 3.9 hereof, all Borrower Loans which would otherwise be made by such Bank as LIBOR Loans shall be made instead as Prime Rate Loans (and, if an event referred to in Section 3.7(b) or 3.9 has occurred and such Bank so requests, by notice to the Borrowers, each LIBOR Loan of such Bank then outstanding shall be automatically converted into a Prime Rate Loan on the date specified by such Bank in such notice) and, to the extent that LIBOR Loans are so made as (or converted into) Prime Rate Loans, all payments of principal which would otherwise be applied to such LIBOR Loans shall be applied instead to such Prime Rate Loans.

. Compensation. If any payment, prepayment or conversion of a LIBOR  
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Loan occurs on a date other than the last day of an Interest Period for such Loan other than by reason of an error on the part of either Bank, the Borrowers shall pay to any Bank, upon the request of such Bank, as compensation

for any loss, cost or expense incurred by such Bank as the result of such payment, prepayment or conversion, an amount (if a positive number) equal to:

$$A \times (B-C) \times \frac{D}{360}$$

where:

"A" equals the principal amount of the LIBOR Loan so paid, prepaid or converted (the "Affected LIBOR Loan");

"B" equals the LIBOR Rate (expressed as a decimal) applicable to the Affected LIBOR Loan;

"C" equals the applicable LIBOR Rate (expressed as a decimal) in effect on or about the date of such payment, prepayment or conversion, for deposits in an amount equal approximately to the principal amount of the Affected LIBOR Loan with an Interest Period (the "Remaining Interest Period")

beginning on the date of such payment, prepayment or conversion to but excluding the last day of the existing Interest Period; and

"D" equals the number of days in the Remaining Interest Period;

and any other out-of-pocket loss or expense (including any internal processing charge customarily charged by such Bank) suffered by such Bank in liquidating deposits prior to maturity in amounts which correspond to the principal amount of the Affected LIBOR Loan; provided that such Bank

shall have delivered to the Borrowers a certificate, in reasonable detail, as to the amount of such loss and expense along with the basis for calculation thereof.

. Capital Adequacy. If any Bank shall determine that the

applicability of any law, rule, regulation or guideline adopted pursuant to or arising out of the July 1988 report of the Basle Committee on Banking Regulations and Supervisory Practices entitled "International Convergence of Capital Measurement and Capital Standards", or the adoption after the date hereof of any other applicable law, rule, regulation or guideline regarding capital adequacy, or any change in the foregoing or in the enforcement, interpretation or administration thereof by any Governmental Authority charged with the enforcement, interpretation or administration thereof, or compliance by such Bank or any Person controlling such Bank (a "Parent") with any request or

directive regarding capital adequacy (whether or not having the force of law) of any such Governmental Authority, has or would have the effect of reducing the rate of return on capital of such Bank or its Parent as a consequence of such Bank's obligations hereunder to a level below that which such Bank (or its Parent) could have achieved but for such applicability, adoption, change or compliance (taking into consideration the policies of such Bank (or its Parent) with respect to capital adequacy) by an amount reasonably deemed by such Bank to be material, then from time to time, within the second Business Day after demand by such Bank, the Borrowers shall pay to such Bank such additional amount or amounts as will compensate such Bank for such reduction in the rate of return, together with interest on each such amount from the thirtieth day after such demand until payment in full thereof (as well after as before judgement) at the Post-Default Rate. A statement of such Bank, in reasonable detail, claiming compensation under this Section 3.12 and setting forth the additional amount or amounts to be paid to it hereunder shall be conclusive absent manifest error; provided that the determination thereof is made on a reasonable basis and

provided, further, that the Borrowers shall not be obligated to compensate any

Bank for any such reduction occurring more than 30 days prior to the time the Bank first notifies the Borrowers of such adoption, implementation, charge or compliance, and provided further that in administering this Section each Bank shall not single out the Borrowers for different treatment but shall deal with them on the same basis as the Bank deals with its other customers generally. In determining such amount, such Bank may use any reasonable averaging and attribution methods.

. Optional Prepayments. Subject to the provisions of Section 3.1(e)

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and this Section 3.13, the Borrowers shall have the right to prepay the Borrower Loans in whole or in part and to convert Borrower Loans of one Type into another Type, without premium or penalty, at any time and from time to time, provided that (i) at the time of the prepayment in full of all Working Capital Extensions of Credit, Equipment Line of Credit Loans or 1997 Equipment Line of Credit Loans, as the case may be, the Borrowers shall pay all interest accrued on the amount prepaid; (ii) the Borrowers shall give the Bank or Banks in question notice of such prepayment as provided in Section 3.6; (iii) the LIBOR Loans may be converted into Prime Rate Loans only on the last day of an Interest Period thereof; and (iv) such Bank or Banks shall be paid, at the time of any prepayment of a LIBOR Loan that is being prepaid on other than the last day of an Interest Period therefor, the amount provided for in Section 3.11. Principal amounts repaid or prepaid under the Borrower Notes or under the Commitment may be reborrowed by the Borrowers subject to the terms hereof; provided, however,

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in the case of the Working Capital Line of Credit Loans, that any funds repaid or prepaid on or after the earlier to occur of (a) the Working Capital Commitment Expiration Date or (b) the termination of the Total Working Capital Line Commitment pursuant to Section 1.7 hereof, may not be reborrowed or readvanced thereafter, and provided, further, however, in the case of the

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Equipment Line of Credit Loans or the 1997 Equipment Line of Credit Loans, that any funds repaid or prepaid may not be reborrowed or readvanced thereafter.

Section Security and Guaranties.

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. Security Interests. Each Borrower hereby confirms that it has

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previously granted to SVB as Collateral Agent (as defined in the 1995 Credit Agreement) for the benefit of the Banks a security interest in, and a lien on, all right, title and interest of such Borrower in and to certain assets of such Borrower as set forth in the security agreements, both dated as of September 29, 1995 (the "Original Closing Date"), executed and delivered by Alpha and Trans-

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Tech, respectively (each a "Security Agreement"), and the pledge agreement,

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dated the Original Closing Date, executed and delivered by Alpha (the "Pledge

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Agreement"). In order further to secure payment and performance of the

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Borrowers' obligations to the Banks under this Agreement, the Borrower Notes and the other Loan Documents, each Borrower hereby agrees to execute and deliver to Fleet as Agent an agreement, substantially in the form of Exhibit B hereto (the

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"Amendment to Security and Guaranty Agreements"), amending the Security

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Agreements and the Pledge Agreement to substitute Fleet as Agent for SVB as Collateral Agent but otherwise providing that the Security Agreements and the Pledge Agreement shall remain in full force and effect for the benefit of the Banks.

. Guaranty. The Borrower Loans have been guaranteed by Alpha

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Securities Corp., a Massachusetts corporation, 20 Sylvan Road, Woburn, MA 01801 (the "Guarantor"). Alpha hereby agrees to take all necessary or appropriate

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action to cause the Guarantor to execute and deliver the Amendment to Security and Guaranty Agreements to Fleet as Agent for the benefit of the Banks, which Amendment to Security and Guaranty Agreements shall amend the guaranty and the security agreement, both dated the Original Closing Date and executed and delivered by the Guarantor (respectively, the "Guarantee" and the "Guarantor

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Security Agreement"), by substituting Fleet as Agent for SVB as Collateral Agent

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but otherwise providing that the Guarantee and the Guarantor Security Agreement shall remain in full force and effect for the benefit of the Banks.

Section Conditions Precedent.

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The Banks shall not be obligated to make any of the Borrower Loans to the Borrowers hereunder until the following conditions have been satisfied:

. This Agreement, the Borrower Notes and the Security Instruments.

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This Agreement, the borrowings hereunder, the Borrower Notes, the Security Instruments and all transactions contemplated by this Agreement and the Security Instruments shall have been duly authorized by the Borrowers. The Borrowers shall have duly executed and delivered to the Banks this Agreement, the

Borrower Notes and the Security Instruments to the Banks in form and substance satisfactory to the Banks and their counsel. The Guarantor shall have duly executed and delivered to the Banks its Guaranty.

. No Default. On the Original Closing Date and on the date of  
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making each Borrower Loan, no Default or Event of Default shall have occurred and be continuing.

. Correctness of Representations. On the Original Closing Date and  
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on the date of each Borrower Loan, all representations and warranties made by the Borrowers in Section 6 below or otherwise in writing in connection herewith shall be true and correct with the same effect as though such representations and warranties had been made on and as of today's date, except that representations and warranties expressly limited to a certain date shall be true and correct as of that date.

. Opinion of Counsel for the Borrowers. On the Original Closing  
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Date, the Banks shall have received the favorable opinion of Brown, Rudnick, Freed & Gesmer, counsel for the Borrowers and the Guarantors, in form and substance satisfactory to the Banks and their counsel.

. Governmental Approvals. On the Original Closing Date and on the  
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date of each Borrower Loan, all necessary approvals, licenses, permissions, registrations or validations of any Governmental Authority required for the execution, delivery, performance or carrying out of the provisions of this Agreement, the Borrower Notes and the Security Instruments, or for the validity or enforceability of the obligations incurred thereunder (other than the filing of financing statements as required under Section 5.6 below), shall have been obtained and shall be in full force and effect and copies thereof certified by a duly authorized officer of a Borrower to such effect shall have been delivered to the Banks.

. Filing of Financing Statements, etc. On or before the date  
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hereof, financing statements, and other appropriate documentation relating to the security interests and rights granted pursuant to the Security Instruments, executed and delivered by the Borrowers and by the Guarantor to Fleet as Agent for the Banks, shall have been duly recorded or filed in such manner and in such places as is required by law (including, pursuant to the UCC) to establish, preserve, protect, and perfect such security interests and rights; and all taxes, fees and other charges in connection with the execution, delivery and filing of this Agreement and such financing statements and other appropriate documentation shall have been duly paid.

. Supporting Documents. On or before the Original Closing Date,  
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there shall have been delivered to the Banks the following supporting documents:

( ) legal existence and corporate good standing certificates with respect to each of the Borrowers and the Guarantor dated as of a recent date issued by the appropriate Secretaries of State or other officials;

( ) certificates with respect to the due qualification of Alpha and the Guarantor to do business in Massachusetts dated as of a recent date and issued by the Secretary of State of such jurisdiction;

( ) copies of the corporate charter of each of the Borrowers and the Guarantor, certified by the appropriate Secretaries of State or other officials, as in effect on the date thereof;

( ) a certificate of the Secretary or Assistant Secretary of each of the Borrowers certifying as to ( ) the By-Laws of such Borrower, as in effect on the date thereof; ( ) the incumbency and signatures of the officers of such Borrower who have executed any documents in connection with the transactions contemplated by this Agreement; and ( ) the resolutions of the Board of Directors and, to the extent required by law, the shareholders, of such Borrower authorizing the execution, delivery and performance

of this Agreement and the making of any of the Borrower Loans hereunder, and the execution and delivery of the Borrower Notes;

( ) a certificate of the Secretary or Assistant Secretary of the Guarantor certifying as to ( ) the By-Laws of the Guarantor, as in effect on the date hereof; ( ) the incumbency and signatures of the officers of the Guarantor who have executed any documents in connection with the transactions contemplated by this Agreement; and ( ) the resolutions of the Board of Directors and, to the extent required by law, the shareholders, of the Guarantor authorizing the execution, delivery and performance of the Guaranty and Guarantor Security Agreement;

( ) all other information and documents which the Banks or their counsel may request in connection with the transactions contemplated by this Agreement.

. Facility Fees. The Borrowers shall have paid to Fleet a non-refundable Facility Fee in the amount of \$37,500 in connection with the 1997 Equipment Line Commitment. In respect of the Working Capital Line Commitments, the Borrowers shall pay to each Bank quarterly in arrears on the last day of each calendar quarter a Facility Fee equal to one-half percent ( 1/2%) per annum of such Bank's Working Capital Line Commitment, provided, however, in the event

that the Borrowers request termination of the Total Working Capital Line Commitment, the payment of the unpaid portion of the Facility Fee for the period through the Working Capital Commitment Expiration Date shall be accelerated and shall be immediately payable in full in accordance with Section 1.7.

. Legal Matters. All documents and legal matters incident to the transactions contemplated by this Agreement shall be satisfactory to Sullivan & Worcester LLP, special counsel for the Banks.

Each borrowing hereunder shall constitute a representation and warranty by the Borrowers to the Banks that all of the conditions specified in this Section 5 have been complied with as of the time of any such Borrower Loan.

Section Representations and Warranties.

