

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

FORM 10-Q

QUARTERLY REPORT UNDER SECTION 13 OR 15 (d)
OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended June 30, 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 0-18645

TRIMBLE NAVIGATION LIMITED
(Exact name of registrant as specified in its charter)

California 94-2802192
(State or other jurisdiction of (I.R.S. Employer
incorporation or organization) identification No.)
645 North Mary Avenue, Sunnyvale, California 94088
(Address of Principal Executive Offices) (Zip Code)

(408) 481-8000
(Registrant's telephone number, including area code)

Not Applicable
(Former name, former address and former fiscal year,
if changed since last report)

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 periods that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes X No

As of June 30, 1997, there were 22,213,300 shares of Common Stock (no par value) outstanding.

1

TRIMBLE NAVIGATION LIMITED

This report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Actual results could differ materially from those indicated in the forward-looking statements as a result of the risk factors set forth in this report. The Company has attempted to identify forward-looking statements in this report by placing an asterisk (*) in the left-hand margin of paragraphs containing those statements.

INDEX

	Page Number
PART I. FINANCIAL INFORMATION	
Item 1. Financial Statements	
Condensed Consolidated Balance Sheets - June 30, 1997 and December 31, 1996	3
Condensed Consolidated Statements of Operations - Three and Six Months ended June 30, 1997 and 1996	4
Condensed Consolidated Statements of Cash Flows - Six Months ended June 30, 1997 and 1996	5
Notes to Condensed Consolidated Financial Statements	6
Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations	9
PART II. OTHER INFORMATION	
Item 4. Submission of Matters to a Vote of Security Holders	16
Item 6. Exhibits and Reports on Form 8-K	17

PART I. FINANCIAL INFORMATION
Item 1. Financial Statements

TRIMBLE NAVIGATION LIMITED
CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 1997	December 31, 1996
	(Unaudited)	(Note)

(In thousands)		
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 31,443	\$ 22,671
Short term investments	57,028	59,867
Accounts receivable, net	39,484	34,374
Inventories	38,481	38,858
Other current assets	2,895	3,633
	-----	-----
Total current assets	169,331	159,403
Net property and equipment	22,339	21,504
Intangible assets	4,071	4,493
Deferred income taxes	366	383
Other assets	5,026	4,058
	-----	-----
Total assets	\$ 201,133	\$ 189,841
	=====	=====
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	\$ 356	\$ 316
Accounts payable	16,244	13,763
Accrued compensation and benefits	7,794	6,552
Customer advances	3,956	3,000
Accrued liabilities	9,699	10,358
Income taxes payable	2,364	869
	-----	-----
Total current liabilities	40,413	34,858
	-----	-----
Noncurrent portion of long-term debt and other liabilities	30,789	30,938
	-----	-----
Total liabilities	71,202	65,796
	-----	-----
Shareholders' equity:		
Common stock	126,404	125,535
Common stock warrants	700	700
Retained earnings (accumulated deficit)	2,690	(2,603)
Unrealized gain on short term investments	26	20
Foreign currency translation adjustment	111	393
	-----	-----
Total shareholders' equity	129,931	124,045
	-----	-----
Total liabilities and shareholders' equity	\$ 201,133	\$ 189,841
	=====	=====

See accompanying notes to condensed consolidated financial statements.

TRIMBLE NAVIGATION LIMITED
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	1997	1996	1997	1996
(In thousands, except per share data)				
Total revenue	\$ 68,944	\$ 58,602	\$ 129,495	\$ 115,324
Operating expenses:				
Cost of sales	32,255	27,037	61,300	53,052
Research and development	10,113	9,144	19,114	17,969
Sales and marketing	14,916	16,844	29,264	32,908
General and administrative	7,306	9,057	13,712	16,468
	64,590	62,082	123,390	120,397
Operating income (loss)	4,354	(3,480)	6,105	(5,073)
Nonoperating income (expense):				
Interest income	1,089	1,150	2,142	2,397
Interest and other expenses	(818)	(926)	(1,784)	(1,895)
Foreign exchange gain (loss)	63	24	154	(93)
	334	248	512	409
Income (loss) before income taxes	4,688	(3,232)	6,617	(4,664)
Income tax provision (benefit)	823	(647)	1,323	(933)
Net income (loss)	\$ 3,865	\$ (2,585)	\$ 5,294	\$ (3,731)
Net income (loss) per share	\$ 0.17	(0.12)	\$ 0.24	(0.17)
Weighted average common and dilutive common equivalent shares	22,544	21,791	22,484	21,735

See accompanying notes to condensed consolidated financial statements.

TRIMBLE NAVIGATION LIMITED
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

Six Months Ended
June 30,
1997 1996

(In thousands)

Net cash provided (used) by operating activities	\$ 12,104	\$ (6,041)	
<hr style="border-top: 1px dashed black;"/>			
Cash flow from investing activities:			
Purchase of short term investments	(50,160)	(46,551)	
Maturities of short term investments	32,875	34,252	
Sales of short term investments	20,124	15,212	
Equity investments	(886)	(1,400)	
Acquisition of property and equipment	(5,889)	(6,624)	
Capitalized patent expenditures	(341)	(438)	
	<hr style="border-top: 1px dashed black;"/>		
Net cash used in investing activities	(4,277)	(5,549)	
<hr style="border-top: 1px dashed black;"/>			
Cash flow from financing activities:			
Issuance of common stock	2,703	2,873	
Repurchase of common stock	(1,834)	-	
Collection/(payment) of notes receivable	(9)	49	
Proceeds/(payments) on long-term debt and revolving credit facilities	85	(963)	
	<hr style="border-top: 1px dashed black;"/>		
Net cash provided by financing activities	945	1,959	
<hr style="border-top: 1px dashed black;"/>			
Net increase (decrease) in cash and cash equivalents	8,772	(9,631)	
Cash and cash equivalents -- beginning of period	22,671	29,711	
	<hr style="border-top: 1px dashed black;"/>		
Cash and cash equivalents -- end of period	\$ 31,443	\$ 20,080	
	<hr style="border-top: 1px dashed black;"/>		
	<hr style="border-top: 1px dashed black;"/>		
Supplemental disclosures of cash flow information:			
Cash paid (received) during the period for:			
Interest	\$ 898	\$ 787	
Income taxes/(benefit), net of refunds	\$ (180)	\$ 83	

See accompanying notes to condensed consolidated financial statements.

TRIMBLE NAVIGATION LIMITED
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 - Basis of Presentation:

The condensed consolidated financial statements for the three and six month periods ended June 30, 1997, and 1996 presented in this Quarterly Report on Form 10-Q are unaudited. The balance sheet at December 31, 1996, has been derived from the audited financial statements at that date but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, these statements include all adjustments (consisting only of normal recurring adjustments) necessary for a fair statement of the results for the interim periods presented. The condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Annual Report to Shareholders for the year ended December 31, 1996.

The results of operations for the three month and six month periods ended June 30, 1997 are not necessarily indicative of the results that may be expected for the year ending December 31, 1997.

NOTE 2 - Inventories:

Inventories consist of the following:

	June 30, 1997	December 31, 1996

(In thousands)		
Raw materials	\$ 22,789	\$ 24,145
Work-in-process	4,710	5,174
Finished goods	10,982	9,539
	-----	-----
	\$ 38,481	\$ 38,858
	-----	-----

NOTE 3 - New Accounting Standards:

Effective January 1, 1997, the Company adopted Statement of Financial Accounting Standards No. 125 ("SFAS 125"), "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities." At June 30, 1997, the Company was contingently liable to a Japanese bank for \$356,000 at month end exchange rates arising from customers' notes receivable which the Company sold with recourse to the bank. In accordance with SFAS 125, the Company has recorded this amount as a liability.

* In February 1997, the Financial Accounting Standards Board issued Statement No. 128, "Earnings Per Share", which is required to be adopted on December 31, 1997. At that time, the Company will be required to change the method currently used to compute earnings per share and to restate all prior periods. Under the new requirements for calculating primary earnings per share, the dilutive effect of stock options will be excluded. The impact of Statement 128 on the calculation of primary and fully diluted earnings per share for the quarters reported is not expected to be material.

NOTE 4 - Contingencies:

Shareholder Litigation

On December 6, 1995, two shareholders filed a class action lawsuit against the Company and certain directors and officers of the Company. Subsequent to that date, additional lawsuits were filed by other shareholders. The lawsuits were subsequently amended and consolidated into one complaint which was filed on April 5, 1996. The amended consolidated complaint sought to bring an action as a class action consisting of all persons who purchased the common stock of the Company during the period April 18, 1995, through December 5, 1995 (the "Class Period"). The plaintiffs alleged that the defendants sought to induce the members of the Class to purchase the Company's common stock during the Class Period at artificially inflated prices. The plaintiffs seek rescissory or compensatory damages with interest thereon, as well as reasonable attorneys' fees and extraordinary equitable and/or injunctive relief. The Company filed a motion to dismiss, which was heard by the Court on August 16, 1996. The court rejected the plaintiffs' lawsuit, but allowed thirty days to resubmit its complaint. On September 24, 1996, the plaintiffs filed an amended complaint. On April 28, 1997, the Court granted in part, and denied in part, the Company's motion to dismiss. The Court further granted the plaintiffs leave to replead certain dismissed claims. On June 19, 1997 the plaintiffs filed a third amended and consolidated complaint. The Company has filed a motion to dismiss. The Company does not believe that it is possible to predict the outcome of this litigation.

Other Litigation

* In October 1995, an employee who was terminated by the Company in 1992 filed a Complaint against the Company, alleging that his incentive stock options continued to vest subsequent to his termination. He seeks damages of approximately \$1,000,000. The Company has filed a general denial in answer to the Complaint, and a trial date has been set for September 15, 1997. The Company does not believe that the Complaint will be successful.

In September 1996, the British Technology Group ("BTG") brought suit for alleged infringement of its RE.34,004 patent. BTG has also brought suit against two other defendants over the same patent. Discovery is underway, and a Markman hearing is scheduled in the Eastern District of Pennsylvania for September 9, 1997. Trial is set for January 8, 1998. The Company believes the suit is without merit and intends to defend itself vigorously.

