TRIMBLE NAVIGATION LTD /CA/ Form 424B4 April 22, 2002

> Filed Pursuant to Rule 424(b)(4) Registration No. 333-76986

Prospectus

Trimble Navigation Limited 3,676,013 Shares

Common Stock

This prospectus relates to 3,676,013 shares of our common stock, no par value, which may be sold from time to time by the selling shareholders named herein, or their transferees, pledges, donees or successors. These shares include 612,672 shares that are issuable upon the exercise of outstanding warrants. The shares were initially sold, and the warrants were initially issued, in private placement transactions in December 2001 and January 2002.

The shares are being registered to permit the selling shareholders to sell the shares from time to time in the public market. The shareholders may sell the common stock through ordinary brokerage transactions, directly to market makers of our shares or through any other means described in the section beginning on page 10 titled "Plan of Distribution." We cannot assure you that the selling shareholders will sell all or any portion of the common stock offered hereby. We will not receive any of the proceeds from this offering, although we have paid the expenses of preparing this prospectus and the related registration statement.

Shares of our common stock are quoted on the Nasdaq National Market under the symbol "TRMB." The last reported sale price of the common stock on March 22, 2002, was \$15.95 per share.

We are a California corporation formed in January 1981. Our principal executive offices are located at 645 North Mary Ave., Sunnyvale, California and our telephone number is (408) 481-8000.

Investing in our common stock involves risks. See "Risk Factors" beginning on page 3 to read about risk factors you should consider before purchasing our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 22, 2002.

You should rely only on the information incorporated by reference or provided in this prospectus or a prospectus supplement or amendment. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume the information in this prospectus or a prospectus supplement or amendment is accurate as of any date other than the date on the front of the documents.

TABLE OF CONTENTS

ABOUT TRIMBLE
RISK FACTORS
USE OF PROCEEDS
SELLING SHAREHOLDERS
PLAN OF DISTRIBUTION
EXPERTS
VALIDITY OF COMMON STOCK
INFORMATION INCORPORATED BY REFERENCE
AVAILABLE INFORMATION

Some of the statements under "Risk Factors" and elsewhere in this prospectus constitute forward-looking statements. These statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by the forward looking statements. In some cases, you can identify forward looking statements by terminology such as "may," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative terms or other comparable terminology. In evaluating these statements, you should specifically consider various factors, including the risks outlined under "Risk Factors."

Although we believe that the expectations in the forward-looking statements contained in this prospectus are reasonable we cannot guarantee future results, levels of activity and performance achievements. You should not place undue reliance on these forward-looking statements.

2

Trimble Navigation Limited, a California corporation, develops, manufactures and distributes innovative products enabled by Global Positioning System ("GPS") optical, laser and wireless communications technology. We provide end-users and original equipment manufacturers with solutions for diverse applications including agriculture, engineering and construction, fleet and asset management, timing, automobile navigation and military. Our principal products, which utilize substantial amounts of proprietary software and firmware, are integrated systems for collecting, analyzing and utilizing position data in forms optimized for specific end-user applications.

RISK FACTORS

You should carefully consider the following risk factors and all other information contained in this prospectus before participating in this offering. Investing in our common stock involves a high degree of risk. If any of the following risks actually occur, our business, operating results and financial condition could be materially harmed and you might lose all or part of your investment.

Our Annual and Quarterly Performance May Fluctuate.

Our operating results have fluctuated and can be expected to continue to fluctuate in the future on a quarterly and annual basis as a result of a number of factors, many of which are beyond our control. Results in any period could be affected by changes in market demand, competitive market conditions, market acceptance of new or existing products, fluctuations in foreign currency exchange rates, the cost and availability of components, our ability to manufacture and ship products, the mix of our customer base and sales channels, the mix of products sold, our ability to expand our sales and marketing organization effectively, our ability to attract and retain key technical and managerial employees, the timing of shipments of products under contracts and sale of licensing rights, and general global economic conditions. In addition, demand for our products in any quarter or year may vary due to the seasonal buying patterns of our customers in the agricultural and engineering and construction industries. Due to the foregoing factors, our operating results in one or more future periods are expected to be subject to significant fluctuations. The price of our common stock could decline substantially in the event such fluctuations result in our financial performance being below the expectations of public market analysts and investors, which are based primarily on historical models that are not necessarily accurate representations of the

Our Operating Results in Each Quarter May Not Accurately Reflect Business Activity in Each Quarter.