In order to induce the Banks to enter into this Agreement and to make the contemplated Extensions of Credit, the Borrowers hereby represent and warrant as follows (except to the extent qualified by supplemental disclosure set forth on

Schedule A hereto) and the following representations and warranties as so

qualified shall survive the execution and delivery of this Agreement and any of the Borrower Loans:

. Corporate Status. Each of the Borrowers and each of their respective Subsidiaries is a duly organized and validly existing corporation in good standing under the laws of the jurisdiction of its incorporation and is duly qualified or licensed as a foreign corporation in good standing in each jurisdiction in which the failure to do so would have a Material Adverse Effect.

. No Violation. Neither the execution, delivery or performance of this Agreement or any other Loan Document, nor consummation of the contemplated transactions will contravene any law, statute, rule or regulation to which either of the Borrowers or any of their Subsidiaries is subject or any judgment, decree, franchise, order or permit applicable to either of the Borrowers or any of their Subsidiaries, or will conflict or be inconsistent with or will result in any breach of, or constitute a default under, or result in or require the creation or imposition of any Lien (other than the lien created by the Security Instruments) upon any of the property or assets of either of the Borrowers or any of their Subsidiaries pursuant to, any Contractual Obligation of the Borrowers or any of their Subsidiaries, or violate any provision of the corporate charter or by-laws of either of the Borrowers or any of their Subsidiaries.

. Corporate Power and Authority. The execution, delivery and

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performance of this Agreement and the other Loan Documents are within the corporate powers of each of the Borrowers and have been duly authorized by all necessary corporate action.

. Enforceability. This Agreement and each other Loan Document

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constitutes a valid and binding obligation of each of the Borrowers enforceable against each Borrower in accordance with its terms, except as be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the enforcement of creditors' rights generally and subject to general principles of equity, whether applied in a court of equity or at law.

. Governmental Approvals. No order, permission, consent, approval,

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license, authorization, registration or validation of, or filing with, or exemption by, any Governmental Authority is required to authorize, or is required in connection with, the execution, delivery and performance of this Agreement or any other Loan Document by the Borrowers, or the taking of any action contemplated hereby or thereby, except for the filing of UCC-1 financing statements in the appropriate UCC filing offices listed on the Perfection Certificate (as defined in the Security Agreement).

. Financial Statements. () The Borrowers have furnished the Banks

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with complete and correct copies of the audited consolidated balance sheet of the Borrowers and their Subsidiaries as of the Financial Statements Date, and the related audited consolidated statements of income and of cash flows for the fiscal year of the Borrowers and their Subsidiaries ended on such date, examined by the Accountants. Such financial statements (including the related schedules and notes) fairly present the consolidated financial condition of the Borrowers and their Subsidiaries as of the Financial Statements Date, and the consolidated results of their operations and their consolidated cash flows for the fiscal year then ended.

() The Borrower has furnished the Banks with complete and correct copies of the unaudited consolidated balance sheet of the Borrowers and their Subsidiaries as of June 30, 1997, and the related consolidated statements of income and of cash flows for the three-month period ended on such date. Such financial statements (including the related schedules and notes) fairly present the consolidated financial condition of the Borrowers and their Subsidiaries as of June 30, 1997, and the consolidated results of their operations and their consolidated cash flows for the three-month period ended on such date (subject to normal year-end audit adjustments).

() During the period from the Financial Statements Date to the date hereof: (i) there has been no sale, transfer or other disposition by the Borrowers or any of their Subsidiaries of any material part of its business or property and no purchase or other acquisition of any business or property (including any capital stock of any Person) material in relation to the consolidated financial condition of the Borrowers and their Subsidiaries at the Financial Statements Date; and (ii) neither the Borrowers nor any of their Subsidiaries has made a Restricted Payment, or agreed or committed to make a Restricted Payment.

() All the above-referenced financial statements (including the related schedules and notes) have been prepared in accordance with GAAP applied consistently throughout the periods involved (except as approved by the Accountants and disclosed therein and, in the case of interim financial statements, subject to normal year-end adjustments and the absence of footnotes and schedules). Neither Borrower nor any of their respective Subsidiaries has any material liabilities, contingent or otherwise, including liabilities for taxes or any unusual forward or long-term commitments or any Guarantee, which are not disclosed by or included in the above-referenced financial statements or the accompanying notes and there are no unrealized or anticipated losses from any unfavorable commitments of the Borrowers or any of their Subsidiaries which may have a Material Adverse Effect.

. No Material Change. Since the Financial Statements Date there

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has been no development or event, nor to the best knowledge of the Borrowers,  
any prospective development or event, which has had or could have a Material  
Adverse Effect.

. Litigation. There are no actions, suits or proceedings pending

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or threatened against or affecting either of the Borrowers or any of their  
Subsidiaries before any Governmental Authority, which in any one case or in the  
aggregate, if determined adversely to the interests of either Borrower or any  
Subsidiary thereof, would have a Material Adverse Effect.

. Compliance with Other Instruments; Compliance with Law. Neither

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Borrower nor any Subsidiary thereof is in default under any Contractual  
Obligation, where such default could have a Material Adverse Effect. Neither  
Borrower nor any Subsidiary thereof is in default and or in violation of any  
applicable statute, rule, writ, injunction, decree, order or regulation of any  
Governmental Authority having jurisdiction over the Borrower or any Subsidiary  
thereof which default or violation could have a Material Adverse Effect,  
provided that nothing herein shall prevent the Borrower from contesting in good  
faith any alleged default or violation by appropriate proceedings diligently  
conducted where adequate reserves have been established in accordance with GAAP.

. Subsidiaries. The Borrowers have no Subsidiaries except as set

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forth on attached Schedule A.

. Investment Borrower Status; Limits on Ability to Incur

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Indebtedness. Neither Borrower nor any of their Subsidiaries is an "investment  
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company" or a company "controlled by" an investment company within the meaning  
of the Investment Company Act of 1940, as amended. Neither Borrower is subject  
to regulation under any Federal or State statute or regulation which limits its  
ability to incur Indebtedness.

. Title to Property. Each of the Borrowers and each of their

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Subsidiaries has good and marketable title to all of its properties and assets,  
including the properties and assets reflected in the consolidated balance sheet  
of the Borrowers and their Subsidiaries as of the Financial Statements Date,  
except as disclosed on Schedule A and except such as have been disposed of since

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that date in the ordinary course of business, and none of such properties or  
assets is subject to any Lien except for ( ) Permitted Liens, or ( ) a defect in  
title or other claim other than defects and claims that, in the aggregate, would  
have no Material Adverse Effect. Each of the Borrowers and each of their  
Subsidiaries enjoys peaceful and undisturbed possession under all leases  
necessary in any material respect for the operation of its properties and  
assets, none of which contains any unusual or burdensome provisions which might  
materially affect or impair such properties or assets. All such leases are  
valid and subsisting and are in full force and effect.

. ERISA. Each of the Borrowers and each member of the Controlled

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Group have fulfilled their obligations under the minimum funding standards of  
ERISA and the Code with respect to each Plan and are in compliance in all  
material respects with the presently applicable provisions of ERISA and the  
Code, and have not incurred any liability to the PBGC or a Plan under Title IV  
of ERISA (other than to make contributions or premium payments in the ordinary  
course).

. Taxes. All tax returns of the Borrowers and their Subsidiaries

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required to be filed have been timely filed, all taxes, fees and other  
governmental charges (other than those being contested in good faith by  
appropriate proceedings diligently conducted and with respect to which  
adequate reserves have been established) and, in the case of ad valorem taxes or

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betterment assessments, no proceedings to foreclose any lien with respect  
thereto have been commenced and, in all other cases, no notice of lien has been  
filed or other action taken to perfect or enforce such lien) shown thereon which  
are payable have been paid. The charges and reserves on the books of the  
Borrower and their Subsidiaries for all income and other taxes are adequate, and  
the Borrower knows of no additional assessment or any basis therefor. The  
Federal income tax returns of the Borrowers and their Subsidiaries have not been  
audited within the

last three years, all prior audits have been closed, and there are no unpaid assessments, penalties or other charges arising from such prior audits.

. Environmental Matters. ( ) Each of the Borrowers and each of  
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their Subsidiaries have obtained all Governmental Approvals that are required for the operation of its business under any Environmental Law, except where the failure to so obtain a Governmental Approval would not have a Material Adverse Effect.

( ) Each of the Borrowers and each of their Subsidiaries are in compliance with all terms and conditions of all required Governmental Approvals and are also in compliance with all terms and conditions of all applicable Environmental Laws, noncompliance with which would have a Material Adverse Effect.

( ) Except as disclosed in Schedule A, there is no civil, criminal or  
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administrative action, suit, demand, claim, hearing, notice of violation, investigation, proceeding, notice or demand letter pending or, to the best knowledge of the Borrowers threatened against the Borrowers or any Subsidiary thereof relating in any way to the Environmental Laws, and there is no Lien of any private entity or Governmental Authority against any property of the Borrowers or any Subsidiary thereof relating in any way to the Environmental Laws.

( ) There has been no claim, complaint, notice, or request for information received by the Borrowers with respect to any site listed on the National Priority List promulgated pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 USC (S) 9601 et seq.,  
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or any state list of sites requiring investigation or cleanup with respect to contamination by Hazardous Substances.

( ) To the best of the Borrowers' knowledge, there has been no release or threat of release of any Hazardous Substance at any Borrower Property which would likely result in liability being imposed upon either of the Borrowers or any Subsidiary thereof, which liability would have a Material Adverse Effect.

. Intellectual Property. Each of the Borrowers and each of their  
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Subsidiaries owns or possesses such Intellectual Property and similar rights necessary for the conduct of its business as now conducted, without any known conflict with the rights of others which would have a Material Adverse Effect.

. Working Capital Borrowing Base. Giving effect to any Working  
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Capital Extensions of Credit outstanding or to be made as of the date hereof under this Agreement, the aggregate amount of all Working Capital Extensions of Credit under this Agreement does not exceed the Working Capital Borrowing Base on the date hereof.

Section Affirmative Covenants.  
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The Borrowers covenant and agree that for so long as this Agreement is in effect and until the Borrower Notes, together with all interest thereon and all other Obligations of the Borrowers to the Banks are paid or satisfied in full:

. Maintenance of Existence. Except as disclosed on Schedule A,  
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each of the Borrowers will, and will cause each of their Subsidiaries to, maintain its existence and comply with all applicable statutes, rules and regulations and to remain duly qualified as a foreign corporation, licensed and in good standing in each jurisdiction where such qualification or licensing is required by the nature of its business, the character and location of its property, business, or the ownership or leasing of its property, except where such noncompliance or failure to so qualify would not have a Material Adverse Effect, and the Borrowers will, and will cause each of their Subsidiaries to, maintain its properties in good



operating condition, and continue to engage in the same business as presently conducted or businesses reasonably related or complementary thereto.

. Taxes and Other Liens. Each of the Borrowers will, and will

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cause each of their Subsidiaries to, pay when due all taxes, assessments, governmental charges or levies, or claims for labor, supplies, rent and other obligations made against it which, if unpaid, might become a Lien against either Borrower or such Subsidiary or on its property, except liabilities being contested in good faith and by proper proceedings, as to which adequate reserves are maintained on the books of the Borrowers or their Subsidiaries, in accordance with GAAP.

. Insurance. Each of the Borrowers will, and will cause each of

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their Subsidiaries to, maintain insurance with financially sound and reputable insurance companies in such amounts and against such risks as is usually carried by owners of similar businesses and properties in the same general areas in which the Borrowers and their Subsidiaries operate, provided that in any event the Borrowers and their Subsidiaries shall maintain or cause to be maintained (a) insurance against casualty, loss or damage covering all property and improvements of the Borrowers and their Subsidiaries in amounts and in respect of perils usually carried by owners of similar businesses and properties in the same general areas in which the Borrowers and their Subsidiaries operate; (b) comprehensive general liability insurance against claims for bodily injury, death or property damage; and (c) workers' compensation insurance to the extent required by applicable law. In the case of policies referenced in clauses (a) and (b) above, all such insurance shall (i) name the Borrowers and the Banks as loss payees and additional insureds as their interests may appear; (ii) provide that no termination, cancellation or material reduction in the amount or material modification to the extent of coverage shall be effective until at least 30 days after receipt by the Banks of notice thereof; and (iii) be reasonably satisfactory in all other respects to the Banks, provided that as long as no Event of Default has occurred or is continuing and no casualty could reasonably be expected to have a Material Adverse Effect, the Borrowers shall have the right to use any insurance proceeds to repair or replace damaged or lost equipment or property.