Note 5 - Line of Credit

In August 1995, the Company entered into a \$30,000,000 unsecured line of credit agreement with two banks which expired in July 1997. In July 1997 the Company has received an amendment to extend the line of credit to September 1, 1997. The agreement enables the Company to borrow up to \$30,000,000 provided that certain financial and other covenants are met. The agreement provides for payment of a commitment fee of 0.5% for the unused portion of the line of credit. Borrowings bear interest at the higher of (i) one of the bank's annual prime rate and (ii) the federal funds rate plus 0.5%. To date, no borrowings have been made under the line of credit. Under the current line of credit the Company is restricted from paying dividends. The Company intends to obtain another line of credit on similar terms on September 1, 1997.

Note 6 - Subsequent Events:

On July 25, 1997, the Company made a bridge loan for \$1.5 million to Proshot Golf, Inc, a minority investee of the Company, at prime plus 1.5%. The loan is due on or before February 25, 1998 and is secured entirely by an irrevocable stand-by letter of credit with a commercial bank having the Company as beneficiary and Proshot as account party.

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

RESULTS OF OPERATIONS

Revenues

Revenues for the three month and six month periods ended June 30, 1997, were \$68,944,000 and \$129,495,000 as compared with \$58,602,000 and \$115,324,000 in the corresponding 1996 periods. The table below breaks out the Company's revenues by business unit:

	Three Months Ended June 30,			Six Months Ended June 30,		
	1997	1996	Increase	1997	1996	Increase
(In thousands)						
Commercial Systems	45,042	42,442	6%	83,163	80,579	3%
Software & Component Technologies	12,209	8,885	37%	21,785	18,491	18%
Aerospace	11,693	7,275	61%	24,547	16,254	51%
Total	\$ 68,944	\$ 58,602	18%	\$ 129,495	\$ 115,324	12%

Commercial Systems

Commercial Systems revenues for the three month and six month periods ended June 30, 1997 increased in total over the prior year period, however, the Company experienced a decrease in the Land Survey vertical market as compared to June 30, 1997. However, the Company believes that it has maintained its market share worldwide.

The decreases in Land Survey sales in the second quarter of 1997, compared to the second quarter of 1996, are due in part to the continued slow down of the European and Japanese economies.

The decrease in Land Survey sales were offset by an increase in the overall Commercial Systems' revenues for the second quarter of 1997, as compared to the second quarter of 1996, which occurred primarily in the Precise Positioning, GIS, and Tracking vertical markets.

Tracking and Communications revenues have increased in the second quarter of 1997 compared to the second quarter of 1996 due to the resumption of shipments in March 1997 to American Mobile Satellite Corporation (AMSC), a company based in Reston, Virginia, that provides a variety of voice and data services via satellite. The shipments were originally discontinued late in the fourth quarter of 1995 at the request of AMSC, in part due to delays in AMSC's completion of software. On February 20, 1997, an agreement was signed between Trimble and AMSC to resume shipments of Trimble's Galaxy/GPS terminals at the rate of 500 units per month, beginning in March 1997.

Approximately 1,750 and 2,000 units were shipped in the three month and six month periods ending June 30, 1997, respectively.

Software and Component Technologies

Software and Component Technologies revenues increased for the three month and six month periods ended June 30, 1997, as compared with the corresponding periods for 1996 due primarily to a \$2.2 million technology license from Pioneer Electronic Corporation in connection with the expansion of the original 1992 license for in-car navigation technology recorded in the 1997 periods.

Aerospace

* Sales of Aerospace products increased for the three and six month periods ending June 30, 1997, compared to the same periods in 1996 primarily due to the increased sales of the HT 9100, Honeywell Trimble product line. The Company considers its Aerospace products to be a long term growth opportunity. It believes that success in this area will be dependent upon the success of the current strategic alliance with Honeywell.

* Military sales increased slightly in the second quarter of 1997, compared to the second quarter of 1996. Military sales are highly dependent on contracts that are subject to government approval and are, therefore, expected to continue to fluctuate from period to period. The Company believes that opportunities in this market have been substantially reduced by cutbacks in U.S. and foreign military spending.

Revenue outside the US

* Sales to unaffiliated customers in locations outside the U.S. comprised approximately 45% and 48% of revenue in the first six months of 1997 and 1996, respectively. During the first six months of 1997, the Company experienced lower revenues in Europe in many product lines, and in Japan primarily related to surveying products. The Company anticipates that export revenue and sales made by its subsidiaries in locations outside the U.S. will continue to account for a significant portion of its revenue and, therefore, the Company is subject to the risks inherent in these sales, including unexpected changes in regulatory requirements, exchange rates, governmental approval, tariffs or other barriers. Even though the U.S. Government announced on March 29, 1996, that it would support and maintain the GPS system, as well as eliminate the use of Selective Availability (S/A) (a method of degrading GPS accuracy), customers in certain foreign markets may be reluctant to purchase products based on GPS technology given the control of GPS by the U.S. Government. The Company's results of operations could be adversely affected if the Company were unable to continue to generate significant sales in locations outside the U.S.

Gross Margin

* Gross margin varies on a quarterly basis due to a number of factors, including product mix, technology license fees, domestic versus international sales, customer type, the effects of production volumes and fixed manufacturing costs on unit product costs and new product start-up costs. Gross margin as a

percentage of total product revenue was 53% for both the three month and six month periods ended June 30, 1997, as compared with 54% in the corresponding 1996 periods. The 1997 margins have been enhanced by the positive impact of non-product revenues recognized from Pioneer of \$2.2 million in the second quarter of 1997. Although, the Company has recorded similar non-recurring items in the past, including \$2,080,000 in the first six months of 1996, there can be no assurance that similar items will recur in the future. The lower gross margin percentage for the 1997 three month and six month periods, primarily reflect a shift in product mix from higher margin Commercial Systems sales to lower margin Avionics and OEM sales and decreases in the margins obtained on sales of Commercial Systems products. There can be no assurance that these margins will be sustained because of mix changes within and among the business units, market pressures on unit selling prices, fluctuations in unit manufacturing costs and other factors. While Commercial Systems products have the highest gross margins of all the Company's products, those margins have decreased primarily because the Company has reduced prices on these products in response to competition. The Company expects competition to increase in its Commercial Systems markets and, therefore, it is likely that further price erosion will occur, with consequently lower gross margin percentages in the future.

* The Company also expects that a higher percentage of its business in the future will be conducted through alliances with strategic partners, e.g. Honeywell, Caterpillar, and Case. As a result of volume pricing and the assumption of certain operating costs in connection with such partners, margins are likely to be lower than sales directly to end-users.

Operating Expenses

The following table shows operating expenses for the periods indicated and should be read in conjunction with the narrative descriptions of those operating expenses below:

	Three Months Ended June 30,			Six Months Ended June 30,		
	1997	1996	Increase/ (Decrease)	1997	1996	Increase/ (Decrease)
(In Thousands)						
Research and development	10,113	9,144	11%	19,114	17,969	6%
Sales and marketing	14,916	16,844	(11)%	29,264	32,908	(11)%
General and administrative	7,306	9,057	(19)%	13,712	16,468	(17)%
Total	\$ 32,335	\$ 35,045	(8)%	\$ 62,090	\$ 67,345	(8)%

Research and Development

Research and development expenses increased in the three month and six month periods ended June 30, 1997, as compared with the corresponding 1996 periods. The higher research and development expense in the 1997 periods are due to an increase in personnel and the related expenses which accompany an increase in the number of employees. The increase in research and development personnel is part of the Company's continuing focus on developing future products.

* The Company expects that a significant portion of its future revenues and operating income will continue to be derived from sales of newly introduced

products. Consequently, the Company's future success depends in part on its ability to continue to advance product technology and to develop and manufacture new competitive products with high gross profit margins. Development and manufacturing schedules for technology products are difficult to predict, and there can be no assurance that the Company will achieve timely initial customer shipments of new products. The timely availability of these products in volume and their acceptance by customers are important to the future success of the Company. In addition, certain of the Company's products are subject to governmental and similar certifications before they can be sold. For example, FAA certification is required for all aviation products. An inability or delay in obtaining such certifications could have an adverse effect on the Company's operating results.

Sales and Marketing

The decreased sales and marketing expenses for the three month and six month periods ended June 30, 1997, as compared with the corresponding periods in 1996 is due primarily to a reduction in headcount and related expenses resulting from the Company's restructuring in September 1996. In addition, the Company experienced decreases in advertising and promotional items related to lower costs for the annual report and lower media development costs.

The Company's future growth will depend upon the timely development and continued viability of the markets in which the Company currently competes and upon the Company's ability to continue to identify and exploit new markets for its products. In addition, the Company has encountered significant competition in selected markets, and the Company expects such competition to intensify as the market for GPS applications receives acceptance. Several of the Company's competitors are major corporations with substantially greater financial, technical, marketing and manufacturing resources. Increased competition is likely to result in reduced market share and in price reductions of GPS-based products, which could adversely affect the Company's revenues and profitability.

General and Administrative

The decrease in general and administrative expense for the three month and six month periods ended June 30, 1997, as compared with the corresponding periods for 1996, primarily reflects lower legal expenses as a result of reduced litigation.

Income Taxes

The effective tax rate was 18% for the three months ended June 30, 1997 and 20% for the six months ended June 30, 1997 as compared with an effective tax rate of 20% for the same periods in 1996.

Inflation

The effects of inflation on the Company's financial results have not been significant to date.

Liquidity and Capital Resources

* For the six month period ended June 30, 1997, cash provided from operating activities was \$12,104,000 as compared to cash used of \$6,041,000 in the corresponding period in 1996. Cash provided by sales of common stock in 1997

represents proceeds from purchases made pursuant to the Company's stock option and employee stock purchase plans and totaled \$2,703,000 for the six months ended June 30, 1997. The Company has relied primarily on cash provided by financing activities and net sales of short-term investments to fund operations, capital expenditures, the repurchase the Company's common stock (see further explanation below), and other investing activities. The Company's ability to generate cash from operations will depend in a large part on revenues and the rate of collections of accounts receivable. Management believes that its cash, cash equivalents and short-term investment balances, with its existing credit line, will be sufficient to meet its anticipated cash needs for at least one year. At June 30, 1997, the Company had cash and cash equivalents of \$31,443,000 and short-term investments of \$57,028,000.