Due, in part, to the buying patterns of our customers, a significant portion of our quarterly revenues occurs from orders received and immediately shipped to customers in the last few weeks and days of each quarter, although our operating expenses tend to remain constant. Engineering and construction purchases tend to occur in early spring, and governmental agencies tend to utilize funds available at the end of the government's fiscal year for additional purchases at the end of our third fiscal quarter in September of each year. Concentrations of orders sometimes also occur at the end of our other two fiscal quarters. Additionally, a majority of our sales force earn commissions on a quarterly basis, which may cause concentrations of orders at the end of any fiscal quarter. If for any reason expected sales are deferred, orders are not received, or shipments were to be delayed a few days at the end of a quarter, our operating results and reported earnings per share for that quarter could be significantly impacted.

Our Inability to Accurately Predict Orders and Shipments May Affect Our Revenue, Expenses and Earnings per Share.

Because we have been unable in the past to predict exactly when our customers will place orders and request shipments, we cannot accurately plan our manufacturing requirements. As a result, if the orders and shipments differ from what we predict, we may incur additional expenses and build unneeded inventory, which may require additional reserves. Any significant change in our customers' purchasing patterns could have a material adverse effect on our operating results and reported earnings per share for a particular quarter.

Our Gross Margin Is Subject to Fluctuation.

Our gross margin is affected by a number of factors, including product mix, product pricing, cost of components, foreign currency exchange rates and manufacturing costs. For example, since our Engineering and Construction and Geographic Information Systems (GIS) products generally have higher gross margins than our Component Technologies products, absent other factors, a shift in sales toward Engineering and Construction and GIS products would lead to a gross margin improvement. On the other hand, if market conditions in the highly competitive Engineering and Construction and GIS market segments forced us to lower unit prices, we would suffer a decline in gross margin unless we were able to timely offset the price reduction by a reduction in production costs or by sales of other products with higher gross margins. A decline in gross margin could have a material effect on our operating results.

We Are Dependent on a Sole Manufacturer for Our Products and on Sole Suppliers of Critical Parts for Our Products.

With the selection of Solectron Corporation in August 1999 as an exclusive manufacturing partner for many of our GPS products previously manufactured out of our Sunnyvale facilities, we are substantially dependent upon a sole supplier for the manufacture of our products. Under the agreement with Solectron, we provide to Solectron a twelve-month product forecast and place purchase orders with Solectron sixty calendar days in advance of the scheduled delivery of products to our customers. Although purchase orders placed with Solectron are cancelable, the terms of the agreement would require us to purchase from Solectron all material inventory not returnable or usable by other Solectron customers. Accordingly, if we inaccurately forecast demand for our products, we may be unable to obtain adequate manufacturing capacity from Solectron to meet customers' delivery requirements or we may accumulate excess inventories, if such inventories are not usable by other Solectron customers.

In addition, we rely on sole suppliers for a number of our critical ASICS. We have experienced shortages of supplies, including ASICS, in the past. As an example, we were affected by industry-wide shortages of memory devices and electronic components that reached their most severe impact in the third calendar quarter of 2000. Our current reliance on sole or a limited group of suppliers involves several risks, including a potential inability to obtain an adequate supply of required components and reduced control over pricing. Any inability to obtain adequate deliveries or any other circumstance that would require us to seek alternative sources of supply or to manufacture such components internally could significantly delay our ability to ship our products, which could damage relationships with current and prospective customers and could harm our reputation and brand, which could have a material adverse effect on our business.

4

Our Credit Agreement Contains Stringent Financial Covenants.