. Financial Statements, Etc. The Borrowers will furnish to the

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Banks:

( ) within forty-five (45) days after the end of each fiscal quarter of the Borrowers, the unaudited consolidated and consolidating balance sheet and income statement and statement of cash flows of the Borrowers, together with their Subsidiaries as at and for the three-month period ended on the last day of such fiscal quarter, accompanied by a certificate of the chief financial officer of Alpha to the effect that such financial statements fairly present the consolidated financial condition of the Borrowers and their Subsidiaries as of the end of such fiscal quarter, and the consolidated results of their operations and their consolidated cash flows for such fiscal quarter, in each case in accordance with GAAP (except for the absence of footnotes) consistently applied (subject to normal year-end audit adjustments);

( ) within ninety (90) days after the last day of each fiscal year of the Borrowers, the audited consolidated balance sheet and income statement and statement of cash flows of the Borrowers and their Subsidiaries as at and for the fiscal year then ended, certified by the Accountants (the substance of such report to be satisfactory to the Banks), together with a certificate of the chief financial officer of Alpha to the effect that such financial statements fairly present the consolidated financial condition of the Borrowers and their Subsidiaries as of the end of such fiscal year, and the consolidated results of their operations for such fiscal year, in each case in accordance with GAAP. The Borrowers shall indicate on said financial statements all guarantees or unusual forward or long-term commitments made by the Borrowers or any Subsidiary thereof;

( ) at the time of the delivery of the quarterly and yearly financial statements required by Sections 7.4(a) and (b) above, a Compliance Certificate signed by the chief financial officer or the president of Alpha in the form attached to this Agreement as Exhibit C, appropriately completed;

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( ) within thirty (30) days after the end of each fiscal month of the Borrowers during which the aggregate principal amount of Borrower Loans then outstanding is at least \$2,000,000, (i) a list of the trade accounts receivable aging for each of the Borrowers as of the end of such month in such form as the Banks may prescribe, all in reasonable detail and (ii) a Borrowing Base Certificate signed by the chief financial officer or the president of each of the Borrowers in the form attached to this Agreement as Exhibit D appropriately  
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completed;

( ) promptly upon the mailing thereof to the shareholders of the Borrowers generally, copies of all financial statements, reports, proxy statements and other materials;

( ) promptly upon request by any Bank, copies of any management letter provided by the Accountants;

( ) promptly upon the filing thereof by a Borrower with the SEC (and in any event within five (5) days of such filing), copies of any registration statements and reports on Forms 10-K, 10-Q and 8-K (or their equivalents if such forms no longer exist);

( ) promptly upon becoming aware of any litigation or other proceeding against any Borrower or any Subsidiary thereof that may have a Material Adverse Effect, notice thereof; and

( ) promptly following the request of any Bank, such further information concerning the business, affairs and financial condition or operations of the Borrower and their Subsidiaries as such Bank may reasonably request.

. Notice of Default. As soon as practicable, and in any event,  
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within five (5) Banking Days of becoming aware of the existence of any condition or event which constitutes a Default, the Borrowers will provide each Bank with written notice specifying the nature and period of existence thereof and what action the Borrowers is taking or proposes to take with respect thereto.

. Environmental Matters.  
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( ) Each of the Borrowers and each of their Subsidiaries shall comply with all terms and conditions of all applicable Governmental Approvals and all applicable Environmental Laws, except where failure to comply could reasonably be anticipated not to have a Material Adverse Effect.

( ) The Borrowers shall promptly notify the Banks in the event that any executive officer of either Borrower or any employee of the Borrowers primarily responsible for compliance with Environmental Laws becomes aware of:

( ) any spill, release, or threat of release of any Hazardous Substance at or from any Borrower Property or by any Person for whose conduct either Borrowers or any Subsidiary thereof is responsible, to the extent such Borrowers is required by Environmental Laws to report such to any Governmental Authority;

( ) any action or notice with respect to a civil, criminal or administrative action, suit, demand, claim, hearing, notice of violation, investigation, proceeding, notice or demand letter pending or threatened against either Borrower or any Subsidiary thereof relating in any way to the Environmental Laws, or any Lien of any Governmental Authority or any other Person against any Borrower Property relating in any way to the Environmental Laws;

( ) any claim made or threatened by any Person against either Borrower or any Subsidiary thereof or any property of either Borrower or any Subsidiary thereof relating to damage, contribution, cost recovery compensation, loss or injury resulting from any Hazardous Substance

pertaining to such property or the business or operations of either Borrower or such Subsidiary; and

( ) any occurrence or condition on any real property adjoining or in the vicinity of any Borrower Property known to the officers or supervisory personnel of either Borrower or any Subsidiary thereof or other employees having responsibility for the compliance by either Borrower or any Subsidiary thereof with Environmental Laws, without any independent investigation, which does cause, or could cause, such Borrower Property, or any part thereof, to contain Hazardous Substances in violation of any Environmental Laws, or which does cause, or could cause, such Borrower Property to be subject to any restrictions on the ownership, occupancy, transferability or use thereof by either Borrower or any Subsidiary thereof.

( ) Each Borrower will, and will cause each of their Subsidiaries to, at its own cost and expense, and within such period as may be required by applicable law or regulation, initiate all remedial actions and thereafter diligently prosecute such action as shall be required by law for the cleanup of such Borrower Property, including all removal, containment and remedial actions in accordance with all applicable Environmental Laws and shall further pay or cause to be paid, at no expense to the Banks, all cleanup, administrative, and enforcement costs of applicable Government Authorities which may be asserted against such Borrower Property.

. ERISA Information. If and when either Borrower or any member of -----  
the Controlled Group ( ) gives or is required to give notice to the PBGC of any "reportable event" (as defined in Section 4043 of ERISA) with respect to any Plan which might constitute grounds for a termination of such Plan under Title IV of ERISA, or knows that the plan administrator of any Plan has given or is required to give notice of any such reportable event, ( ) receives notice of complete or partial withdrawal liability under Title IV of ERISA or ( ) receives notice from the PBGC under Title IV of ERISA of an intent to terminate or appoint a trustee to administer the Plan, the Borrowers shall in each such instance promptly furnish to the Banks a copy of any such notice.

. Inspection. Each Borrower will, upon the request of the Banks, -----  
permit a representative of the Banks (including any field examiner or auditor retained by the Banks) to inspect and make copies of the Borrowers' books and records, and to discuss its affairs, finances and accounts with its officers and accountants, at such reasonable times and as often as the Banks may reasonably request and cause each of their Subsidiaries to do so. Each Borrower agrees that an accounts receivable audit shall be conducted on an annual basis thereafter by a Bank designated by the Agent. Each Bank will maintain the confidentiality of any non-public information relating to the Borrowers and their Subsidiaries which has been identified in writing as confidential on the information itself or otherwise (the "Confidential Information") and, except as provided below, will exercise the same degree of care that such Bank exercises with respect to its own proprietary information to prevent the unauthorized disclosure of the Confidential Information to third parties. Confidential Information shall not include data or information that either: (a) is in or becomes part of the public domain or is already in the knowledge or possession of such Bank when disclosed to such Bank, without breach of this Agreement; or (b) is disclosed to such Bank by a third party, provided such Bank does not have actual knowledge that such third party is prohibited from disclosing such information. The terms of this Section shall not apply to disclosure of Confidential Information by either Bank that is, in the good faith opinion of such Bank, compelled by laws, regulations, rules, orders or legal process or proceedings or is disclosed to: (a) any party, including a prospective participant, who has signed a confidentiality agreement containing terms substantially similar to those contained herein; and (b) examiners, auditors and investigators having regulatory authority over such Bank.

. Use of Proceeds. The Borrowers shall use the proceeds of the -----  
borrowings under the Working Capital Note for the working capital purposes of the Borrowers, which purposes shall not include payment of any amounts owed under the Equipment Line Note or the 1997 Equipment Line Note. The Borrowers shall use the proceeds of the borrowings under the Equipment Line Note and the 1997

Equipment Line Note exclusively for financing the acquisition of Eligible Equipment. Without limiting the foregoing, no part of such proceeds will be used for the purpose of purchasing or carrying any "margin security" as such term is defined in Regulation U of the Board of Governors of the Federal Reserve System.

. Further Assurances. Each Borrower will, and will cause each of -----  
their Subsidiaries to, execute and deliver to the Banks any writings and do all things necessary, effectual or reasonably requested by the Banks to carry into effect the provisions and intent of this Agreement or any other Loan Document.

. Subsidiaries. Each Borrower shall immediately notify each Bank -----  
of the organization of any additional foreign or domestic Subsidiaries of the Borrowers. The Banks may require that any Subsidiaries become parties to any of the Loan Documents as guarantors or sureties and/or that the Borrowers pledge the stock of any Subsidiaries as collateral for the Obligations of the Borrowers.

. Intellectual Property. The Borrowers will promptly inform the -----  
Banks of all applications filed by the Borrowers for trademarks, patents and copyrights and of all trademarks, patents and copyrights granted on or after the date of this Agreement.

Section Negative Covenants.  
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Each of the Borrowers covenants and agrees that for so long as this Agreement is in effect and until the Borrower Notes, together with all interest thereon and all other Obligations of the Borrower to the Banks are paid or satisfied in full, without the prior written consent of all the Banks:

. ERISA. The Borrowers will not permit any pension plan maintained -----  
by either Borrower or by any member of a "Controlled Group" (ERISA (S)210(c) or ERISA (S)210(d)) of which either Borrower is a member to: ( ) engage in any "prohibited transaction" (ERISA (S)2003(c)); ( ) fail to report to the Banks a "reportable event" (ERISA (S)4043) within 30 days after its occurrence or as to any reportable event as to which the 30-day notice period requirement of Section 4043(b) of Title IV of ERISA has been waived by the PBGC, within 30 days of such time as the Borrower is requested to notify the PBGC of such reportable event; ( ) incur any "accumulated funding deficiency" (ERISA (S)302); ( ) terminate its existence at any time in a manner which could result in the imposition of a Lien on the property of the Borrower or any Subsidiary thereof; or ( ) fail to report to the Banks any "complete withdrawal" or "partial withdrawal" by the Borrower or an affiliate from a "multiemployer plan" (ERISA (S)(S)4203, 4205, and 4001, respectively). The quoted terms are defined in the respective sections of ERISA cited above.

. Transactions with Affiliates. Subject to the provisions of -----  
Section 8.8, neither Borrower will and nor permit any of their Subsidiaries to, directly or indirectly, pay any funds to or for the account of, make any Investment in, lease, sell, transfer or otherwise dispose of any assets, tangible or intangible, or engage in any transaction in connection with any joint enterprise or other joint arrangement with, any Affiliate of the Borrowers, unless such transaction is otherwise permitted under this Agreement, is in the ordinary course of the Borrowers' or such Subsidiary's business, and is (a) in the case of any transaction, between any Borrower and its Subsidiaries or between the Subsidiaries, is duly accounted for in accordance with GAAP, and (b) in the case of transactions with other Affiliates, is upon fair and reasonable terms no less favorable to such Borrower or such Subsidiary as those that could be obtained in a comparable arm's length transaction with a Person which is not an Affiliate but is a significant and valued customer.

. Consolidation, Merger or Acquisition. Neither Borrower will, nor -----  
permit any of their Subsidiaries to, merge or consolidate with or into any other Person, or make any acquisition of the business of any other Person unless it obtains the prior written consent of the Banks; provided that any Subsidiary may -----  
merge into a Borrower or any wholly-owned Subsidiary of a Borrower, and  
provided, further that either Borrower and their Subsidiaries may make an  
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acquisition or effectuate a merger with

another Person as long as (a) no Event of Default has arisen during the four fiscal quarters immediately preceding any such transaction; (b) no Event of Default would arise as a result of such transaction or is otherwise reasonably expected to occur during the four fiscal quarters immediately following such transaction and the Borrowers furnishes to the Banks in advance of such transaction pro forma financial information reasonably demonstrating the

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foregoing; (c) the other Person is engaged in the same or a related line of business; (d) there is no change in the senior management of the Borrowers; (e) in the case of any merger, the Borrower or its Subsidiary is the surviving entity; and (f) the aggregate value of cash consideration paid by the Borrowers and their Subsidiaries in connection with such transactions in any fiscal year does not exceed (i) in the event that the Borrower's Tangible Net Worth is less than \$40,000,000 immediately preceding such a transaction, \$7,500,000; and (ii) in the event that the Borrower's Tangible Net Worth immediately preceding such a transaction is \$40,000,000 or greater, \$15,000,000.

. Disposition of Assets. Neither Borrower will nor permit any of

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their Subsidiaries to, convey, sell, lease, transfer or otherwise dispose of any of its property, business or assets (including, without limitation, accounts receivable and leasehold assets), whether now owned or hereafter acquired, except:

( ) excess, obsolete or worn out property disposed of in the ordinary course of business;

( ) the sale or other disposition of any property in the ordinary course of business, provided that the aggregate book value of all assets

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(other than inventory) so sold or disposed of in any period of twelve consecutive months shall not exceed 5% of the consolidated total assets of the Borrowers and their Subsidiaries as at the beginning of such twelve-month period; and

( ) the sale of inventory in the ordinary course of business.