* In August 1995, the Company entered into an agreement with two banks for a \$30.0 million unsecured line of credit that expired in July 1997. The line of credit was amended in July 1997 to extend the line of credit to September 1, 1997. The agreement enables the Company to borrow up to \$30.0 million provided that certain financial and other covenants are met. The agreement provides for payment of a commitment fee of 0.5% for the unused portion of the line of credit. Borrowings bear interest at the higher of (i) one of the bank's annual prime rate, and (ii) the federal funds rate plus 0.5%. No borrowings have been made under this line of credit. The Company intends to obtain another line of credit on similar terms after this line expires.

In February 1996, the Company announced that it had approved a discretionary program whereby up to 600,000 shares of its common stock may be repurchased by the Company to offset potential dilutive effects to earnings per share from the issuance of stock options. The Company intends to use existing cash, cash equivalents and short-term investments to finance any such stock repurchases under this program. In 1996, the Company purchased 250,000 shares at a cost of \$3,545,000. In the first quarter of 1997, the Company purchased 50,000 shares at a cost of \$673,000. In the second quarter of 1997 the Company purchased 89,500 shares at a cost of \$1,161,000.

The Company is continually evaluating potential external investments in technologies related to its business and to date has made relatively small investments in GPS related technology companies. There can be no assurance that investments made to date and potential future investments will be successful.

Other Risk Factors

In the past, revenue has tended to fluctuate on a quarterly basis due to the timing of shipments of products under contracts, the sale of license rights and seasonal patterns favoring spring and summer for the Commercial Systems business. However, the seasonal patterns were not repeated in 1996, however, there can be no assurances that prior seasonal revenue trends will be experienced during 1997. A significant portion of the Company's quarterly revenues are derived from orders received and immediately shipped to customers in the last few weeks and days of a quarter. If orders are not received, or shipments are delayed beyond the end of a quarter, operating results would be significantly adversely impacted.

* The Company has a relatively fixed cost structure in the short term which is determined by the business plans and strategies the Company intends to implement in the markets it addresses. This effective leveraging means that increases or decreases in revenues have more than a proportional impact on net income or losses. The Company estimates that a change in product revenue of \$1 million would cause a corresponding change in the Company's earnings per share by 2 to 3 cents.

* In the longer term, the Company believes that the Software and Component Technologies business unit will comprise a significant portion of the Company's business. The Software and Component Technologies business unit differs in nature from most of the Company's markets because volumes are high and margins relatively low. Software and Component Technologies customers are extremely price sensitive. To the extent, if any, that costs decrease through technological advances, a portion of these cost savings will be passed on to the customer. To compete in the Software and Component Technologies market requires high-volume production and manufacturing techniques. Customers expect high quality standards with very low defect rates. The Company is relatively inexperienced compared to competitors with far greater resources in such high-volume manufacturing and associated support activities. The Company's failure to meet customer expectations in this market could cause the Company to lose customer orders, which could result in a material adverse effect on the Company's operating results.

The Company's stock price is subject to significant volatility. If revenues and/or earnings fail to meet the expectations of the investment community, there could be an immediate and significant impact on the trading price of the Company's stock.

The value of the Company's products relies substantially on the Company's technical innovation in fields in which there are many current patent filings. The Company recognizes that as new patents are issued or are brought to the Company's attention by the holders of such patents, it may be necessary for the Company to withdraw products from the market, take a license from such patent holders, or redesign its products. The Company does not believe any of its products infringe patents or other proprietary rights of third parties, but cannot be certain they do not do so. In addition, the legal costs and engineering time required to safeguard intellectual property or to defend against litigation could become a significant expense of operations. Such events could have a material adverse effect on the Company's revenues or profitability. (See Note 4- Other Litigation:, to the financial statements)

The Company is continually evaluating alliances and external investments in technologies related to its business and has already entered into alliances and made relatively small investments in GPS related technology companies. Acquisitions of companies, divisions of companies, or products and alliances entail numerous risks, including (i) the potential inability to successfully integrate acquired operations and products or to realize anticipated synergies, economies of scale or other value, (ii) diversion of management's attention, and (iii) loss of key employees of acquired operations. Any such problems could have a material adverse effect on the Company's business, financial condition and results of operations. No assurances can be given that the Company will not incur problems from current or future alliances, acquisitions, or investments. Furthermore, there can be no assurance that the Company will realize value from any such alliances, acquisitions, or investments.

The Company's products rely on signals from the GPS Navstar satellite system built and maintained by the U.S. Department of Defense. Navstar satellites and their ground support systems are complex electronic systems subject to electronic and mechanical failures and possible sabotage. Some of these 24 satellites have exceeded their design lives of 7.5 years and are also subject to damage by the hostile space environment in which they operate. Repair of damaged or malfunctioning satellites is impossible. If a significant number of satellites were to become inoperable, there could be a substantial delay before they are replaced with new satellites. A reduction in the number of operating satellites would impair the current utility of the GPS system and the growth of current and additional market opportunities. In addition, there can be no assurance that the U.S. Government will remain committed to the operation and maintenance of GPS satellites over a long period of time, nor that policies of the U.S. Government allowing for the use of GPS without charge will remain unchanged. Because of ever increasing commercial applications of GPS, other U.S. Government agencies may become involved in the administration or the regulation of the use of GPS signals. Any of the foregoing factors could affect the willingness of buyers of the Company's products to select GPS-based systems instead of products based on competing technologies. Any resulting change in market demand for GPS products would have a material adverse effect on the Company's financial results. Certain European government organizations have expressed concern regarding the susceptibility of GPS equipment to intentional or inadvertent signal interference. Such concern could translate into reduced demand for GPS products in certain geographic regions.

PART II. OTHER INFORMATION

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

The annual meeting of shareholders of the company was held in Sunnyvale, California, on May 15, 1997.

At the annual shareholder meeting, an election of Directors was held with the following individuals being elected to the Company's Board of Directors.

	VOTE	
	-----	-----
	For	Withheld
Robert S. Cooper	20,078,982	379,410
John B. Goodrich	20,075,615	382,777
William Hart	20,059,077	399,315
Bradford W. Parkinson	20,064,572	393,820
Charles R. Trimble	20,057,789	400,603

Other matters voted upon at the meeting and the results of the voting with respect to each such matter were as follows:

- (1) Approval of an increase of 600,000 shares of Common Stock available for issuance under the Company's 1993 Stock Option Plan (16,858,081 in favor, 3,456,518 opposed, 143,793 abstentions, 1,845,522 broker non-votes).
- (2) Ratification of the appointment of Ernst & Young LLP as the Company's independent auditors for the year ending December 31, 1997 (20,249,572 in favor, 123,205 opposed, 85,615 abstentions, 0 broker non-votes).

ITEM 6. EXHIBITS AND REPORTS ON FORM 8-K

	Page Number
A. Exhibits	
3.7 Bylaws of the Company, as amended.	19-40
10.57 Revolving Credit Agreement - Fourth Amendment	41-43
11.1 Computation of Earnings Per Share	44
27 Financial Data Schedule	45

B. Report on Form 8-K

There were no reports on Form 8-K filed during the quarter ended June 30, 1997.

SIGNATURES

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

TRIMBLE NAVIGATION LIMITED
(Registrant)

By: /S/Dennis R. Ing

Dennis R. Ing
(Vice President Finance, Chief Financial
Officer, and principal financial and principal accounting officer)

DATE: August 14, 1997

TRIMBLE NAVIGATION LIMITED
EXHIBIT 3.7
BY LAWS, AS AMENDED

BY-LAWS

OF

TRIMBLE NAVIGATION LIMITED
(restated as of May 15, 1997)

19

TABLE OF CONTENTS

	Page
ARTICLE I - CORPORATE OFFICES.....	1
1.1 PRINCIPAL OFFICE.....	1
1.2 OTHER OFFICES.....	1
ARTICLE II - MEETINGS OF SHAREHOLDERS.....	1
2.1 PLACE OF MEETINGS.....	1
2.2 ANNUAL MEETING.....	1
2.3 SPECIAL MEETING.....	2
2.4 NOTICE OF SHAREHOLDERS' MEETINGS.....	2
2.5 MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE.....	2
2.6 QUORUM.....	3
2.7 ADJOURNED MEETING; NOTICE.....	3
2.8 VOTING.....	4
2.9 VALIDATION OF MEETINGS: WAIVER OF NOTICE; CONSENT.....	4
2.10 SHAREHOLDER ACTION BY WRITTEN CONSENT WITHOUT A MEETING.....	5
2.11 RECORD DATE FOR SHAREHOLDER NOTICE, VOTING AND GIVING CONSENTS.....	5
2.12 PROXIES.....	6
2.13 INSPECTORS OF ELECTION.....	6
ARTICLE III - DIRECTORS.....	7
3.1 POWERS.....	7
3.2 NUMBER AND QUALIFICATION OF DIRECTORS.....	7
3.3 ELECTION AND TERM OF OFFICE OF DIRECTORS.....	8
3.4 VACANCIES.....	8
3.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE.....	8
3.6 REGULAR MEETINGS.....	9
3.7 SPECIAL MEETINGS.....	9
3.8 QUORUM.....	9
3.9 WAIVER OF NOTICE.....	10
3.10 ADJOURNMENT.....	10
3.11 NOTICE OF ADJOURNMENT.....	10
3.12 ACTION WITHOUT MEETING.....	10
3.13 FEES AND COMPENSATION OF DIRECTORS	10
ARTICLE IV - COMMITTEES.....	11
4.1 COMMITTEES OF DIRECTORS.....	11
4.2 MEETINGS AND ACTION OF COMMITTEES.....	11