Two of the financial covenants in our Credit Agreement with ABN AMRO Bank, N.V. and certain other banks, dated as of July 14, 2000 as amended (the "Credit Agreement"), minimum fixed charge coverage and maximum leverage ratio, are extremely sensitive to changes in earnings before interest, taxes, depreciation and amortization ("EBITDA"). In turn, EBITDA is highly correlated to revenues and cost cutting. Due to uncertainties associated with the downturn in the worldwide economy, our future revenues by quarter are becoming increasingly more difficult to forecast and we have recently put in place various cost cutting measures, including the consolidation of service functions and centers, closure of redundant offices, consolidation of redundant product lines and reductions in staff. If revenues should decline at a faster pace than the rate of these cost cutting measures, on a quarter to quarter basis we may not be in compliance with the two above mentioned financial covenants. If we default on one or more covenants, we will have to obtain either negotiated waivers or amendments to the Credit Agreement. If we are unable to obtain such waivers or amendments, the banks would have the right to accelerate the payment of our outstanding obligations under the Credit Agreement, which would have a material adverse effect on our financial condition and viability as an operating company. In addition, a default under one of our debt instruments may also trigger cross-defaults under our other debt instruments. An event of default under any debt instrument, if not cured or waived, could have a material adverse effect on

Our Substantial Indebtedness Could Materially Restrict Our Operations and Adversely Affect Our Financial Condition.

We now have, and for the foreseeable future will have, a significant level of indebtedness. Our substantial indebtedness could:

- o increase our vulnerability to general adverse economic and industry conditions;
- o limit our ability to fund future working capital, capital expenditures, research and development and other general corporate requirements, or to make certain investments that could benefit us;
- o require us to dedicate a substantial portion of our cash flow to service interest and principal payments on our debt;
- o limit our flexibility to react to changes in our business and the industry in which we operate; and
- o limit our ability to borrow additional funds.

We Face Competition in Our Markets.

Our markets are highly competitive and we expect that both direct and indirect competition will increase in the future. Our overall competitive position depends on a number of factors including the price, quality and performance of our products, the level of customer service, the development of new technology and our ability to participate in emerging markets. Within each of our markets, we encounter direct competition from other GPS, optical and laser suppliers and competition may intensify from various larger domestic and international competitors and new market entrants, some of which may be our current customers. The competition in the future, may, in some cases, result in price reductions, reduced margins or loss of market share, any of which could materially and adversely affect our business, operating results and financial condition. We believe that our ability to compete successfully in the future against existing and additional competitors will depend largely on our ability to execute our strategy to provide systems and products with significantly differentiated features compared to currently available products. There can be

no assurance that we will be able to implement this strategy successfully, or that any such products will be competitive with other technologies or products that may

5

be developed by our competitors, many of whom have significantly greater financial, technical, manufacturing, marketing, sales and other resources than we do. There can be no assurance that we will be able to compete successfully against current or future competitors or that competitive pressures cause us to lose market share or force us to engage in price reductions that could have a material adverse effect on our business.

We May Encounter Problems Associated With International Operations and Sales.

Our customers are located throughout the world. Sales to unaffiliated customers in foreign locations represented approximately 50% of our revenues in our fiscal year 2001 and 52% in each of our fiscal years 2000 and 1999. In addition, we have significant international operations, including manufacturing facilities, sales personnel and customer support operations. Our international sales operations include offices in Australia, Canada, China, France, Germany, Great Britain, Japan, Mexico, New Zealand, Sweden, Russia, Singapore and others. Our international manufacturing facilities are in Sweden and Germany. Our international presence exposes us to risks not faced by wholly-domestic companies. Specifically, we have experienced issues relating to integration of foreign operations, greater difficulty in accounts receivable collection, longer payment cycles and currency fluctuations. Additionally, we face the following risks, among others: unexpected changes in regulatory requirements; tariffs and other trade barriers; political, legal and economic instability in foreign markets, particularly in those markets in which we maintain manufacturing and research facilities; difficulties in staffing and management; language and cultural barriers; seasonal reductions in business activities in the summer months in Europe and some other countries; and potentially adverse tax consequences. Although we implemented a program to attempt to manage foreign exchange risks through hedging and other strategies, there can be no assurance that this program will be successful and that currency exchange rate fluctuations will not have a material adverse effect on our results of operations. In addition, in certain foreign markets, there may be reluctance to purchase products based on GPS technology, given the control of GPS by the U.S.

We Are Dependent on Proprietary Technology.