. Indebtedness. The Borrowers will not, and will not permit any of

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their Subsidiaries to, create, incur, assume or suffer to exist any Indebtedness, except:

( ) Indebtedness payable to the Banks in connection with this Amended and Restated Credit Agreement;

( ) existing Indebtedness, including Subordinated Debt, if any, listed on Schedule A hereto;

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( ) Subordinated Debt incurred by either Borrower after the date hereof; provided that, giving effect to the incurrence of such Subordinated Debt and to the receipt and application of the proceeds thereof, no Default shall have occurred and be continuing; and

( ) Purchase Money Indebtedness and Capital Lease Obligations in an aggregate amount not in excess of \$10,000,000 in any fiscal year.

. Liens. The Borrowers will not, and will not permit any of their

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Subsidiaries to, create, incur, assume or suffer to exist any Lien on any of its properties or assets, except the following (collectively, "Permitted Liens"):

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( ) Liens for taxes not delinquent or being contested in good faith and by proper proceedings, as to which adequate reserves are maintained on the books of the Borrowers or their Subsidiaries in accordance with GAAP;

( ) carriers', warehousemen's, mechanics', materialmen's or similar liens imposed by law incurred in the ordinary course of business in respect of obligations not overdue, or being contested in good faith and by proper proceedings and as to which adequate reserves with

respect thereto are maintained on the books of the Borrowers and their Subsidiaries in accordance with GAAP;

( ) pledges or deposits in connection with workers' compensation, unemployment insurance and other types of social security legislation;

( ) security deposits made to secure the performance of leases, licenses and statutory obligations incurred in the ordinary course of business;

( ) Liens in favor of Fleet as Agent for the Banks under the Loan Documents;

( ) existing Liens, if any, listed on Schedule A hereto; provided that -----  
no such Lien is spread to cover any additional property after the date hereof, and that the amount of the Indebtedness secured thereby is not increased;

( ) Purchase Money Security Interests securing Purchase Money Indebtedness permitted under Section 8.5(d) above;

( ) Liens with respect to Indebtedness secured by real property having a fair market value in excess of the Indebtedness so secured;

( ) Liens securing Indebtedness under Capital Lease Obligations permitted under Section 8.5(d); and

( ) Encumbrances on real property, such as easements, rights of way, and zoning restrictions, which do not, individually or in the aggregate, materially interfere with the use of the property in the conduct of the Borrower's or a Subsidiary business.

. Restricted Payments. The Borrowers will not, and will not permit -----  
any of their Subsidiaries to, declare or make any Restricted Payment, provided that provided, however, Alpha may make cash expenditures in an aggregate amount of up to \$100,000 in any fiscal year in order to redeem shares of capital stock of Alpha under the Borrower's employee benefits plans.

. Investments. The Borrowers will not, and will not permit any of -----  
their Subsidiaries to, make, maintain or acquire any Investment in any Person other than:

( ) marketable obligations issued or guaranteed by the United States of America;

( ) certificates of deposit, Eurodollar time deposits, commercial paper or any other obligations of (i) a Bank, (ii) any other bank or trust company organized or licensed to conduct a banking business under the laws of the United States or any State thereof and which has (or which is a Subsidiary of a bank holding company which has) publicly traded debt securities rated A or higher by Standard & Poor's Corporation or A-2 or higher by Moody's Investors Service, Inc. or (iii) the banking institutions listed on Schedule A hereto;  
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( ) depositary accounts at the Banks or any banking institution meeting the requirements of subparagraph 8.8(b) above;

( ) stock or obligations issued to the Borrowers or any Subsidiary thereof in settlement of claims against others by reason of an event of bankruptcy or a composition or the readjustment of debt or a reorganization of any debtor of the Borrowers or such Subsidiary;

( ) commercial paper having the highest rating then given by Moody's Investors Services, Inc. or Standard & Poor's Corporation;

( ) repurchase obligations with a term of not more than seven days for underlying securities of the types described in subparagraph 8.8(a) above entered into with the Banks or any of the banks referred to in subparagraph 8.8(b) above;

( ) investments in publicly reported shares of so-called "money market" mutual funds investing in securities of the type listed above in subparagraphs (a), (b), (e) and (f);

( ) Investments by either Borrower in the Guarantor and Investments by the Guarantor in the Borrower;

( ) Investments by the Borrowers in their Subsidiaries other than the Guarantor; provided that the sum of (A) the aggregate amount of all

Investments made after September 29, 1995 by the Borrowers in their Non-Guarantor Subsidiaries and (B) the outstanding amount of any Indebtedness of any Non-Guarantor Subsidiary of the Borrowers that is Guaranteed pursuant to this subparagraph (i), may not exceed \$500,000 at any time, provided, however, nothing in this Section 8.8 shall prohibit Investments by the non-Guarantor Subsidiaries in the Borrowers;

( ) existing joint ventures, partnerships or strategic alliances listed on Schedule A and joint ventures, partnerships or strategic alliances formed hereafter and approved in writing in advance by the Banks;

( ) securities of a corporation or limited liability company engaged in a line of business complimentary to that of the Borrowers but not constituting a Subsidiary, provided such Investment is approved in advance in writing by the Banks, except for nominal holdings of the securities of competitors; and

( ) authorized loans to employees, sales representatives and vendors of the Borrowers and their Subsidiaries provided that the aggregate principal amount of such loans may not exceed \$500,000 at any time.

. Sale and Leaseback. Neither Borrower nor any of their Subsidiaries shall enter into any arrangement, directly or indirectly, whereby it shall sell or transfer any property owned by it in order to lease such property or lease other property that such Borrowers or any such Subsidiary intends to use for substantially the same purpose as the property being sold or transferred.

. Additional Stock Issuance by Subsidiaries. The Borrowers shall not permit any of their Subsidiaries to issue any additional shares of its capital stock or other equity securities, any options therefor or any securities convertible thereto other than to the Borrowers.

. Quick Ratio. The Borrowers will not permit the Quick Ratio at the end of any quarter to be less than 1.20 to 1.

. Minimum Profitability. The Borrowers shall not (a) permit Net Income to be less than \$1.00 for each of the fiscal quarters ending September 30, 1997 and December 31, 1997, (b) permit Net Income to be less than \$500,000 for any fiscal quarter ending March 31, 1998 or thereafter, (c) permit cumulative Net Income to be less than \$2,000,000 at March 31, 1998 for the twelve-month period then ended or (d) permit cumulative Net Income to be less than \$3,000,000 at June 30, 1998 (or any fiscal quarter end thereafter) for the twelve-month period then ended.

. Leverage. The Borrowers will not permit the ratio of Total Senior Liabilities to Tangible Net Worth to be greater than (a) 1.0 to 1 at the end of the fiscal quarters ending December 31, 1997, March 31, 1998 and June 30, 1998 or (b) 0.75 to 1 at the end of any fiscal quarter ending September 30, 1998 or thereafter.

. Capital Expenditures. Neither the Borrowers nor any of their

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Subsidiaries shall purchase or agree to purchase, or incur any obligations (including that portion of the obligations arising under capital leases that is required to be capitalized on the consolidated balance sheet of the Borrowers and their Subsidiaries) for any equipment or other property constituting fixed assets in any fiscal year in excess of \$15,000,000.

8.15 Exception for Building. Notwithstanding Sections 8.4, 8.5, 8.6

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and 8.9 hereof, the Borrowers shall be permitted (a) to refinance the building located at 20 Sylvan Road, Woburn, Massachusetts (the "Building") in an amount -----  
not to exceed \$10,000,000 and (b) to effect a sale-leaseback of the Building for a sale price of between \$12,000,000 and \$14,000,000.

Section Events of Default.

. Events of Default. The occurrence of any of the following events

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shall be an "Event of Default" hereunder:

( ) The Borrowers (i) shall default in the due and punctual payment of principal or interest on any Borrower Note, or (ii) shall fail to make payment of any other amount due under any Loan Document within four (4) days of the date on which such amount is due or on which demand is made therefor; or

( ) Any representation, warranty or statement made herein or any other Loan Document, or in any certificate or statement furnished pursuant to or in connection herewith or therewith, shall prove to be incorrect, misleading or incomplete in any material respect on the date as of which made or deemed made; or

( ) The Borrowers shall default in the performance or observance of any term, covenant or agreement on their part to be performed or observed pursuant to Sections 8.3 and 8.11 through 8.16; or

( ) The Borrowers shall default in the performance or observance of any term, covenant or agreement on their part to be performed or observed pursuant to any of the provisions of this Agreement or any other Loan Document (other than those referred to in paragraphs 9.1(a) through 9.1(c) above) and such default shall continue unremedied for a period of ten (10) days after the occurrence of such default; or

( ) Any obligation of the Borrowers or any Subsidiary thereof in an amount in excess of \$250,000 in respect of any Indebtedness (other than the Borrowers Notes) or any Guarantee shall be declared to be or shall become due and payable prior to the stated maturity thereof, or such Indebtedness or Guarantee shall not be paid as and when the same becomes due and payable, or there shall occur and be continuing any default under any instrument, agreement or evidence of indebtedness relating to any such Indebtedness the effect of which is to permit the holder or holders of such instrument, agreement or evidence of indebtedness, or a trustee, agent or other representative on behalf of such holder or holders, to cause such Indebtedness to become due prior to its stated maturity; or

( ) The Borrowers or a Subsidiary thereof shall ( ) apply for or consent to the appointment of, or the taking of possession by, a receiver, custodian, trustee or liquidator of itself or of all or a substantial part of its property, ( ) make a general assignment for the benefit of its creditors, ( ) commence a voluntary case under the Bankruptcy Code, ( ) file a petition seeking to take advantage of any other law relating to bankruptcy, insolvency, reorganization, winding-up, or composition or readjustment of debts, ( ) fail to controvert in a timely and appropriate manner, or



acquiesce in writing to, any petition filed against it in an involuntary case under the Bankruptcy Code, or ( ) take any corporate action for the purpose of effecting any of the foregoing; or

( ) A proceeding or case shall be commenced, without the application or consent of the Borrowers or any Subsidiary thereof in any court of competent jurisdiction, seeking ( ) its liquidation, reorganization, dissolution or winding-up of either Borrower or any Subsidiary, or the composition or readjustment of its debts, ( ) the appointment of a trustee, receiver, custodian, liquidator or the like of either Borrower or any Subsidiary or of all or any substantial part of its assets, or ( ) similar relief in respect of either Borrower or any Subsidiary under any law relating to bankruptcy, insolvency, reorganization, winding-up, or composition or adjustment of debts, and such proceeding or case shall continue undismissed, or an order, judgment or decree approving or ordering any of the foregoing shall be entered and continue unstayed and in effect, for a period of 60 days; or an order for relief against either Borrower or any Subsidiary shall be entered in an involuntary case under the Bankruptcy Code; or

( ) A judgment or judgments for the payment of money in excess of \$250,000 (net of insurance proceeds) in the aggregate shall be rendered against either Borrower or any Subsidiary thereof and any such judgment or judgments shall not have been vacated, discharged, stayed or bonded pending appeal within thirty (30) days from the entry thereof; or

( ) Either Borrower or any member of the Controlled Group shall fail to pay when due an amount or amounts aggregating in excess of \$100,000 which it is obligated to pay to the PBGC or to a Plan under Title IV of ERISA; or a notice of intent to terminate a Plan or Plans having aggregate Unfunded Liabilities in excess of \$100,000 shall be filed under Title IV of ERISA by either Borrower or any member of the Controlled Group, any plan administrator or any combination of the foregoing; or the PBGC shall institute proceedings under Title IV of ERISA to terminate or to cause a trustee to be appointed to administer any such Plan or Plans or a proceeding shall be instituted by a fiduciary of any such Plan or Plans against either Borrower or any member of the Controlled Group to enforce Sections 515 or 4219(c)(5) of ERISA; or a condition shall exist by reason of which the PBGC would be entitled to obtain a decree adjudicating that any such Plan or Plans must be terminated; or there shall occur a complete or partial withdrawal form, or a default, within the meaning of Section 4219(c)(5) of ERISA, with respect to, one or more Multiemployer Plans which could cause either Borrower or one or more members of the Controlled Group to incur a current payment obligation in excess of \$100,000; or

( ) Either Borrower or any Subsidiary thereof shall default in the performance or observance of any term, covenant or agreement on its part to be performed or observed pursuant to any of the provisions of any agreement with the Banks or any instrument delivered in favor of any Bank (other than, in either case, a Loan Document), and such default shall continue unremedied beyond the grace period (if any) provided for therein; or

( ) Any Security Instrument shall cease for any reason to be in full force and effect or shall cease to be effective to grant a perfected security interest in the collateral described in such Security Instrument with the priority stated to be granted thereby; or

( ) Either Borrower shall make any payment on account of its Subordinated Debt, except to the extent such payment is expressly permitted hereby or under any subordination agreement entered into with the Banks.