20

ARTICLE V - OFFICERS.....12

5.1 OFFICERS.....12

5.2 ELECTION OF OFFICERS.....12

5.3 SUBORDINATE OFFICERS.....12

5.4 REMOVAL AND RESIGNATION OF OFFICERS.....12

5.5 VACANCIES IN OFFICES.....13

5.6 CHAIRMAN OF THE BOARD.....13

5.7 PRESIDENT.....13

5.8 VICE PRESIDENTS.....13

5.9 SECRETARY.....13

5.10 CHIEF FINANCIAL OFFICER.....14

ARTICLE VI - INDEMNIFICATION OF DIRECTORS, OFFICERS, EMPLOYEES, AND OTHER AGENTS.....14

6.1 INDEMNIFICATION OF DIRECTORS AND OFFICERS.....14

6.2 INDEMNIFICATION OF OTHERS.....14

6.3 PAYMENT OF EXPENSES IN ADVANCE.....15

6.4 INDEMNITY NOT EXCLUSIVE.....15

6.5 INSURANCE INDEMNIFICATION.....15

6.6 CONFLICTS.....15

ARTICLE VII - RECORDS AND REPORTS.....16

7.1 MAINTENANCE AND INSPECTION OF SHARE REGISTER.....16

7.2 MAINTENANCE AND INSPECTION OF BY-LAWS.....16

7.3 MAINTENANCE AND INSPECTION OF OTHER CORPORATE RECORDS.....17

7.4 INSPECTION BY DIRECTORS.....17

7.5 ANNUAL REPORT TO SHAREHOLDERS; WAIVER.....17

7.6 FINANCIAL STATEMENTS.....17

ARTICLE VIII - GENERAL MATTERS.....18

8.1 RECORD DATE FOR PURPOSES OTHER THAN NOTICE AND VOTING.....18

8.2 CHECKS, DRAFTS, EVIDENCES OF INDEBTEDNESS.....19

8.3 CORPORATE CONTRACTS AND INSTRUMENTS: HOW EXECUTED.....19

8.4 CERTIFICATES FOR SHARES.....19

8.5 LOST CERTIFICATES.....19

8.6 CONSTRUCTION AND DEFINITIONS.....20

ARTICLE IX - AMENDMENTS.....20

9.1 AMENDMENT BY SHAREHOLDERS.....20

9.2 AMENDMENT BY DIRECTORS.....20

ARTICLE I
CORPORATE OFFICES

I.1 PRINCIPAL OFFICE

The board of directors shall fix the location of the principal executive office of the corporation at any place within or outside the State of California. If the principal executive office is located outside such state, and the corporation has one or more business offices in such state, the board of directors shall fix and designate a principal business office in the State of California.

I.2 OTHER OFFICES.

The board of directors may at any time establish branch or subordinate offices at any place or places where the corporation is qualified to do business.

ARTICLE II
MEETINGS OF SHAREHOLDERS

II.1 PLACE OF MEETINGS.

Meetings of shareholders shall be held at any place within or outside the State of California designated by the board of directors. In the absence of any such designation, shareholders' meetings shall be held at the principal executive office of the corporation.

II.2 ANNUAL MEETING.

The annual meeting of shareholders shall be held each year on a date and at a time designated by the board of directors. In the absence of such designation, the annual meeting of shareholders shall be held on the fourth Thursday of April in each year at 4:00 p.m. However, if such day falls on a legal holiday, then the meeting shall be held at the same time and place on the next succeeding full business day. At the meeting, directors shall be elected, and any other proper business may be transacted.

II.3 SPECIAL MEETING

A special meeting of the shareholders may be called at any time by the board of directors, or by the chairman of the board, or by the president, or by one or more shareholders holding shares in the aggregate entitled to cast not less than ten percent (10%) of the votes at that meeting.

If a special meeting is called by any person or persons other than the board of directors, the request shall be in writing, specifying the time of such meeting and the general nature of the business proposed to be transacted, and shall be delivered personally or sent by registered mail or by telegraphic or other facsimile transmission to the chairman of the board, the president, any vice president or the secretary of the corporation. The officer receiving the request shall cause notice to be promptly given to the shareholders entitled to vote, in accordance with the provisions of Sections 2.4 and 2.5 of these by-laws, that a meeting will be held at the time requested by the person or persons calling the meeting, not less than thirty-five (35) nor more than sixty (60) days after the receipt of the request. If the notice is not given within twenty (20) days after receipt of the request, the person or persons requesting the meeting may give the notice. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing or affecting the time when a meeting of shareholders called by action of the board of directors may be held.

II.4 NOTICE OF SHAREHOLDERS' MEETINGS.

All notices of meetings of shareholders shall be sent or otherwise given in accordance with Section 2.5 of these by-laws not less than ten (10) nor more than sixty (60) days before the date of the meeting. The notice shall specify the place, date and hour of the meeting and (i) in the case of a special meeting, the general nature of the business to be transacted (no business other than that specified in the notice may be transacted) or (ii) in the case of the annual meeting, those matters which the board of directors, at the time of giving the notice, intends to present for action by the shareholders. The notice of any meeting at which directors are to be elected shall include the name of any nominee or nominees whom, at the time of the notice, management intends to present for election.

If action is proposed to be taken at any meeting for approval of (i) a contract or transaction in which a director has a direct or indirect financial interest, pursuant to Section 310 of the Corporations Code of California (the "Code"), (ii) an amendment of the articles of incorporation, pursuant to Section 902 of the Code, (iii) a reorganization of the corporation, pursuant to Section 1201 of the Code, (iv) a voluntary dissolution of the corporation, pursuant to Section 1900 of the Code, or (v) a distribution in dissolution other than in accordance with the rights of outstanding preferred shares, pursuant to Section 2007 of the Code, the notice shall also state the general nature of that proposal.

II.5 MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE.

Notice of any meeting of shareholders shall be given either personally or by first-class mail or telegraphic or other written communication, charges prepaid, addressed to the shareholder at the address of that shareholder appearing on the books of the corporation or given by the shareholder to the corporation for the purpose of notice. If no such address appears on the corporation's books or is given, notice shall be deemed to have been given if sent to that shareholder by first-class mail or telegraphic or other written communication to the corporation's principal executive office, or if published at least once in a newspaper of general circulation in the county where that office is located. Notice shall be deemed to have been given at the time when delivered personally or deposited in the mail or sent by telegram or other means of written communication.

If any notice addressed to a shareholder at the address of that shareholder appearing on the books of the corporation is returned to the corporation by the United States Postal Service marked to indicate that the United States Postal Service is unable to deliver the notice to the shareholder at that address, all future notices or reports shall be deemed to have been duly given without further mailing if the same shall be available to the shareholder on written demand of the shareholder at the principal executive office of the corporation for a period of one (1) year from the date of the giving of the notice.

An affidavit of the mailing or other means of giving any notice of any shareholders' meeting, executed by the secretary, assistant secretary or any transfer agent of the corporation giving the notice, shall be prima facie evidence of the giving of such notice.

II.6 QUORUM

The presence in person or by proxy of the holders of a majority of the shares entitled to vote thereat constitutes a quorum for the transaction of business at all meetings of shareholders. The shareholders present at a duly called or held meeting at which a quorum is present may continue to do business until adjournment, notwithstanding the withdrawal of enough shareholders to leave less than a quorum, if any action taken (other than adjournment) is approved by at least a majority of the shares required to constitute a quorum.

II.7 ADJOURNED MEETING; NOTICE.

Any shareholders' meeting, annual or special, whether or not a quorum is present, may be adjourned from time to time by the vote of the majority of the shares represented at that meeting, either in person or by proxy, but in the absence of a quorum, no other business may be transacted at that meeting, except as provided in Section 2.6 of these by-laws.

When any meeting of shareholders, either annual or special, is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place are announced at the meeting at which the adjournment is taken, unless a new record date for the adjourned meeting is fixed, or unless the adjournment is for more than forty-five (45) days from the date set for the original meeting, in which case notice of the adjourned meeting shall be given. Notice of any such adjourned meeting shall be given to each shareholder of record entitled to vote at the adjourned meeting in accordance with the provisions of Sections 2.4 and 2.5 of these by-laws. At any adjourned meeting the corporation may transact any business which might have been transacted at the original meeting.

II.8 VOTING.

The shareholders entitled to vote at any meeting of shareholders shall be determined in accordance with the provisions of Section 2.11 of these by-laws, subject to the provisions of Sections 702 to 704, inclusive, of the Code (relating to voting shares held by a fiduciary, in the name of a corporation or in joint ownership).

The shareholders' vote may be by voice vote or by ballot; provided, however, that any election for directors must be by ballot if demanded by any shareholder before the voting has begun.

On any matter other than the election of directors, any shareholder may vote part of the shares in favor of the proposal and refrain from voting the remaining shares or vote them against the proposal, but, if the shareholder fails to specify the number of shares which the shareholder is voting affirmatively, it will be conclusively presumed that the shareholder's approving vote is with respect to all shares which the shareholder is entitled to vote.

If a quorum is present, the affirmative vote of the majority of the shares represented and voting at a duly-held meeting (which shares voting affirmatively also constitute at least a majority of the required quorum) shall be the act of the shareholders, unless the vote of a greater number, or voting by classes, is required by the Code or by the articles of incorporation.

At a shareholders' meeting at which directors are to be elected, no shareholder shall be entitled to cumulate votes (i.e. cast for any candidate a number of votes greater than the number of votes which such shareholder normally is entitled to cast) unless the candidates' names have been placed in nomination prior to commencement of the voting and a shareholder has given notice prior to commencement of the voting of the shareholder's intention to cumulate votes. If any shareholder has given such a notice, then every shareholder entitled to vote may cumulate votes for candidates placed in nomination and give one candidate a number of votes equal to the number of directors to be elected multiplied by the number of votes to which that shareholder's shares are entitled, or distribute the shareholder's votes on the same principle among any or all of the candidates, as the shareholder thinks fit. The candidates receiving the highest number of votes, up to the number of directors to be elected, shall be elected.