Our future success and competitive position is dependent upon our proprietary technology, and we rely on patent, trade secret, trademark and copyright law to protect our intellectual property. There can be no assurance that the patents owned or licensed by us will not be invalidated, circumvented, challenged, or that the rights granted thereunder will provide competitive advantages to us or that any of our pending or future patent applications will be issued within the scope of the claims sought by us, if at all. We are currently defending two separate lawsuits for alleged patent infringement, one alleging infringement of a patent by some of our grade control systems, which products accounted for approximately two percent (2 %) of our revenues in our fiscal year 2001, and another alleging infringement by our surveying products, which products accounted for approximately eleven percent (11 %) of our revenues in our fiscal year 2001. In the event that in either or both of these suits our products are held to be infringing a valid patent, we could be prevented from continuing to sell these products and could be required to pay substantial damages, or, alternatively, enter into a royalty-bearing license agreement.

There can be no assurance that others will not develop technologies that

are similar or superior to our technology, duplicate our technology or design around the patents owned by us. In addition, effective copyright, patent and trade secret protection may be unavailable, limited or not applied for in certain foreign countries. There can be no assurance that the steps taken by us to protect our technology will prevent the misappropriation of such technology. The value of our products relies substantially on our technical innovation in fields in which there are many current patent filings. We recognize that as new patents are issued or are brought to our attention by the holders of such patents, it may be necessary for us to withdraw products from the market, take a license from such patent holders, or redesign our products. We do not believe any of our products currently infringe

6

patents or other proprietary rights of third parties, but we 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 our revenues or profitability.

We Are Dependent on New Products.

Our future revenue stream depends to a large degree on our ability to bring new products to market on a timely basis. We must continue to make significant investments in research and development in order to continue to develop new products, enhance existing products and achieve market acceptance of such products. However, there can be no assurance that development stage products will be successfully completed or, if developed, will achieve significant customer acceptance. If we were unable to successfully define, develop and introduce competitive new products, and enhance existing products, our future results of operations would be adversely affected. Development and manufacturing schedules for technology products are difficult to predict, and there can be no assurance that we 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 our future success. A delay in new product introductions could have a significant impact on our results of operations. No assurance can be given that we will not incur problems in the future in innovating and introducing new products.

Our Stock Price May Be Volatile.

Our common stock has experienced and can be expected to experience substantial price volatility in response to actual or anticipated quarterly variations in results of operations, announcements of technological innovations or new products by us or our competitors, developments related to patents or other intellectual property rights, developments in our relationship with customers, suppliers, or strategic partners and other events or factors. In addition, any shortfall or changes in revenue, gross margins, earnings, or other financial results from analysts' expectations could cause the price of our common stock to fluctuate significantly. Additionally, certain macro-economic factors such as changes in interest rates as well as market climate for the high-technology sector could also have an impact on the trading price of our stock.

We Face Risks of Entering Into and Maintaining Alliances.

We believe that in certain emerging markets our success will depend on our ability to form and maintain alliances with established system providers and industry leaders. Our failure to form and maintain such alliances, or the preemption of such alliances by actions of other competitors or us will adversely affect our ability to penetrate emerging markets. No assurances can be

given that we will not experience problems from current or future alliances or that we will realize value from any such strategic alliances.

We Face Risks in Investing in and Integrating New Acquisitions.

We are continuously evaluating external investments in technologies related to our business, and have made relatively small strategic equity investments in a number of GPS related technology companies. Acquisitions of companies, divisions of companies, or products entail numerous risks, including (i) the potential inability to successfully integrate acquired operations and products or to realize cost savings or other anticipated benefits from integration; (ii) diversion of management's attention; (iii) loss of key employees of acquired operations; and (iv) inability to recover strategic investments in development stage entities. As a result of such acquisitions, we have significant assets that include goodwill and other purchased intangibles. The testing of these intangibles under established accounting guidelines for impairment requires significant use of judgment

7

and assumptions. Changes in business conditions could require adjustments to the valuation of these assets. Any such problems in integration or adjustments to the value of the assets acquired could harm our growth strategy and have a material adverse effect on our business, financial condition and compliance with debt covenants.

We Are Dependent on Key Customers.