. Remedies Upon an Event of Default. Upon the occurrence of an

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Event of Default described in Sections 9.1(f) and 9.1(g), immediately and automatically, and upon the occurrence of any other Event of Default, at any time thereafter while such Event of Default is continuing, at the option of the Agent and upon the Agent's declaration:

(i) the Commitments of each Bank shall be terminated;

(ii) the unpaid principal amount of any Borrower Loans, together with accrued interest, any facility fee and all other amounts payable hereunder and under the Borrower Notes shall become immediately due and payable without presentment, demand, protest or further notice of any kind, all of which are hereby expressly waived; and

(iii) the Agent and the Banks may exercise any and all rights they have under this Agreement, the other Loan Documents or at law or in equity, and proceed to protect and enforce their respective rights by any action at law or in equity or by any other appropriate proceeding.

No remedy conferred upon the Agent or the Banks in this Agreement or any other Loan Document is intended to be exclusive of any other remedy, and each and every remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute or by any other provision of law.

Section The Agent

. Appointment of Agent; Powers and Immunities.

( ) Each Bank hereby irrevocably appoints and authorizes Fleet to serve as the Agent hereunder and to act as its agent hereunder and under the other Loan Documents in such capacity. Each Bank irrevocably authorizes the Agent to take such action on behalf of each of the Banks and to exercise all such powers as are expressly delegated to the Agent hereunder and in the other Loan Documents and all related documents, together with such other powers as are reasonably incidental thereto. The Agent shall not have any duties or responsibilities or any fiduciary relationship with any Bank except those expressly set forth in this Agreement.

( ) Neither the Agent nor any of its directors, officers, employees or agents shall be responsible for any action taken or omitted to be taken by it or them hereunder or in connection herewith, except for its or their own gross negligence or wilful misconduct. Without limiting the generality of the foregoing, neither the Agent nor any of its Affiliates shall be responsible to the Banks for or have any duty to ascertain, inquire into or verify: (i) any recitals, statements, representations or warranties made by the Borrowers or any of their Subsidiaries or any other Person whether contained herein or otherwise; (ii) the value, validity, effectiveness, genuineness, enforceability or sufficiency of this Agreement, the other Loan Documents or any other document referred to or provided for herein or therein; (iii) any failure by the Borrowers or any of their Subsidiaries or any other Person to perform its obligations under any of the Loan Documents; (iv) the satisfaction of any conditions specified in Section 5 hereof; (v) the existence, value, collectibility or adequacy of the Collateral or any part thereof or the validity, effectiveness, perfection or relative priority of the liens and security interests of the Banks therein; or (vi) the filing, recording, refiling, continuing or re-recording of any financing statement or other document or instrument evidencing or relating to the security interests or liens of the Banks in the Collateral, provided, however, the Agent shall have the

duty, subject to the terms of this Section 10, to take notice of and to act upon any matter brought to its attention by a Bank.

( ) The Agent may employ agents, attorneys and other experts, shall not be responsible to any Bank for the negligence or misconduct of any such agents, attorneys or experts selected by it with reasonable care and shall not be liable to any Bank for any action taken, omitted to be taken or suffered in good faith by it in accordance with the advice of such agents, attorneys and other experts. Fleet in its separate capacity as a Bank shall have the same rights and powers under the Loan Documents as the other Bank and may exercise or refrain from exercising the same as though it were not the Agent, and Fleet and its Affiliates may accept deposits from, lend money to and generally engage in any kind of business with the Borrowers as if it were not the Agent.

. Actions By Agent. ( ) The Agent shall be fully justified in

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failing or refusing to take any action under this Agreement as it reasonably deems appropriate unless it shall first have received such advice or concurrence of the Banks and shall be indemnified to its reasonable satisfaction by the Banks against any and all liability and expense which may be incurred by it by reason of taking or continuing to take any such action. The Agent shall in all cases be fully protected in acting, or in refraining from acting, under this Agreement or any of the Loan Documents in accordance with a request of the Banks, and such request and any action taken or failure to act pursuant thereto shall be binding upon the Banks and all future holders of the Borrower Notes.

( ) Whether or not an Event of Default shall have occurred, the Agent may from time to time exercise such rights of the Agent and the Banks under the Loan Documents as it determines may be necessary or desirable to protect the Collateral and the interests of the Agent and the Banks therein and under the Loan Documents.

( ) The Agent shall not incur any liability by acting in reliance on any notice, consent, certificate, statement or other writing (which may be a bank wire, telex, facsimile or similar writing) believed by it to be genuine or to be signed by the proper party or parties.

. Indemnification. Without limiting the obligations of the Borrowers

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hereunder or under any other Loan Document, the Banks agree to indemnify the Agent, ratably in accordance with their respective Total Commitment Percentages, for any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may at any time be imposed on, incurred by or asserted against the Agent in any way relating to or arising out of this Agreement or any other Loan Document or any documents contemplated by or referred to herein or therein or the transactions contemplated hereby or thereby or the enforcement of any of the terms hereof or thereof or of any such other documents; provided, however,

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that no Bank shall be liable for any of the foregoing to the extent they result from the gross negligence or willful misconduct of the Agent.

. Reimbursement. Without limiting the provisions of Section 10.3,

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the Banks and the Agent hereby agree that the Agent shall not be obliged to make available to any Person any sum which the Agent is expecting to receive for the account of that Person until the Agent has determined that it has received that sum. The Agent may, however, disburse funds prior to determining that the sums which the Agent expects to receive have been finally and unconditionally paid to the Agent, if the Agent wishes to do so. If and to the extent that the Agent does disburse funds and it later becomes apparent that the Agent did not then receive a payment in an amount equal to the sum paid out, then any Person to whom the Agent made the funds available shall, on demand from the Agent, refund to the Agent the sum paid to that Person. If the Agent in good faith reasonably concludes that the distribution of any amount received by it in such capacity hereunder or under the Loan Documents might involve it in liability, it may refrain from making distribution until its right to make distribution shall have been adjudicated by a court of competent jurisdiction. If a court of competent jurisdiction shall adjudge that any amount received and distributed by the Agent is to be repaid, each Person to whom any such distribution shall have been made shall either repay to the Agent its proportionate share of the amount so adjudged to be repaid or shall pay over the same in such manner and to such Persons as shall be determined by such court.

. Non-Reliance on Agent and Other Banks. Each Bank represents that

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it has, independently and without reliance on the Agent or any other Bank, and based on such documents and information as it has deemed appropriate, made its own appraisal of the financial condition and affairs of the Borrowers and decision to enter into this Agreement and the other Loan Documents and agrees that it will, independently and without reliance upon the Agent or any other Bank, and based on such documents and information as it shall deem appropriate at the time, continue to make its own appraisals and decisions in taking or not taking action under this Agreement or any other Loan Document. The Agent shall not be required to keep informed as to the performance or observance by the Borrowers of this Agreement, the other Loan Documents or any other document referred to or provided for herein or therein

or by any other Person of any other agreement or to make inquiry of, or to inspect the properties or books of, any Person. Except for notices, reports and other documents and information expressly required to be furnished to the Banks by the Agent hereunder, if any, the Agent shall not have any duty or responsibility to provide any Bank with any credit or other information concerning any person which may come into the possession of the Agent or any of its affiliates. Each Bank shall have access to all documents relating to the Agent's performance of its duties hereunder at such Bank's request. Unless any Bank shall promptly object to any action taken by the Agent hereunder (other than actions to which the provisions of Section 12.6(b) are applicable and other than actions which constitute gross negligence or willful misconduct by the Agent), such Bank shall conclusively be presumed to have approved the same.

. Resignation or Removal of Agent. The Agent may resign at any time

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by giving 30 days prior written notice thereof to the Banks and the Borrowers. Upon any such resignation, the Banks shall have the right to appoint a successor Agent which shall be Fleet or another financial institution reasonably acceptable to the Borrowers and shall be a Bank or another financial institution having a combined capital and surplus in excess of \$100,000,000. If no successor Agent shall have been so appointed by the Banks and shall have accepted such appointment within 30 days after the retiring Agent's giving of notice of resignation, then the retiring Agent may, on behalf of the Banks, appoint a successor Agent which shall be reasonably acceptable to the Borrowers and shall be a financial institution having a combined capital and surplus in excess of \$100,000,000. Upon the acceptance of any appointment as Agent hereunder by a successor Agent, such successor Agent shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Agent, and the retiring Agent shall be discharged from its duties and obligations hereunder. After any retiring Agent's resignation, the provisions of this Agreement shall continue in effect for its benefit in respect of any actions taken or omitted to be taken by it while it was acting as Agent.

. Ratable Sharing

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The Banks hereby agree among themselves that if any of them shall, whether by voluntary payment, by realization upon security, through the exercise of any right of set-off or banker's lien, by counterclaim or cross action or by the enforcement of any right under the Loan Documents or otherwise, or as adequate protection of a deposit treated as cash collateral under the Bankruptcy Code, receive payment or reduction of a proportion of the aggregate amount of principal, interest, fees and other amounts then due and owing to that Bank hereunder or under the other Loan Documents (collectively, the "Aggregate

Amounts Due") to such Bank) which is greater than the proportion received by any

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other Bank in respect of the Aggregate Amounts Due to such other Bank, then the Bank receiving such proportionately greater payment shall (i) notify the Agent and each other Bank of the receipt of such payment and (ii) apply a portion of such payment to purchase participations (which it shall be deemed to have purchased from each seller of a participation simultaneously upon the receipt by such seller of its portion of such payment) in the Aggregate Amounts Due to the other Banks so that all such recoveries of Aggregate Amounts Due shall be shared by all Banks in proportion to the Aggregate Amounts Due to them; provided that

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if all or part of such proportionately greater payment received by such purchasing Bank is thereafter recovered from such Bank upon the bankruptcy or reorganization of Borrower or otherwise, those purchases shall be rescinded and the purchase prices paid for such participations shall be returned to such purchasing Bank ratably to the extent of such recovery, but without interest. The Borrowers expressly consents to the foregoing arrangement and agrees that any holder of a participation so purchased may exercise any and all rights of banker's lien, set-off or counterclaim with respect to any and all monies owing by the Borrowers to that holder with respect thereto as fully as if that holder were owed the amount of the participation held by that holder.

Section Definitions.

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. Certain Definitions.

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"Accountants" means KMPG Peat Marwick or another accountant firm of

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national reputation or other certified public accountants selected by the  
Borrower and approved by the Banks.

"Affiliate" means, with respect to any specified Person (the "Specified

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Person"), any Person directly or indirectly controlling, controlled by or under

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direct or indirect common control with, the Specified Person and, without  
limiting the generality of the foregoing, includes (i) any director or officer  
of the Specified Person or any Affiliate of the Specified Person, (ii) any such  
director's or officer's parent, spouse, child or child's spouse (a "relative"),

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(iii) any group acting in concert, of one or more such directors, officers,  
relatives or any combination thereof (a "group"), (iv) any Person controlled by

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any such director, officer, relative or group in which any such director,  
officer, relative or group beneficially owns or holds 5% or more of any class of  
voting securities or a 5% or greater equity or profits interest and (v) any  
Person or group which beneficially owns or holds 5% or more of any class of  
voting securities or a 5% or greater equity or profits interest in the Specified  
Person. For the purposes of this definition, the term "control" when used with  
respect to any Specified Person means the possession, directly or indirectly, of  
the power to direct or cause the direction of the management or policies of such  
Specified Person, whether through the ownership of voting securities, by  
contract or otherwise.

"Aggregate Letter of Credit Usage" means, at any time, the aggregate at

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such time of (a) the maximum amount then available to be drawn under all  
outstanding Letters of Credit, and (b) all then unreimbursed drawings under any  
Letters of Credit.

"Agreement" shall mean this Amended and Restated Credit Agreement.

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"Amendment to Security and Guaranty Agreements" shall have the meaning

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specified in Section 4.1.

"Banking Day" shall mean any day, excluding Saturday and Sunday and

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excluding any other day which in the Commonwealth of Massachusetts or the State  
of California is a legal holiday or a day on which banking institutions are  
authorized by law to close.

"Borrower Loans" shall have the meaning specified in Section 3.1(f).

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"Borrower Notes" shall have the meaning specified in Section 2.2.

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"Borrower Property" means any real property owned, occupied, or operated by

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either Borrower or any of their Subsidiaries.