II.9 VALIDATION OF MEETINGS: WAIVER OF NOTICE; CONSENT.

The transactions of any meeting of shareholders, either annual or special, however called and noticed, and wherever held, shall be as valid as though had at a meeting duly held after regular call and notice, if a quorum be present either in person or by proxy, and if, either before or after the meeting, each person entitled to vote, who was not present in person or by proxy, signs a written waiver of notice or a consent to the holding of the meeting or an approval of the minutes thereof. The waiver of notice or consent need not specify either the business to be transacted or the purpose of any annual or special meeting of shareholders, except that if action is taken or proposed to be taken for approval of any of those matters specified in the second paragraph of Section 2.4 of these by-laws, the waiver of notice or consent shall state the general nature of the proposal. All such waivers, consents and approvals shall be filed with the corporate records or made a part of the minutes of the meeting.

Attendance by a person at a meeting shall also constitute a waiver of notice of that meeting, except when the person objects, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened, and except that attendance at a meeting is not a waiver of any right to object to the consideration of a matter not included in the notice of the meeting, if that objection is expressly made at the meeting.

II.10 SHAREHOLDER ACTION BY WRITTEN CONSENT WITHOUT A MEETING

Any action which may be taken at any annual or special meeting of shareholders may be taken without a meeting and without prior notice, if a consent in writing, setting forth the action so taken, is signed by the holders of outstanding shares having not less than the minimum number of votes that would be necessary to authorize or take that action at a meeting at which all shares entitled to vote on that action were present and voted.

In the case of election of directors, such a consent shall be effective only if signed by the holders of all outstanding shares entitled to vote for the election of directors.

All such consents shall be maintained in the corporate records. Any shareholder giving a written consent, or the shareholder's proxy holders, or a transferee of the shares, or a personal representative of the shareholder, or their respective proxy holders, may revoke the consent by a writing received by the secretary of the corporation before written consents of the number of shares required to authorize the proposed action have been filed with the secretary.

If the consents of all shareholders entitled to vote have not been solicited in writing, and if the unanimous written consent of all such shareholders shall not have been received, the secretary shall give prompt notice of the corporate action approved by the shareholders without a meeting. Such notice shall be given in the manner specified in Section 2.5 of these by-laws. In the case of approval of (i) a contract or transaction in which a director has a direct or indirect financial interest, pursuant to Section 310 of the Code, (ii) indemnification of a corporate "agent", pursuant to Section 317 of the Code, (iii) a reorganization of the corporation, pursuant to Section 1201 of the Code, and (iv) a distribution in dissolution other than in accordance with the rights of outstanding preferred shares, pursuant to Section 2007 of the Code, the notice shall be given at least ten (10) days before the consummation of any action authorized by that approval.

II.11 RECORD DATE FOR SHAREHOLDER NOTICE, VOTING AND GIVING CONSENTS.

For purposes of determining the shareholders entitled to notice of any meeting or to vote thereat or entitled to give consent to corporate action without a meeting, the board of directors may fix, in advance, a record date, which shall not be more than sixty (60) days nor less than ten (10) days before the date of any such meeting nor more than sixty (60) days before any such action without a meeting, and in such event only shareholders of record on the date so fixed are entitled to notice and to vote or to give consents, as the case may be, notwithstanding any transfer of any shares on the books of the corporation after the record date, except as otherwise provided in the Code.

If the board of directors does not so fix a record date:

(a) the record date for determining shareholders entitled to notice of or to vote at a meeting of shareholders shall be at the close of business on the business day next preceding the day on which notice is given or, if notice is waived, at the close of business on the business day next preceding the day on which the meeting is held; and

(b) the record date for determining shareholders entitled to give consent to corporate action in writing without a meeting, (i) when no prior action by the board has been taken, shall be the day on which the first written consent is given or (ii) when prior action by the board has been taken, shall be the day on which the board adopts the resolution relating to that action, or the sixtieth (60th) day before the date of such other action, whichever is later.

The record date for any other purpose shall be as provided in Article VIII of these by-laws.

II.12 PROXIES

Every person entitled to vote for directors, or on any other matter, shall have the right to do so either in person or by one or more agents authorized by a written proxy signed by the person and filed with the secretary of the corporation. A proxy shall be deemed signed if the shareholder's name is placed on the proxy (whether by manual signature, typewriting, telegraphic transmission or otherwise) by the shareholder or the shareholder's attorney-in-fact. A validly executed proxy which does not state that it is

irrevocable shall continue in full force and effect unless (i) revoked by the person executing it, before the vote pursuant to that proxy, by a writing delivered to the corporation stating that the proxy is revoked, or by a subsequent proxy executed by the person executing the prior proxy and presented to the meeting, or as to any meeting by attendance at such meeting and voting in person by the person executing the proxy or (ii) written notice of the death or incapacity of the maker of that proxy is received by the corporation before the vote pursuant to that proxy is counted; provided, however, that no proxy shall be valid after the expiration of eleven (11) months from the date of the proxy, unless otherwise provided in the proxy. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Sections 705(e) and 705(f) of the Code.

II.13 INSPECTORS OF ELECTION

Before any meeting of shareholders, the board of directors may appoint an inspector or inspectors of election to act at the meeting or its adjournment. If no inspector of election is so appointed, the chairman of the meeting may, and on the request of any shareholder or a shareholder's proxy shall, appoint an inspector or inspectors of election to act at the meeting. The number of inspectors shall be either one (1) or three (3). If inspectors are appointed at a meeting pursuant to the request of one (1) or more shareholders or proxies, the holders of a majority of shares or their proxies present at the meeting shall determine whether one (1) or three (3) inspectors are to be appointed. If any person appointed as inspector fails to appear or fails or refuses to act, the chairman of the meeting may, and upon the request of any shareholder or a shareholder's proxy shall, appoint a person to fill that vacancy.

Such inspectors shall:

- (a) Determine the number of shares outstanding and the voting power of each, the number of shares represented at the meeting, the existence of a quorum, and the authenticity, validity and effect of proxies;
- (b) Receive votes, ballots or consents;
- (c) Hear and determine all challenges and questions in any way arising in connection with the right to vote;
- (d) Count and tabulate all votes or consents;
- (e) Determine when the polls shall close;
- (f) Determine the result; and
- (g) Do any other acts that may be proper to conduct the election or vote with fairness to all shareholders.

ARTICLE III

DIRECTORS

III.1 POWERS.

Subject to the provisions of the Code and any limitations in the articles of incorporation and these by-laws relating to action required to be approved by the shareholders or by the outstanding shares, the business and affairs of the corporation shall be managed and all corporate powers shall be exercised by or under the direction of the board of directors.

III.2 NUMBER AND QUALIFICATION OF DIRECTORS

The number of directors of the corporation shall be not less than four (4) nor more than seven (7). The exact number of directors shall be five (5) until changed, within the limits specified above, by a bylaw amending this Section 3.2, duly adopted by the board of directors or by the shareholders. The indefinite number of directors may be changed, or a definite number fixed without provision for an indefinite number, by a duly adopted amendment to the articles of incorporation or by an amendment to this bylaw duly adopted by the vote or written consent of holders of a majority of the outstanding shares entitled to vote; provided, however, that an amendment reducing the number or the minimum number of directors to a number less than five (5) cannot be adopted if the votes cast against its adoption at a meeting of the shareholders, or the shares not consenting in the case of action by written consent, are equal to more than sixteen and two-thirds percent (16-2/3%) of the outstanding shares entitled to vote thereon. No amendment may change the stated maximum number of authorized directors to a number greater than two (2) times the stated minimum number of directors minus one (1).

III.3 ELECTION AND TERM OF OFFICE OF DIRECTORS

Directors shall be elected at each annual meeting of shareholders to hold office until the next such annual meeting. Each director, including a director elected to fill a vacancy, shall hold office until the expiration of the term for which elected and until a successor has been elected and qualified.

III.4 VACANCIES

Vacancies in the board of directors may be filled by a majority of the remaining directors, though less than a quorum, or by a sole remaining director, except that a vacancy created by the removal of a director by the vote or written consent of the shareholders or by court order may be filled only by the vote of a majority of the outstanding shares entitled to vote thereon represented at a duly held meeting at which a quorum is present, or by the unanimous written consent of all shares entitled to vote thereon. Each director so elected shall hold office until the next annual meeting of the shareholders and until a successor has been elected and qualified.

A vacancy or vacancies in the board of directors shall be deemed to exist in the event of the death, resignation or removal of any director, or if the board of directors by resolution declares vacant the office of a director who has been declared of unsound mind by an order of court or convicted of a felony, or if the authorized number of directors is increased, or if the shareholders fail, at any meeting of shareholders at which any director or directors are elected, to elect the number of directors to be elected at that meeting.

The shareholders may elect a director or directors at any time to fill any vacancy or vacancies not filled by the directors, but any such election other than to fill a vacancy created by removal, if by written consent, shall require the consent of the holders of a majority of the outstanding shares entitled to vote thereon.

Any director may resign effective on giving written notice to the chairman of the board, the president, the secretary or the board of directors, unless the notice specifies a later time for that resignation to become effective. If the resignation of a director is effective at a future time, the board of directors may elect a successor to take office when the resignation becomes effective.

No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

III.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE

Regular meetings of the board of directors may be held at any place within or outside the State of California that has been designated from time to time by resolution of the board. In the absence of such a designation, regular meetings shall be held at the principal executive office of the corporation. Special meetings of the board may be held at any place within or outside the State of California that has been designated in the notice of the meeting or, if not stated in the notice or if there is no notice, at the principal executive office of the corporation.

Any meeting, regular or special, may be held by conference telephone or similar communication equipment, so long as all directors participating in the meeting can hear one another; and all such directors shall be deemed to be present in person at the meeting.

III.6 REGULAR MEETINGS

Regular meetings of the board of directors may be held without notice if the times of such meetings are fixed by the board of directors.

III.7 SPECIAL MEETINGS

Special meetings of the board of directors for any purpose or purposes may be called at any time by the chairman of the board, the president, any vice president, the secretary or any two directors.