We currently enjoy strong relationships with key customers. An increasing amount of our revenue is generated from large original equipment manufacturers such as Siemens VDO Automotive, Nortel, Caterpillar, CNH Global, Bosch, and others. A reduction or loss of business with these customers could have a material adverse effect on our financial condition and results of operations. There can be no assurance that we will be able to continue to realize value from these relationships in the future.

We Are Dependent on Retaining and Attracting Highly Skilled Development and Managerial Personnel.

Our ability to maintain our competitive technological position will depend, in a large part, on our ability to attract, motivate, and retain highly qualified development and managerial personnel. Competition for qualified employees in our industry and location is intense, and there can be no assurance that we will be able to attract, motivate and retain enough qualified employees necessary for the future continued development of our business and products.

We Are Subject to the Impact of Governmental and Other Similar Certifications.

We market certain products that are subject to governmental and similar certifications before they can be sold. For example, CE certification for radiated emissions is required for most GPS receiver and data communications products sold in the European Union. An inability to obtain such certifications in a timely manner could have an adverse effect on our operating results. Also, our products that use integrated radio communication technology require an end-user to obtain licensing from the Federal Communications Commission ("FCC") for frequency-band usage. During the fourth quarter of 1998, the FCC temporarily suspended the issuance of licenses for certain of our real-time kinematic products because of interference with certain other users of similar radio frequencies. An inability or delay in obtaining such certifications or delays of the FCC could adversely affect our ability to bring our products to market, which could harm our customer relationships and have a material adverse effect

on our business.

We Are Dependent on the Availability of Allocated Bands Within the Radio Frequency Spectrum.

Our GPS technology is dependent on the use of the Standard Positioning Service ("SPS") provided by the U.S. Government's Global Positioning System ("GPS"). The GPS SPS operates in radio frequency bands that are globally allocated for radio navigation satellite services. International allocations of radio frequency are made by the International Telecommunications Union ("ITU"), a specialized technical agency of the United Nations. These allocations are further governed by radio regulations that have treaty status and which may be subject to modification every two-three years by the World Radiocommunication Conference. Any ITU reallocation of radio frequency bands, including frequency band segmentation or sharing of spectrum, may materially and adversely affect the utility and reliability of our products, which would, in turn, cause a material adverse effect on our operating results. Many of our products use other radio frequency bands, together with the GPS signal, to provide enhanced GPS capabilities, such as real-time kinematic precision. The continuing availability of these non-GPS radio frequencies is essential to provide enhanced GPS products to our precision survey markets. Any regulatory changes in spectrum allocation or in allowable operating conditions may

8

materially and adversely affect the utility and reliability of our products, which would, in turn, cause a material adverse effect on our operating results. In addition, unwanted emissions from mobile satellite services and other equipment operating in adjacent frequency bands or inband from licensed and unlicensed devices may materially and adversely affect the utility and reliability of our products, which could result in a material adverse effect on our operating results. The FCC continually receives proposals for novel technologies and services, such as ultra-wideband technologies, which may seek to operate in, or across, the radio frequency bands currently used by the GPS SPS and other public safety services. Adverse decisions by the FCC that result in harmful interference to the delivery of the GPS SPS and other radio frequency spectrum also used in our products may materially and adversely affect the utility and reliability of our products, which could result in a material adverse effect on our business and financial condition.

We Are Subject to the Adverse Impact of Radio Frequency Congestion.

We have certain real-time kinematic products, such as our Land Survey 5700, that use integrated radio communication technology that requires access to available radio frequencies allocated by the FCC. In addition, access to these frequencies by state agencies is under management by state radio communications coordinators. Some bands are experiencing congestion that excludes their availability for access by state agencies in some states, including the state of California. An inability to obtain access to these radio frequencies could have an adverse effect on our operating results.

We Are Reliant on the GPS Satellite Network.

The GPS satellites and their ground support systems are complex electronic systems subject to electronic and mechanical failures and possible sabotage. The satellites were originally designed to have lives of 7.5 years and are subject to damage by the hostile space environment in which they operate. However, of the current deployment of 28 satellites in place, some have already been in place for 12 years. To repair damaged or malfunctioning satellites is currently not economically feasible. 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, or that the policies of the U.S. Government for the use of GPS without charge will remain unchanged. However, a 1996 Presidential Decision Directive marks the first time in the evolution of GPS that access for civilian use free of direct user fees is specifically recognized and supported by Presidential policy. In addition, Presidential policy has been complemented by corresponding legislation, signed into law. 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 our products to select GPS-based systems instead of products based on competing technologies. Any resulting change in market demand for GPS products could have a material adverse effect on our financial results. For example, European governments have expressed interest in building an independent satellite navigation system, known as Galileo. Depending on the as yet undetermined design and operation of this system, there may be interference to the delivery of the GPS SPS and may materially and adversely affect the utility and reliability of our products, which could result in a material adverse effect on our business and operating results.