"Capital Lease Obligations" means, as to any Person, the obligations of

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such Person to pay rent or other amounts under a lease of (or other agreement  
conveying the right to use) real and/or personal property which obligations are  
required to be classified and accounted for as a capital lease on a balance  
sheet of such Person under GAAP (including Statement of Financial Accounting  
Standards No. 13 of the Financial Accounting Standards Board) and, for purposes  
of this Agreement, the amount of such obligations shall be the capitalized  
amount thereof, determined in accordance with GAAP (including FASB Statement No.  
13).

"Code" means the Internal Revenue Code of 1986, as amended, or any

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successor statute.

"Collateral" shall have the meaning given that term in the Security

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Agreement.

"Commitments" means, with respect to any Bank, its Working Capital Line

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Commitment and, if applicable, its Equipment Line Commitment and its 1997  
Equipment Line Commitment.

"Contractual Obligation" means, as to any Person, any provision of any

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security (as such term is defined in the Securities Act of 1933, as amended)  
issued by such Person or of any agreement,

instrument or other undertaking to which such Person is a party or by which it or any of its property is bound.

"Controlled Group" means all members of a controlled group of corporations

and all trades or businesses (whether or not incorporated) under common control which, together with the Borrower, are treated as a single employer under Section 414 of the Code.

"1995 Credit Agreement" shall have the meaning specified in the preamble.

"Current Liabilities" means, at any time, all liabilities of the Borrowers

and their Subsidiaries at such time, on a consolidated basis, that would be classified as current liabilities in accordance with GAAP, including, without limitation, all Indebtedness of the Borrowers and their Subsidiaries payable on demand or maturing within one year of such time, or renewable at the option of the Borrowers or such Subsidiary for a period of not more than one year from such time, and all serial maturity and periodic or installment payments on any Indebtedness, to the extent such payments are required to be made within one year from such time.

"Default" means any condition or event that constitutes an Event of Default

or that with the giving of notice or lapse of time or both would, unless cured or waived, become an Event of Default.

"Domestic Delinquency Reserve Amount" means an amount equal to four percent

(4%) of all Eligible Domestic Accounts Receivable.

"Eligible Domestic Accounts Receivable" means an account receivable owing

to either Borrower which met the following specifications at the time it came into existence and continues to meet the same until it is collected in full:

(a) The original stated maturity of the account is not more than 90 days after the invoice date thereof, and the account (regardless of its stated maturity date) does not remain unpaid more than 90 days after such invoice date.

(b) The account arose from the performance of services or an outright sale of goods by such Borrower, such goods have been shipped to the account debtor, and the Borrower has possession of, or has delivered to the Agent, shipping and delivery receipts evidencing such shipment.

(c) The account is owned solely by such Borrower, and is not subject to any assignment, claim, lien, or security interest, other than a security interest in favor of Fleet as Agent for the Banks.

(d) The account is not one with respect to which the account debtor has exercised any rights of set-off, credit, allowance or adjustment which is not reflected in the dollar amount of the receivable; the account is not one as to which the account debtor disputes liability or makes any claim with respect thereto or as to which the Banks believe, in their sole discretion, that there may be a basis for dispute (but only to the extent of the amount subject to such dispute or claim), or which involves an account debtor subject to any insolvency proceeding, or becomes insolvent, or goes out of business.

(e) The account arose in the ordinary course of such Borrower's business and did not arise from the performance of services or a sale of goods to a supplier or employee of the Borrower.

(f) No notice of bankruptcy or insolvency of the account debtor has been received by or is known to the Borrowers.

(g) Such Borrower has pledged any instrument or chattel paper evidencing the account to Fleet as Agent for the Banks pursuant to the provisions of the Security Agreement.

(h) The aggregate accounts receivable from the account debtor (including their Subsidiaries and Affiliates) do not exceed 25% of the total Eligible Accounts Receivable of the Borrowers; that portion of the account over the 25% level will be disqualified. Provided, however, that -----  
this subsection (h) shall not apply to disqualify any accounts receivable due to the Borrowers from Motorola, Ericsson, Lucent or Nokia.

(i) The account does not relate to goods placed on consignment, guaranteed sale, sale or return, sale on approval, bill and hold, or other terms by reason of which the payment by the account debtor may be conditional.

(j) The account debtor is not an Affiliate, officer, employee or agent of either Borrower.

(k) The account debtor is not a Governmental Authority.

(l) The Borrowers do not owe any amounts to the account debtor for goods sold, services rendered or otherwise; to the extent that any amounts are so owed, the accounts of such account debtor in an amount equal to the amounts owed by the Borrowers to the account debtor shall be disqualified.

(m) The Banks have not notified the Borrowers that the Banks have determined that an account or account debtor is unsatisfactory for credit reasons (which determination shall not be made unreasonably).

(n) The account debtor is a person or entity located in the United States and the account arose out of services rendered or goods delivered in the United States.

"Eligible International Accounts Receivable" means an account receivable -----

owing to either Borrower which met the requirements set forth in clauses (a) through (m) for Eligible Domestic Accounts Receivable and also the following specifications at the time it came into existence and continues to meet the same until it is collected in full:

(a) The account debtor is a Person located outside the United States and the account arose out of services rendered or goods delivered outside the United States; and

(b) The obligations of the account debtor under such account are supported either (i) by a transferable commercial letter of credit or standby letter of credit issued for the account of the account debtor and for the benefit of such Borrower by a bank or other financial institution approved by the Banks in writing (and not subsequently disapproved), that (A) is payable in the United States, (B) provides for the full payment to such Borrower or its transferee of such account receivable, either (x) upon shipment of goods or the provision of services and upon presentation of documentation that such goods have been shipped or that such services have been provided, or (y) upon default in payment of such account receivable in accordance with its terms, and (C) has been delivered and pledged to Fleet as Agent for the Banks or (ii) by insurance covering such obligations with terms that have been approved by the Banks in writing and underwritten by an insurer that has been approved by the Banks in writing (and not subsequently disapproved), or are those of an account debtor

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that has been approved in writing by both Banks in their sole discretion (which approval has not been subsequently cancelled or withdrawn). A list of account debtors approved by the Bank as of the date of this Agreement is attached hereto as Schedule B.  
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"Eligible Equipment" means any items of equipment that either Borrower has

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requested that Fleet finance the purchase of through an advance under the Equipment Line Commitment or the 1997 Equipment Line Commitment, and which, both on the date of such request and the date of such advance, meets the following requirements:

(i) such equipment is not (i) telephone equipment, (ii) office furniture, (iii) a fixture or leasehold improvement, (iv) a motor vehicle, (v) software or (vi) intended by the Borrower to become a fixture or leasehold improvement;

(ii) such equipment has been purchased by the Borrower from the manufacturer or a distributor thereof, has not been put in service by any Person prior to the date of the invoice furnished to the Borrower by such manufacturer or distributor, and has an invoice date (i) not earlier than April 3, 1995 in the case of Equipment Line of Credit Loans and (ii) not earlier than April 1, 1997 in the case of 1997 Equipment Line of Credit Loans;

(iii) such equipment is owned solely by the Borrower and is not subject to any leasehold interest, assignment, claim, lien or security interest, (other than a security interest in favor of Fleet as Agent for the Banks pursuant to the Security Agreement or any other right, title of interest of any third party;

(iv) such equipment is located in The Commonwealth of Massachusetts, the State of Maryland or the State of California and is in the possession of the Borrower; and

(v) if such equipment is or is to be located on premises leased by the Borrower, Fleet has received a landlord's waiver in form and substance satisfactory to Fleet from the landlord of such premises.

"Environmental Laws" means all federal, state, local and foreign laws, and

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all regulations, notices or demand letters issued, promulgated or entered thereunder, relating to pollution or protection of the environment and to occupational health and safety, including, without limitation, laws relating to emissions, discharges, releases or threatened releases of pollutants, contaminants, chemicals, or Hazardous Substances into the environment (including, without limitation, ambient air, surface water, ground water, land surface or subsurface strata) or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of pollutants, contaminants, chemicals or Hazardous Substances.

"Equipment Line Commitment" shall have the meaning set forth in Section

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2.1.

"1997 Equipment Line Commitment" shall have the meaning set forth in

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Section 2A.1.

"Equipment Line Commitment Expiration Date" shall have the meaning

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specified in Section 2.1.

"1997 Equipment Line Commitment Expiration Date" shall have the meaning

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specified in Section 2A.1.

"Equipment Line of Credit Loans" shall have the meaning set forth in

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Section 2.1.

"1997 Equipment Line of Credit Loans" shall have the meaning set forth in

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Section 2A.1.

"Equipment Line Maturity Date" shall have the meaning specified in Section

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2.5, 2.6(b).

"1997 Equipment Line Maturity Date" shall have the meaning specified in

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Section 2A.5.

"Equipment Line Note" shall have the meaning set forth in Section 2.2.

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"1997 Equipment Line Note" shall have the meaning set forth in Section

2A.2.

"ERISA" means the Employee Retirement Income Security Act of 1974, as

amended, or any successor statutes.

"Event of Default" has the meaning set forth in Section 9.1.

"Financial Statements Date" means April 2, 1995.

"GAAP" means accounting principles generally accepted in the United States

applied on a consistent basis.

"Governmental Approvals" shall mean any authorization, consent, order,

approval, license, lease, ruling, permit, tariff, rate, certification, validation, exemption, filing or registration by or with, or notice to, any Governmental Authority.

"Governmental Authority" shall mean any federal, state, municipal or other

governmental department, commission, board, bureau, agency, court, tribunal or other instrumentality, domestic or foreign, and any arbitrator.

"Guarantee" by any Person means any obligation, contingent or otherwise, of

such Person directly or indirectly guaranteeing any Indebtedness or other obligation of any other Person and, without limiting the generality of the foregoing, any obligation, direct or indirect, contingent or otherwise of such Person (a) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or other obligation (whether arising by virtue of partnership arrangements, by agreement to keep-well, to purchase assets, goods, securities or services, to take-or-pay, or to maintain financial statement conditions or otherwise) or (b) entered into for the purpose of assuring in any other manner the obligee of such Indebtedness or other obligation of the payment thereof or to protect such obligee against loss in respect thereof (in whole or in part); provided that the term Guarantee shall not include endorsements for

collection or deposit in the ordinary course of business. The term "Guarantee" used as a verb has a corresponding meaning.

"Guarantor" shall have the meaning specified in Section 4.2.

"Guarantor Security Agreement" shall have the meaning specified in Section

4.2.

"Hazardous Substances" shall mean all hazardous and toxic substances,

wastes or materials, hydrocarbons (including naturally occurring or man-made petroleum and hydrocarbons), flammable explosives, urea formaldehyde insulation, radioactive materials, biological substances, PCBs, pesticides, herbicides and any other kind and/or type of pollutants, or contaminates and/or any other similar substances or materials which, because of toxic, flammable, explosive, corrosive, reactive, radioactive or other properties that may be hazardous to human health or the environment, are included under or regulated by any Environmental Laws.

"Indebtedness" of any Person at any date shall mean, (a) all indebtedness

of such Person for borrowed money or for the deferred purchase price of property or services (excluding current trade liabilities incurred in the ordinary course of business and payable in accordance with customary practices, but including any class of capital stock of such Person with fixed payment obligations or with redemption at the option of the holder), or which is evidenced by a note, bond, debenture or similar instrument, (b) all Capital Lease Obligations of such Person, (c) all obligations of such Person in respect of acceptances issued or created for the account of such Person, and all reimbursement obligations (contingent or otherwise) of such Person in respect of any letters of credit issued for the account of such Person, and (d)

all liabilities secured by any Lien on any property owned by such Person even though such Person has not assumed or otherwise become liable for the payment thereof.

"Intellectual Property" shall have the meaning specified in Section 6.16.  
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"Interest Period" means, with respect to any LIBOR Loan, the period  
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commencing on the date such LIBOR Loan is converted from a Prime Rate Loan or the last day of the next preceding Interest Period with respect to such LIBOR Loan and ending on the numerically corresponding day in the first, second or third calendar month thereafter, as the Borrower may select as provided in Section 3.6, except that each such Interest Period which commences on the last Banking Day of a calendar month (or on any day for which there is no numerically corresponding day in the appropriate subsequent calendar month) shall end on the last Banking Day of the appropriate subsequent calendar month.

"International Delinquency Reserve Amount" means an amount equal to five  
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percent (5%) of all Eligible International Accounts Receivable.

"Investments" means, with respect to any Person (the "Investor"), (a) any  
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investment by the Investor in any other Person, whether by means of share purchase, capital contribution, purchase or other acquisition of a partnership or joint venture interest, loan, time deposit, demand deposit or otherwise and (b) any Guarantee by either Borrower of any Indebtedness or other obligation of any other Person.

"Letter of Credit" means any commercial letter of credit or standby letter  
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of credit issued by the Banks or either Bank for the account of either Borrower as provided in this Agreement.