Notice of the time and place of special meetings shall be delivered personally or by telephone to each director or sent by first-class mail or telegram, charges prepaid, addressed to each director at that director's address as it is shown on the records of the corporation. If the notice is mailed, it shall be deposited in the United States mail at least four (4) days before the time of the holding of the meeting. If the notice is delivered personally, or by telephone or telegram, it shall be delivered personally or by telephone or to the telegraph company at least forty-eight (48) hours before the time of the holding of the meeting. Any oral notice given personally or by telephone may be communicated either to the director or to a person at the office of the director who the person giving the notice has reason to believe will promptly communicate it to the director. The notice need not specify the purpose or the place of the meeting, if the meeting is to be held at the principal executive office of the corporation.

III.8 QUORUM

A majority of the authorized number of directors shall constitute a quorum for the transaction of business, except to adjourn as provided in Section 3.10 of these by-laws. Every act or decision done or made by a majority of the directors present at a duly held meeting at which a quorum is present shall be regarded as the act of the board of directors, subject to the provisions of Section 310 of the Code (as to approval of contracts or transactions in which a director has a direct or indirect material financial interest), Section 311 of the Code (as to appointment of committees) and Section 317(e) of the Code (as to indemnification of directors).

A meeting at which a quorum is initially present may continue to transact business notwithstanding the withdrawal of directors, if any action taken is approved by at least a majority of the required quorum for that meeting.

III.9 WAIVER OF NOTICE.

The transactions of any meeting of the board of directors, however called and noticed or wherever held, shall be as valid as though had at a meeting duly held after regular call and notice if a quorum is present and if, either before or after the meeting, each of the directors not present signs a written waiver of notice, a consent to holding the meeting or an approval of the minutes thereof. The waiver of notice or consent need not specify the purpose of the meeting. All such waivers, consents and approvals shall be filed with the corporate records or made a part of the minutes of the meeting. Notice of a meeting shall also be deemed given to any director who attends the meeting without protesting, before or at its commencement, the lack of notice to that director.

III.10 ADJOURNMENT

A majority of the directors present, whether or not constituting a quorum, may adjourn any meeting to another time and place.

III.11 NOTICE OF ADJOURNMENT

Notice of the time and place of holding an adjourned meeting need not be given, unless the meeting is adjourned for more than twenty-four (24) hours, in which case notice of the time and place shall be given before the time of the adjourned meeting, in the manner specified in Section 3.7 of these by-laws, to the directors who were not present at the time of the adjournment.

III.12 ACTION WITHOUT MEETING

Any action required or permitted to be taken by the board of directors may be taken without a meeting, if all members of the board shall individually or collectively consent in writing to that action. Such action by written consent shall have the same force and effect as a unanimous vote of the board of directors. Such written consent and any counterparts thereof shall be filed with the minutes of the proceedings of the board.

III.13 FEES AND COMPENSATION OF DIRECTORS

Directors and members of committees may receive such compensation, if any, for their services, and such reimbursement of expenses, as may be fixed or determined by resolution of the board of directors. This Section 3.13 shall not be construed to preclude any director from serving the corporation in any other capacity as an officer, agent, employee or otherwise, and receiving compensation for those services.

ARTICLE IV

COMMITTEES

IV.1 COMMITTEES OF DIRECTORS

The board of directors may, by resolution adopted by a majority of the authorized number of directors, designate one (1) or more committees, each consisting of two or more directors, to serve at the pleasure of the board. The board may designate one (1) or more directors as alternate members of any committee, who may replace any absent member at any meeting of the committee. The appointment of members or alternate members of a committee requires the vote of a majority of the authorized number of directors. Any committee, to the extent provided in the resolution of the board, shall have all the authority of the board, except with respect to:

(a) the approval of any action which, under the Code, also requires shareholders' approval or approval of the outstanding shares;

(b) the filling of vacancies in the board of directors or in any committee;

(c) the fixing of compensation of the directors for serving on the board or any committee;

(d) the amendment or repeal of these by-laws or the adoption of new by-laws;

(e) the amendment or repeal of any resolution of the board of directors which by its express terms is not so amendable or repealable;

(f) a distribution to the shareholders of the corporation, except at a rate or in a periodic amount or within a price range determined by the board of directors; or

(g) the appointment of any other committees of the board of directors or the members of such committees.

IV.2 MEETINGS AND ACTION OF COMMITTEES.

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of Article III of these by-laws, Section 3.5 (place of meetings), Section 3.6 (regular meetings), Section 3.7 (special meetings and notice), Section 3.8 (quorum), Section 3.9 (waiver of notice), Section 3.10 (adjournment), Section 3.11 (notice of adjournment) and Section 3.12 (action without meeting), with such changes in the context of those by-laws as are necessary to substitute the committee and its members for the board of directors and its members, except that the time of regular meetings of committees may be determined either by resolution of the board of directors or by resolution of the committee; special meetings of committees may also be called by resolution of the board of directors; and notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The board of directors may adopt

rules for the government of any committee not inconsistent with the provisions of these by-laws.

ARTICLE V

OFFICERS

V.1 OFFICERS.

The officers of the corporation shall be a president, a secretary, and a chief financial officer. The corporation may also have, at the discretion of the board of directors, a chairman of the board, one or more vice presidents, one or more assistant secretaries, one or more assistant treasurers, and such other officers as may be appointed in accordance with the provisions of Section 5.3 of these by-laws. Any number of offices may be held by the same person.

V.2 ELECTION OF OFFICERS.

The officers of the corporation, except such officers as may be appointed in accordance with the provisions of Section 5.3 or Section 5.5 of these by-laws, shall be chosen by the board, subject to the rights, if any, of an officer under any contract of employment.

V.3 SUBORDINATE OFFICERS.

The board of directors may appoint, or may empower the president to appoint, such other officers as the business of the corporation may require, each of whom shall hold office for such period, have such authority and perform such duties as are provided in these by-laws or as the board of directors may from time to time determine.

V.4 REMOVAL AND RESIGNATION OF OFFICERS.

Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by the board of directors at any regular or special meeting of the board or, except in case of an officer chosen by the board of directors, by any officer upon whom such power of removal may be conferred by the board of directors.

Any officer may resign at any time by giving written notice to the corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice; and, unless otherwise specified in that notice, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the corporation under any contract to which the officer is a party.

V.5 VACANCIES IN OFFICES.

A vacancy in any office because of death, resignation, removal, disqualification or any other cause shall be filled in the manner prescribed in these by-laws for regular appointments to that office.

V.6 CHAIRMAN OF THE BOARD.

The chairman of the board, if such an officer be elected, shall, if present, preside at meetings of the board of directors and exercise and perform such other powers and duties as may be from time to time assigned to him by the board of directors or prescribed by these by-laws. If there is no president, the chairman of the board shall also be the chief executive officer of the corporation and shall have the powers and duties prescribed in Section 5.7 of these by-laws.

V.7 PRESIDENT.

Subject to such supervisory powers, if any, as may be given by the board of directors to the chairman of the board, if there be such an officer, the president shall be the chief executive officer of the corporation and shall, subject to the control of the board of directors, have general supervision, direction and control of the business and the officers of the corporation. He shall preside at all meetings of the shareholders and, in the absence of the chairman of the board, or if there be none, at all meetings of the board of directors. He shall have the general powers and duties of management usually vested in the office of president of a corporation, and shall have such other powers and duties as may be prescribed by the board of directors or these by-laws.

V.8 VICE PRESIDENTS.

In the absence or disability of the president, the vice presidents, if any, in order of their rank as fixed by the board of directors or, if not ranked, a vice president designated by the board of directors, shall perform all the duties of the president and when so acting shall have all the powers of, and be subject to all the restrictions upon, the president. The vice presidents shall have such other powers and perform such other duties as from time to time may be prescribed for them respectively by the board of directors, these by-laws, the president or the chairman of the board.

V.9 SECRETARY.

The secretary shall keep or cause to be kept, at the principal executive office of the corporation, or such other place as the board of directors may direct, a book of minutes of all meetings and actions of directors, committees of directors, and shareholders, with the time and place of holding, whether regular or special (and, if special, how authorized and the notice given), the names of those present at directors meetings or committee meetings, the number of shares present or represented at shareholders' meetings, and the proceedings thereof.

The secretary shall keep, or cause to be kept, at the principal executive office of the corporation or at the office of the corporation's transfer agent or registrar, as determined by resolution of the board of directors, a share register, or a duplicate share register, showing the names of all shareholders and their addresses, the number and classes of shares held by each, the number and date of certificates evidencing such shares, and the number and date of cancellation of every certificate surrendered for cancellation.

The secretary shall give, or cause to be given, notice of all meetings of the shareholders and of the board of directors required by these by-laws or by law to be given, and he shall keep the seal of the corporation, if one be adopted, in safe custody and shall have such other powers and perform such other duties as may be prescribed by the board of directors or by these bylaws.

V.10 CHIEF FINANCIAL OFFICER

The chief financial officer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records of accounts of the properties and business transactions of the corporation, including accounts of its assets, liabilities, receipts, disbursements, gains, losses, capital, retained earnings and shares. The books of account shall at all reasonable times be open to inspection by any director.

The chief financial officer shall deposit all money and other valuables in the name and to the credit of the corporation with such depositaries as may be designated by the board of directors. He shall disburse the funds of the corporation as may be ordered by the board of directors, shall render to the president and directors, whenever they request it, an account of all of his transactions as chief financial officer and of the financial condition of the corporation, and shall have such other powers and perform such other duties as may be prescribed by the board of directors or these by-laws.