We Are Reliant on a Continuous Power Supply.

California recently experienced an energy crisis that threatened to disrupt our operations and resulted in increased expenses for our California facilities. In the event of an acute power shortage, that is, when power

9

reserves for the State of California fall below certain critical levels, California has on some occasions implemented, and may in the future continue to implement, rolling blackouts throughout the state. We currently do not have adequate backup generators or alternate sources of power in the event of a blackout, and our current insurance does not provide coverage for any damages we or our customers may suffer as a result of any interruption in our power supply. If blackouts interrupt our power supply or Solectron's power supply, we would be temporarily unable to continue operations at our California facilities. Any such interruption in our ability to continue operations at our facilities or Solectron's ability to manufacture product at its facilities could damage our reputation, harm our ability to retain existing customers and to obtain new customers, and could result in lost revenue, any of which could substantially harm our business and results of operations.

We Must Carefully Manage Our Future Growth.

Any continued growth in our sales or any continued expansion in the scope of our operations could strain our current management, financial, manufacturing and other resources and may require us to implement and improve a variety of operating, financial and other systems, procedures and controls. Specifically we have experienced strain in our financial and order management system, as a result of our acquisitions. While we plan to expand our sales, accounting, manufacturing, and other information systems to meet these challenges, there can be no assurance that these efforts will succeed, or that any existing or new systems over time, procedures or controls will be adequate to support our operations or that our systems, procedures and controls will be designed, implemented or improved in a cost effective and timely manner. Any failure to implement, improve and expand such systems, procedures and controls in a timely and efficient manner could harm our growth strategy and adversely affect our

financial condition and ability to achieve our business objectives.

Provisions in Our Preferred Share Rights Agreement May Have Anti-Takeover Effects.

Our preferred share rights agreement gives our board of directors and shareholders the ability to dilute the ownership of any person acquiring fifteen percent (15%) or more of our common stock, thereby potentially making any such acquisition impractical for an acquirer. The existence of this preferred share rights agreement could delay, defer or prevent a change of control of us in a transaction not approved by our board of directors.

USE OF PROCEEDS

The selling shareholders will receive all of the proceeds from the shares to be sold in this offering.

SELLING SHAREHOLDERS

We originally sold shares of common stock being registered in this registration statement and warrants exercisable for shares of our common stock being registered in this registration statement in two related private placement equity offerings that closed on December 21, 2001, and January 14, 2002, respectively. We offered and sold our common stock at a price of \$15.00 per share. The warrants we issued are exercisable for five years from the closing dates of the respective offerings at an exercise price per share equal to one hundred and twenty-five percent (125%) of the fair market value of a share of common stock, which was deemed at each closing to be \$15.58. The number of shares subject to each warrant represents twenty percent (20%) of the number of shares of common stock purchased by each selling shareholder.

The number of shares subject to the warrants and the exercise price of the warrants are subject to adjustment as provided in the documents governing the issuance of the warrants. The warrant exercise price and/or the number and kind of shares purchasable upon the exercise of each warrant are subject to certain adjustments for

10

subdivisions or combinations of stock, dividends or distributions in common stock, other stock or property, reorganizations, consolidations or mergers, certain sales or issuances of securities below the adjusted fair market value of a share of common stock (deemed to be \$15.58 initially in the warrants), or liquidated damages in the event that the selling shareholders are prohibited from selling their shares or shares purchasable upon the exercise of their warrants for greater than a defined number of days.

The following table contains information as of January 16, 2002, with respect to the selling shareholders and the number of shares of common stock beneficially owned by each selling shareholder that may be offered using this prospectus.