"LIBOR Loan" means, at any time, that principal amount of the Equipment  
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Line of Credit Loans or the 1997 Equipment Line of Credit Loans, the interest on which is determined at such time on the basis of rates referred to in the definition of "LIBOR Rate".

"LIBOR Rate" means with respect to any Interest Period pertaining to a  
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LIBOR Loan, the rate per annum (rounded upwards, if necessary, to the nearest 1/16th of 1%) equal to the quotient of the rate determined by the Agent to be the prevailing per annum rate at which deposits in U.S. dollars are offered to such Bank by first-class banks two Working Days prior to the beginning of such Interest Period in the London interbank market at or about 10:00 a.m., Boston time, for delivery on the first day of such Interest Period for the number of days comprised therein and in an amount equal to the amount of the LIBOR Loan to be outstanding during such Interest Period, divided by (b) a number equal to 1.00 minus the Reserve Requirement for such LIBOR Loan during such Interest Period.

"Lien" means any mortgage, pledge, hypothecation, conditional or collateral  
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assignment, deposit arrangement, encumbrance, lien (statutory or other), or preference, priority or other security agreement of any kind or nature whatsoever (including, without limitation, any conditional sale or other title retention agreement, any lease that should be capitalized in accordance with GAAP, and the filing of a financing statement under the Uniform Commercial Code or comparable law of any jurisdiction), together with any renewal or extension thereof.

"Loan Documents" means, collectively, this Agreement, the Borrower Notes,  
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the Guaranties, the Financing Statements, the Security Instruments, and all other agreements and instruments that are from time to time executed in connection with this Agreement, as each of such agreements and instruments may be amended, modified or supplemented from time to time.

"Material Adverse Effect" means a material adverse effect on (a) the  
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business, operations, property, condition (financial or otherwise) or prospects of either Borrower, or of the Borrowers and their Subsidiaries taken as a whole, (b) the ability of either Borrower to perform its obligations under this Agreement, the Borrower Notes or any of the other Loan Documents, or (c) the validity or enforceability of

this Agreement, the Borrower Notes or any of the other Loan Documents, or the rights or remedies of the Banks hereunder or thereunder.

"Multiemployer Plan" means at any time an employee pension benefit plan

within the meaning of Section 4001(a)(3) of ERISA to which either Borrower or any member of the Controlled Group is then making or accruing an obligation to make contributions or has within the preceding five plan years made contributions, including for these purposes any Person which ceased to be a member of the Controlled Group during such five year period.

"Net Income" or "Net Loss" for any period in respect of which the amount

thereof shall be determined, shall mean the aggregate of the consolidated net income (or net loss) after taxes for such period (taken as a cumulative whole) of the Borrowers and their Subsidiaries, determined in accordance with GAAP, exclusive of the write-up of any asset.

"Obligations" shall have the meaning given the term "Secured Obligations"

in the Security Agreement.

"Office of the Bank" shall mean (a) in the case of SVB, the banking office

of SVB located at 3003 Tasman Drive, Santa Clara, California 95054, or such other location of which SVB shall notify the Borrowers, and (b) in the case of Fleet, the banking office of Fleet located at Fleet Center, 75 State Street, Boston, Massachusetts 02106-2197, or such other location of which Fleet shall notify the Borrower.

"Original Closing Date" shall have the meaning specified in Section 4.1.

"PBGC" means the Pension Benefit Guaranty Corporation or any entity

succeeding to any or all of its functions under ERISA.

"Permitted Liens" shall have the meaning set forth in Section 8.6.

"Person" shall mean and include any individual, firm, corporation, trust or

other unincorporated organization or association or other enterprise or any government or political subdivision, agency, department or instrumentality thereof.

"Plan" means any employee pension benefit plan which is covered by Title IV

of ERISA or subject to the minimum funding standards under Section 412 of the Code and is either (a) maintained by either Borrower or any member of the Controlled Group for employees of either Borrower or any member of the Controlled Group or (b) maintained pursuant to a collective bargaining agreement or any other arrangement under which more than one employer makes contributions and to which either Borrower or any member of the Controlled Group is then making or accruing an obligation to make contributions or has within the preceding five plan years made contributions.

"Pledge Agreement" shall have the meaning set forth in Section 4.1.

"Post-Default Rate" means, in respect of any principal of the Working

Capital Line of Credit Loans, the Equipment Line of Credit Loans, the 1997 Equipment Line of Credit Loans or any other amount payable by either Borrower under this Agreement which is not paid when due (whether at stated maturity, by acceleration or otherwise, a rate per annum during the period commencing on the due date until such amount is paid in full (after as well as before judgment) equal to the sum of 3% plus the higher of (i) the rate of interest applicable to Prime Rate Loans and (ii) in the case of any LIBOR Loan, the rate of interest otherwise applicable to such LIBOR Loan.

"Prime Rate" shall mean the per annum rate of interest from time to time

announced and made effective by Fleet as its Prime Rate (which rate may or may not be the lowest rate available from the Bank at any given time).

"Purchase Money Indebtedness" shall mean Indebtedness incurred to finance

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the acquisition of assets or the cost of improvements on real property or leaseholds, in each case in an amount not in excess of the lesser of (a) the purchase price or acquisition cost of said assets or the cost of said improvements and (b) the fair market value of said assets or said improvements on the date of acquisition of said assets or contract for said improvements.

"Purchase Money Security Interest" shall mean (a) a security interest

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securing Purchase Money Indebtedness, which security interest applies solely to the particular assets acquired with the Purchase Money Indebtedness that said Purchase Money Security Interest secures, and (b) the renewal, extension and refunding of such Purchase Money Indebtedness in an amount not exceeding the amount thereof remaining unpaid immediately prior to such renewal, extension or refunding.

"Quick Ratio" means, at any time, all cash and accounts receivable, less

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reserves for doubtful accounts, less advance billings to customers, of the Borrowers and their Subsidiaries at such time, on a consolidated basis, determined in accordance with GAAP, divided by the sum (without duplication) of (a) the aggregate of all Current Liabilities at such time, (b) then outstanding Working Capital Extensions of Credit and (c) the current portion of long-term Indebtedness (other than outstanding Equipment Line of Credit Loans and 1997 Equipment Line of Credit Loans) of the Borrowers and their Subsidiaries as determined in accordance with GAAP.

"Regulation D" means Regulation D of the Board of Governors of the Federal

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Reserve System as the same may be amended or supplemented from time to time.

"Regulatory Change" means any change on or after the date of this Agreement

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in United States federal, state or foreign laws or regulations, including Regulation D, or the adoption or making on or after such date of any interpretations, directives or requests applying to a class of lenders including the Banks of or under any United States federal or state, or any foreign, laws or regulations (whether or not having the force of law) by any court or governmental or monetary authority charged with the interpretation or administration thereof (other than changes which affect taxes measured by or imposed on the overall net income of any Bank by the jurisdiction in which such Bank has its principal office).

"Reserve Requirement" means, for any LIBOR Loans for any Interest Period

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therefor, the average maximum rate at which reserves (including any marginal, supplemental or emergency reserves) are required to be maintained during such Interest Period under Regulation D by the Bank against "Eurocurrency liabilities" (as such term is used in Regulation D).

"Restricted Payment" means, with respect to either Borrower or any

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Subsidiary thereof, (a) any dividend or other distribution on any shares of capital stock of Stock Borrower or such Subsidiary (except dividends payable solely in shares of capital stock or rights to acquire capital stock of Alpha, and cash dividends payable solely to either Borrower by a Subsidiary), (b) any payment on account of the purchase, redemption, retirement or acquisition of (i) any shares of the capital stock of any Borrower or a Subsidiary thereof or (ii) any option, warrant, convertible security or other right to acquire shares of the capital stock of any Borrower or a Subsidiary thereof, other than, in either case, payments made solely to Alpha by a Subsidiary, and (c) any payment of any principal of, or premium or interest on, or any required or optional purchase, redemption or other retirement or other acquisition of any Subordinated Debt of any Borrower other than on terms expressly permitted under the subordination provisions approved by the Banks.

"SEC" means the Securities and Exchange Commission.

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"Security Agreement" shall have the meaning set forth in Section 4.1.

"Security Instruments" means, collectively, the Security Agreement, the

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Pledge Agreement and the Guarantor Security Agreements, and each other instrument or agreement that purports to secure the Obligations of the Borrower to the Banks.

"Subordinated Debt" means Indebtedness of the Borrower that is subordinated

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to the Indebtedness of the Borrower owing to the Banks either (a) pursuant to a subordination agreement in form and substance satisfactory to the Banks between the Banks and the holder(s) of such Indebtedness, or (b) pursuant to the terms thereof, where the Banks have confirmed in writing that such terms are satisfactory to them.

"Subsidiary" means, with respect to any Person, any corporation or other

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entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other Persons performing similar functions are at the time directly or indirectly owned by such Person.

"Tangible Net Worth" means, at any time, the consolidated stockholders'

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equity of the Borrower and their Subsidiaries at such time determined in accordance with GAAP, less all assets that are reflected on the consolidated

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balance sheet of the Borrowers and their Subsidiaries at such time that would be treated as intangibles under GAAP (including, but not limited, to goodwill, capitalized software and excess purchase costs), plus all then outstanding

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Subordinated Debt.

"Total Commitment Percentage" shall mean, with respect to any Bank, that

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Bank's Working Capital Line Commitment, Equipment Line Commitment and 1997 Equipment Line Commitment expressed as a percentage of the Total Working Capital Line Commitment, the total Equipment Line Commitment and the total 1997 Equipment Line Commitment.

"Total Senior Liabilities" means, at any time, the consolidated liabilities

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of the Borrowers and their Subsidiaries at such time, determined in accordance with GAAP, less all then outstanding Subordinated Debt.

"Type" shall refer to the determination of whether an Equipment Line of

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Credit Loan or a 1997 Equipment Line of Credit Loan is a Prime Rate Loan or a LIBOR Loan, each of which shall constitute a Type.

"UCC" shall have the meaning given such term in the Security Agreement.

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"Unfunded Liabilities" means, with respect to any Plan, at any time, the

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amount (if any) by which (a) the present value of all benefits under such Plan exceeds (b) the fair market value of all Plan assets allocable to such benefits, all determined as of the then most recent valuation date for such Plan, but only to the extent that such excess represents a potential liability of the Borrower or any member of the Controlled Group to the PBGC or such Plan under Title IV of ERISA.

"Working Capital Borrowing Base" shall have the meaning specified in

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Section 1.5.

"Working Capital Commitment Expiration Date" shall have the meaning

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specified in Section 1.1.

"Working Capital Commitment Percentage" shall mean, with respect to any

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Bank, that Bank's Working Capital Line Commitment expressed as a percentage of the Total Working Capital Line Commitment.

"Working Capital Extension of Credit" shall have the meaning set forth in

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Section 1.5.

"Working Capital Line Commitment" shall have the meaning specified in

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Section 1.1

"Working Capital Line of Credit Loans" shall have the meaning specified in

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Section 1.1

"Working Capital Note" shall have the meaning set forth in Section 1.3.

"Working Day" means any day on which dealings in foreign currencies and

exchange between banks may be carried on in the place where the Eurodollar Lending Office is located and in Boston, Massachusetts and San Jose, California.

Section Miscellaneous.

Accounting Terms and Definitions. Unless otherwise specified

herein, all accounting terms used herein shall be interpreted, all determinations with respect to accounting matters hereunder shall be made, and all financial statements and certificates and reports as to financial matters required to be delivered hereunder shall be prepared, in accordance with GAAP; provided that if any change in GAAP in itself materially affects the calculation

of any financial covenant in this Agreement, the Borrowers may by notice to the Banks, or the Banks may by notice to the Borrower, require that such covenant thereafter be calculated in accordance with GAAP as in effect, and applied by the Borrowers, immediately before such change in GAAP occurs. If such notice is given, the compliance certificates delivered pursuant to Section 7.4(c) after such change occurs shall be accompanied by reconciliations of the difference between the calculation set forth therein and a calculation made in accordance with GAAP as in effect from time to time after such change occurs. To enable the ready determination of compliance with the covenants set forth in this Agreement, the Borrowers will not change the date on which their fiscal year or any of their fiscal quarters end without thirty (30) days' prior notice to the Banks.

Amendments, Etc. No amendment or waiver of any provision of this

Agreement or the Borrower Notes, nor consent to any departure by the Borrowers therefrom, shall in any event be effective unless the same shall be in writing and signed by all the Banks and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given.