ARTICLE VI

INDEMNIFICATION OF DIRECTORS, OFFICERS, EMPLOYEES, AND OTHER AGENTS

VI.1 INDEMNIFICATION OF DIRECTORS AND OFFICERS

The corporation shall, to the maximum extent and in the manner permitted by the Code, indemnify each of its directors and officers against expenses (as defined in Section 317(a) of the Code), judgments, fines, settlements, and other amounts actually and reasonably incurred in connection with any proceeding (as defined in Section 317(a) of the Code), arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Article VI, a "director" or "officer" of the corporation includes any person (i) who is or was a director or officer of the corporation, (ii) who is or was serving at the request of the corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, or (iii) who was a director or officer of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

VI.2 INDEMNIFICATION OF OTHERS

The corporation shall have the power, to the extent and in the manner permitted by the Code, to indemnify each of its employees and agents (other than directors and officers) against expenses (as defined in Section 317(a) of the Code), judgments, fines, settlements, and other amounts actually and reasonably incurred in connection with any proceeding (as defined in Section 317(a) of the Code), arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Article VI, an "employee" or "agent" of the corporation (other than a director or officer) includes any person (i) who is or was an employee or agent of the corporation, (ii) who is or was serving at the request of the corporation as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise, or (iii) who was an employee or agent of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

VI.3 PAYMENT OF EXPENSES IN ADVANCE

Expenses incurred in defending any civil or criminal action or proceeding for which indemnification is required pursuant to Section 6.1 or for which indemnification is permitted pursuant to Section 6.2 following authorization thereof by the Board of Directors shall be paid by the corporation in advance of the final disposition of such action or proceeding upon receipt of an undertaking by or on behalf of the indemnified party to repay such amount if it shall ultimately be determined that the indemnified party is not entitled to be indemnified as authorized in this Article VI.

VI.4 INDEMNITY NOT EXCLUSIVE

The indemnification provided by this Article VI shall not be deemed exclusive of any other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of shareholders or disinterested directors or otherwise, both as to action in an official capacity and as to action in another capacity while holding such office, to the extent that such additional rights to indemnification are authorized in the Articles of Incorporation.

VI.5 INSURANCE INDEMNIFICATION

The corporation shall have the power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation against any liability asserted against or incurred by such person in such capacity or arising out of such person's status as such, whether or not the corporation would have the power to indemnify him against such liability under the provisions of this Article VI.

VI.6 CONFLICTS

No indemnification or advance shall be made under this Article VI, except where such indemnification or advance is mandated by law or the order, judgment or decree of any court of competent jurisdiction, in any circumstance where it appears:

(1) That it would be inconsistent with a provision of the Articles of Incorporation, these bylaws, a resolution of the shareholders or an agreement in effect at the time of the accrual of the alleged cause of the action asserted in the proceeding in which the expenses were incurred or other amounts were paid, which prohibits or otherwise limits indemnification; or

(2) That it would be inconsistent with any condition expressly imposed by a court in approving a settlement.

ARTICLE VII

RECORDS AND REPORTS

VII.1 MAINTENANCE AND INSPECTION OF SHARE REGISTER

The corporation shall keep at its principal executive office, or at the office of its transfer agent or registrar, if either be appointed and as determined by resolution of the board of directors, a record of its shareholders, giving the names and addresses of all shareholders and the number and class of shares held by each shareholder.

A shareholder or shareholders of the corporation holding at least five percent (5%) in the aggregate of the outstanding voting shares of the corporation or who holds at least one percent (1%) of such voting shares and has filed a Schedule 14B with the Securities and Exchange Commission relating to the election of directors, may (i) inspect and copy the records of shareholders' names and addresses and shareholdings during usual business hours on five (5) days' prior written demand on the corporation, (ii) obtain from the transfer agent of the corporation, on written demand and on the tender of such transfer agent's usual charges for such list, a list of the names and addresses of the

shareholders who are entitled to vote for the election of directors, and their shareholdings, as of the most recent record date for which that list has been compiled or as of a date specified by the shareholder after the date of demand. Such list shall be made available to any such shareholder by the transfer agent on or before the later of five (5) days after the demand is received or five (5) days after the date specified in the demand as the date as of which the list is to be compiled.

The record of shareholders shall also be open to inspection on the written demand of any shareholder or holder of a voting trust certificate, at any time during usual business hours, for a purpose reasonably related to the holder's interests as a shareholder or as the holder of a voting trust certificate.

Any inspection and copying under this Section 7.1 may be made in person or by an agent or attorney of the shareholder or holder of a voting trust certificate making the demand.

VII.2 MAINTENANCE AND INSPECTION OF BY-LAWS.

The corporation shall keep at its principal executive office, or if its principal executive office is not in the State of California, at its principal business office in such state, the original or a copy of these by-laws as amended to date, which by-laws shall be open to inspection by the shareholders at all reasonable times during office hours. If the principal executive office of the corporation is outside the State of California and the corporation has no principal business office in such state, the secretary shall, upon the written request of any shareholder, furnish to that shareholder a copy of these by-laws as amended to date.

VII.3 MAINTENANCE AND INSPECTION OF OTHER CORPORATE RECORDS

The accounting books and records, and the minutes of proceedings of the shareholders and the board of directors and any committee or committees of the board of directors, shall be kept at such place or places designated by the board of directors or, in absence of such designation, at the principal executive office of the corporation. The minutes shall be kept in written form and the accounting books and records shall be kept either in written form or in any other form capable of being converted into written form.

The minutes and accounting books and records shall be open to inspection upon the written demand of any shareholder or holder of a voting trust certificate, at any reasonable time during usual business hours, for a purpose reasonably related to the holder's interests as a shareholder or as the holder of a voting trust certificate. The inspection may be made in person or by an agent or attorney, and shall include the right to copy and make extracts. Such rights of inspection shall extend to the records of each subsidiary corporation of the corporation.

VII.4 INSPECTION BY DIRECTORS.

Every director shall have the absolute right at any reasonable time to inspect all books, records and documents of every kind and the physical properties of the corporation and each of its subsidiary corporations. Such inspection by a director may be made in person or by an agent or attorney, and the right of inspection includes the right to copy and make extracts of documents.

VII.5 ANNUAL REPORT TO SHAREHOLDERS; WAIVER.

The board of directors shall cause an annual report to be sent to the shareholders not later than one hundred twenty (120) days after the close of the

fiscal year adopted by the corporation. Such report shall be sent at least fifteen (15) days before the annual meeting of shareholders to be held during the next fiscal year and in the manner specified in Section 2.5 of these by-laws for giving notice to shareholders of the corporation.

The annual report shall contain a balance sheet as of the end of the fiscal year and an income statement and statement of changes in financial position for the fiscal year, accompanied by any report of independent accountants or, if there is no such report, the certificate of an authorized officer of the corporation that the statements were prepared without audit from the books and records of the corporation.

The foregoing requirement of an annual report shall be waived so long as the shares of the corporation are held by less than one hundred (100) holders of record.

VII.6 FINANCIAL STATEMENTS.

A copy of any annual financial statement and any income statement of the corporation for each quarterly period of each fiscal year, and any accompanying balance sheet of the corporation as of the end of each such period, that has been prepared by the corporation shall be kept on file in the principal executive office of the corporation for twelve (12) months; and each such statement shall be exhibited at all reasonable times to any shareholder demanding an examination of any such statement or a copy shall be mailed to any such shareholder.

If a shareholder or shareholders holding at least five percent (5%) of the outstanding shares of any class of stock of the corporation makes a written request to the corporation for an income statement of the corporation for the three-month, six-month or nine-month period of the then current fiscal year ended more than thirty (30) days before the date of the request, and for a balance sheet of the corporation as of the end of that period, the chief financial officer shall cause that statement to be prepared, if not already prepared, and shall deliver personally or mail that statement or statements to the person making the request within thirty (30) days after the receipt of the request. If the corporation has not sent to the shareholders its annual report for the last fiscal year, such report shall likewise be delivered or mailed to the shareholder or shareholders within thirty (30) days after the request.

The corporation shall also, on the written request of any shareholder, mail to the shareholder a copy of the last annual, semi-annual or quarterly income statement which it has prepared, and a balance sheet as of the end of that period.

The quarterly income statements and balance sheets referred to in this section shall be accompanied by the report, if any, of any independent accountants engaged by the corporation or the certificate of an authorized officer of the corporation that the financial statements were prepared without audit from the books and records of the corporation.

ARTICLE VIII

GENERAL MATTERS

VIII.1 RECORD DATE FOR PURPOSES OTHER THAN NOTICE AND VOTING.

For purposes of determining the shareholders entitled to receive payment of any dividend or other distribution or allotment of any rights or entitled to exercise any rights in respect of any other lawful action (other than action by shareholders by written consent without a meeting), the board of directors may fix, in advance, a record date, which shall not be more than sixty (60) days

before any such action, and in that case only shareholders of record at the close of business on the date so fixed are entitled to receive the dividend, distribution or allotment of rights, or to exercise such rights, as the case may be, notwithstanding any transfer of any shares on the books of the corporation after the record date so fixed, except as otherwise provided in the Code.

If the board of directors does not so fix a record date, the record date for determining shareholders for any such purpose shall be at the close of business on the day on which the board adopts the applicable resolution or the sixtieth (60th) day before the date of that action, whichever is later.

VIII.2 CHECKS, DRAFTS, EVIDENCES OF INDEBTEDNESS.

All checks, drafts, or other orders for payment of money, notes, or other evidences of indebtedness, issued in the name of or payable to the corporation, shall be signed or endorsed by such person or persons and in such manner as, from time to time, shall be determined by resolution of the board of directors.

VIII.3 CORPORATE CONTRACTS AND INSTRUMENTS: HOW EXECUTED.

The board of directors, except as otherwise provided in these by-laws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the corporation, and such authority may be general or confined to specific instances; and, unless so authorized or ratified by the board of directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

VIII.4 CERTIFICATES FOR SHARES

A certificate or certificates for shares of the corporation shall be issued to each shareholder when any of such shares are fully paid, and the board of directors may authorize the issuance of certificates or shares as partly paid provided that these certificates shall state the amount of the consideration to be paid for them and the amount paid. All certificates shall be signed in the name of the corporation by the chairman of the board or vice chairman of the board or the president or a vice president and by the chief financial officer or an assistant treasurer or the secretary or an assistant secretary, certifying the number of shares and the class or series of shares owned by the shareholder. Any or all of the signatures on the certificate may be facsimile.