> Number of Shares Beneficially Owned Prior to the Offering Shares That Ma _____

Number(1) Percentage(2)

Be Sold in th Offering(3)

11

Number of

AIG SoundShore Holdings Ltd. (5)	148,720	*	148,720
AIG SoundShore Opportunity Holding Fund (5)	98,280	*	98 , 280
AIG SoundShore Private Investors Holding Fund			
Ltd. (5)	60,000	*	60,000
AIG SoundShore Strategic Holding Fund Ltd. (5)	69,000	*	69,000
Castle Creek Technology Partners LLC (6)	480,003	1.7%	480,003
Cleveland Overseas Ltd.(7)	100,001	*	100,001
Cranshire Capital, L.P. (8)	304,002	1.1%	304,002
Euram Cap Strat. "A" Fund Limited (8)	96,000	*	96,000
First Investors Holding Co., Inc. (9)	640,001	2.3%	640,001
Pine Ridge Financial Inc. (9)	964,602	3.4%	960,002
Steelhead Investments Ltd. (10)	160,001	*	160,001
ZLP Master Technology Fund, LTD (11)	560,003	*	560,003

* Less than 1%.

- (1) Includes shares of common stock issuable upon the exercise of that particular holder's warrants.
- (2) Calculated based on Rule 13d-3(d)(1)(i) of the Exchange Act using 28,144,912 shares of common stock outstanding as of January 16, 2002. In calculating this amount for each holder, we treated as outstanding the number of shares of common stock issuable upon exercise of all of that particular holder's warrants. However, we did not assume the exercise of any other holder's warrants.
- (3) Assumes full exercise of each of the holder's warrants.
- (4) Assumes the sale of all shares that may be sold in the offering.
- (5) Investment and voting control is held by DKR Management Company Inc. DKR Management Company Inc. has entered into an agreement with Basso Securities Ltd., pursuant to which Basso provides portfolio management services to the four AIG Funds. Basso has the authority to and responsibility for directing the investment and reinvestment of the respective Fund's assets allocated to it, subject, however, to the supervision of DKR Management Company Inc. The president of Basso is Howard I. Fischer. The chief operating officer of DKR Management Company Inc. is Anthony Giordano.
- (6) Investment and voting control is held by CC Securities, LLC. Castle Creek Partners, LLC, is the investment manager of CC Securities, LLC, and Daniel Asher is the managing member of Castle Creek Partners, LLC. Castle Creek Technology Partners LLC purchased its shares in the ordinary course of business, and, at the time of the purchase of its shares, had no agreements or understandings, directly or indirectly, with any person to distribute the securities.

11

- (7) Investment and voting control is held by Beat Kunz.
- (8) Investment and voting control is held by Mitchell P. Kopin.
- (9) Includes the maximum number of shares issuable upon the exercise of warrants issued to the shareholder; provided, however, the provisions of such warrants prohibit the holder thereof from exercising warrants to the extent that such exercise would result in the holder, together with any affiliate thereof, beneficially owning in excess of 4.999% and 9.999% of the outstanding shares of common stock following such exercise. Such restrictions may be waived by the holder of warrants as to itself upon not less than 61 days notice to us. The 4.999% and 9.999% limitations would not prevent a selling shareholder from acquiring and selling shares of our common stock in excess of 4.999% and 9.999%, respectively, through a series of acquisitions and sales. Investment and voting control of the shares is held by Cavallo Capital Corp. The managing director of Cavallo Capital Corp is Avi Vigder.

- (10) Investment and voting control is held by HBK Investments L.P. HBK Management LLC is the general partner of HBK Partners II L.P., which is the general partner of HBK Investments L.P. Each of Harlan B. Korenvaes, Kenneth M. Hirsh, Laurence H. Lebowitz, William E. Rose, Richard L. Booth, David C. Haley and Jamiel A. Akhtar, as the members of HBK Management LLC, may be deemed to have voting and investment control over the securities held by Steelhead Investments Inc. pursuant to an investment management agreement.
- (11) Investment and voting control is held by Stuart Zimmer and Craig Lucas.

We prepared this table based on the information supplied to us by the selling shareholders named in the table.

The selling shareholders listed in the above table may have sold or transferred, in transactions exempt from the registration requirements of the Securities Act, some or all of their shares or warrants since the date on which the information in the above table is presented. Information about the selling shareholders may change over time.