Notices, Etc. All notices and other communications provided for

hereunder shall be in writing and shall be delivered by hand, by a nationally recognized commercial overnight delivery service, by first class mail or by telecopy, delivered, addressed or transmitted, if to the Borrowers, at the following address: 20 Sylvan Road, Woburn, Massachusetts 01810, Attention: Paul E. Vincent, Chief Financial Officer, Telecopy No. (617) 824-4564, with a copy to the attention of the Legal Department of the Borrower at the same address; if to SVB, at its address at Wellesley Office Park, 40 William Street, Wellesley, Massachusetts 02181, Attention: Jane A. Braun, Vice President, Telecopy No. (781) 431-9906; and if to Fleet, at its address at Fleet Center, 75 State Street, Boston, Massachusetts 02106-2197, Attention: Irina V. Case, Assistant Vice President, with a copy in the case of any notice to a Bank, to Sullivan & Worcester LLP, One Post Office Square, Boston, Massachusetts 02109, Attention Dennis J. White, Esq., Telecopy No. (617) 338-2880 or, as to each party, at such other address as shall be designated by such party in a written notice to the other party. All such notices and communications shall be deemed effective, (a) in the case of hand deliveries, when delivered; (b) in the case of an overnight delivery service, on the next Banking Day after being placed in the possession of such delivery service, with delivery charges prepaid; (c) in the case of mail, three days after deposit in the postal system, first class postage prepaid; and (d) in the case of telecopy notices, when electronic indication of receipt is received, except that notices to any Bank pursuant to the provisions of Section 1.7 shall not be effective until received by such Bank.

No Waiver; Remedies. No failure on the part of any Bank to

exercise, and no delay in exercising, any right hereunder or under the Borrower Notes shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder or under the Borrower Notes preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

Right of Set-off. () Upon the occurrence and during the

continuance of any Event of Default, each Bank is hereby authorized at any time and from time to time, to the fullest extent permitted

by law, to set off and apply any and all deposits (general or special, time or demand, provisional or final) at any time held and other indebtedness at any time owing by such Bank to or for the credit or the account of the Borrowers against any and all of the obligations of the Borrower now or hereafter existing under this Agreement and the Borrower Notes, irrespective of whether or not such Bank shall have made any demand hereunder and although such obligations may be contingent or unmatured.

( ) Each Bank agrees promptly to notify the Borrowers after any such set-off and application, provided that the failure to give such notice shall not

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affect the validity of such set-off and application. The rights of the Banks under this Section 12.5 are in addition to other rights and remedies (including, without limitation, other rights of set-off) which the Banks may have.

. Expenses; Indemnification. ( ) The Borrowers shall pay on demand

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(i) the reasonable fees and disbursements of counsel to the Banks in connection with the preparation of this Agreement and the preparation or review of each agreement, opinion, certificate and other document referred to in or delivered pursuant hereto; (ii) all reasonable out-of-pocket costs and expenses of the Banks in connection with the administration of this Agreement and the other Loan Documents, (including without limitation any lien search or filing fees) and any waiver or amendment of any provision hereof or thereof, including without limitation, the reasonable fees and disbursements of counsel for the Banks, and of any field examiner or auditor retained by the Banks as contemplated in Section 7.8; and (iii) if any Event of Default occurs, all reasonable costs and expenses incurred by the Banks, including the reasonable fees and disbursements of counsel to the Banks, and of any appraisers, environmental engineers or consultants, or investment banking firms retained by the Banks in connection with such Event of Default or collection, bankruptcy, insolvency and other enforcement proceedings related thereto. Each Borrower agrees on a joint and several basis to pay, indemnify and hold the Banks harmless from, any and all recording and filing fees, and any and all liabilities with respect to, or resulting from any delay in paying, stamp, excise or other taxes, if any, which may be payable or determined to be payable in connection with the execution and delivery of or the consummation or administration of any of the transactions contemplated by, or any amendment, supplement or modification of, or any waiver or consent under or in respect of, this Agreement or the other Loan Documents, or any documents delivered pursuant hereto or thereto.

( ) Each Borrower agrees on a joint and several basis to indemnify each Bank and its officers and directors and hold such Bank and its officers and directors harmless from and against any and all liabilities, losses, damages, costs and expenses of any kind (including, without limitation, the reasonable fees and disbursements of counsel for such Bank in connection with any investigative, administrative or judicial proceeding initiated by a third party, whether or not such Bank shall be designated a party thereto) which may be incurred by such Bank, relating to or arising out of this Agreement or any other Loan Document, or the existence of any Hazardous Substance on, in, or under any Borrower Property, or any violation of any applicable Environmental Laws for which the Borrower or any Subsidiary thereof has any liability or which occurs upon any Borrower Property, or the imposition of any Lien under any Environmental Laws, provided that no Bank shall have the right to be indemnified

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hereunder for its own gross negligence or willful misconduct as determined by a court of competent jurisdiction.

( ) The agreements in this Section 12.6 shall survive the repayment of the Borrower Notes, and all other amounts payable under this Agreement and the other Loan Documents.

. Binding Effect. This Agreement shall become effective when it

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shall have been executed by the Borrowers and the Banks (provided, however, in no event shall this Agreement become effective until signed by an officer of SVB in California) and thereafter shall be binding upon and inure to the benefit of the Borrowers and the Banks and their respective successors and assigns, except that the Borrower shall not have the right to assign its rights hereunder or any interest herein without the prior written consent of the Banks. Each Bank may assign to any financial institution all or any part of, or any interest (undivided or divided) in, such Bank's rights and benefits under this Agreement or the Borrower

Notes, and to the extent of that assignment such assignee shall have the same rights and benefits against the Borrower hereunder as it would have had if such assignee were the Bank making the Working Capital Line of Credit Loans, the Equipment Line of Credit Loan or the 1997 Equipment Line of Credit Loan hereunder.

. Severability. Any provision of this Agreement which is

prohibited, unenforceable or not authorized in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition, unenforceability or non-authorization without invalidating the remaining provisions hereof or affecting the validity, enforceability or legality of such provision in any other jurisdiction.

. GOVERNING LAW. THIS AGREEMENT SHALL BE GOVERNED BY, AND

CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS.

. WAIVER OF JURY TRIAL. EACH BANK AND EACH BORROWER AGREES THAT

NONE OF THEM NOR ANY ASSIGNEE OR SUCCESSOR SHALL (A) SEEK A JURY TRIAL IN ANY LAWSUIT, PROCEEDING, COUNTERCLAIM OR ANY OTHER ACTION BASED UPON, OR ARISING OUT OF, THIS AGREEMENT, ANY RELATED INSTRUMENTS, ANY COLLATERAL OR THE DEALINGS OR THE RELATIONSHIP BETWEEN OR AMONG ANY OF THEM, OR (B) SEEK TO CONSOLIDATE ANY SUCH ACTION WITH ANY OTHER ACTION IN WHICH A JURY TRIAL CANNOT BE OR HAS NOT BEEN WAIVED. THE PROVISIONS OF THIS PARAGRAPH HAVE BEEN FULLY DISCUSSED BY THE BANKS AND THE BORROWER, AND THESE PROVISIONS SHALL BE SUBJECT TO NO EXCEPTIONS. NEITHER THE BANKS NOR THE BORROWERS HAVE AGREED WITH OR REPRESENTED TO THE OTHER THAT THE PROVISIONS OF THIS PARAGRAPH WILL NOT BE FULLY ENFORCED IN ALL INSTANCES.

. VENUE, CONSENT TO SERVICE OF PROCESS. EACH BORROWER ACCEPTS FOR

ITSELF AND IN CONNECTION WITH ITS PROPERTIES, GENERALLY AND UNCONDITIONALLY, THE NON-EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT OF COMPETENT JURISDICTION IN THE COMMONWEALTH OF MASSACHUSETTS (AND IN THE EVENT SVB IS FOR ANY REASON DENIED ACCESS TO THE COURTS OF MASSACHUSETTS, THEN SOLELY IN SUCH CASE, CALIFORNIA) IN ANY ACTION, SUIT OR PROCEEDING OF ANY KIND AGAINST IT WHICH ARISES OUT OF OR BY REASON OF THIS AGREEMENT, THE BORROWER NOTES, ANY OTHER LOAN DOCUMENT, OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY, IRREVOCABLY AGREES TO BE BOUND BY ANY FINAL JUDGMENT RENDERED BY ANY SUCH COURT IN ANY SUCH ACTION, SUIT OR PROCEEDING IN WHICH IT SHALL HAVE BEEN SERVED WITH PROCESS IN THE MANNER HEREINAFTER PROVIDED, SUBJECT TO EXERCISE AND EXHAUSTION OF ALL RIGHTS OF APPEAL AND TO THE EXTENT THAT IT MAY LAWFULLY DO SO, WAIVES AND AGREES NOT TO ASSERT, BY WAY OF MOTION, AS A DEFENSE OR OTHERWISE, IN SUCH ACTION, SUIT OR PROCEEDING ANY CLAIMS THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF SUCH COURT, THAT ITS PROPERTY IS EXEMPT OR IMMUNE FROM ATTACHMENT OR EXECUTION, THAT THE ACTION, SUIT OR PROCEEDING IS BROUGHT IN AN INCONVENIENT FORUM OR THAT THE VENUE THEREOF IS IMPROPER, AND AGREES THAT PROCESS MAY BE SERVED UPON IT IN ANY SUCH ACTION, SUIT OR PROCEEDING IN THE MANNER PROVIDED BY CHAPTER 223A OF THE GENERAL LAWS OF MASSACHUSETTS, RULE 4 OF THE MASSACHUSETTS RULES OF CIVIL PROCEDURE OR RULE 4 OF THE FEDERAL RULES OF CIVIL PROCEDURE.

. Headings. Section headings in this Agreement are included herein

for convenience of reference only and shall not constitute a part of this Agreement for any other purpose.

. Counterparts. This Agreement may be signed in one or more

counterparts each of which shall constitute an original and all of which taken together shall constitute one and the same instrument.



. Joint and Several Obligations. Each and every representation,

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warranty, covenant and agreement made by either of the Borrowers, hereunder and under the other Loan Documents shall be joint and several, whether or not so expressed, and such obligations of either of the Borrowers shall not be subject to any counterclaim, setoff, recoupment or defense based upon any claim either Borrower may have against the other Borrower or the Bank, and shall remain in full force and effect without regard to, and shall not be released, discharged or in any way affected by, any circumstance or condition affecting the other Borrower, including without limitation (a) any waiver, consent, extension, renewal, indulgence or other action or inaction under or in respect of this Agreement or any other Loan Document, or any agreement or other document related thereto with respect to the other Borrower, or any exercise or nonexercise of any right, remedy, power or privilege under or in respect of any such agreement or instrument with respect to the other Borrower, or the failure to give notice of any of the foregoing to Trans-Tech, it being agreed by Trans-Tech that notice in each such case to Alpha shall be sufficient and that no notice to the Borrowers shall be effective without notice to Alpha; (b) any invalidity or unenforceability, in whole or in part, of any such agreement or instrument with respect to the other Borrower; (c) any failure on the part of the other Borrower for any reason to perform or comply with any term of any such agreement or instrument; (d) any bankruptcy, insolvency, reorganization, arrangement, readjustment, composition, liquidation or similar proceeding with respect to the other Borrower or its properties or creditors; or (e) any other occurrence whatsoever, whether similar or dissimilar to the foregoing, with respect to the other Borrower. Each Borrower hereby waives any requirement of diligence or promptness on the part of the Bank in the enforcement of the Bank's rights hereunder or under any other Loan Document with respect to the obligations of itself or of the other Borrower. Without limiting the foregoing any failure to make any demand upon, to pursue or exhaust any rights or remedies against a Borrower, or any delay with respect thereto, shall not affect the obligations of the other Borrower hereunder or under any other Loan Document.

[remainder of page blank]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the date first above written.

ALPHA INDUSTRIES, INC.

By: \_\_\_\_\_  
Name:  
Title:

TRANS-TECH, INC.

By: \_\_\_\_\_  
Name:  
Title:

FLEET NATIONAL BANK, in its capacity as a Bank  
and as Agent hereunder

By: \_\_\_\_\_  
Name:  
Title:

SILICON VALLEY EAST, a Division of Silicon Valley  
Bank, in its capacity as  
a Bank and as Collateral Agent prior to  
the effectiveness hereof

By: \_\_\_\_\_  
Name: Jane A. Braun  
Title: Vice President

SILICON VALLEY BANK, in its capacity as  
a Bank and as Collateral Agent prior to  
the effectiveness hereof

By: \_\_\_\_\_  
Name:  
Title:  
(Signed at Santa Clara,  
California)



THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM THE FINANCIAL STATEMENTS OF ALPHA INDUSTRIES, INC. AND SUBSIDIARIES AS OF AND FOR THE NINE MONTHS ENDED DECEMBER 28, 1997 AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS.

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	DEC-28-1997	
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