In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed on a certificate shall have ceased to be that officer, transfer agent or registrar before that certificate is issued, it may be issued by the corporation with the same effect as if that person were an officer, transfer agent or registrar at the date of issue.

VIII.5 LOST CERTIFICATES.

Except as provided in this Section 8.5, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the corporation and canceled at the same time. The board of directors may, in case any share certificate or certificate for any other security is lost, stolen or destroyed, authorize the issuance of replacement certificates on such terms and conditions as the board may require, including provision for indemnification of the corporation secured by a bond or other adequate security sufficient to protect the corporation against any claim that may be made against it, including any expense or liability, on account of the alleged loss, theft or destruction of the certificate or the issuance of the replacement certificate.

VIII.6 CONSTRUCTION AND DEFINITIONS.

Unless the context requires otherwise, the general provisions, rules of construction and definitions in the Code shall govern the construction of these by-laws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

ARTICLE IX

AMENDMENTS

IX.1 AMENDMENT BY SHAREHOLDERS

New by-laws may be adopted or these by-laws may be amended or repealed by the vote or written consent of holders of a majority of the outstanding shares entitled to vote; provided, however, that if the articles of incorporation of the corporation set forth the number of authorized directors of the corporation, the authorized number of directors may be changed only by an amendment as required by applicable law.

IX.2 AMENDMENT BY DIRECTORS.

Subject to the rights of the shareholders as provided in Section 9.1 of these by-laws, by-laws, other than a by-law or an amendment of a by-law changing the authorized number of directors (except to fix the authorized number of directors pursuant to a by-law providing for a variable number of directors), may be adopted, amended, or repealed by the board of directors.

CERTIFICATE OF ADOPTION OF BY-LAWS

OF

TRIMBLE NAVIGATION LIMITED

Certificate by Secretary of Adoption of By-Laws

The undersigned hereby certifies that he is the duly elected, qualified and acting Secretary of Trimble Navigation Limited (the "Corporation") and that the foregoing By-Laws, comprising twenty (20) pages, constitute the By-Laws of the Corporation as originally adopted on January 5, 1981, and as subsequently amended and restated by the board of directors of the Corporation through the date hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and affixed the corporate seal this 15th day of May, 1997.

/S/ Robert A. Trimble
Robert A. Trimble
Secretary

TRIMBLE NAVIGATION LIMITED
EXHIBIT 10.57

FOURTH AMENDMENT
TO
REVOLVING CREDIT AGREEMENT

This FOURTH AMENDMENT (the "Amendment"), dated as of July 30, 1997, is among Trimble Navigation Limited (the "Borrower"), BankBoston, N.A., f/k/a The First National Bank of Boston ("BKB"), Mellon Bank, N.A. ("Mellon", and together with BKB, the "Banks"), and BankBoston, N.A., f/k/a The First National Bank of Boston as agent for itself and the other Banks (the "Agent").

WHEREAS, the Borrower, the Banks and the Agent are parties to that certain Revolving Credit Agreement, dated as of August 4, 1995 (as amended by the First Amendment to Revolving Credit Agreement, dated as of April 30, 1996, the Second Amendment to Revolving Credit Agreement, dated as of June 30, 1996, and the Third amendment to Revolving Credit Agreement, dated as of September 30, 1996, the "Credit Agreement"), pursuant to which the Banks, upon certain terms and conditions, have made loans to an may issue letters of credit for the benefit of the Borrower; and

WHEREAS, the Borrower had requested that the Banks agree, and the Banks have agreed, on the terms and subject to the conditions set forth herein, to make certain changes to the Credit Agreement;

NOW, THEREFORE, the parties hereto hereby agree as follows:

Section 1. Defined Terms. Capitalized terms which are used herein without definition and which are defined in the Credit Agreement shall have the same meanings herein as in the Credit Agreement.

Section 2. Amendment of Credit Agreement. The Credit Agreement is hereby amended as follows:

(a) Section 1.1 of the Credit Agreement is amended by deleting the definition of Maturity Date contained in such section 1.1 and restating it in its entirety as follows:

Maturity Date. September 1, 1997.

(b) Section 8.3 (q) of the Credit Agreement is amended by deleting the amount "\$2,000,000" contained in such Section 8.3 (q) and substituting the amount "\$4,000,000 therefor.

Section 3. Affirmation and Acknowledgment of the Borrower. The Borrower hereby ratifies and confirms all of its Obligations to the Banks, including, without limitation the Revolving Credit Loans, and the Borrower hereby affirms its absolute and unconditional promise to pay to the Banks the Revolving Credit Loans and all other amounts due under the Credit Agreement as amended hereby.

Section 4. Representations and Warranties. The Borrower hereby represents and warrants to the Banks as follows:

41

(a) The execution and delivery by the Borrower of this Amendment and the performance by the Borrower of its obligations and agreements under this Amendment and the Credit Agreement as amended hereby, are within the corporate authority of the Borrower, have been authorized by all necessary corporate proceedings on behalf of the Borrower, and do not and will not contravene any provision of law or any other the Borrower's charter, other incorporation papers, by-laws, or any stock provision or any amendment thereof or of any indenture, agreement, instrument or undertaking binding upon the Borrower.

(b) This Amendment and the Credit Agreement as amended hereby constitute legal, valid and binding obligations of the Borrower, enforceable in accordance with their respective terms, except as limited by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting generally the enforcement of creditors' rights.

(c) No approval or consent of, or filing with, any governmental agency or authority is required to make valid and legally binding the execution, delivery or performance by the Borrower of this Amendment or the Credit Agreement as amended hereby, or the consummation by the Borrower of the transactions among the parties contemplated hereby and thereby or referred herein.

(d) The representations and warranties contained in Section 6 of the Credit Agreement were correct at and as of the date made. Except to the extent that the facts upon which such representations and warranties were based have changed in the ordinary course of business (which changes, either singly or in the aggregate, have not been materially adverse) and after giving effect to the provisions hereof, such representations and warranties also are correct at and as of the date hereof.

(e) The Borrower has performed and complied in all material respects with all terms and conditions herein required to be performed or complied with by it prior to or at the time hereof, and as of the date hereof, after giving effect to the provisions hereof, there exists no Event of Default or Default.

Section 5. Effectiveness. The effectiveness of the Amendment shall be subject to receipt by the Agent of this Amendment executed by each of the Borrower, the Banks and the Agent.

Section 6. Miscellaneous Provisions. (a) Except as otherwise expressly provided by this Amendment, all of the terms, conditions and provisions of the Credit Agreement shall remain the same. It is declared and agreed by each of the parties hereto that the Credit Agreement, as amended hereby, shall continue in full force and effect, and that the Amendment and the Credit Agreement shall be read and construed as one instrument.

(b) THIS AMENDMENT IS INTENDED TO TAKE EFFECT AS AN AGREEMENT UNDER SEAL AND SHALL BE CONSTRUED ACCORDING TO AND GOVERNED BY THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS.

(c) This Amendment may be executed in any number of counterparts, but all such counterparts shall together constitute but one instrument. In making proof of this Amendment it shall not be necessary to produce or account for more than one counterpart signed by each party hereto by and against which enforcement hereof is sought.

(d) Pursuant to Section 15 of the Credit Agreement, the Borrower hereby agrees to pay to the Agent, on demand by the Agent, all reasonable out-of-pocket costs and expenses incurred or sustained by the Agent in connection with the preparation of this Amendment (including reasonable legal fees).

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

TRIMBLE NAVIGATION LIMITED

By: /S/ John E. Huey
Name: John E. Huey
Title: Treasurer

BANKBOSTON, N.A.
f/k/a THE FIRST NATIONAL BANK OF
BOSTON, individually and as Agent

By: /S/ Teresa Heller
Name: Teresa Heller
Title: Director

MELLON BANK, N.A.

By: /S/ Sean C. Gannon
Name: Sean C. Gannon
Title: Vice President

TRIMBLE NAVIGATION LIMITED
EXHIBIT 11.1

Computation of Earnings (Loss) Per Common Share

	Three Months Ended June 30,		Six Months Ended June 30,	
	1997	1996	1997	1996

(In thousands, except per share data)				
PRIMARY EARNINGS (LOSS) PER COMMON SHARE				
Computation of common and common equivalent shares outstanding:				
Common stock outstanding	22,081	21,791	22,073	21,735
Common stock options	374	-	336	-
Common stock warrants	89	-	75	-
	-----	-----	-----	-----
Total weighted average common and dilutive common equivalent shares outstanding	22,544	21,791	22,484	21,735
	=====	=====	=====	=====
Net income (loss)	\$ 3,865	\$ (2,585)	\$ 5,294	\$ (3,731)
	=====	=====	=====	=====
Primary earnings (loss) per share	\$ 0.17	(0.12)	\$ 0.24	(0.17)
	=====	=====	=====	=====
FULLY DILUTED EARNINGS (LOSS) PER COMMON SHARE				
Computation of common and common equivalent shares outstanding:				
Common stock outstanding	22,081	21,791	22,073	21,735
Common stock options	712	-	708	-
Common stock warrants	153	-	153	-
	-----	-----	-----	-----
Total weighted average common and dilutive common equivalent shares outstanding	22,946	21,791	22,934	21,735
	=====	=====	=====	=====
Net income (loss)	\$ 3,865	\$ (2,585)	\$ 5,294	\$ (3,731)
	=====	=====	=====	=====
Fully diluted earnings (loss) per share	\$ 0.17	(0.12)	\$ 0.23	(0.17)
	=====	=====	=====	=====

THE SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM THE CONDENSED CONSOLIDATED BALANCE SHEET AND CONDENSED CONSOLIDATED STATEMENT OF EARNINGS AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS

1,000

	6-MOS DEC-31-1997	JUN-30-1997
		31,443
	57,028	
	39,484	
	0	
	38,481	
	169,331	
		22,339
	0	
	201,133	
40,413		0
0		0
		127,104
		2,827
201,133		
		129,495
	129,495	
		61,300
	61,300	
	62,090	
	0	
	358	
	6,617	
	1,323	
5,294		
	0	
	0	
		0
	5,294	
	0.24	
	0.24	