Because the selling shareholders may offer all or some of their common stock from time to time, we cannot estimate the amount of common stock that will be held by the selling shareholders upon the termination of any particular offering. See "Plan of Distribution."

PLAN OF DISTRIBUTION

We will not receive any of the proceeds of the sale of the common stock offered by this prospectus. The selling shareholders and any of their pledgees, assignees and successors-in-interest named in the registration statement on Form S-3 may, from time to time, sell any or all of their shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. The selling shareholders may use any one or more of the following methods when selling shares:

- o ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- o block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- o purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- o an exchange distribution in accordance with the rules of the applicable exchange;

12

- o privately negotiated transactions;
- o short sales;
- o broker-dealers may agree with the selling shareholders to sell a specified number of such shares at a stipulated price per share;
- o a combination of any such methods of sale; and o any other method permitted pursuant to applicable law.

The selling shareholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

The selling shareholders may also engage in short sales against the box, puts and calls and other transactions in our securities or derivatives of our securities and may sell or deliver shares in connection with these trades. The selling shareholders may pledge their shares to their brokers under the margin provisions of customer agreements. If a selling shareholder defaults on a margin loan, the broker may, from time to time, offer and sell the pledged shares.

Broker-dealers engaged by the selling shareholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling shareholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The selling shareholders do not expect these commissions and discounts to exceed what is customary in the types of transactions involved.

The selling shareholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

We are required to pay all fees and expenses incident to the registration of the shares. We have agreed to indemnify the selling shareholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, and the selling shareholders have agreed to indemnify us against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

EXPERTS

Ernst & Young LLP, independent auditors, have audited our consolidated financial statements and schedule included in our Annual Report on Form 10-K for the year ended December 28, 2001, as set forth in their report, which is incorporated by reference in this registration statement. Our financial statements and schedules are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

13

VALIDITY OF COMMON STOCK

The validity of the issuance of our common stock offered by this prospectus will be passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference into this Prospectus the information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until the sale of all of the shares of

common stock that are part of this offering. The documents we are incorporating by reference are as follows:

- o Our Annual Report on Form 10-K for the fiscal year ended December 28, 2001, as filed with the SEC on March 28, 2002, and any amendments thereto;
- O Our Current Report on Form 8-K, as filed with the SEC on January 16, 2002;
- O Our Current Report on Form 8-K, as filed with the SEC on January 30, 2002;
- o Our two Current Reports on Form 8-K, each as filed with the SEC on March 18, 2002;
- Our Current Report on Form 8-K, as filed with the SEC on March 19, 2002;
- O Our Current Report on Form 8-K, as filed with the SEC on March 21, 2002;
- o Our Current Report on Form 8-K/A, as filed with the SEC on March 28, 2002;
- O The description of our common stock contained in our Registration Statement on Form 8-A filed on June 15, 1990, and any amendment or report filed for the purpose of updating such description; and
- O The description of certain dividend rights on our common stock contained in our Registration Statement on Form 8-A filed on February 18, 1999.

Any statement contained in a document that is incorporated by reference will be modified or superseded for all purposes to the extent that a statement contained in this prospectus (or in any other document that is subsequently filed with the SEC and incorporated by reference) modifies or is contrary to that previous statement. Any statement so modified or superseded will not be deemed a part of this prospectus except as so modified or superseded. You may request a copy of these filings at no cost (other than exhibits unless such exhibits are specifically incorporated by reference) by writing or telephoning our investor relations department at the following address and telephone number: Trimble Navigation Limited, 645 North Mary Avenue, Sunnyvale, California 94088, (408) 481-8000.

14

AVAILABLE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934 and, in accordance therewith, we file annual, quarterly and special reports, proxy statements, and other information with the SEC. You may read and copy any document we file at the SEC's public reference facilities at Room 1024, 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. Our SEC filings are also available to the public at the SEC's web site at http://www.sec.gov.

Shares of our common stock are traded as "National Market Securities" on the Nasdaq National Market. Documents we file can be inspected at the offices of the National Association of Securities Dealers, Inc., Reports Section, 1735 K

Street, N.W., Washington, D.C. 20006.